

Cathy

TOWNSHIP OF RUSSELL PUBLIC UTILITIES

2000

WATER & SANITARY OPERATIONS REPORT



MUNICIPALITÉ DE
TOWNSHIP OF **RUSSELL**

March 19, 2000

MOE
113 Amelia Street, 2nd Floor
Cornwall, Ontario
K6H 3P1

Attention: Mike Séguin

Re: **Embrun Water**

Enclosed is the 2000 Annual Operations Report. The facility has met all the terms and conditions of the C.O.A. and the Ontario Drinking Water Regulations.

- 1) The water plant had no upsets or failures in its operation procedures.
- 2) Treated water quality had no unsafe samples for bacteria.
- 3) A list of complaints is included.
- 4) Raw water quality is addressed in the well monitoring program supplied by Robinson Consultants.
- 5) The C.O.A. has been amended to remove the fluoridation systems use at the water treatment plant.
- 6) The engineer, Lecompte Engineering has supplied the Township of Russell with a report addressing the capacity of the plant. The Township has made the necessary modifications to the plant to meet the design and the C.O.A. has been amended accordingly.
- 7) Due to the reconstruction of a nearby manure pit to the north-west which has been located there since the well was constructed, a hydrogeological opinion was requested to address and protect the Township's production well. Four new piezometers were installed to the north and the west of the well head and will be included in the well head monitoring program in the future.
- 8) Yard hydrants have been installed throughout the distribution system for quality control and water sampling purposes.

If you have any questions please contact the undersigned at (613) 443-1747.

Sincerely,

Craig Cullen
Superintendent, Public Utilities

Encl.

717 Notre-Dame, Embrun, ON K0A 1W1
Tel.: (613) 443-3066 FAX: (613) 443-1042

EMBRUN

WATER CAPACITY REPORT

DECEMBER 31, 2000

WATER CAPACITY	
Residential Units	1036 x 3.0 = 3108
Apartment Units	215 x 2 = 430
Commercial Units	175 x 1 = 175
Residential Units/Commercial	26 x 1 = 26
Senior Citizen Apartments	45 x 1 = 45
St-Jacques Nursing Home	70 x 1 = 70
Le Pavillon	60 x 1 = 60
Schools	= 171
TOTAL POPULATION SERVICED	4085

APPROVED LOTS	NUMBER OF LOTS
Infilling Vacant Lots During Original Construction	5
Mélanie Construction Phase I	22
In Holding to Lapalme Nursing Homes	<u>27</u>
	54

TOTAL POPULATION SERVICEABLE	54	x 3.0	=	162 PERSONS
DESIGN CAPACITY			=	6000 PERSONS

NOTE: AVERAGE PERSONS PER HOUSEHOLD = 3.0 (STATISTICS CANADA 1996)
SCHOOLS POPULATION BASIS: @ 40% RURAL ÷ 3 (8 HR SCHOOL DAY)
 @ 60% URBAN ÷ 3 (8 HR SCHOOL DAY)

EMBRUN HYDRAULIC RESERVE

ACTUAL CAPACITY WATER

$$CU = CR - (L \times F) \times (P + O) / H$$

CR = HYDRAULIC RESERVE CAPACITY

2000 = 1225 m ³ /D	SERVICED POPULATION = 4085	FLOW = .314 m ³ /D/C
1999 = 1311 m ³ /D	SERVICED POPULATION = 4040	FLOW = .334 m ³ /D/C
1998 = 1209 m ³ /D	SERVICED POPULATION = 3920	FLOW = .291 m ³ /D/C

AVERAGE = .313m³/D/C

DESIGN FLOW = .360 m³/D/C

AS OF DECEMBER 31, 2000

DESIGN POPULATION = 6000

AT .313 m³/D/C FLOW x 4085 = 1278 m³/D

FLOW = 2160 m³/DAY

$$CR = 2160 \text{ m}^3/\text{DAY} - 1278 \text{ m}^3/\text{DAY} = 882 \text{ m}^3/\text{DAY}$$

P = EXISTING RESIDENTIAL POPULATION CONNECTED = 3538 AS OF DECEMBER 31, 2000

H = NO. OF CONNECTED RESIDENTIAL UNITS = 1036

F = EXISTING PER CAPITA FLOW = .313 m³/DAY

D = DENSITY = 3.0

O = COM/RES, COMMERCIAL, SENIORS, SCHOOLS, OTHER = 547 TOTAL POPULATION

L = NO. OF UNCOMMITTED APPROVED LOTS = 5 LOTS INFILLING VACANT POP - 15

MÉLANIE CONSTRUCTION = 22 LOTS 66

LAPALME NURSING HOMES IN HOLDING = 27 LOTS 81

SUMMARY = CU = CR - (L x F) x (P + O) / H 162

$$= 882 - (54 \times .313) \times 3538 / 1036$$

$$= 882 - 58$$

$$= 824 \text{ m}^3/\text{DAY UNCOMMITTED RESERVE}$$

HYDRAULIC CAPACITY FOR AVERAGE DAILY FLOW

UNCOMMITTED NO. OF LOTS (LU)

$$LU = CU / D \times F \text{ WHERE } D = P / H$$

$$= 824 / 3.0 \times .313$$

$$= 876$$

EMBRUN
WATER FLOWS AND CONSUMPTION
2000

DATE 2000	FLOW (m³)	DAILY AVERAGE LITRES (m³)	POPULATION	DAYS	AVERAGE LITRES PERSON/DAY (m³)
JAN	38,156	1231	4040	31	0.305
FEB	35,980	1241	4040	29	0.307
MAR	38,686	1248	4040	31	0.309
APR	34,330	1144	4040	30	0.283
MAY	43,576	1406	4040	31	0.348
JUNE	37,970	1266	4040	30	0.313
JULY	37,640	1214	4040	31	0.301
AUG	35,989	1161	4040	31	0.287
SEP	31,210	1040	4040	30	0.258
OCT	39,945	1289	4040	31	0.319
NOV	37,078	1236	4040	30	0.306
DEC	37,830	1220	4040	31	0.302
TOTAL	448,390	1,225	4040		0.303
1999	479,888	1314	3920		0.335
1998	445,209	1209	3907		0.285

ANNUAL SUMMARY - TREATED WATER AND WASTEWATER FLOWS, TURBUDITY AND DISINFECTANT RESIDUAL

WATERWORKS NAME: EMBRUN/MARIONVILLE WTP
 WATERWORKS NUMBER: 220004297
 WELL NO.: 2
 YEAR: 2000
 SERVICED POPULATION: 4040
 DESIGN CAPACITY: 6000

MONTH	TREATED WATER FLOW			PROCESS WASTEWATER MONTHLY TOTAL (1000 m ³)	TREATED WATER TURBIDITY			TREATED DISINFECTANT			DISTRIBUTION SYSTEM DISINFECTANT	
	AVERAGE DAY (1000 m ³)	MAX DAY (1000 m ³)	MONTHLY TOTAL (1000 m ³)		NO. OF SAMPLES COLLECTED	NO. OF SAMPLES > 1 NTU	AVERAGE TURBIDITY NTU	NO. OF TREATED SAMPLES COLLECTED	AVERAGE RESIDUAL TOTAL (mg/L)	AVERAGE RESIDUAL FREE (mg/L)	NO. OF SAMPLES COLLECTED DISTRIBUTION	NO. OF SAMPLES WITH +/-0.2 mg/L DETECT. RES.
JAN	1.23	1.37	38.16	1.27	31	0	0.08	31	0.87	0.13	31	31
FEB	1.24	1.85	25.98	0.06	29	0	0.08	29	0.82	0.12	29	29
MAR	1.25	1.49	38.69	1.18	31	0	0.05	31	0.86	0.12	31	31
APR	1.14	1.75	34.33	1.17	30	0	0.05	30	0.78	0.12	30	30
MAY	1.41	1.65	43.58	1.18	31	0	0.06	31	0.86	0.12	31	31
JUN	1.27	1.73	37.97	1.37	30	0	0.07	32	0.88	0.12	30	30
JUL	1.21	1.63	37.64	1.32	31	0	0.32	31	0.95	0.13	31	31
AUG	1.16	1.85	35.99	1.27	31	0	0.10	34	1.00	0.10	31	31
SEP	1.04	2.11	31.21	1.15	30	0	0.40	35	1.11	0.10	36	36
OCT	1.29	1.98	39.95	1.24	31	0	0.12	34	0.63	0.20	33	33
NOV	1.24	1.87	37.08	1.19	30	0	0.10	31	0.62	0.30	31	31
DEC	1.22	1.71	37.83	1.21	31	0	0.09	32	0.57	0.26	32	32
TOTAL	14.70	20.99	438.41	13.61	366			381			376	376
AVG	1.23	1.75	36.53	1.13					0.83	0.15		
MAX	1.41	2.11	43.58	1.37					1.11	0.30		

DISINFECTANT COMPOUND USED: NaOCl
 FORM OF RESIDUAL DISPLAYED ON ABOVE TABLE: TOTAL AND FREE
 QUANTITY OF DISINFECTANT USED DURING YEAR: 3314 kg
 DISTRIBUTION SYSTEM TARGET RESIDUAL (mg/L): Total 0.80 Free 0.3

ANNUAL SUMMARY - TREATED WATER FLOWS AND WATER TRANSFER

WATER WORKS NAME: EMBRUN/MARIONVILLE WTP - RUSSELL WTP
 YEAR: 2000

MONTH	EMBRUN TREATED WATER FLOW			MARIONVILLE TREATED WATER FLOW			RUSSELL TREATED WATER TRANSFER			TOTAL TREATED WATER FLOW		
	AVERAGE DAY (1000 m ³)	MAXIMUM DAY (1000 m ³)	MONTHLY TOTAL (1000 m ³)	AVERAGE DAY (1000 m ³)	MAXIMUM DAY (1000 m ³)	MONTHLY TOTAL (1000 m ³)	AVERAGE DAY (1000 m ³)	MAXIMUM DAY (1000 m ³)	MONTHLY TOTAL (1000 m ³)	AVERAGE DAY (1000 m ³)	MAXIMUM DAY (1000 m ³)	MONTHLY TOTAL (1000 m ³)
JAN	1.23	1.37	38.16	0.19	0.77	6.11	0.10	0.72	3.10	1.52	2.86	47.37
FEB	1.24	1.85	25.98	0.09	0.84	2.84	0.46	0.94	13.55	1.79	3.63	42.37
MAR	1.25	1.49	38.69	0.05	0.08	1.58	0.44	0.50	13.78	1.74	2.07	54.05
APR	1.14	1.75	34.33	0.06	0.48	1.83	0.42	0.58	12.63	1.62	2.81	48.79
MAY	1.41	1.65	43.58	0.06	0.09	1.98	0.57	0.71	17.94	2.04	2.45	63.50
JUN	1.27	1.73	37.97	0.06	0.08	1.87	0.56	0.78	16.94	1.89	2.59	56.78
JUL	1.21	1.63	37.64	0.08	0.47	2.70	0.52	0.78	16.14	1.81	2.88	56.48
AUG	1.16	1.85	35.99	0.09	0.89	2.79	0.51	0.74	15.97	1.76	3.48	54.75
SEP	1.04	2.11	31.21	0.07	0.22	2.33	0.19	0.58	15.23	1.30	2.91	48.77
OCT	1.29	1.98	39.95	0.08	0.18	2.67	0.55	0.56	17.23	1.92	2.72	59.85
NOV	1.24	1.87	37.08	0.07	0.45	2.37	0.51	0.62	15.45	1.82	2.94	54.90
DEC	1.22	1.71	37.83	0.09	0.33	3.04	0.55	0.82	17.11	1.86	2.86	57.98
TOTAL			438.41			32.11			175.07			645.59
AVERAGE	1.23	1.75	36.53	0.08	0.41	2.68	0.45	0.69	14.59	1.76	2.85	53.80
MAXIMUM	1.41	2.11	43.58	0.19	0.89	6.11	0.57	0.94	17.94	2.04	3.63	63.50

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS

2000

		PRE HYPOCHLORITE						PRE KMNO4						POST HYPOCHLORITE								
Mth	DAY	TOTAL PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L		# OF LTS	# OF KGS	M3 /1000	MG/L		TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY		
JAN	5	7129	183.62	25.56	7.13	3.59		314.04	6.28	7.13	0.88		6226	19.83	2.76	6.23	0.44	4040	1.54	0.31		
JAN	6	1057	27.22	3.79	1.06	3.58		46.64	0.93	1.06	0.88		967 *			0.97	0.00	4040	0.24	0.24		
JAN	7	1429	37.35	5.20	1.43	3.64		64.38	1.28	1.43	0.90		1326	2.83	0.39	1.33	0.30	4040	0.33	0.33		
JAN	10	4316	113.90	15.85	4.32	3.67		187.20	3.70	4.32	0.86		3698	11.80	1.64	3.70	0.44	4040	0.92	0.31		
JAN	11	1609	43.05	5.99	1.61	3.72		70.95	1.41	1.61	0.88		1273	4.72	0.66	1.27	0.52	4040	0.32	0.32		
JAN	12	1082	31.60	4.40	1.08	4.07		45.90	0.91	1.08	0.84		1004	2.83	0.39	1.00	0.39	4040	0.25	0.25		
JAN	13	1370	36.00	5.01	1.37	3.66		60.40	1.20	1.37	0.88		1229	3.77	0.52	1.23	0.43	4040	0.30	0.30		
JAN	14	1611	46.80	6.51	1.61	4.04		73.50	1.47	1.61	0.91		1242	4.70	0.65	1.24	0.53	4040	0.31	0.31		
JAN	17	4468	124.74	17.36	4.47	3.89		195.12	3.90	4.47	0.87		3938	11.33	1.58	3.94	0.40	4040	0.97	0.32		
JAN	18	1865	50.02	6.96	1.87	3.73		99.86	1.99	1.87	1.07		852	2.83	0.39	0.85	0.46	4040	0.21	0.21		
JAN	19	1786	48.75	6.79	1.79	3.80		82.78	1.65	1.79	0.92		1164	3.77	0.52	1.16	0.45	4040	0.29	0.29		
JAN	20	2362	63.32	8.81	2.36	3.73		110.37	2.20	2.36	0.93		1374	1.41	0.20	1.37	0.14	4040	0.34	0.34		
JAN	21	1455	39.25	5.46	1.46	3.76		68.32	1.36	1.46	0.93		1173	5.66	0.79	1.17	0.67	4040	0.29	0.29		
JAN	24	4751	131.70	18.33	4.75	3.86		215.40	4.30	4.75	0.91		3895	11.30	1.57	3.90	0.40	4040	0.96	0.32		
JAN	25	1788	48.10	6.70	1.79	3.74		80.80	1.61	1.79	0.90		1268	3.70	0.52	1.27	0.41	4040	0.31	0.31		
JAN	26	1435	38.62	5.38	1.44	3.75		66.35	1.32	1.44	0.92		1198	3.77	0.52	1.20	0.44	4040	0.30	0.30		
JAN	27	2072	56.90	7.92	2.07	3.82		95.90	1.91	2.07	0.92		1162	3.30	0.46	1.16	0.40	4040	0.29	0.29		
JAN	28	2137	56.98	7.93	2.14	3.71		99.20	1.98	2.14	0.93		1317	5.19	0.72	1.32	0.55	4040	0.33	0.33		
JAN	31	6180	167.16	23.27	6.18	3.77		277.20	5.54	6.18	0.90		3850	10.38	1.44	3.85	0.38	4040	0.95	0.32		
JAN		49902	1177.92	163.97	43.72	3.76		2254.31	44.94	49.90	0.91		38156	113.12	15.75	38.16	0.41	4040	0.50	0.30		
DAILY AVG		1610											1231									
MAX		2362											1374									

Jan 6 - Note: chemical feed malfunction

Jan 6 - Note: chemical feed malfunction

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2000

		PRE HYPOCHLORITE					PRE KMNO4				POST HYPOCHLORITE							
Mth	DAY	TOTAL PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
FEB	1	1924	50.60	7.04	1.92	3.66	83.40	1.67	1.92	0.87	992	1.88	0.26	0.99	0.26	4040	0.25	0.25
FEB	2	2744	74.70	10.40	2.74	3.79	124.80	2.50	2.74	0.91	1853	7.00	0.97	1.85	0.53	4040	0.46	0.46
FEB	3	1146	31.00	4.32	1.15	3.77	49.93	1.00	1.15	0.87	723	0.00	0.00	0.72	0.00	4040	0.18	0.18
FEB	4	1670	46.80	6.51	1.67	3.90	76.00	1.52	1.67	0.91	1012	2.30	0.32	1.01	0.32	4040	0.25	0.25
FEB	7	5918	151.96	21.15	5.92	3.57	263.45	5.27	5.92	0.89	4188	11.33	1.58	4.19	0.38	4040	1.04	0.35
FEB	8	1923	49.30	6.86	1.92	3.57	93.20	1.86	1.92	0.97	1044	2.83	0.39	1.04	0.38	4040	0.26	0.26
FEB	9	1320	31.66	4.41	1.32	3.34	60.44	1.21	1.32	0.92	1299	5.19	0.72	1.30	0.56	4040	0.32	0.32
FEB	10	2490	63.30	8.81	2.49	3.54	106.40	2.13	2.49	0.85	1253	4.24	0.59	1.25	0.47	4040	0.31	0.31
FEB	11	1400	29.10	4.05	1.40	2.89	59.70	1.19	1.40	0.85	1006	2.30	0.32	1.01	0.32	4040	0.25	0.25
FEB	14	5886	153.20	21.33	5.89	3.62	262.80	5.26	5.89	0.89	4050	1.84	0.26	4.05	0.06	4040	1.00	0.33
FEB	15	2213	52.55	7.31	2.21	3.31	103.80	2.08	2.21	0.94	1458	5.19	0.72	1.46	0.50	4040	0.36	0.36
FEB	16	1018	28.40	3.95	1.02	3.88	44.00	0.88	1.02	0.86	842	1.88	0.26	0.84	0.31	4040	0.21	0.21
FEB	17	2375	59.50	8.28	2.38	3.49	107.70	2.15	2.38	0.91	1184	3.70	0.52	1.18	0.44	4040	0.29	0.29
FEB	18	1906	51.90	7.22	1.91	3.79	81.40	1.63	1.91	0.85	1589	5.60	0.78	1.59	0.49	4040	0.39	0.39
FEB	21	5889	167.79	23.36	5.89	3.97	263.45	5.27	5.89	0.89	3770	0.94	0.13	3.77	0.03	4040	0.93	0.31
FEB	22	1312	36.70	5.11	1.31	3.89	56.50	1.13	1.31	0.86	836	1.88	0.26	0.84	0.31	4040	0.21	0.21
FEB	23	1718	44.95	6.26	1.72	3.64	73.58	1.47	1.72	0.86	1209	3.77	0.52	1.21	0.43	4040	0.30	0.30
FEB	24	1972	49.30	6.86	1.97	3.48	86.70	1.73	1.97	0.88	1335	5.19	0.72	1.34	0.54	4040	0.33	0.33
FEB	25	1527	39.89	5.55	1.53	3.64	65.70	1.31	1.53	0.86	986	2.83	0.39	0.99	0.40	4040	0.24	0.24
FEB	28	5875	149.40	20.80	5.88	3.54	268.71	5.37	5.88	0.91	4009	11.80	1.64	4.01	0.41	4040	0.99	0.33
FEB	29	2020	49.38	6.87	2.02	3.40	88.03	1.76	2.02	0.87	1342	2.83	0.39	1.34	0.29	4040	0.33	0.33
FEB		54246	1411.38	196.46	54.25	3.60	2419.69	48.39	54.25	0.89	35980	84.52	11.77	35.98	0.35	4040	0.42	0.30
DAILY AVG		1871									1241							
MAX		2744									1853							

Feb 3 - Note: chemical feed malfunction

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2000

		PRE HYPOCHLORITE					PRE KMNO4				POST HYPOCHLORITE							
Mth	DAY	TOTAL PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
MAR	1	1532	38.60	5.37	1.53	3.51	65.00	1.30	1.53	0.85	973	4.24	0.59	0.97	0.61	4040	0.24	0.24
MAR	2	1902	53.82	7.49	1.90	3.94	79.49	1.59	1.90	0.84	1425	3.77	0.52	1.43	0.37	4040	0.35	0.35
MAR	3	2152	62.60	8.71	2.15	4.05	102.40	2.05	2.15	0.95	1344	5.60	0.78	1.34	0.58	4040	0.33	0.33
MAR	6	5489	157.60	21.94	5.49	4.00	244.40	4.89	5.49	0.89	3628	9.40	1.31	3.63	0.36	4040	0.90	0.30
MAR	7	1835	46.85	6.52	1.84	3.55	81.46	1.63	1.84	0.89	1493	5.66	0.79	1.49	0.53	4040	0.37	0.37
MAR	8	1854	48.70	6.78	1.85	3.66	78.80	1.58	1.85	0.85	1132	3.30	0.46	1.13	0.41	4040	0.28	0.28
MAR	9	1987	55.08	7.67	1.99	3.86	88.03	1.76	1.99	0.89	1431	3.77	0.52	1.43	0.37	4040	0.35	0.35
MAR	10	1408	39.80	5.54	1.41	3.93	64.30	1.29	1.41	0.91	974	2.83	0.39	0.97	0.40	4040	0.24	0.24
MAR	13	6032	162.09	22.56	6.03	3.74	259.50	5.19	6.03	0.86	3948	8.02	1.12	3.95	0.28	4040	0.98	0.33
MAR	14	1336	40.50	5.64	1.34	4.22	60.40	1.21	1.34	0.90	941	2.83	0.39	0.94	0.42	4040	0.23	0.23
MAR	15	1778	46.85	6.52	1.78	3.67	78.84	1.58	1.78	0.89	1295	3.30	0.46	1.30	0.35	4040	0.32	0.32
MAR	16	1947	48.10	6.70	1.95	3.44	83.40	1.67	1.95	0.86	1301	5.66	0.79	1.30	0.61	4040	0.32	0.16
MAR	17	1349	34.10	4.75	1.35	3.52	60.40	1.21	1.35	0.90	932	2.36	0.33	0.93	0.35	4040	0.23	0.23
MAR	20	5873	157.03	21.86	5.87	3.72	258.20	5.16	5.87	0.88	4049	13.22	1.84	4.05	0.45	4040	1.00	0.33
MAR	21	1792	46.20	6.43	1.79	3.59	76.20	1.52	1.79	0.85	1150	1.88	0.26	1.15	0.23	4040	0.28	0.28
MAR	22	1474	37.30	5.19	1.47	3.52	65.00	1.30	1.47	0.88	1035	2.36	0.33	1.04	0.32	4040	0.26	0.26
MAR	23	2176	57.62	8.02	2.18	3.69	94.60	1.89	2.18	0.87	1470	5.19	0.72	1.47	0.49	4040	0.36	0.36
MAR	24	1867	51.20	7.13	1.87	3.82	81.40	1.63	1.87	0.87	1382	3.30	0.46	1.38	0.33	4040	0.34	0.34
MAR	27	5720	139.90	19.47	5.72	3.40	258.20	5.16	5.72	0.90	3890	8.00	1.11	3.89	0.29	4040	0.96	0.32
MAR	28	1949	44.95	6.26	1.95	3.21	86.72	1.73	1.95	0.89	1300	4.72	0.66	1.30	0.51	4040	0.32	0.32
MAR	29	1431	36.72	5.11	1.43	3.57	62.41	1.25	1.43	0.87	987	3.30	0.46	0.99	0.47	4040	0.24	0.24
MAR	30	2053	50.60	7.04	2.05	3.43	92.60	1.85	2.05	0.90	1475	3.77	0.52	1.48	0.36	4040	0.37	0.12
MAR	31	1829	45.59	6.35	1.83	3.47	80.15	1.60	1.83	0.88	1131	4.24	0.59	1.13	0.52	4040	0.28	0.09
MAR		56765	1501.80	209.05	56.77	3.67	2501.90	50.04	56.77	0.88	38686	110.72	15.41	38.69	0.42	4040	0.42	0.28
	DAILY AVG	1831									1248							
	MAX	2176									1493							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2000

		PRE HYPOCHLORITE					PRE KMNO4				POST HYPOCHLORITE							
Mth	DAY	TOTAL PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
APR	3	5755	145.00	20.18	5.76	3.51	256.80	5.14	5.76	0.89	3891	12.74	1.77	3.89	0.46	4040	0.96	0.32
APR	4	1499	37.30	5.19	1.50	3.46	67.60	1.35	1.50	0.90	985	3.30	0.46	0.99	0.47	4040	0.24	0.24
APR	5	2370	61.42	8.55	2.37	3.61	103.80	2.08	2.37	0.88	1754	4.72	0.66	1.75	0.37	4040	0.43	0.43
APR	6	1466	35.40	4.93	1.47	3.36	63.70	1.27	1.47	0.87	854	2.30	0.32	0.85	0.37	4040	0.21	0.21
APR	7	1475	32.90	4.58	1.48	3.10	66.30	1.33	1.48	0.90	1039	3.30	0.46	1.04	0.44	4040	0.26	0.26
APR	10	5620	141.20	19.66	5.62	3.50	249.00	4.98	5.62	0.89	3799	13.60	1.89	3.80	0.50	4040	0.94	0.31
APR	11	2062	54.40	7.57	2.06	3.67	90.60	1.81	2.06	0.88	1452	3.77	0.52	1.45	0.36	4040	0.36	0.36
APR	12	1480	36.09	5.02	1.48	3.39	65.70	1.31	1.48	0.89	943	3.30	0.46	0.94	0.49	4040	0.23	0.23
APR	13	1977	55.00	7.66	1.98	3.87	84.70	1.69	1.98	0.86	1512	2.36	0.33	1.51	0.22	4040	0.37	0.37
APR	14	1865	46.20	6.43	1.87	3.45	82.10	1.64	1.87	0.88	1283	5.10	0.71	1.28	0.55	4040	0.32	0.32
APR	17	5548	137.40	19.13	5.55	3.45	245.00	4.90	5.55	0.88	3535	11.80	1.64	3.54	0.46	4040	0.88	0.29
APR	18	1521	38.62	5.38	1.52	3.53	65.70	1.31	1.52	0.86	1296	3.77	0.52	1.30	0.40	4040	0.32	0.32
APR	19	2215	54.40	7.57	2.22	3.42	97.80	1.96	2.22	0.88	1643	4.70	0.65	1.64	0.40	4040	0.41	0.41
APR	20	1739	39.20	5.46	1.74	3.14	71.61	1.43	1.74	0.82	837	2.83	0.39	0.84	0.47	4040	0.21	0.21
APR	25	9169	233.00	32.43	9.17	3.54	402.00	8.04	9.17	0.88	6174	4.72	0.66	6.17	0.11	4040	1.53	0.31
APR	26	1583	43.69	6.08	1.58	3.84	72.27	1.45	1.58	0.91	1267	3.30	0.46	1.27	0.36	4040	0.31	0.31
APR	27	1711	43.69	6.08	1.71	3.55	73.58	1.47	1.71	0.86	949	3.77	0.52	0.95	0.55	4040	0.23	0.23
APR	28	1578	42.40	5.90	1.58	3.74	71.61	1.43	1.58	0.91	1117	2.83	0.39	1.12	0.35	4040	0.28	0.28
APR		50633	1277.31	177.80	50.63	3.51	2229.87	44.60	50.63	0.88	34330	92.21	12.84	34.33	0.41	4040	0.46	0.30
DAILY AVG		1688									1144							
MAX		2370									1754							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2000

		PRE HYPOCHLORITE					PRE KMNO4				POST HYPOCHLORITE							
Mth	DAY	TOTAL PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
MAY	1	6849	175.39	24.41	6.85	3.56	300.20	6.00	6.85	0.88	4413	14.60	2.03	4.41	0.46	4040	1.09	0.36
MAY	2	1733	46.20	6.43	1.73	3.71	73.50	1.47	1.73	0.85	804	1.88	0.26	0.80	0.33	4040	0.20	0.20
MAY	3	2281	56.30	7.84	2.28	3.44	101.80	2.04	2.28	0.89	1418	3.77	0.52	1.42	0.37	4040	0.35	0.35
MAY	4	2052	55.72	7.76	2.05	3.78	90.60	1.81	2.05	0.88	1654	4.72	0.66	1.65	0.40	4040	0.41	0.41
MAY	5	1896	51.28	7.14	1.90	3.76	83.43	1.67	1.90	0.88	982	4.72	0.66	0.98	0.67	4040	0.24	0.24
MAY	8	6496	168.40	23.44	6.50	3.61	289.00	5.78	6.50	0.89	4253	11.80	1.64	4.25	0.39	4040	1.05	0.35
MAY	9	2053	53.18	7.40	2.05	3.61	90.60	1.81	2.05	0.88	1603	4.72	0.66	1.60	0.41	4040	0.40	0.40
MAY	10	1876	47.40	6.60	1.88	3.52	79.40	1.59	1.88	0.85	1501	4.24	0.59	1.50	0.39	4040	0.37	0.37
MAY	11	1669	43.69	6.08	1.67	3.64	76.86	1.54	1.67	0.92	1124	3.30	0.46	1.12	0.41	4040	0.28	0.28
MAY	12	2194	60.70	8.45	2.19	3.85	94.60	1.89	2.19	0.86	1524	4.24	0.59	1.52	0.39	4040	0.38	0.38
MAY	15	6306	155.60	21.66	6.31	3.43	275.90	5.52	6.31	0.88	4051	8.02	1.12	4.05	0.28	4040	1.00	0.33
MAY	16	1743	45.59	6.35	1.74	3.64	76.86	1.54	1.74	0.88	891	3.30	0.46	0.89	0.52	4040	0.22	0.22
MAY	17	2126	55.00	7.66	2.13	3.60	90.60	1.81	2.13	0.85	1576	0.47	0.07	1.58	0.04	4040	0.39	0.39
MAY	18	1652	41.70	5.80	1.65	3.51	70.20	1.40	1.65	0.85	1012	1.41	0.20	1.01	0.19	4040	0.25	0.25
MAY	19	1754	48.10	6.70	1.75	3.82	77.50	1.55	1.75	0.88	1346	3.70	0.52	1.35	0.38	4040	0.33	0.33
MAY	23	8082	195.60	27.23	8.08	3.37	354.10	7.08	8.08	0.88	5052	15.50	2.16	5.05	0.43	4040	1.25	0.31
MAY	24	2103	50.00	6.96	2.10	3.31	91.32	1.83	2.10	0.87	1575	5.19	0.72	1.58	0.46	4040	0.39	0.39
MAY	25	1794	41.70	5.80	1.79	3.24	83.40	1.67	1.79	0.93	1213	3.70	0.52	1.21	0.42	4040	0.30	0.30
MAY	26	2224	53.82	7.49	2.22	3.37	93.95	1.88	2.22	0.84	1481	4.24	0.59	1.48	0.40	4040	0.37	0.37
MAY	29	5407	127.90	17.80	5.41	3.29	237.83	4.76	5.41	0.88	3471	9.91	1.38	3.47	0.40	4040	0.86	0.29
MAY	30	2541	65.80	9.16	2.54	3.60	108.40	2.17	2.54	0.85	1509	4.24	0.59	1.51	0.39	4040	0.37	0.37
MAY	31	1847	46.80	6.51	1.85	3.53	80.80	1.62	1.85	0.87	1123	4.72	0.66	1.12	0.59	4040	0.28	0.28
MAY		66678	1685.87	234.67	66.68	3.72	2920.85	58.42	66.68	0.88	43576	122.39	17.04	43.58	0.40	4040	0.46	0.32
DAILY AVG		2151									1406							
MAX		2541									1654							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2000

		PRE HYPOCHLORITE					PRE KMNO4				POST HYPOCHLORITE							
Mth	DAY	TOTAL PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
JUNE	1	2147	53.18	7.40	2.15	3.45	91.90	1.84	2.15	0.86	1422	3.77	0.52	1.42	0.37	4040	0.35	0.35
JUNE	2	2516	66.40	9.24	2.52	3.67	106.00	2.12	2.52	0.84	1734	4.24	0.59	1.73	0.34	4040	0.43	0.43
JUNE	5	6468	126.50	17.61	6.47	2.72	281.80	5.64	6.47	0.87	4372	17.70	2.46	4.37	0.56	4040	1.08	0.36
JUNE	6	1947	52.55	7.31	1.95	3.76	81.46	1.63	1.95	0.84	1136	3.77	0.52	1.14	0.46	4040	0.28	0.28
JUNE	7	1325	35.40	4.93	1.33	3.72	59.10	1.18	1.33	0.89	814	1.41	0.20	0.81	0.24	4040	0.20	0.20
JUNE	8	1916	52.50	7.31	1.92	3.81	83.40	1.67	1.92	0.87	1232	4.24	0.59	1.23	0.48	4040	0.30	0.30
JUNE	9	2214	60.15	8.37	2.21	3.78	96.50	1.93	2.21	0.87	1341	4.24	0.59	1.34	0.44	4040	0.33	0.33
JUNE	12	5621	149.43	20.80	5.62	3.70	245.70	4.91	5.62	0.87	3575	8.97	1.25	3.58	0.35	4040	0.88	0.29
JUNE	13	1914	51.90	7.22	1.91	3.77	81.40	1.63	1.91	0.85	1411	3.30	0.46	1.41	0.33	4040	0.35	0.35
JUNE	14	1761	47.49	6.61	1.76	3.75	74.24	1.48	1.76	0.84	1024	3.77	0.52	1.02	0.51	4040	0.25	0.25
JUNE	15	2112	56.98	7.93	2.11	3.76	91.98	1.84	2.11	0.87	1401	4.24	0.59	1.40	0.42	4040	0.35	0.35
JUNE	16	1572	41.10	5.72	1.57	3.64	73.50	1.47	1.57	0.94	1035	3.77	0.52	1.04	0.51	4040	0.26	0.26
JUNE	19	5883	151.30	21.06	5.88	3.58	249.00	4.98	5.88	0.85	3666	7.08	0.99	3.67	0.27	4040	0.91	0.30
JUNE	20	1686	46.22	6.43	1.69	3.82	69.64	1.39	1.69	0.83	1305	4.24	0.59	1.31	0.45	4040	0.32	0.32
JUNE	21	2162	55.70	7.75	2.16	3.59	92.60	1.85	2.16	0.86	1211	3.30	0.46	1.21	0.38	4040	0.30	0.30
JUNE	22	1467	39.25	5.46	1.47	3.72	63.07	1.26	1.47	0.86	1082	4.24	0.59	1.08	0.55	4040	0.27	0.27
JUNE	23	2286	53.80	7.49	2.29	3.28	97.80	1.96	2.29	0.86	1462	4.24	0.59	1.46	0.40	4040	0.36	0.36
JUNE	26	5561	150.70	20.98	5.56	3.77	237.17	4.74	5.56	0.85	3543	10.38	1.44	3.54	0.41	4040	0.88	0.29
JUNE	27	2313	63.30	8.81	2.31	3.81	97.20	1.94	2.31	0.84	1650	4.72	0.66	1.65	0.40	4040	0.41	0.41
JUNE	28	1661	44.32	6.17	1.66	3.71	70.95	1.42	1.66	0.85	1006	2.83	0.39	1.01	0.39	4040	0.25	0.25
JUNE	29	1884	52.50	7.31	1.88	3.88	82.10	1.64	1.88	0.87	1455	5.19	0.72	1.46	0.50	4040	0.36	0.36
JUNE	30	2230	60.70	8.45	2.23	3.79	98.50	1.97	2.23	0.88	1093	2.80	0.39	1.09	0.36	4040	0.27	0.14
JUN		58646	1511.37	210.38	58.65	3.66	2525.01	50.50	58.65	0.86	37970	112.44	15.65	37.97	0.41	4040	0.43	0.31
DAILY AVG		1955									1266							
MAX		2516									1734							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2000

		PRE HYPOCHLORITE					PRE KMNO4				POST HYPOCHLORITE							
Mth	DAY	TOTAL PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
JULY	4	7683	208.90	29.08	7.68	3.78	337.00	6.74	7.68	0.88	5148	14.10	1.96	5.15	0.38	4040	1.27	0.32
JULY	5	1100	31.00	4.32	1.10	3.92	47.96	0.96	1.10	0.87	718	2.36	0.33	0.72	0.46	4040	0.18	0.06
JULY	6	1504	38.60	5.37	1.50	3.57	74.80	1.50	1.50	0.99	924	2.36	0.33	0.92	0.36	4040	0.23	0.23
JULY	7	2602	69.65	9.70	2.60	3.73	107.09	2.14	2.60	0.82	1610	5.19	0.72	1.61	0.45	4040	0.40	0.40
JULY	10	5483	144.30	20.09	5.48	3.66	235.80	4.72	5.48	0.86	3627	10.80	1.50	3.63	0.41	4040	0.90	0.30
JULY	11	2379	68.30	9.51	2.38	4.00	101.80	2.04	2.38	0.86	1625	3.77	0.52	1.63	0.32	4040	0.40	0.40
JULY	12	1388	28.30	3.94	1.39	2.84	61.70	1.23	1.39	0.89	748	2.36	0.33	0.75	0.44	4040	0.19	0.06
JULY	13	1781	38.20	5.32	1.78	2.99	76.20	1.52	1.78	0.86	1297	5.19	0.72	1.30	0.56	4040	0.32	0.32
JULY	14	2388	71.50	9.95	2.39	4.17	98.50	1.97	2.39	0.82	1280	3.70	0.52	1.28	0.40	4040	0.32	0.32
JULY	17	5460	161.40	22.47	5.46	4.11	239.80	4.80	5.46	0.88	3655	7.00	0.97	3.66	0.27	4040	0.90	0.30
JULY	18	1747	49.38	6.87	1.75	3.93	74.24	1.48	1.75	0.85	888	2.36	0.33	0.89	0.37	4040	0.22	0.22
JULY	19	2025	60.15	8.37	2.03	4.13	90.66	1.81	2.03	0.90	1259	4.24	0.59	1.26	0.47	4040	0.31	0.31
JULY	20	1822	55.00	7.66	1.82	4.20	81.40	1.63	1.82	0.89	1186	3.30	0.46	1.19	0.39	4040	0.29	0.29
JULY	21	2024	62.00	8.63	2.02	4.26	85.40	1.71	2.02	0.84	1283	2.83	0.39	1.28	0.31	4040	0.32	0.32
JULY	24	5305	171.50	23.87	5.31	4.50	229.90	4.60	5.31	0.87	3449	3.77	0.52	3.45	0.15	4040	0.85	0.28
JULY	25	2034	66.48	9.25	2.03	4.55	90.60	1.81	2.03	0.89	1161	3.77	0.52	1.16	0.45	4040	0.29	0.29
JULY	26	1692	55.00	7.66	1.69	4.52	73.50	1.47	1.69	0.87	1054	2.36	0.33	1.05	0.31	4040	0.26	0.26
JULY	27	2487	81.68	11.37	2.49	4.57	113.00	2.26	2.49	0.91	1485	5.66	0.79	1.49	0.53	4040	0.37	0.37
JULY	28	1758	55.70	7.75	1.76	4.41	79.40	1.59	1.76	0.90	1197	2.80	0.39	1.20	0.33	4040	0.30	0.30
JULY	31	6432	210.00	29.23	6.43	4.54	280.00	5.60	6.43	0.87	4046	11.30	1.57	4.05	0.39	4040	1.00	0.33
JUL		59094	1727.04	240.40	59.09	4.02	2578.75	51.58	59.09	0.88	37640	99.22	13.81	37.64	0.39	4040	0.44	0.29
DAILY AVG		1906									1214							
MAX		2602									1625							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2000

		PRE HYPOCHLORITE					PRE KMNO4					POST HYPOCHLORITE							
Mth	DAY	TOTAL PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MGL	POP	M3 POP/DAY	M3 P/DAY	
AUG	1	1807	58.88	8.20	1.81	4.54	82.12	1.64	1.81	0.91	943	3.77	0.52	0.94	0.56	4040	0.23	0.23	
AUG	2	1421	46.20	6.43	1.42	4.53	60.40	1.21	1.42	0.85	925	3.70	0.52	0.93	0.56	4040	0.23	0.23	
AUG	3	2393	79.78	11.11	2.39	4.64	95.90	1.92	2.39	0.80	1549	3.30	0.46	1.55	0.30	4040	0.38	0.38	
AUG	4	1423	47.49	6.61	1.42	4.65	65.04	1.30	1.42	0.91	1158	4.24	0.59	1.16	0.51	4040	0.29	0.29	
AUG	8	6985	242.50	33.76	6.99	4.83	310.70	6.21	6.99	0.89	4150	10.80	1.50	4.15	0.36	4040	1.03	0.26	
AUG	9	1796	63.32	8.81	1.80	4.91	80.15	1.60	1.80	0.89	1319	4.24	0.59	1.32	0.45	4040	0.33	0.33	
AUG	10	1378	43.60	6.07	1.38	4.40	59.10	1.18	1.38	0.86	907	2.80	0.39	0.91	0.43	4040	0.22	0.22	
AUG	11	2053	60.78	8.46	2.05	4.12	92.63	1.85	2.05	0.90	1353	5.19	0.72	1.35	0.53	4040	0.33	0.33	
AUG	14	5725	167.70	23.34	5.73	4.08	247.60	4.95	5.73	0.86	3478	8.49	1.18	3.48	0.34	4040	0.86	0.29	
AUG	15	2001	56.90	7.92	2.00	3.96	82.10	1.64	2.00	0.82	1234	3.30	0.46	1.23	0.37	4040	0.31	0.31	
AUG	16	1837	48.70	6.78	1.84	3.69	76.80	1.54	1.84	0.84	1114	3.30	0.46	1.11	0.41	4040	0.28	0.28	
AUG	17	1781	50.60	7.04	1.78	3.95	78.80	1.58	1.78	0.88	1209	3.30	0.46	1.21	0.38	4040	0.30	0.30	
AUG	18	2074	61.40	8.55	2.07	4.12	89.30	1.79	2.07	0.86	1343	4.24	0.59	1.34	0.44	4040	0.33	0.33	
AUG	21	4685	130.43	18.16	4.69	3.88	204.30	4.09	4.69	0.87	2922	8.97	1.25	2.92	0.43	4040	0.72	0.24	
AUG	22	1853	53.10	7.39	1.85	3.99	82.10	1.64	1.85	0.89	1194	2.83	0.39	1.19	0.33	4040	0.30	0.30	
AUG	23	2643	74.71	10.40	2.64	3.93	116.28	2.33	2.64	0.88	1847	5.66	0.79	1.85	0.43	4040	0.46	0.46	
AUG	24	1344	40.50	5.64	1.34	4.19	54.50	1.09	1.34	0.81	750	2.30	0.32	0.75	0.43	4040	0.19	0.19	
AUG	25	1746	48.75	6.79	1.75	3.89	74.89	1.50	1.75	0.86	1058	3.30	0.46	1.06	0.43	4040	0.26	0.26	
AUG	28	5857	178.50	24.85	5.86	4.24	250.90	5.02	5.86	0.86	3707	11.80	1.64	3.71	0.44	4040	0.92	0.31	
AUG	29	2848	90.50	12.60	2.85	4.42	123.50	2.47	2.85	0.87	1842	4.24	0.59	1.84	0.32	4040	0.46	0.46	
AUG	30	1194	38.60	5.37	1.19	4.50	54.50	1.09	1.19	0.91	863	2.83	0.39	0.86	0.46	4040	0.21	0.11	
AUG	31	2048	69.60	9.69	2.05	4.73	89.35	1.79	2.05	0.87	1124	3.30	0.46	1.12	0.41	4040	0.28	0.14	
AUG	DAILY AVG	56892	1752.54	243.95	56.89	4.28	2470.96	49.42	56.89	0.87	35989	105.90	14.74	35.99	0.42	4040	0.42	0.30	
	MAX	1835									1161								
		2848									1847								

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2000

		PRE HYPOCHLORITE					PRE KMNO4				POST HYPOCHLORITE							
Mth	DAY	TOTAL PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
SEP	1	2457	84.20	11.72	2.46	4.77	110.30	2.21	2.46	0.90	1802	4.24	0.59	1.80	0.33	4040	0.45	0.45
SEP	5	7637	253.28	35.26	7.64	4.62	329.80	6.60	7.64	0.86	4838	14.63	2.04	4.84	0.42	4040	1.20	0.30
SEP	6	1529	52.50	7.31	1.53	4.78	68.30	1.37	1.53	0.89	1081	2.83	0.39	1.08	0.36	4040	0.27	0.27
SEP	7	2123	74.00	10.30	2.12	4.85	91.90	1.84	2.12	0.87	1419	4.72	0.66	1.42	0.46	4040	0.35	0.35
SEP	8	2018	72.10	10.04	2.02	4.97	88.00	1.76	2.02	0.87	1359	3.77	0.52	1.36	0.39	4040	0.34	0.34
SEP	11	7015	257.70	35.87	7.02	5.11	308.70	6.17	7.02	0.88	4294	12.70	1.77	4.29	0.41	4040	1.06	0.35
SEP	12	1150	44.95	6.26	1.15	5.44	49.90	1.00	1.15	0.87	945	2.83	0.39	0.95	0.42	4040	0.23	0.23
SEP	13	1894	69.00	9.60	1.89	5.07	84.70	1.69	1.89	0.89	1127	3.30	0.46	1.13	0.41	4040	0.28	0.28
SEP	14	2398	91.80	12.78	2.40	5.33	113.00	2.26	2.40	0.94	1750	5.60	0.78	1.75	0.45	4040	0.43	0.43
SEP	15	1659	63.95	8.90	1.66	5.37	69.64	1.39	1.66	0.84	881	6.61	0.92	0.88	1.04	4040	0.22	0.22
SEP	18	6857	258.30	35.96	6.86	5.24	301.56	6.03	6.86	0.88	3673	45.80	6.38	3.67	1.74	4040	0.91	0.30
SEP	19	2273	107.60	14.98	2.27	6.59	113.60	2.27	2.27	1.00	1313	22.60	3.15	1.31	2.40	4040	0.33	0.33
SEP	20	3039	157.00	21.85	3.04	7.19	137.90	2.76	3.04	0.91	2108	29.20	4.06	2.11	1.93	4040	0.52	0.52
SEP	21	1868	93.70	13.04	1.87	6.98	86.70	1.73	1.87	0.93	1099	10.86	1.51	1.10	1.38	4040	0.27	0.27
SEP	22	1381	68.30	9.51	1.38	6.88	61.00	1.22	1.38	0.88	1219	12.70	1.77	1.22	1.45	4040	0.30	0.30
SEP	25	6652	313.40	43.63	6.65	6.56	289.00	5.78	6.65	0.87	4166	35.40	4.93	4.17	1.18	4040	1.03	0.34
SEP	26	1518	74.08	10.31	1.52	6.79	47.30	0.95	1.52	0.62	1012	8.02	1.12	1.01	1.10	4040	0.25	0.25
SEP	27	1961	96.20	13.39	1.96	6.83	58.40	1.17	1.96	0.60	1446	9.90	1.38	1.45	0.95	4040	0.36	0.36
SEP	28	2191	102.70	14.30	2.19	6.52	62.40	1.25	2.19	0.57	1438	7.00	0.97	1.44	0.68	4040	0.36	0.36
SEP	29	1506	74.08	10.31	1.51	6.85	39.40	0.79	1.51	0.52	880	5.19	0.72	0.88	0.82	4040	0.22	0.22
SEP		59126	2408.84	288.33	49.03	5.96	2071.40	41.43	49.03	0.82	31210	229.03	31.88	31.21	0.98	4040	0.43	0.32
DAILY AVG		1971									1040							
MAX		3039									2108							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2000

		PRE HYPOCHLORITE					PRE KMNO4					POST HYPOCHLORITE							
Mth	DAY	TOTAL PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY	
OCT	2	5993	281.70	39.21	5.99	6.54	150.40	3.01	5.99	0.50	3853	20.30	2.83	3.85	0.73	4040	0.95	0.32	
OCT	3	2209	101.31	14.10	2.21	6.38	55.84	1.12	2.21	0.51	1529	55.84	7.77	1.53	5.08	4040	0.38	0.38	
OCT	4	1726	70.70	9.84	1.73	5.70	34.80	0.70	1.73	0.40	1009	5.66	0.79	1.01	0.78	4040	0.25	0.25	
OCT	5	1896	88.00	12.25	1.90	6.46	38.10	0.76	1.90	0.40	1415	7.00	0.97	1.42	0.69	4040	0.35	0.35	
OCT	6	2113	94.90	13.21	2.11	6.25	42.00	0.84	2.11	0.40	1410	7.50	1.04	1.41	0.74	4040	0.35	0.35	
OCT	10	7806	384.90	53.58	7.81	6.86	157.60	3.15	7.81	0.40	4512	27.38	3.81	4.51	0.84	4040	1.12	0.28	
OCT	11	2537	134.23	18.68	2.54	7.36	49.93	1.00	2.54	0.39	1978	8.02	1.12	1.98	0.56	4040	0.49	0.49	
OCT	12	1343	63.32	8.81	1.34	6.56	26.93	0.54	1.34	0.40	806	3.30	0.46	0.81	0.57	4040	0.20	0.20	
OCT	13	1837	93.08	12.96	1.84	7.05	40.07	0.80	1.84	0.44	1271	11.33	1.58	1.27	1.24	4040	0.31	0.31	
OCT	16	6357	298.20	41.51	6.36	6.53	121.50	2.43	6.36	0.38	3801	21.24	2.96	3.80	0.78	4040	0.94	0.31	
OCT	17	1825	87.30	12.15	1.83	6.66	36.79	0.74	1.83	0.40	1101	5.19	0.72	1.10	0.66	4040	0.27	0.27	
OCT	18	1818	87.38	12.16	1.82	6.69	38.10	0.76	1.82	0.42	1244	5.19	0.72	1.24	0.58	4040	0.31	0.31	
OCT	19	1582	73.45	10.22	1.58	6.46	29.50	0.59	1.58	0.37	1108	4.24	0.59	1.11	0.53	4040	0.27	0.27	
OCT	20	1872	85.40	11.89	1.87	6.35	40.00	0.80	1.87	0.43	1253	7.00	0.97	1.25	0.78	4040	0.31	0.31	
OCT	23	6448	279.20	38.86	6.45	6.03	139.90	2.80	6.45	0.43	3974	20.70	2.88	3.97	0.73	4040	0.98	0.33	
OCT	24	1609	71.55	9.96	1.61	6.19	32.80	0.66	1.61	0.41	1059	4.70	0.65	1.06	0.62	4040	0.26	0.26	
OCT	25	1863	76.60	10.66	1.86	5.72	38.70	0.77	1.86	0.42	1295	6.13	0.85	1.30	0.66	4040	0.32	0.32	
OCT	26	1858	74.08	10.31	1.86	5.55	37.40	0.75	1.86	0.40	1203	8.02	1.12	1.20	0.93	4040	0.30	0.30	
OCT	27	2050	85.40	11.89	2.05	5.80	36.10	0.72	2.05	0.35	1445	7.50	1.04	1.45	0.72	4040	0.36	0.36	
OCT	30	6031	253.90	35.34	6.03	5.86	122.80	2.46	6.03	0.41	3673	20.70	2.88	3.67	0.78	4040	0.91	0.23	
OCT	31	1625	70.90	9.87	1.63	6.07	32.80	0.66	1.63	0.40	1006	3.77	0.52	1.01	0.52	4040	0.25	0.06	
OCT		62398	2855.50	397.49	62.40	6.34	1302.06	26.04	62.40	0.41	39945	260.71	36.29	39.95	0.93	4040	0.46	0.30	
DAILY AVG		2013									1289								
MAX		2537									1978								

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2000

		PRE HYPOCHLORITE					PRE KMNO4				POST HYPOCHLORITE							
Mth	DAY	TOTAL PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
NOV	1	2617	109.50	15.24	2.62	5.82	54.50	1.09	2.62	0.42	1869	9.40	1.31	1.87	0.70	4040	0.46	0.46
NOV	2	1930	76.60	10.66	1.93	5.52	38.70	0.77	1.93	0.40	1263	6.10	0.85	1.26	0.67	4040	0.31	0.31
NOV	3	1174	53.82	7.49	1.17	6.38	24.30	0.49	1.17	0.41	749	2.83	0.39	0.75	0.53	4040	0.19	0.19
NOV	6	6100	253.90	35.34	6.10	5.79	123.50	2.47	6.10	0.40	3660	20.30	2.83	3.66	0.77	4040	0.91	0.30
NOV	7	1659	66.40	9.24	1.66	5.57	32.80	0.66	1.66	0.40	1136	6.13	0.85	1.14	0.75	4040	0.28	0.28
NOV	8	1751	68.30	9.51	1.75	5.43	36.70	0.73	1.75	0.42	1161	5.19	0.72	1.16	0.62	4040	0.29	0.29
NOV	9	1838	74.70	10.40	1.84	5.66	36.70	0.73	1.84	0.40	1222	6.60	0.92	1.22	0.75	4040	0.30	0.30
NOV	10	2217	92.40	12.86	2.22	5.80	45.30	0.91	2.22	0.41	1490	8.40	1.17	1.49	0.78	4040	0.37	0.37
NOV	14	8088	325.40	45.30	8.09	5.60	167.50	3.35	8.09	0.41	5349	25.40	3.54	5.35	0.66	4040	1.32	0.33
NOV	15	1244	54.40	7.57	1.24	6.09	26.20	0.52	1.24	0.42	659	2.83	0.39	0.66	0.60	4040	0.16	0.16
NOV	16	2021	84.20	11.72	2.02	5.80	40.00	0.80	2.02	0.40	1321	7.55	1.05	1.32	0.80	4040	0.33	0.33
NOV	17	1809	79.10	11.01	1.81	6.09	34.10	0.68	1.81	0.38	1244	6.60	0.92	1.24	0.74	4040	0.31	0.31
NOV	20	6068	255.80	35.61	6.07	5.87	123.50	2.47	6.07	0.41	3553	16.50	2.30	3.55	0.65	4040	0.88	0.29
NOV	21	1593	64.50	8.98	1.59	5.64	31.50	0.63	1.59	0.40	1186	7.00	0.97	1.19	0.82	4040	0.29	0.29
NOV	22	1839	79.15	11.02	1.84	5.99	39.40	0.79	1.84	0.43	1152	7.08	0.99	1.15	0.86	4040	0.29	0.29
NOV	23	1769	72.80	10.13	1.77	5.73	31.50	0.63	1.77	0.36	1172	6.60	0.92	1.17	0.78	4040	0.29	0.29
NOV	24	1742	71.55	9.96	1.74	5.72	37.40	0.75	1.74	0.43	1173	6.13	0.85	1.17	0.73	4040	0.29	0.29
NOV	27	6360	262.14	36.49	6.36	5.74	128.11	2.56	6.36	0.40	3958	21.70	3.02	3.96	0.76	4040	0.98	0.33
NOV	28	1562	64.50	8.98	1.56	5.75	30.80	0.62	1.56	0.39	1043	5.19	0.72	1.04	0.69	4040	0.26	0.26
NOV	29	1904	79.70	11.09	1.90	5.83	38.70	0.77	1.90	0.41	1369	7.55	1.05	1.37	0.77	4040	0.34	0.17
NOV	30	2005	85.48	11.90	2.01	5.93	40.70	0.81	2.01	0.41	1349	8.02	1.12	1.35	0.83	4040	0.33	0.17
NOV		57290	2374.34	330.51	57.29	5.80	1161.91	23.24	57.29	0.40	37078	193.10	26.88	37.08	0.73	4040	0.44	0.29
DAILY AVG		1910									1236							
MAX		2617									1869							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2000

		PRE HYPOCHLORITE					PRE KMNO4				POST HYPOCHLORITE							
Mth	DAY	TOTAL PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
DEC	1	2253	94.30	13.13	2.25	5.83	45.90	0.92	2.25	0.41	1477	6.61	0.92	1.48	0.62	4040	0.37	0.37
DEC	4	5513	237.40	33.05	5.51	5.99	109.70	2.19	5.51	0.40	3141	17.40	2.42	3.14	0.77	4040	0.78	0.26
DEC	5	1970	84.80	11.80	1.97	5.99	40.70	0.81	1.97	0.41	1128	5.19	0.72	1.13	0.64	4040	0.28	0.28
DEC	6	1665	74.71	10.40	1.67	6.25	32.80	0.66	1.67	0.39	1129	6.13	0.85	1.13	0.76	4040	0.28	0.28
DEC	7	1866	81.04	11.28	1.87	6.05	38.10	0.76	1.87	0.41	1094	6.13	0.85	1.09	0.78	4040	0.27	0.27
DEC	8	1699	76.61	10.66	1.70	6.28	34.16	0.68	1.70	0.40	1097	7.08	0.99	1.10	0.90	4040	0.27	0.27
DEC	11	6462	288.70	40.19	6.46	6.22	132.70	2.65	6.46	0.41	4267	21.20	2.95	4.27	0.69	4040	1.06	0.35
DEC	12	1206	53.18	7.40	1.21	6.14	23.60	0.47	1.21	0.39	710	4.24	0.59	0.71	0.83	4040	0.18	0.18
DEC	13	2446	112.70	15.69	2.45	6.41	48.60	0.97	2.45	0.40	1713	9.44	1.31	1.71	0.77	4040	0.42	0.42
DEC	14	1852	86.70	12.07	1.85	6.52	36.70	0.73	1.85	0.40	1126	5.19	0.72	1.13	0.64	4040	0.28	0.28
DEC	15	1110	45.50	6.33	1.11	5.71	21.60	0.43	1.11	0.39	792	3.77	0.52	0.79	0.66	4040	0.20	0.20
DEC	18	6179	281.00	39.12	6.18	6.33	122.50	2.45	6.18	0.40	3659	19.80	2.76	3.66	0.75	4040	0.91	0.30
DEC	19	1658	72.80	10.13	1.66	6.11	28.90	0.58	1.66	0.35	1065	5.66	0.79	1.07	0.74	4040	0.26	0.26
DEC	20	2077	93.00	12.95	2.08	6.23	49.00	0.98	2.08	0.47	1270	7.00	0.97	1.27	0.77	4040	0.31	0.31
DEC	21	1425	65.80	9.16	1.43	6.43	26.90	0.54	1.43	0.38	1041	7.00	0.97	1.04	0.94	4040	0.26	0.26
DEC	22	2063	91.80	12.78	2.06	6.19	45.30	0.91	2.06	0.44	1175	6.60	0.92	1.18	0.78	4040	0.29	0.29
DEC	25	5951	266.50	37.10	5.95	6.23	120.20	2.40	5.95	0.40	3618	20.70	2.88	3.62	0.80	4040	0.90	0.30
DEC	27	3624	166.10	23.12	3.62	6.38	73.50	1.47	3.62	0.41	2190	11.30	1.57	2.19	0.72	4040	0.54	0.27
DEC	28	1794	82.30	11.46	1.79	6.39	34.80	0.70	1.79	0.39	1138	6.60	0.92	1.14	0.81	4040	0.28	0.28
DEC	29	1888	92.40	12.86	1.89	6.81	38.10	0.76	1.89	0.40	1205	6.13	0.85	1.21	0.71	4040	0.30	0.30
DEC	31	6104	284.30	39.57	6.10	6.48	124.80	2.50	6.10	0.41	3795	20.30	2.83	3.80	0.74	4040	0.94	0.47
DEC	DAILY AVG	60805	2731.64	380.24	60.81	6.24	1228.56	24.57	24.93	0.40	37830	203.47	28.32	37.83	0.75	4040	0.45	0.30
	MAX	1961	2446								1220							
											1713							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2000

		PRE HYPOCHLORITE					PRE KMNO4				POST HYPOCHLORITE							
Mth	DAY	TOTAL PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
JAN		49902	1177.92	163.97	43.72	3.76	2254.31	44.94	49.90	0.91	38156	113.12	15.75	38.16	0.41	4040	0.50	0.30
FEB		54246	1411.38	196.46	54.25	3.60	2419.69	48.39	54.25	0.89	35980	84.52	11.77	35.98	0.35	4040	0.42	0.30
MAR		56765	1501.80	209.05	56.77	3.67	2501.90	50.04	56.77	0.88	38686	110.72	15.41	38.69	0.42	4040	0.42	0.28
APR		50633	1277.31	177.80	50.63	3.51	2229.87	44.60	50.63	0.88	34330	92.21	12.84	34.33	0.41	4040	0.46	0.30
MAY		66678	1685.87	234.67	66.68	3.72	2920.85	58.42	66.68	0.88	43576	122.39	17.04	43.58	0.40	4040	0.46	0.32
JUNE		58646	1511.37	210.38	58.65	3.66	2525.01	50.50	58.65	0.86	37970	112.44	15.65	37.97	0.41	4040	0.43	0.31
JULY		59094	1727.04	240.40	59.09	4.02	2578.75	51.58	59.09	0.88	37640	99.22	13.81	37.64	0.39	4040	0.44	0.29
AUG		56892	1752.54	243.95	56.89	4.28	2470.96	49.42	56.89	0.87	35989	105.90	14.74	35.99	0.42	4040	0.42	0.30
SEP		59126	2408.84	288.33	49.03	5.96	2071.40	41.43	49.03	0.82	31210	229.03	31.88	31.21	0.98	4040	0.43	0.32
OCT		62398	2855.50	397.49	62.40	6.34	1302.06	26.04	62.40	0.41	39945	260.71	36.29	39.95	0.93	4040	0.46	0.30
NOV		57290	2374.34	330.51	57.29	5.80	1161.91	23.24	57.29	0.40	37078	193.10	26.88	37.08	0.73	4040	0.44	0.29
DEC		60805	2731.64	380.24	60.81	6.24	1228.56	24.57	24.93	0.40	37830	203.47	28.32	37.83	0.75	4040	0.45	0.30
TOTAL		692475	22415.55	3073.27	676.20	4.55	25665.27	513.16	646.50	0.76	448390	1726.83	240.37	448.39	0.55	4040	0.44	0.30

ANNUAL SUMMARY - RAW WATER FLOWS

WATER WORKS NAME: EMBRUN WTP
 YEAR: 2000
 SERVICED POPULATION: 4040
 DESIGN CAPACITY: 6000

MONTH	WELL #2			WELL #1		
	AVERAGE DAY (1000 m3)	MAXIMUM DAY (1000 m3)	MONTHLY TOTAL (1000 m3)	AVERAGE DAY (1000 m3)	MAXIMUM DAY (1000 m3)	MONTHLY TOTAL (1000 m3)
JAN	1.61	2.36	49.90			
FEB	1.87	2.74	54.24			
MAR	1.83	2.17	56.76			
APR	1.68	2.37	50.63			
MAY	2.15	2.54	66.67			
JUN	1.95	2.51	58.64	NOT IN OPERATION		
JUL	1.90	2.60	59.09			
AUG	1.83	2.84	56.89			
SEP	1.97	3.03	59.12			
OCT	2.01	2.53	62.39			
NOV	1.91	2.61	57.29			
DEC	1.96	2.44	60.80			
TOTAL			692.42	0	0	0
AVERAGE	1.89	2.56	57.70	0	0	0
MAXIMUM	2.15	3.03	66.67	0	0	0

ANNUAL SUMMARY - RAW WATER BACTERIOLOGICAL DATA

WATER WORKS NAME:

EMBRUN

YEAR:

2000

SERVICED POPULATION:

4040

LABORATORIES WHICH PERFORMED ANALYSES:

ACCUTEST LABORATORIES

MONTH	TOTAL COLIFORM				FECAL COLIFORM/ESCHERICHIA COLI		
	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES 1-100 ORG./100ml	NO. OF SAMPLES 101-5000 ORG./100ml	NO. OF SAMPLES > 5000 ORG./100 ml	NO. OF SAMPLES 1-10 ORG./100ml	NO. OF SAMPLES 11-500 ORG./100ml	NO. OF SAMPLES >500 ORG./100 ml
JAN	4	0	0	0	0	0	0
FEB	3	0	0	0	0	0	0
MAR	4	0	0	0	0	0	0
APR	4	1	0	0	0	0	0
MAY	5	1	0	0	0	0	0
JUN	4	0	1	0	0	0	0
JUL	5	0	0	0	0	0	0
AUG	4	0	0	0	0	0	0
SEP	4	0	0	0	0	0	0
OCT	5	0	0	0	0	0	0
NOV	4	1	0	0	0	0	0
DEC	3	2	0	0	0	0	0
TOTAL	49	5	1	0	0	0	0

ANNUAL SUMMARY - TREATED SYSTEM BACTERIOLOGICAL DATA

WATER WORKS NAME:

EMBRUN

YEAR:

2000

SERVICED POPULATION:

4040

LABORATORIES WHICH PERFORMED ANALYSES:

ACCUTEST LABORATORIES

MONTH	TOTAL COLIFORM				FECAL COLIFORM/E.COLI			HPC		
	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES UNSAFE	NO. OF SAMPLES DETERIORATING	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES UNSAFE	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES DETERIORATING
JAN	4	4	0	0	4	4	0	4	4	0
FEB	3	3	0	0	3	3	0	3	3	0
MAR	4	4	0	0	4	4	0	4	4	0
APR	4	4	0	0	4	4	0	4	4	0
MAY	5	5	0	0	5	5	0	5	5	0
JUN	4	4	0	0	4	4	0	4	4	0
JUL	5	5	0	0	5	5	0	5	5	0
AUG	4	4	0	0	4	4	0	4	4	0
SEP	4	4	0	0	4	4	0	4	4	0
OCT	5	5	0	0	5	5	0	5	5	0
NOV	4	4	0	0	4	4	0	4	4	0
DEC	3	3	0	0	3	3	0	3	3	0
TOTAL	49	49	0	0	49	49	0	49	49	0

ANNUAL SUMMARY - DISTRIBUTION SYSTEM BACTERIOLOGICAL DATA

WATER WORKS NAME:

EMBRUN

YEAR:

2000

SERVICED POPULATION:

4040

LABORATORIES WHICH PERFORMED ANALYSES:

ACCUTEST LABORATORIES

MONTH	TOTAL COLIFORM				FECAL COLIFORM/ESCHERICHIA			HPC		
	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES UNSAFE	NO. OF SAMPLES DETERIORATING	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES UNSAFE	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES DETERIORATING
JAN	12	12	0	0	12	12	0	12	12	0
FEB	9	9	0	0	9	9	0	9	9	0
MAR	12	12	0	0	12	12	0	12	12	0
APR	12	12	0	0	12	12	0	12	12	0
MAY	15	15	0	0	15	15	0	15	15	0
JUN	12	12	0	0	12	12	0	12	12	0
JUL	16	16	0	1	16	16	0	16	16	0
AUG	12	12	0	0	12	12	0	12	12	0
SEP	12	12	0	0	12	12	0	12	12	0
OCT	15	15	0	0	12	15	0	15	15	0
NOV	12	12	0	0	12	12	0	12	12	0
DEC	9	9	0	0	12	9	0	9	9	0
TOTAL	148	148	0	1	148	148	0	148	148	0

**EMBRUN
RAW WATER
CHEMICAL TESTING**

PARAMETER	UNITS	2000				
		JAN	APR	JUL	OCT	AVERAGE
ALKALINITY	mg/L CaCO ₃	185	183	200	191	190
HARDNESS	mg/L CaCO ₃	490	495	402	377	441
SODIUM (Na)	mg/L	5	5	18	4	8
IRON (Fe)	mg/L	2.21	1.00	0.37	1.61	1.30
COPPER (Cu)	mg/L	<0.005	<0.005	<0.01	<0.001	0.006
LEAD (Pb)	mg/L	<0.002	<0.002	<0.001	<0.001	0.002
ZINC (Zn)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
ARSENIC (As)	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
ALUMINUM (Al)	mg/L	<0.03	<0.03	<0.05	<0.05	0.040
MANGANESE (Mn)	mg/L	0.30	0.32	0.22	0.24	0.27
CONDUCTIVITY	umhos/cm	828	829	814	741	803
CHLORIDE (Cl)	mg/L	12	14	14	15	14
SULPHATE (SO ₄)	mg/L	262	287	237	221	252
TOTAL AMMONIA	mg/L	0.22	0.20	0.27	0.29	0.25
TKN	mg/L	0.31	0.27	0.54	0.4	0.38
NITRITE (N-NO ₂)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
NITRATE (N-NO ₃)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
DOC	mg/L	1.5	1.6	1.8	2.0	1.7
pH		7.4	6.5	7.1	7.8	7.2
TDS	mg/L	520	608	556	496	545
PHENOLS		<0.001	-	<0.001	<0.001	<0.001

**EMBRUN
DISTRIBUTION SYSTEM
CHEMICAL TESTING**

PARAMETER	UNITS	2000				
		JAN	APR	JUL	OCT	AVERAGE
COLOUR	Pt/Co units	<2	<2	<2	<2	<2
pH		7.67	7.36	6.73	7.53	7.32
ALKALINITY	mg/L CaCO ₃	186	182	200	190	190
HARDNESS	mg/L CaCO ₃	482	492	4.61	453	358
SODIUM (Na)	mg/L	8	8	8	9	8
IRON (Fe)	mg/L	<0.01	<0.01	<0.01	0.02	0.02
COPPER (Cu)	mg/L	<0.005	0.030	<0.01	0.029	0.030
LEAD (Pb)	mg/L	<0.002	<0.002	<0.001	<0.001	<0.002
ZINC (Zn)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
ARSENIC (As)	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
ALUMINUM (Al)	mg/L	<0.03	<0.03	<0.05	<0.05	<0.04
MANGANESE (Mn)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
CONDUCTIVITY	umhos/cm	843	817	828	826	829
CHLORIDE (Cl)	mg/L	16	18	14	19	17
SULPHATE (SO ₄)	mg/L	269	283	243	246	260
TOTAL AMMONIA	mg/L	0.14	0.13	0.15	<0.02	0.14
TKN	mg/L	0.31	0.27	0.25	0.10	0.23
NITRITE (N-NO ₂)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
NITRATE (N-NO ₃)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
DOC	mg/L	1.6	1.3	1.9	1.6	1.6
THM	mg/L	ND	0.003	0.004	0.025	0.011
ION BALANCE		1.02				

**EMBRUN
TREATED WATER
CHEMICAL TESTING**

PARAMETER	UNITS	2000				
		JAN	APR	JUL	OCT	AVERAGE
pH					7.57	7.57
ALKALINITY	mg/L CaCO ₃	186	182	200	184	188
HARDNESS	mg/L CaCO ₃	491	482	427	449	462
SODIUM (Na)	mg/L	7	7	6	10	8
IRON (Fe)	mg/L	<0.01	0.08	<0.01	<0.01	0.08
COPPER (Cu)	mg/L	<0.005	0.006	0.001	0.002	0.004
LEAD (Pb)	mg/L	<0.002	<0.002	<0.001	<0.001	<0.002
ZINC (Zn)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
ARSENIC (As)	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
ALUMINUM (Al)	mg/L	<0.03	<0.03	<0.05	<0.05	0.04
MANGANESE (Mn)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
CONDUCTIVITY	umhos/cm	847	815	839	844	836
CHLORIDE (Cl)	mg/L	16	17	13	17	16
SULPHATE (SO ₄)	mg/L	263	275	229	246	253
TOTAL AMMONIA	mg/L	0.17	0.14	0.21	<0.02	0.17
TKN	mg/L	0.25	0.27	0.32	0.18	0.30
NITRITE (N-NO ₂)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
NITRATE (N-NO ₃)	mg/L	<0.10	0.10	<0.10	<0.10	<0.10
DOC	mg/L	1.4	1.2	1.6	1.7	1.5
THM		ND	ND	0.003	0.022	0.013
ION BALANCE		1.05				1.05

ACCUTEST LABORATORIES LTD.

146 Colonnade Road, Unit 8, Nepean, Ontario K2E 7Y1 Tel: (613) 727-5692 Fax: (613) 727-5222

CLIENT: Township of Russell
 Ship to: 851 Route 400
 Bill to: 717 Notre-Dame
 Embrun, Ontario K0A 1W1

Date Collected: 10-10-2000

Tel: (613) 443-1747

Tel: (613) 443-5111

Attention: Craig Cullen, Superintendent

Project: Embrun Raw Water

WATERWORKS #220004297

PARAMETER				Sample Location
TABLE B Volatile Organics	MAC (mg/L)	IMAC (mg/L)	AO/OG	Embrun Well
Benzene	0.005			<0.0005
Toluene			0.024 AO	<0.0005
Ethylbenzene			0.0024 AO	<0.0005
m/p-Xylene				<0.0005
o-Xylene			0.30 AO	<0.0005
Bromodichloromethane				<0.0003
Bromoform				<0.0004
Carbon Tetrachloride	0.005			<0.0009
Monochlorobenzene	0.08			<0.0002
Chloroform				<0.0005
Dibromochloromethane				<0.0003
1,2-Dichlorobenzene	0.2			<0.0010
1,4-Dichlorobenzene	0.005			<0.0010
1,2-Dichloroethane		0.005		<0.0007
1,1-Dichloroethylene	0.014			<0.0005
Dichloromethane	0.05			<0.0040
Tetrachloroethylene	0.030			<0.0003
Trichloroethylene	0.05			<0.0003
Vinyl chloride	0.002			<0.0005

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CLIENT: Township of Russell
 Ship to: 851 Route 400
 Bill to: 717 Notre-Dame
 Embrun, Ontario K0A 1W1

Date Collected: 10-10-2000

Tel: (613) 443-1747

Tel: (613) 443-5111

Attention: Craig Cullen, Superintendent

Project: Embrun Treated Water

WATERWORKS #220004297

PARAMETER TABLE B Volatile Organics				Sample Location
	MAC (mg/L)	IMAC (mg/L)	AO/OG	Embrun Clearwell
Benzene	0.005			<0.0005
Toluene			0.024 AO	<0.0005
Ethylbenzene			0.0024 AO	<0.0005
m/p-Xylene				<0.0005
o-Xylene			0.30 AO	<0.0005
Bromodichloromethane				<0.0046
Bromoform				<0.0004
Carbon Tetrachloride	0.005			<0.0009
Monochlorobenzene	0.08			<0.0002
Chloroform				<0.0166
Dibromochloromethane				<0.0009
1,2-Dichlorobenzene	0.2			<0.0010
1,4-Dichlorobenzene	0.005			<0.0010
1,2-Dichloroethane		0.005		<0.0007
1,1-Dichloroethylene	0.014			<0.0005
Dichloromethane	0.05			<0.0040
Tetrachloroethylene	0.030			<0.0003
Trichloroethylene	0.05			<0.0003
Vinyl chloride	0.002			<0.0005

LAB REPORT NO: _____

ACCUTEST LABORATORIES LTD.

146 Colonnade Road, Unit 8, Nepean, Ontario K2E 7Y1 Tel: (613) 727-5692 Fax: (613) 727-5222

CLIENT: Township of Russell
Ship to: 851 Route 400
Bill to: 717 Notre-Dame
Embrun, Ontario K0A 1W1

Date Collected: 10-10-2000

Tel: (613) 443-1747
Tel: (613) 443-5111

Attention: Craig Cullen, Superintendent

Project: Embrun Distribution

WATERWORKS #220004297

PARAMETER TABLE B Volatile Organics				Sample Location
	MAC (mg/L)	IMAC (mg/L)	AO/OG	
Trihalomethanes	0.100			0.0250

LAB REPORT NO: _____

ACCUTEST LABORATORIES LTD.

146 Colonnade Road, Unit 8, Nepean, Ontario K2E 7Y1 Tel: (613) 727-5692 Fax: (613) 727-5222

CLIENT: Township of Russell
Ship to: 851 Route 400
Bill to: 717 Notre-Dame
Embrun, Ontario K0A 1W1

Date Collected: 10-10-2000

Tel: (613) 443-1747

Tel: (613) 443-5111

Attention: Craig Cullen, Superintendent

Project: *Raw.* Embrun ~~Treated~~ Water

WATERWORKS #220004297

TABLE C Inorganics PARAMETERS	MAC (mg/L)	IMAC (mg/L)	AO / OG	
Arsenic		0.025		<0.001
Barium	1.0			0.09
Boron		5.0		0.01
Cadmium	0.005			<0.0001
Chromium	0.05			<0.001
Copper			1.0 AO	0.029
Iron			0.30 AO	0.02
Lead	0.01*			<0.001
Manganese			0.05 AO	<0.01
Mercury	0.001			<0.0001
Nitrate	10.0			<0.10
Nitrite	1.0			<0.10
Selenium	0.01			<0.001
Uranium	0.10			<0.001

* This standard applies to water at point of consumption.

CLIENT: Township of Russell
Ship to: 851 Route 400
Bill to: 717 Notre-Dame
Embrun, Ontario K0A 1W1

Date Collected: January 3, 1997

Tel: (613) 443-1747
Tel: (613) 443-5111

Attention: Craig Cullen, Superintendent

Project: **Embrun Raw Water
Quarterly (1 Sample)**

WATERWORKS #220004297

TABLE D PESTICIDES and PCB	MAC (mg/L)	IMAC (mg/L)	Sample Location
			Well #1
Alachlor		0.005	ND
Aldicarb	0.009		ND
Aldrin+Dieldrin	0.0007		ND
Atrazine		0.005	ND
Azinphos-methyl	0.02		ND
Bendiocarb	0.04		ND
Bromoxynil		0.005	ND
Carbaryl	0.09		ND
Carbofuran	0.09		ND
Chlordane(Total)	0.007		ND
Chlorpyrifos	0.09		ND
Cyanazine		0.01	ND
Diazinon	0.02		ND
Dicamba	0.12		ND
2,4-Dichlorophenol	0.9		ND
DDT	0.03		ND
2,4-D		0.1	ND
Diclofop-methyl	0.009		ND
Dimethoate		0.02	ND
Dinoseb	0.01		ND
Diquat	0.07		ND
Diuron	0.15		ND

TABLE D PESTICIDES and PCB	MAC (mg/L)	IMAC (mg/L)	Sample Location
			Well #1
Glyphosate		0.28	ND
Heptachlor + heptachlor epoxide	0.003		ND
Lindane(Total)	0.004		ND
Malathion	0.19		ND
Methoxychlor	0.9		ND
Metolachlor		0.05	ND
Metribuzin	0.08		ND
Paraquat		0.01	ND
Parathion	0.05		ND
Pentachlorophenol	0.06		ND
Phorate		0.002	ND
Picloram		0.19	ND
PCB		0.003	ND
Prometryne		0.001	ND
Simazine		0.01	ND
Temephos		0.28	ND
Terbufos		0.001	ND
2,3,4,6-Tetrachlorophenol	0.10		ND
Triallate	0.23		ND
2,4,6-Trichlorophenol	0.005		ND
Trifluralin		0.045	ND
2,4,5-T	0.28		ND

ND = NOT DETECTED

EMBRUN/MARIONVILLE WTP DAILY IN-HOUSE TESTING - 2000

RAW WATER		COLOUR	PH	TEMP	FE	MN	FL	TUR
JAN		4	7.4	9	2.65	0.345		
FEB		4	7.3	9	2.76	0.357	0.34	0.26
MAR		3	7.3	9	2.65	0.354	0.31	0.12
APR		6	6.5	9	2.43	0.338		0.17
MAY		5	7.4	9	2.35	0.339		0.20
JUN		6	7.1	9	2.40	0.446		0.28
JUL		5	7.1	9	2.47	0.447		0.31
AUG		4	7.1	9	2.51	0.352		0.27
SEP		4	7.2	9	2.49	0.421		0.29
OCT		4	7.3	9	2.46	0.342		0.18
NOV		3	7.4	9	2.52	0.335		0.24
DEC		5	7.4	9	2.36	0.426		0.17
AVG		5	7.2	9	2.50	0.375	0.32	0.23

CLEAR WELL		COLOUR	PH	TEMP	FE	MN	FL	TUR MIN	TUR MAX	CL ² TOTAL	CL ² FREE MIN	CL ² FREE MAX
JAN		0	7.4	9	0.02	0.022	0.29	0.08		0.87	0.13	
FEB		1	7.2	9	0.02	0.021	0.32	0.08		0.82	0.12	
MAR		1	7.2	9	0.02	0.019	0.29	0.05		0.86	0.12	
APR		1	7.3	9	0.02	0.016	0.27	0.05		0.78	0.12	
MAY		1	7.3	9	0.02	0.015		0.06		0.86	0.12	
JUN		1	7.1	9	0.02	0.017		0.07		0.88	0.12	
JUL		0	7.1	10	0.02	0.017		0.32		0.95	0.13	
AUG		1	7.1	9	0.03	0.020		0.05	0.14	1.00	0.10	0.17
SEP		1	7.2	9	0.03	0.021		0.07	0.33	1.11	0.10	0.99
OCT		1	7.3	9	0.02	0.023	0.26	0.05	0.180	0.63	0.20	0.64
NOV		1	7.4	9	0.03	0.022		0.06	0.140	0.62	0.30	0.64
DEC		1	7.4	9	0.02	0.019		0.06	0.120	0.57	0.26	0.62
AVG		1	7.3	9	0.02	0.019	0.29	0.05	0.33	0.83	0.10	0.99

EMBRUN/MARIONVILLE WTP DAILY IN-HOUSE TESTING - 2000

EMBRUN DISTRIBUTION	COLOUR	PH	TEMP	FE	MN	FL	TUR MIN	TUR MAX	CL ² TOTAL	CL ² FREE MIN	CL ² FREE MAX
JAN	1	7.4	10	0.02	0.020		0.08		0.85	0.12	
FEB	1	7.2	9				0.09		0.80	0.12	
MAR	1	7.2	9				0.06		0.79	0.11	
APR	1	7.3	9				0.07		0.82	0.12	
MAY	1	7.3	10				0.08		0.88	0.12	
JUN	1	7.1	11				0.07		0.94	0.11	
JUL	1	7.1	14				0.08		0.90	0.12	
AUG	1	7.1	15				0.07	0.16	0.93	0.10	0.16
SEP	2	7.2	13		0.000		0.07	0.25	0.74	0.09	0.41
OCT	2	7.2	12	0.00			0.08	0.190	0.49	0.20	0.56
NOV	1	7.1	11	0.00	0.000		0.07	0.170	0.69	0.25	0.74
DEC	1	7.4	8				0.08	0.140	0.68	0.32	0.88
AVG	1	7.2	11	0.01	0.007		0.07	0.25	0.79	0.09	0.41

MARIONVILLE DISTRIBUTION	COLOUR	PH	TEMP	FE	MN	FL	TUR MIN	TUR MAX	CL ² TOTAL	CL ² FREE MIN	CL ² FREE MAX
JAN	1	7.4	4	0.02	0.019		0.10		0.40	0.21	
FEB	1	7.2	5				0.08		0.80	0.12	
MAR	1	7.2	7				0.06		0.79	0.12	
APR	1	7.3	8	0.03	0.010		0.12		0.80	0.12	
MAY	1	7.3	10				0.08		0.83	0.13	
JUN	1	7.1	13				0.08		0.88	0.13	
JUL	1	7.1	15				0.08		0.95	0.12	
AUG	1	7.1	15				0.04	0.11	0.96	0.10	0.20
SEP	1	7.2	13				0.08	0.30	0.71	0.07	0.42
OCT	1	7.2	12				0.07	0.250	0.60	0.33	0.51
NOV	1	7.4	10				0.07	0.150	0.64	0.31	0.52
DEC	1	7.4	6	0.00			0.06	0.140	0.71	0.45	0.58
AVG	1	7.2	10	0.02	0.015		0.04	0.30	0.76	0.07	0.42

[illegible][illegible]



MUNICIPALITÉ DE
TOWNSHIP OF **RUSSELL**

March 19, 2001

MOE
113 Amelia Street, 2nd Floor
Cornwall, Ontario
K6H 3P1

Attention: Mike Séguin

Re: Embrun Sewage

Enclosed is the 2000 Annual Operations Report. The facility has met all the terms and conditions of the C.O.A.

- 1) The design flow of .450 m³/d/c was exceeded in April (.513 m³).
- 2) The Embrun lagoon was discharged manually due to the incompleteness of work associated with the hydrograph control system. All conditions of the new certificate were followed during this period.
- 3) As of December 31, 2000 the construction at the Embrun lagoon is approximately 95% completed. A letter was sent to the engineer concerning the uncompleted work.
- 4) A list of complaints is included.

If you have any question, please contact the undersigned at (613) 443-1747.

Sincerely,

Craig Cullen
Superintendent
Public Utilities

Encl.



MUNICIPALITÉ DE
TOWNSHIP OF **RUSSELL**

DATE: November 9, 2000
TO: Lecompte Engineering
ATTENTION: Gaetan Beauchesne
RE: Embrun Sewage Lagoon Upgrade

DEFICIENCY LIST

Alum pumps	- not commissioned/tested
Hydrograph Building Kiosk	- milltronics (calibration) - hydrograph calibration - motor/valve commissioning
Bridge Building	- lock for door - set-up - commissioning
Electronics	- computer system for office/lagoon not completed
Electrical	- panels not identified (labels on circuits) - hydro inspection not passed
Engineering	- operation manual - contingency plan

Note: The lagoon is ready to be discharged. If you are not ready to test the system as agreed upon in August, I await a letter from the engineer on how the discharge will be completed and this procedure will be approved by the MOE.

Sincerely,

Craig Cullen
Superintendent, Public Utilities

CC/cg
cc:

Marcel Blanchard



MUNICIPALITÉ DE
TOWNSHIP OF

RUSSELL

January 11, 2001

BY TELECOPIER (236-2945)

Mr. Jacques Lecompte, P.Eng.
Lecompte Engineering Ltd.
301- 251 Bank Street
Ottawa, Ontario
K2P 1X3

Dear Sir:

RE: Embrun Sewage Treatment Upgrade Project

The above-noted project is nearing completion and to my knowledge the following deficiencies are still outstanding:

- Final commissioning of the hydrograph system
- Final commissioning of valve system discharge chamber
- Calibration of milltronics
- Calibration of chart recorder
- Radio system
- Model for calibration of the hydrograph at the Castor river
- Operation manual has yet to be completed.

Would you please inform us when the correction of these deficiencies will be completed. We will be holding payment of invoice no. 40529 and of payment certificates 11 and 12 until we have a clear understanding on the status of the above.

We appreciate the good work you and your staff have been doing to have this project completed.

Sincerely,

Marcel Blanchard, MBA, AMCT
Chief Administrative Officer/Clerk

MB/jcl

c.c. Craig Cullen ✓

DECEMBER 31, 2000

SANITARY CAPACITY	
Residential Units	908 x 3.0 = 2724
Apartment Units	209 x 2 = 418
Commercial Units	160 x 1 = 160
Residential Units/Commercial	24 x 1 = 24
Senior Citizen Apartments	45 x 1 = 45
St-Jacques Nursing Home	70 x 1 = 70
Le Pavillon	60 x 1 = 60
Schools	x = 171
TOTAL POPULATION SERVICED	3672

APPROVED LOTS	NUMBER OF LOTS
Infilling Vacant Lots During Original Construction	4
Allocated for Septic System Failure	50
In Holding to Lapalme Nursing Homes	27
Mélanie Construction Phase I	22

TOTAL POPULATION SERVICEABLE 103 x 3.0 = 309 PERSONS

DESIGN CAPACITY = 6000 PERSONS

NOTE: AVERAGE PERSONS PER HOUSEHOLD = 3.0 (STATISTICS CANADA 1996)
SCHOOLS POPULATION BASIS: @ 40% RURAL ÷ 3 (8 HR SCHOOL DAY)
 @ 60% URBAN ÷ 3 (8 HR SCHOOL DAY)

**EMBRUN HYDRAULIC RESERVE
ACTUAL CAPACITY SEWAGE**

$$CU = CR - (L \times F) \times (P + O) / H$$

CR = HYDRAULIC RESERVE CAPACITY

2000 = 1323 m ³ /D	SERVICED POPULATION = 3672	FLOW = .356 m ³ /D/C
1999 = 1287 m ³ /D	SERVICED POPULATION = 3717	FLOW = .354 m ³ /D/C
1998 = 1241 m ³ /D	SERVICED POPULATION = 3638	FLOW = .320 m ³ /D/C

AVERAGE = .343 m³/D/C
AS OF DECEMBER 31, 2000
AT .343 m³/D/C FLOW x 3672 = 1259 m³/D

DESIGN FLOW = .400 m³/D/C
DESIGN POPULATION = 6000
FLOW = 2160 m³/DAY

$$CR = 2160 \text{ m}^3/\text{DAY} - 1259 \text{ m}^3/\text{DAY} = 901 \text{ m}^3/\text{DAY}$$

P = EXISTING RESIDENTIAL POPULATION CONNECTED = 3142 AS OF DECEMBER 31, 2000

H = NO. OF CONNECTED RESIDENTIAL UNITS = 908

F = EXISTING PER CAPITA FLOW = .343 m³/DAY

D = DENSITY = 3.0

O = COM/RES, COMMERCIAL, SENIORS, SCHOOLS, OTHER = 530 TOTAL POPULATION

L = NO. OF UNCOMMITTED APPROVED LOTS = 4 x 3.0 = 12 POPULATION

+ ALLOCATED SEPTIC SYSTEM LOTS FOR FUTURE
SANITARY CONNECTIONS = 50 x 3.0 = 150 POPULATION

MÉLANIE CONSTRUCTION PHASE I = 22 x 3.0 = 66 POPULATION

IN HOLDING TO LAPALME NURSING HOMES = 27 x 3.0 = 81 POPULATION

TOTAL LOTS = 103 x 3.0 = 309 POPULATION

SUMMARY = CU = CR - (L x F) x (P + O) / H

$$= 901 - (103 \times .343) \times 3142 / 908$$

$$= 901 - 122$$

$$= 779 \text{ m}^3/\text{DAY UNCOMMITTED RESERVE}$$

HYDRAULIC CAPACITY FOR AVERAGE DAILY FLOW

UNCOMMITTED NO. OF LOTS (LU)

$$LU = CU / D \times F \text{ WHERE } D = P / H$$

$$= 779 / 3.0 \times .343$$

$$= 757$$

NOTE: AVERAGE PERSONS PER HOUSEHOLD = 3.0 (STATISTICS CANADA 1996)
SCHOOLS POPULATION BASIS: @ 40% RURAL ÷ 3 (8 HR SCHOOL DAY)
@ 60% URBAN ÷ 3 (8 HR SCHOOL DAY)

EMBRUN
SEWAGE FLOWS

2000

DATE 2000	METER READING	AVERAGE MONTHLY (m³)	AVERAGE DAILY (m³)	POP	DAYS	AVERAGE SEWAGE (m³)
1-Jan	5579668	37,224	1,201	3717	31	0.323
31-Jan	5616892					
28-Feb	5651436	34,544	1,191	3717	29	0.320
31-Mar	5694010	42,574	1,373	3717	31	0.369
30-Apr	5751189	57,179	1,906	3717	30	0.513
31-May	5803098	51,909	1,674	3717	31	0.450
30-Jun	5846846	43,748	1,458	3717	30	0.392
31-Jul	5885208	38,362	1,237	3717	31	0.333
31-Aug	5920558	35,350	1,140	3717	31	0.307
30-Sep	5954830	34,272	1,142	3717	30	0.307
31-Oct	5991935	37,105	1,197	3717	31	0.322
30-Nov	6028974	37,039	1,235	3717	30	0.332
31-Dec	6062525	33,551	1,082	3717	31	0.291
AVG m³ TOTAL m³ IRON RES	13,602	40,238 482,857	1,320			0.355
YEAR	TOTAL YEARLY m³	AVERAGE MONTHLY m³	AVERAGE DAILY m³	POP		AVERAGE SEWAGE m³
1999	470,801	39,233	1,287	3638		0.354
1998	452,779	37,732	1,241	3626		0.320

**EMBRUN
COMPLIANCE STATUS REPORT - SEWAGE
2000**

PROJECT: EMBRUN SEWAGE WORKS
WORKS NUMBER: 120002004

COURSE: CASTOR
DESIGN CAPACITY: 2160 m³/D

MONTH	FLOWS		BIOCHEMICAL O ² DEMAND			SUSPENDED SOLIDS			PHOSPHORUS		
	TOTAL FLOW 1000 m ³	AVG DAY FLOW 1000 m ³	AVG RAW BOD mg/L	AVG EFF BOD mg/L	PERCENT REMOVAL	AVG RAW SS mg/L	AVG EFF SS mg/L	PERCENT REMOVAL	AVG RAW PHOS. mg/L	AVG EFF PHOS. mg/L	PERCENT REMOVAL
JAN	37.2	1.20	167			238			5.2		
FEB	34.5	1.18	181			160			6.4		
MAR	42.5	1.37	173			262			5.9		
APR	57.2	1.91	104	13.2	87	156	31.2	80	3.1	1.1	65
MAY	51.8	1.67	151			195			5.8		
JUN	43.7	1.46	n/a			n/a			n/a		
JUL	38.3	1.24	111			216			5.1		
AUG	35.3	1.14	62			165			3.8		
SEP	34.2	1.14	166			200			4.5		
OCT	37.1	1.20	182			185			5.9		
NOV	37.0	1.23	205	9		465	3.0		6.2	0.3	
DEC	33.5	1.08	115	7.7		74	9.7		4.6	0.3	
TOTAL	482.3										
AVG	40.2	1.32	147	10.0		211	14.6		5.1	0.6	
CRITERIA				25			25			1	

NOTE: JUNE SAMPLES LOST IN TRANSIT

Waste Stabilization Ponds and Aerated Lagoons

UTILITY MONITORING SYSTEM

D2

Municipality: Township of Russell
 Project Name: Village of Embrun
 Project Number: 120002004
 Superintendent: Craig Cullen

DATE: APRIL 2000

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOT	AVG	
FINAL EFFLUENT*																																	495.3	
EFF FLOW 10 ³ m ³	17.2	26.9	26.9	26.9	28.0	28.0	28.0	26.3	21.6	21.6	24.2	24.2	21.0	28.0	26.3	26.3	19.5	26.3	26.3	15.2	5.0												480	
DURATION (hrs)	16	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	8.0													
BOD mg/L		9		10		13		11		17				13		13				11		22												
SS mg/L		14		9		20		18		72				34		29				6		79												
AMMONIA mg/L		.97		2.8		4.26		7.88		7.31				8.23		5.88				5.30		4.43												
TKN mg/L		4.83		3.65		5.76		9.71		9.51				11.46		9.39				8.27		6.99												
NITRITE mg/L		.10		.10		.10		.10		.10				.10		.10				.10		.10												
NITRATE mg/L		.11		.10		.10		.15		.15				.13		.20				.10		.20												
TOT. P. mg/L		.31		.61		1.09		1.16		1.38				1.26		2.14				.84		1.15												
H ₂ S mg/L		0		0		0		0		0				0		0				0		0												
pH		8.09		7.48		8.08		8.06		7.81				7.58		7.72				7.89		7.26												
ALUM. - CHEMICALS (BATCH DOSAGE)																																	0	
VOLUME m ³																																		
DOSAGE mg/L																																		
TOTAL COLL. - FINAL EFFLUENT* (BACTERIOLOGICAL) - INDICATE NUMBER OF SAMPLES IN EACH RANGE																																		
0-1000/100 mL		1																														1		
1001-100,000/100 mL										1											1											2		
>100,000/100 mL																																0		
FECAL COLL. - FINAL EFFLUENT* (BACTERIOLOGICAL) - INDICATE NUMBER OF SAMPLES IN EACH RANGE																																		
0-1000/100 mL		1								1											1											3		
1001-100,000/100 mL																																		
>100,000/100 mL																																		

* RECORD DATA FOR FINAL EFFLUENT TO WATERCOURSE ONLY (IF IT OCCURS)

EMBRUN
LAGOON DISCHARGE
SPRING 2000

DATE	DAY	HRS	PLUME L/S	FLOW M ³ /DAY	mg/L BOD ₅	kg BOD ₅	LAGOON D.O.	RIVER
April 1	1	16	299.4	17,245	9	154.8	15	7.8
April 2	2	24	312.2	26,974				
April 3	3	24	312.2	26,974				
April 4	4	24	312.2	26,974	10	269.7		
April 5	5	24	325.2	28,097				
April 6	6	24	325.2	28,097	13	280.9		
April 7	7	24	325.2	28,097				
April 8	8	24	305.5	26,395	11	289.3		
April 9	9	24	250.1	21,608				
April 10	10	24	250.1	21,608	17	367.2	11	8.8
April 11	11	24	280.6	24,243				
April 12	12	24	280.6	24,243				
April 13	13	24	244.2	21,098				
April 14	14	24	325.2	28,097	13	364.0		
April 15	15	24	305.5	26,395				
April 16	16	24	305.5	26,395	13	341.9		
April 17	17	24	226.7	19,586				
April 18	18	24	305.5	26,395				
April 19	19	24	305.5	26,395	11			
April 20	20	24	177.0	15,292				
April 21	21	8	177.0	5,097	22		9	8.2
TOTAL		480		495,305 x	13.2 avg	= 6534		

Waste Stabilization Ponds and Aerated Lagoons

UTILITY MONITORING SYSTEM

D2

Municipality: Township of Russell
Project Name: Village of Embrun
Project Number: 120002004
Superintendent: Craig Cullen

DATE: NOVEMBER 2000

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOT	AVG
-----	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----

FINAL EFFLUENT*

EFF FLOW 10 ³ m ³																											12	30	12	19.8	-	73.8	
DURATION (hrs)																											10	24	24	24		82	
BOD mg/L																												9					9
SS mg/L																												3					3
AMMONIA mg/L																												.19					.19
TKN mg/L																												3.15					3.15
NITRITE mg/L																												<.10					<.10
NITRATE mg/L																												<.10					<.10
TOT. P. mg/L																												.30					.30
H ₂ S mg/L																												0					0
pH																												8.12					8.12

ALUM. - CHEMICALS (BATCH DOSAGE)

VOLUME m ³	11.8	11.3																															
DOSAGE mg/L	17.6	16.5																															

TOTAL COLL. - FINAL EFFLUENT* (BACTERIOLOGICAL) - INDICATE NUMBER OF SAMPLES IN EACH RANGE

0-1000/100 mL																																	1
1001-100,000/100 mL																																	
>100,000/100 mL																																	

FECAL COLL. - FINAL EFFLUENT* (BACTERIOLOGICAL) - INDICATE NUMBER OF SAMPLES IN EACH RANGE

0-1000/100 mL																																	1
1001-100,000/100 mL																																	
>100,000/100 mL																																	

* RECORD DATA FOR FINAL EFFLUENT TO WATERCOURSE ONLY (IF IT OCCURS)

Waste Stabilization Ponds and Aerated Lagoons

UTILITY MONITORING SYSTEM

D2

Municipality: Township of Russell
 Project Name: Village of Embrun
 Project Number: 120002004
 Superintendent: Craig Cullen

DATE: DECEMBER 2000

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOT	AVG
-----	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----

FINAL EFFLUENT*

EFF FLOW 10³m³	19.8	19.8	19.8	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	8.64	8.64	5.04																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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TOTAL COLI. - FINAL EFFLUENT* (BACTERIOLOGICAL) - INDICATE NUMBER OF SAMPLES IN EACH RANGE

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FECAL COLI. - FINAL EFFLUENT* (BACTERIOLOGICAL) - INDICATE NUMBER OF SAMPLES IN EACH RANGE

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* RECORD DATA FOR FINAL EFFLUENT TO WATERCOURSE ONLY (IF IT OCCURS)

EMBRUN LAGOON FALL DISCHARGE - 2000

DATE	DAY	HRS	PLUME L/s	FLOW m ³ /d	mg/L BOD ₅	AVG kg BOD ₅	LAGOON D.O.	RIVER UPSTREAM D.O.	RIVER DOWNSTREAM D.O.	RIVER FLOW (cms)	DILUTION RATIO
27-Nov	1	10	351.8	12665						4.85	
28-Nov	2	24	351.8	30395	9		13.9	11.80	12.6	11.50	
29-Nov	3	24	144.4	12441						10.40	
30-Nov	4	24	230	19872		8				8.09	35.1
1-Dec	5	24	230	19872		8				5.89	25.6
2-Dec	6	24	230	19872		8				3.92	17
3-Dec	7	24	230	19872		8	12.4			2.89	12.5
4-Dec	8	24	170	14688		8				2.71	15.9
5-Dec	9	24	170	14688	10	8				2.21	13
6-Dec	10	24	170	14688		8				2.33	13.7
7-Dec	11	24	170	14688		8				3.05	17.9
8-Dec	12	24	170	14688	6	8				2.78	16.3
9-Dec	13	24	170	14688		8				1.77	10.4
10-Dec	14	24	170	14688		8				1.55	9.1
11-Dec	15	24	170	14688	9	8				1.62	9.5
12-Dec	16	24	100	8640		8				1.60	16
13-Dec	17	24	100	8640		8				1.37	13.7
14-Dec	18	14	100	8640	6	8	10.7			1.56	15.6
AVG					8						
TOTAL				278413							

Facility Name: EMBRUN SEWAGE SYSTEM

Report Year: 2000

NO BYPASSING

1.0 Provide the following information for each bypass that occurred at each sewage pumping station or treatment plant bypass location for the reporting year. Start with a new line for each event. Photo-copy this page if additional space is required.

[illegible]

2.0 Pumping Station and Plant Bypass Monthly Summary: EMBRUN SEWAGE - NO BYPASSING

Month	Primary Bypass			Secondary Bypass		
	No. of Days (days)	Duration (hours)	Volume (1,000 m ³)	No. of Days (days)	Duration (hours)	Volume (1,000 m ³)
January						
February						
March						
April						
May						
June						
July						
August						
September						
October						
November						
December						
TOTAL	NIL	NIL	NIL	NIL	NIL	NIL
Volume of Bypass as % of * Average Daily Flow (ADF)			%			%

[illegible][illegible]

File No.	Works Number								Data Period Month Year			Discharge Type	Update Code			
4 6	1	2	0	0	0	2	0	0	4	0	1	0	0	3 1	2	R
1 2	3							11	16	19	20	21	22	80		

Operator's Comments and Contact Person's Phone number

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to

File No.	Works Number								Data Period Month Year			Discharge Type	Update Code				
4 6	1	2	0	0	0	2	0	0	4	0	3	0	0	3 1	2	R	
1 2	3								11	16			18	20	21	22	60

[illegible]

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to

Municipality: TOWNSHIP OF RUSSELL	
Project Name: EMBRUN SEWAGE LAGOON	Operating Authority: MUNICIPAL
Address: 717 NOTRE-DAME ST. EMBRUN ON	Address:

File No.	Works Number	Data Period Month Year		Discharge Type	Update Code
4 6	1 2 0 0 0 2 0 0 4	0 4 0 0	3 1	2	R
1 2	3 11	16 19	20 21	22	80

C.P.																													
3 5	FLOWS																												
12 13	Total Flow	(10 ³ m ³)	5 0 0 1 0	3	Monthly Results <table style="width:100%; border-collapse: collapse;"> <tr><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td></tr> <tr><td></td><td></td><td></td><td>5</td><td>7</td></tr> <tr><td></td><td></td><td></td><td>1</td><td>8</td></tr> <tr><td></td><td></td><td></td><td></td><td>5</td></tr> </table>													5	7				1	8					5
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	Max. Day Flow	(10 ³ m ³ /d)	5 0 0 2 0	3																									
			30 34	35	38	46																							

3 5	BYPASS																							
12 13	Plant Bypass Vol.	(10 ³ m ³)	5 0 2 7 0	3	Monthly Results <table style="width:100%; border-collapse: collapse;"> <tr><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td></tr> <tr><td></td><td></td><td></td><td></td><td>0</td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table>														0					
				0																				
	Duration	(Hrs.)	8 1 6 8 0	1																				
			30 34	35	38	46																		

No. of Occurrences				
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48	51			

3 6	RAW SEWAGE																																	
12 13	BOD	(mg/L)	0 0 0 0 1	0	Monthly Average Results <table style="width:100%; border-collapse: collapse;"> <tr><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td></tr> <tr><td></td><td></td><td></td><td>1</td><td>0</td></tr> <tr><td></td><td></td><td></td><td>1</td><td>5</td></tr> <tr><td></td><td></td><td></td><td>2</td><td>5</td></tr> <tr><td></td><td></td><td></td><td>3</td><td>1</td></tr> </table>													1	0				1	5				2	5				3	1
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			2	5																														
			3	1																														
	SS	(mg/L)	0 0 0 0 6	0																														
	TKN	(mg/L)	0 0 0 2 0	2																														
	Total P.	(mg/L)	0 0 0 3 3	1																														
			30 34	35	38	46																												

No. of Samples				
1				
48	51			

3 9	FINAL EFFLUENT																												
12 13	Total Effl. Volume To Watercourse	(10 ³ m ³)	5 0 2 8 0	3	Monthly Results <table style="width:100%; border-collapse: collapse;"> <tr><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td></tr> <tr><td></td><td></td><td></td><td>4</td><td>9</td></tr> <tr><td></td><td></td><td></td><td>4</td><td>8</td></tr> <tr><td></td><td></td><td></td><td></td><td>0</td></tr> </table>													4	9				4	8					0
			4	9																									
			4	8																									
				0																									
	Flow Duration	(Hrs.)	8 1 6 8 0	1																									
	Cell Depth	(m)	5 0 2 9 0	1																									
			30 34	35	38	46																							

Seasonal Discharge Lagoons Only				
9				
48	51			

0 9	DISINFECTION																							
12 13	Chlorine Used	(kg as Cl ₂)	5 0 3 2 0	1	Monthly Results <table style="width:100%; border-collapse: collapse;"> <tr><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table>																			
	Chlorine Dosage	(mg/L as Cl ₂)	8 0 4 1 0	1																				
	Chlorine Resid.	(mg/L as Cl ₂)	8 0 4 2 0	1																				
			30 34	35	38	46																		

48	51			

Operator's Comments and Contact Person's Phone number:

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to:

Municipality: TOWNSHIP OF RUSSELL	
Project Name: EMBRUN SEWAGE LAGOON	Operating Authority: MUNICIPAL
Address: 717 NOTRE-DAME STREET, EMBRUN ONTARIO	Address:

File No.	Works Number										Data Period Month Year			Discharge Type	Update Code	
4 6	1	2	0	0	0	2	0	0	4	0	4	0	0	3 1	2	R
1 2	3 11										16 19		20 21	22	80	

ADDITIONAL DATA

[illegible]

C.P.		FINAL EFFLUENT (Chemical)	
3	9		
12	13		
Conductivity			
DRP			
Ammonia			
Nitrite			
Nitrate			
pH			

Parameter Code

30 34

Dec.

35

Monthly Average Results

36 46

No. of Samples

48 51

Operator's Comments and <u>Contact Person's Phone number:</u> Craig Cullen, Superintendent (613) 443-1747	Return completed yellow form to:
---	---

Municipality: **TOWNSHIP OF RUSSELL**

Project Name: **EMBRUN SEWAGE LAGOON**

Address: **717 NOTRE-DAME ST. EMBRUN ON**

Operating Authority: **MUNICIPAL**

Address:

File No.	Works Number	Data Period	Discharge Type	Update Code
4 6	1 2 0 0 0 2 0 0 4	0 5 0 0	3 1 2	R
1 2	3 11	16 19	20 21 22	80

C.P.	3 5	FLOWS	12 13	Total Flow Avg. Day Flow Max. Day Flow	(10 ³ m ³) (10 ³ m ³ /d) (10 ³ m ³ /d)	5 0 0 1 0 5 0 0 1 5 5 0 0 2 0	30 34	Dec.	3 3 3	35	Monthly Results	38 46
3 5	12 13	BYPASS	12 13	Plant Bypass Vol. Duration	(10 ³ m ³) (Hrs.)	5 0 2 7 0 8 1 6 8 0	30 34	3 1	35	38 46	No. of Occurrences	48 51
3 6	12 13	RAW SEWAGE	12 13	BOD SS TKN Total P.	(mg/L) (mg/L) (mg/L) (mg/L)	0 0 0 0 1 0 0 0 0 6 0 0 0 2 0 0 0 0 3 3	30 34	0 0 2 1	35	38 46	Monthly Average Results	48 51
3 9	12 13	FINAL EFFLUENT	12 13	Total Effl. Volume To Watercourse Firm Duration Cell Depth BOD SS Ammonia TKN Total P.	(10 ³ m ³) (Hrs.) (m) (mg/L) (mg/L) (mg/L) (mg/L) (mg/L)	5 0 2 8 0 8 1 6 8 0 5 0 2 9 0 0 0 0 0 1 0 0 0 0 6 0 0 0 1 9 0 0 0 2 0 0 0 0 3 3	30 34	3 1 1 1 2 2 2	35	38 46	Seasonal Discharge Lagoons Only	48 51
0 9	12 13	DISINFECTION	12 13	Chlorine Used Chlorine Dosage Chlorine Resld.	(kg as Cl ₂) (mg/L as Cl ₂) (mg/L as Cl ₂)	5 0 3 2 0 8 0 4 1 0 8 0 4 2 0	30 34	1 1 1	35	38 46		48 51

Operator's Comments and Contact Person's Phone number:

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to:

Municipality: TOWNSHIP OF RUSSELL	Operating Authority: MUNICIPAL
Project Name: EMBRUN SEWAGE LAGOON	Address: 717 NOTRE-DAME ST. EMBRUN ON

File No.	Works Number	Data Period Month Year	Discharge Type	Update Code
4 6	1 2 0 0 0 2 0 0 4	0 6 0 0	3 1 2	R
1 2	3 11	16 19	20 21 22	80

C.P.	3 5	FLOWS 12 13 Total Flow Avg. Day Flow Max. Day Flow	(10 ³ m ³) (10 ³ m ³ /d) (10 ³ m ³ /d)	Parameter Code 5 0 0 1 0 5 0 0 1 5 5 0 0 2 0	Dec. 3 3 3	Monthly Results 4 3 7 1 4 6	SAMPLES BROKEN IN TRANSIT
				30 34 35 38 46			
3 5		BYPASS 12 13 Plant Bypass Vol. Duration	(10 ³ m ³) (Hrs.)	5 0 2 7 0 8 1 6 8 0	3 1	0 0	No. of Occurrences 0
				30 34 35 38 46			48 51
3 6		RAW SEWAGE 12 13 BOD SS TKN Total P.	(mg/L) (mg/L) (mg/L) (mg/L)	0 0 0 0 1 0 0 0 0 6 0 0 0 2 0 0 0 0 3 3	0 0 2 1	Monthly Average Results 0 0 0 0	No. of Samples 1 1 1 1
				30 34 35 38 46			48 51
3 9		FINAL EFFLUENT 12 13 Total Effl. Volume To Watercourse Flow Duration Cell Depth BOD SS Ammonia TKN Total P.	(10 ³ m ³) (Hrs.) (m) (mg/L) (mg/L) (mg/L) (mg/L) (mg/L)	5 0 2 8 0 8 1 6 8 0 5 0 2 9 0 0 0 0 0 1 0 0 0 0 6 0 0 0 1 9 0 0 0 2 0 0 0 0 3 3	3 1 1 1 1 2 2 2	Seasonal Discharge Lagoons Only	
				30 34 35 38 46			48 51
0 9		DISINFECTION 12 13 Chlorine Used Chlorine Dosage Chlorine Resid.	(kg as Cl ₂) (mg/L as Cl ₂) (mg/L as Cl ₂)	5 0 3 2 0 8 0 4 1 0 8 0 4 2 0	1 1 1	0 0 0	
				30 34 35 38 46			48 51

Operator's Comments and Contact Person's Phone number:

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to:

Municipality: TOWNSHIP OF RUSSELL	Operating Authority: MUNICIPAL
Project Name: EMBRUN SEWAGE LAGOON	Address: 717 NOTRE-DAME ST. EMBRUN ON

File No.	Works Number	Data Period Month Year	Discharge Type	Update Code
4 6 1 2	1 2 0 0 0 2 0 0 4 3 11	0 7 0 0 16 19	3 1 20 21	R 80

C.P.	3 5	12 13	FLOWS	(10 ³ m ³) (10 ³ m ³ /d) (10 ³ m ³ /d)	Parameter Code 5 0 0 1 0 5 0 0 1 5 5 0 0 2 0 30 34	Dec. 3 3 3 35	Monthly Results 3 8 3 1 2 3 38 46		
			Total Flow Avg. Day Flow Max. Day Flow						
	3 5	12 13	BYPASS	(10 ³ m ³) (Hrs.)	5 0 2 7 0 8 1 6 8 0 30 34	3 1 35	0 38 46	No. of Occurrence 0 48 5	
			Plant Bypass Vol. Duration						
	3 6	12 13	RAW SEWAGE	(mg/L) (mg/L) (mg/L) (mg/L)	0 0 0 0 1 0 0 0 0 6 0 0 0 2 0 0 0 0 3 3 30 34	0 0 2 1 35	Monthly Average Results 1 1 1 2 1 6 4 4 1 5 1 38 46	No. of Samples 1 1 1 1 48 5	
			BOD SS TKN Total P.						
	3 9	12 13	FINAL EFFLUENT	(10 ³ m ³) (Hrs.) (m)	5 0 2 8 0 8 1 6 5 0 5 0 2 9 0 30 34	3 1 1 35	38 46	Seasonal Discharge Lagoons Only	
			Total Effl. Volume To Watercourse Flow Duration Cell Depth						
			BOD SS Ammonia TKN Total P.	(mg/L) (mg/L) (mg/L) (mg/L) (mg/L)	0 0 0 0 1 0 0 0 0 6 0 0 0 1 9 0 0 0 2 0 0 0 0 3 3 30 34	1 1 2 2 2 35	38 46		
			Chlorine Used Chlorine Dosage Chlorine Resid.	(kg as Cl ₂) (mg/L as Cl ₂) (mg/L as Cl ₂)	5 0 3 2 0 8 0 4 1 0 8 0 4 2 0 30 34	1 1 1 35	38 46		
	0 9	12 13	DISINFECTION						

Operator's Comments and Contact Person's Phone number:

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to:

Municipality: TOWNSHIP OF RUSSELL	Operating Authority: MUNICIPAL
Project Name: EMBRUN SEWAGE LAGOON	Address: 717 NOTRE-DAME ST. EMBRUN ON

File No.	Works Number	Data Period Month Year	Discharge Type	Update Code
4 6	1 2 0 0 0 2 0 0 4	0 8 0 0	3 1	2
1 2	3 11	16 19	20 21	22 80

C.P. 3 5	12 13	FLOWS	Total Flow Avg. Day Flow Max. Day Flow	(10 ³ m ³) (10 ³ m ³ /d) (10 ³ m ³ /d)	Parameter Code 5 0 0 1 0 5 0 0 1 5 5 0 0 2 0	Dec. 3 3 3	Monthly Results 3 5 3 1 1 1 3	No. of Occurrence 0
					30 34 35 38 46			48 51
3 5	12 13	BYPASS	Plant Bypass Vol. Duration	(10 ³ m ³) (Hrs.)	Parameter Code 5 0 2 7 0 8 1 6 8 0	Dec. 3 1	Monthly Results 0	No. of Occurrence 0
					30 34 35 38 46			48 51
3 6	12 13	RAW SEWAGE	BOD SS TKN Total P.	(mg/L) (mg/L) (mg/L) (mg/L)	Parameter Code 0 0 0 0 1 0 0 0 0 6 0 0 0 2 0 0 0 0 3 3	Dec. 0 0 2 1	Monthly Average Results 6 2 1 6 5 3 8 6 3 8	No. of Samples 1 1 1 1
					30 34 35 38 46			48 51
3 9	12 13	FINAL EFFLUENT	Total Eff. Volume To Watercourse Flow Duration Cell Depth BOD SS Ammonia TKN Total P.	(10 ³ m ³) (Hrs.) (m) (mg/L) (mg/L) (mg/L) (mg/L) (mg/L)	Parameter Code 5 0 2 8 0 8 1 6 8 0 5 0 2 9 0 0 0 0 0 1 0 0 0 0 6 0 0 0 1 9 0 0 0 2 0 0 0 0 3 3	Dec. 3 1 1 1 1 2 2 2	Monthly Results	No. of Occurrence
					30 34 35 38 46			48 51
0 9	12 13	DISINFECTION	Chlorine Used Chlorine Dosage Chlorine Resid.	(kg as Cl ₂) (mg/L as Cl ₂) (mg/L as Cl ₂)	Parameter Code 5 0 3 2 0 8 0 4 1 0 8 0 4 2 0	Dec. 1 1 1	Monthly Results	No. of Occurrence
					30 34 35 38 46			48 51

Operator's Comments and Contact Person's Phone number:

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to:

Municipality: TOWNSHIP OF RUSSELL

Project Name: EMBRUN SEWAGE LAGOON

Address: 717 NOTRE-DAME ST. EMBRUN ON

Operating Authority: MUNICIPAL

Address:

File No. 4 6

Works Number 1 2 0 0 0 2 0 0 4

Data Period Month 0 9 Year 0 0

Discharge Type 3 1

Update Code 2

R

C.P. 3 5

12 13 FLOWS

Total Flow $(10^3 m^3)$ 5 0 0 1 0

Avg. Day Flow $(10^3 m^3/d)$ 5 0 0 1 5

Max. Day Flow $(10^3 m^3/d)$ 5 0 0 2 0

Parameter Code 30 34 35

Dec. 3

Monthly Results 38 46

3 5 BYPASS

12 13 Plant Bypass Vol. $(10^3 m^3)$ 5 0 2 7 0

Duration (Hrs.) 8 1 6 8 0

Parameter Code 30 34 35

Dec. 3

Monthly Results 38 46

No. of Occurrences 48 5

3 6 RAW SEWAGE

12 13 BOD (mg/L) 0 0 0 0 1

SS (mg/L) 0 0 0 0 6

TKN (mg/L) 0 0 0 2 0

Total P. (mg/L) 0 0 0 3 3

Parameter Code 30 34 35

Dec. 0

Monthly Average Results 38 46

No. of Samples 48 5

3 9 FINAL EFFLUENT

12 13 Total Eff. Volume To Watercourse $(10^3 m^3)$ 5 0 2 8 0

Flow Duration (Hrs.) 8 1 6 8 0

Cell Depth (m) 5 0 2 9 0

BOD (mg/L) 0 0 0 0 1

SS (mg/L) 0 0 0 0 6

Ammonia (mg/L) 0 0 0 1 9

TKN (mg/L) 0 0 0 2 0

Total P. (mg/L) 0 0 0 3 3

Parameter Code 30 34 35

Dec. 3

Monthly Results 38 46

Seasonal Discharge Lagoons Only 48 5

0 9 DISINFECTION

12 13 Chlorine Used $(kg as Cl_2)$ 5 0 3 2 0

Chlorine Dosage $(mg/L as Cl_2)$ 8 0 4 1 0

Chlorine Resid. $(mg/L as Cl_2)$ 8 0 4 2 0

Parameter Code 30 34 35

Dec. 1

Monthly Results 38 46

Operator's Comments and Contact Person's Phone number:

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to:

Municipality: TOWNSHIP OF RUSSELL	
Project Name: EMBRUN SEWAGE LAGOON	Operating Authority: MUNICIPAL
Address: 717 NOTRE-DAME ST. EMBRUN ON	

File No. 4 6 1 2	Works Number 1 2 0 0 0 2 0 0 4 3 11	Data Period Month Year 1 0 0 0 16 19	3 1 20 21	Discharge Type 2 22	Update Code R 80
-------------------------------	--	--	---------------------	----------------------------------	-------------------------------

C.P. 3 5 12 13	FLOWS	Parameter Code 5 0 0 1 0 30 34	Dec. 3 35	Monthly Results 3 7 1 38 46
	Total Flow (10 ³ m ³)			
	Avg. Day Flow (10 ³ m ³ /d)	5 0 0 1 5 30 34	3 35	1 1 9 38 46
	Max. Day Flow (10 ³ m ³ /d)	5 0 0 2 0 30 34	3 35	

3 5 12 13	BYPASS	Parameter Code 5 0 2 7 0 30 34	Dec. 3 35	Monthly Results 0 38 46	No. of Occurrence 0 48 51
	Plant Bypass Vol. (10 ³ m ³)				
	Duration (Hrs.)	8 1 6 8 0 30 34	1 35		

3 6 12 13	RAW SEWAGE	Parameter Code 0 0 0 0 1 30 34	Dec. 0 35	Monthly Average Results 1 8 2 38 46	No. of Samples 1 48 51
	BOD (mg/L)				
	SS (mg/L)	0 0 0 0 6 30 34	0 35	1 8 5 38 46	1 48 51
	TKN (mg/L)	0 0 0 2 0 30 34	2 35	5 7 2 38 46	1 48 51
	Total P. (mg/L)	0 0 0 3 3 30 34	1 35	5 9 38 46	1 48 51

3 9 12 13	FINAL EFFLUENT	Parameter Code 5 0 2 8 0 30 34	Dec. 3 35	Monthly Results 3 7 1 38 46	Seasonal Discharge Lagoons Only
	Total Eff. Volume To Watercourse Flow Duration (Hrs.)	8 1 6 8 0 30 34	1 35		
	Cell Depth (m)	5 0 2 9 0 30 34	1 35		
	BOD (mg/L)	0 0 0 0 1 30 34	1 35		
	SS (mg/L)	0 0 0 0 6 30 34	1 35		
	Ammonia (mg/L)	0 0 0 1 9 30 34	2 35		
	TKN (mg/L)	0 0 0 2 0 30 34	2 35		
	Total P. (mg/L)	0 0 0 3 3 30 34	2 35		

0 9 12 13	DISINFECTION	Parameter Code 5 0 3 2 0 30 34	Dec. 1 35	Monthly Results 3 7 1 38 46
	Chlorine Used (kg as Cl ₂)			
	Chlorine Dosage (mg/L as Cl ₂)	8 0 4 1 0 30 34	1 35	
	Chlorine Resid. (mg/L as Cl ₂)	8 0 4 2 0 30 34	1 35	

Operator's Comments and Contact Person's Phone number:

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to:

Municipality: TOWNSHIP OF RUSSELL

Project Name: EMBRUN SEWAGE LAGOON

Address: 717 NOTRE-DAME ST. EMBRUN ON

Operating Authority: MUNICIPAL

Address:

File No. 4 6

Works Number 1 2 0 0 0 2 0 0 4

Data Period Month 1 1 Year 0 0

Discharge Type 3 1

Update Code 2 R

C.P. 3 5

12 13 FLOWS

Total Flow $(10^3 m^3)$ 5 0 0 1 0

Avg. Day Flow $(10^3 m^3/d)$ 5 0 0 1 5

Max. Day Flow $(10^3 m^3/d)$ 5 0 0 2 0

Dec 3

Monthly Results

3 5 BYPASS

12 13 Plant Bypass Vol. $(10^3 m^3)$ 5 0 2 7 0

Duration (Hrs.) 8 1 6 8 0

Dec 3

Monthly Results

No. of Occurrence 0

3 6 RAW SEWAGE

12 13 BOD (mg/L) 0 0 0 0 1

SS (mg/L) 0 0 0 0 6

TKN (mg/L) 0 0 0 2 0

Total P. (mg/L) 0 0 0 3 3

Dec 0

Monthly Average Results

No. of Samples 1

3 9 FINAL EFFLUENT

12 13 Total Effl. Volume To Watercourse $(10^3 m^3)$ 5 0 2 8 0

Flow Duration (Hrs.) 8 1 6 8 0

Cell Depth (m) 5 0 2 9 0

BOD (mg/L) 0 0 0 0 1

SS (mg/L) 0 0 0 0 6

Ammonia (mg/L) 0 0 0 1 9

TKN (mg/L) 0 0 0 2 0

Total P. (mg/L) 0 0 0 3 3

Dec 3

Monthly Results

Seasonal Discharge Lagoons Only

0 9 DISINFECTION

12 13 Chlorine Used $(kg as Cl_2)$ 5 0 3 2 0

Chlorine Dosage $(mg/L as Cl_2)$ 8 0 4 1 0

Chlorine Resid. $(mg/L as Cl_2)$ 8 0 4 2 0

Dec 1

Monthly Results

Operator's Comments and Contact Person's Phone number:

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to:

Municipality: TOWNSHIP OF RUSSELL		
Project Name: EMBRUN SEWAGE LAGOON	Operating Authority: MUNICIPAL	
Address: 717 NOTRE-DAME STREET, EMBRUN ONTARIO	Address:	

File No.		Works Number									Data Period Month Year				Discharge Type		Update Code	
4	6	1	2	0	0	0	2	0	0	4	1	1	0	0	3	1	2	R
1	2	3								11	16			19	20	21	22	80

ADDITIONAL DATA

C.P.	
3	6

RAW SEWAGE
 12 13

Parameter Code

30 34

Dec.

35

Monthly Average Results

38 46

No. of Samples

48 51

[illegible]

Operator's Comments and <u>Contact Person's Phone number:</u>	Return completed yellow form to:
--	---

Municipality: TOWNSHIP OF RUSSELL

Project Name: EMBRUN SEWAGE LAGOON

Address: 717 NOTRE-DAME ST. EMBRUN ON

Operating Authority: MUNICIPAL

Address:

File No. 4 6
1 2

Works Number 1 2 0 0 0 2 0 0 4
3 11

Data Period Month Year 1 2 0 0
16 19

Discharge Type 3 1
20 21

Update Code 2
22

R
80

C.P. 3 5

12 13 FLOWS

Total Flow (10³m³) 5 0 0 1 0
30 34 35

Avg. Day Flow (10³m³/d) 5 0 0 1 5
30 34 35

Max. Day Flow (10³m³/d) 5 0 0 2 0
30 34 35

Dec. 3

Monthly Results 3 3 5
1 1 0 8
46

3 5

12 13 BYPASS

Plant Bypass Vol. (10³m³) 5 0 2 7 0
30 34 35

Duration (Hrs.) 8 1 6 8 0
30 34 35

Dec. 1

Monthly Results 0
46

No. of Occurrences 0
48 51

3 6

12 13 RAW SEWAGE

BOD (mg/L) 0 0 0 0 1
30 34 35

SS (mg/L) 0 0 0 0 6
30 34 35

TKN (mg/L) 0 0 0 2 0
30 34 35

Total P. (mg/L) 0 0 0 3 3
30 34 35

Dec. 0

Monthly Average Results 1 1 5
7 4
4 0 8
4 6
46

No. of Samples 1
1
1
1
48 51

3 9

12 13 FINAL EFFLUENT

Total Effl. Volume To Watercourse (10³m³) 5 0 2 8 0
30 34 35

Flow Duration (Hrs.) 8 1 6 8 0
30 34 35

Cell Depth (m) 5 0 2 9 0
30 34 35

BOD (mg/L) 0 0 0 0 1
30 34 35

SS (mg/L) 0 0 0 0 6
30 34 35

Ammonia (mg/L) 0 0 0 1 9
30 34 35

TKN (mg/L) 0 0 0 2 0
30 34 35

Total P. (mg/L) 0 0 0 3 3
30 34 35

Dec. 3

Monthly Results 2 1 3
3 2 6
7 7
9 7
0 5
3 0
0 3
46

Seasonal Discharge Lagoons Only 4
4
4
4
4
48 51

0 9

12 13 DISINFECTION

Chlorine Used (kg as Cl₂) 5 0 3 2 0
30 34 35

Chlorine Dosage (mg/L as Cl₂) 8 0 4 1 0
30 34 35

Chlorine Resid. (mg/L as Cl₂) 8 0 4 2 0
30 34 35

Dec. 1

Monthly Results
46

Operator's Comments and Contact Person's Phone number:

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to:

Municipality: TOWNSHIP OF RUSSELL	
Project Name: EMBRUN SEWAGE LAGOON	Operating Authority: MUNICIPAL
Address: 717 NOTRE-DAME STREET, EMBRUN ONTARIO	Address:

File No. 46 12	Works Number 120002004 311	Data Period MonthYear 1200 1619	31 2021	Discharge Type 2 22	Update Code R 80
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ADDITIONAL DATA

C.P. RAW SEWAGE 36 1213	Parameter Code 30 34	Dec. 35	Monthly Average Results 38 46	No. of Samples 48 51
---	--	---	---	--

C.P. FINAL EFFLUENT (Chemical) 39 1213	Parameter Code 30 34	Dec. 35	Monthly Average Results 38 46	No. of Samples 48 51
--	--	---	---	--

Operator's Comments and Contact Person's Phone number:

Return completed yellow form to:



MUNICIPALITÉ DE
TOWNSHIP OF **RUSSELL**

March 19, 2001

MOE
113 Amelia Street, 2nd Floor
Cornwall, Ontario
K6H 3P1

Attention: Mike Séguin

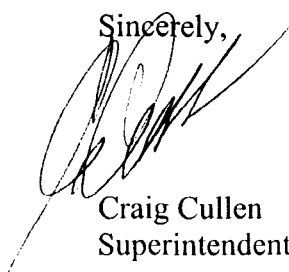
Re: **Russell Water**

Enclosed is the 2000 Annual Operations Report. The facility has met all the terms and conditions of the C.O.A. and the Ontario Drinking Water Regulations.

- 1) Raw water quality is addressed in the well monitoring program supplied by Robinson Consultants.
- 2) A sample taken from a home in Russell was detected with a result of 27 TC and 2 EC. The sample was identified to be the result of an on line filter system in a home which had not been occupied for some time. On re-testing the water samples taken were concluded to be negative. Due to the operators inability to know whether there are filters, water softners or other equipment which may impair the water quality of the distribution system, the Township of Russell has installed yard hydrants throughout the distribution system for quality control and sampling procedures. By installing these yard hydrants we hope not to encounter this problem in the future.
- 3) Due to the closure of well #2 and the exceedence of PW1 water taking permit a hydrogeological opinion was requested by the Township to make sure all permits, certificate of approvals and implementations were followed to meet MOEE regulations. A copy of these recommendations are attached and have been completed.
- 4) A list of complaints is included for your review.

If you have any questions, please contact the undersigned at (613) 443-1747.

Sincerely,



Craig Cullen
Superintendent, Public Utilities

Encl.

RUSSELL
WATER CAPACITY REPORT
DECEMBER 31, 2000

WATER CAPACITY	
Residential Units	998 x 3.0 = 2994
Apartment Units	95 x 2 = 190
Commercial Units	60 x 1 = 60
Residential/Commercial	4 x 1 = 4
Senior Citizen Apartments	30 x 1 = 30
Schools	= 172
TOTAL POPULATION SERVICED	3450

APPROVED SUBDIVISION LOTS	PLAN FILE #	NUMBER OF LOTS
Lapointe Development	03-T-97003	26
Vacant Lots Infilling		14

TOTAL LOTS = 40
TOTAL POPULATION SERVICEABLE 40 x 3.0 = 120 PERSONS
DESIGN CAPACITY = 3500 PERSONS

NOTE: AVERAGE PERSONS PER HOUSEHOLD = 3.0 (STATISTICS CANANA 1996)
SCHOOLS POPULATION BASIS: @ 40% RURAL ÷ 3 (8 HR SCHOOL DAY)
@ 60% URBAN ÷ 3 (8 HR SCHOOL DAY)

**RUSSELL HYDRAULIC RESERVE
ACTUAL CAPACITY WATER**

$$CU = CR - (L \times F) \times (P + O) / H$$

CR = HYDRAULIC RESERVE CAPACITY

2000 = 921 m ³ /D	SERVICED POPULATION = 3450	FLOW = .290 m ³ /D/C
1999 = 943 m ³ /D	SERVICED POPULATION = 3177	FLOW = .304 m ³ /D/C
1998 = 869 m ³ /D	SERVICED POPULATION = 3099	FLOW = .285 m ³ /D/C

AVERAGE = .293 m³/D/C

AS OF DECEMBER 31, 2000

AT .293 m³/D/C FLOW x 3450 = 1011 m³/D

DESIGN FLOW = .360 m³/D/C

DESIGN POPULATION = 3500

FLOW = 1260 m³/DAY

CR = 1260 m³/DAY - 1011 m³/DAY = 249 m³/DAY

P = EXISTING RESIDENTIAL POPULATION CONNECTED = 3184 AS OF DECEMBER 31, 2000

H = NO. OF CONNECTED RESIDENTIAL UNITS = 998

F = EXISTING PER CAPITA FLOW = .293 m³/DAY

D = DENSITY = 3.0

O = COM/RES, COMMERCIAL, SENIORS, SCHOOLS, OTHER = 266 TOTAL POPULATION

L = NO. OF UNCOMMITTED APPROVED LOTS = 40 LOTS = 120 POPULATION

SUMMARY = CU = CR - (L x F) x (P + O) / H

$$= 249 - (40 \times .293) \times 3184 / 998$$

$$= 249 - 37.4$$

$$= 212 \text{ m}^3/\text{DAY UNCOMMITTED RESERVE}$$

HYDRAULIC CAPACITY FOR AVERAGE DAILY FLOW

UNCOMMITTED NO. OF LOTS (LU)

$$LU = CU / D \times F \text{ WHERE } D = P / H$$

$$= 212 / 3.0 \times .293$$

$$= 239$$

RUSSELL
WATER FLOWS AND CONSUMPTION
2000

DATE 2000	FLOW (m³)	DAILY AVERAGE LITRES (m³)	POPULATION	DAYS	AVERAGE LITRES PERSON/DAY (m³)
JAN	28,950	934	3177	31	0.294
FEB	26,170	902	3177	29	0.284
MAR	26,090	842	3177	31	0.265
APR	27,330	911	3177	30	0.287
MAY	33,200	1071	3177	31	0.337
JUNE	28,640	955	3177	30	0.300
JULY	28,640	924	3177	31	0.291
AUG	27,550	889	3177	31	0.280
SEP	26,510	884	3177	30	0.278
OCT	29,240	943	3177	31	0.297
NOV	26,242	875	3177	30	0.275
DEC	28,770	928	3177	31	0.292
TOTAL	337,332	921	3177		0.290
1999	345,580	943	3099		0.304
1998	370,782	869	3054		0.285
1997	331,018	904	2960		0.306

ANNUAL SUMMARY - TREATED WATER AND WASTEWATER FLOWS, TURBUDITY AND DISINFECTANT RESIDUAL

WATERWORKS NAME: RUSSELL
 WATERWORKS NUMBER:
 WELL NO.: 1
 YEAR: 2000
 SERVICED POPULATION:
 DESIGN CAPACITY:

MONTH	TREATED WATER FLOW			PROCESS WASTEWATER MONTHLY TOTAL (1000 m ³)	TREATED WATER TURBUDITY			TREATED DISINFECTANT			DISTRIBUTION SYSTEM DISINFECTANT	
	AVERAGE DAY (1000 m ³)	MAX DAY (1000 m ³)	MONTHLY TOTAL (1000 m ³)		NO. OF SAMPLES COLLECTED	NO. OF SAMPLES > 1 NTU	AVERAGE TURBUDITY NTU	NO. OF TREATED SAMPLES COLLECTED	AVERAGE RESIDUAL TOTAL (mg/L)	AVERAGE RESIDUAL FREE (mg/L)	NO. OF SAMPLES COLLECTED DISTRIBUTION	NO. OF SAMPLES WITH +/-0.2 mg/L DETECT. RES.
JAN	0.93	1.11	28.95	n/a	31	0	0.66	32	0.67	0.22	31	31
FEB	0.92	1.51	26.17	n/a	29	0	0.30	30	0.69	0.16	30	30
MAR	0.84	0.99	26.09	n/a	31	0	0.27	32	0.68	0.14	31	31
APR	0.91	1.11	27.33	n/a	30	0	0.25	30	0.72	0.15	30	30
MAY	1.07	1.33	33.20	n/a	31	0	0.27	31	0.69	0.15	31	31
JUN	0.95	1.15	28.64	n/a	30	0	0.22	30	0.80	0.17	30	30
JUL	0.92	1.10	28.64	n/a	31	0	0.22	33	0.80	0.15	31	31
AUG	0.88	1.21	27.55	n/a	31	0	0.14	31	0.78	0.18	31	31
SEP	0.88	1.05	26.51	n/a	30	0	0.15	31	0.50	0.27	31	31
OCT	0.94	0.95	29.24	n/a	31	0	0.16	32	0.84	0.66	33	33
NOV	0.87	1.03	26.24	n/a	30	0	0.18	30	0.75	0.57	31	31
DEC	0.92	1.17	28.77	n/a	31	0	0.17	31	0.81	0.33	31	31
TOTAL			337.33		366			373			371	371
AVG	0.92	1.14	28.11				0.25		0.73	0.26		
MAX	1.07	1.51	33.20				0.66		0.84	0.66		

DISINFECTANT COMPOUND USED: NaOCI
 FORM OF RESIDUAL DISPLAYED ON ABOVE TABLE: TOTAL AND FREE
 QUANTITY OF DISINFECTANT USED DURING YEAR: 691 kg
 DISTRIBUTION SYSTEM TARGET RESIDUAL (mg/L): Total 0.80 Free 0.3

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2000

		WELL #1					TRANSFER						POST HYPOCHLORITE							
		PRE HYPOCHLORITE																		
Mth	DAY	WELL 1 PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	Mar TW T M3	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	POP/DAY	M3 P/DAY
JAN	5	4945	159.50	22.20	4.95	4.49	0		0.00	0.00		4945	4590		0.00	4.59	0.00	3177	1.44	0.29
JAN	6	1020	29.70	4.13	1.02	4.05	0		0.00	0.00		1020	960		0.00	0.96	0.00	3177	0.30	0.30
JAN	7	829	26.50	3.69	0.83	4.45	0		0.00	0.00		829	760		0.00	0.76	0.00	3177	0.24	0.24
JAN	10	3111	95.60	13.31	3.11	4.28	0		0.00	0.00		3111	2930		0.00	2.93	0.00	3177	0.92	0.31
JAN	11	683	20.80	2.90	0.68	4.24	0		0.00	0.00		683	590		0.00	0.59	0.00	3177	0.19	0.19
JAN	12	834	25.30	3.52	0.83	4.22	0		0.00	0.00		834	780		0.00	0.78	0.00	3177	0.25	0.25
JAN	13	935	28.40	3.95	0.94	4.23	0		0.00	0.00		935	860		0.00	0.86	0.00	3177	0.27	0.27
JAN	14	998	30.30	4.22	1.00	4.23	0		0.00	0.00		998	890		0.00	0.89	0.00	3177	0.28	0.28
JAN	17	3134	94.30	13.13	3.13	4.19	0		0.00	0.00		3134	2940		0.00	2.94	0.00	3177	0.93	0.31
JAN	18	1023	31.00	4.32	1.02	4.22	0		0.00	0.00		1023	930		0.00	0.93	0.00	3177	0.29	0.29
JAN	19	930	27.20	3.79	0.93	4.07	0		0.00	0.00		930	860		0.00	0.86	0.00	3177	0.27	0.27
JAN	20	1086	39.20	5.46	1.09	5.02	0		0.00	0.00		1086	960		0.00	0.96	0.00	3177	0.30	0.30
JAN	21	662	20.80	2.90	0.66	4.37	0		0.00	0.00		662	610		0.00	0.61	0.00	3177	0.19	0.19
JAN	24	3898	115.20	16.04	3.90	4.11	0		0.00	0.00		3898	3610		0.00	3.61	0.00	3177	1.14	0.38
JAN	25	863	25.30	3.52	0.86	4.08	0		0.00	0.00		863	750		0.00	0.75	0.00	3177	0.24	0.24
JAN	26	1056	29.70	4.13	1.06	3.92	0		0.00	0.00		1056	900		0.00	0.90	0.00	3177	0.28	0.28
JAN	27	106	3.79	0.53	0.11	4.98	627		0.00	0.63		733	560		0.00	0.56	0.00	3177	0.18	0.18
JAN	28	347	12.00	1.67	0.35	4.81	720		0.00	0.72		1067	1110		0.00	1.11	0.00	3177	0.35	0.35
JAN	31	1742	43.60	6.07	1.74	3.48	1753		0.00	1.75		3495	3360		0.00	3.36	0.00	3177	1.06	0.35
JAN		28202	858.19	119.46	28.20	4.29	3100	0.00	0.00	3.10		31302	28950	0.00	0.00	28.95	0.00	3177	0.48	0.28
DAILY AVG		910					100					1010	934							
MAX		1086					720					1086	1110							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2000

		WELL #1					TRANSFER						POST HYPOCHLORITE							
		PRE HYPOCHLORITE																		
Mth	DAY	WELL 1 PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	Mar TW T M3	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	M3 POP/DAY	M3 P/DAY
FEB	1	644	14.50	2.02	0.64	3.13	769	3.38	0.47	0.77	0.61	1413	1250		0.00	1.25	0.00	3177	0.39	0.39
FEB	2	791	17.00	2.37	0.79	2.99	735	4.23	0.59	0.74	0.80	1526	1510		0.00	1.51	0.00	3177	0.48	0.48
FEB	3	447	10.70	1.49	0.45	3.33	140	1.57	0.22	0.14	1.56	587	840		0.00	0.84	0.00	3177	0.26	0.26
FEB	4	357	8.23	1.15	0.36	3.21	677	2.92	0.41	0.68	0.60	1034	710		0.00	0.71	0.00	3177	0.22	0.22
FEB	7	1305	31.60	4.40	1.31	3.37	1477	7.59	1.06	1.48	0.72	2782	2430		0.00	2.43	0.00	3177	0.76	0.25
FEB	8	489	11.30	1.57	0.49	3.22	452	1.90	0.26	0.45	0.59	941	900		0.00	0.90	0.00	3177	0.28	0.28
FEB	9	517	13.20	1.84	0.52	3.55	49	0.57	0.08	0.05	1.62	566	980		0.00	0.98	0.00	3177	0.31	0.31
FEB	10	412	9.49	1.32	0.41	3.21	849	3.42	0.48	0.85	0.56	1261	770		0.00	0.77	0.00	3177	0.24	0.24
FEB	11	540	13.20	1.84	0.54	3.40	318	1.73	0.24	0.32	0.76	858	1030		0.00	1.03	0.00	3177	0.32	0.32
FEB	14	1338	33.50	4.66	1.34	3.49	1500	5.55	0.77	1.50	0.52	2838	2520		0.00	2.52	0.00	3177	0.79	0.26
FEB	15	482	10.70	1.49	0.48	3.09	434	1.16	0.16	0.43	0.37	916	950		0.00	0.95	0.00	3177	0.30	0.30
FEB	16	421	10.10	1.41	0.42	3.34	0		0.00	0.00	0.00	421	790		0.00	0.79	0.00	3177	0.25	0.25
FEB	17	502	13.20	1.84	0.50	3.66	943	2.59	0.36	0.94	0.38	1445	900		0.00	0.90	0.00	3177	0.28	0.28
FEB	18	446	10.10	1.41	0.45	3.15	237	0.94	0.13	0.24	0.55	683	850		0.00	0.85	0.00	3177	0.27	0.27
FEB	21	1468	37.30	5.19	1.47	3.54	1618	6.38	0.89	1.62	0.55	3086	2800		0.00	2.80	0.00	3177	0.88	0.29
FEB	22	372	8.86	1.23	0.37	3.32	301	0.73	0.10	0.30	0.34	673	690		0.00	0.69	0.00	3177	0.22	0.22
FEB	23	431	11.30	1.57	0.43	3.65	472	0.79	0.11	0.47	0.23	903	810		0.00	0.81	0.00	3177	0.25	0.25
FEB	24	485	12.00	1.67	0.49	3.44	364	1.11	0.15	0.36	0.42	849	910		0.00	0.91	0.00	3177	0.29	0.29
FEB	25	369	7.59	1.06	0.37	2.86	444	2.33	0.32	0.44	0.73	813	710		0.00	0.71	0.00	3177	0.22	0.22
FEB	28	1609	39.89	5.55	1.61	3.45	1449	3.94	0.55	1.45	0.38	3058	3010		0.00	3.01	0.00	3177	0.95	0.32
FEB	29	452	10.10	1.41	0.45	3.11	324	1.42	0.20	0.32	0.61	776	810		0.00	0.81	0.00	3177	0.25	0.25
FEB		13877	333.86	46.47	13.88	3.31	13552	54.25	7.55	13.55	0.61	14201	26170	0.00	0.00	25.36	0.00	3177	0.40	0.29
DAILY AVG		479					467					490	902							
MAX		791					943					1526	1510							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2000

		WELL #1 PRE HYPOCHLORITE					TRANSFER						POST HYPOCHLORITE							
Mth	DAY	WELL 1 PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	Mar TW T M3	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	M3 POP/DAY	M3 P/DAY
MAR	1	345	8.23	1.15	0.35	3.32	500	2.36	0.33	0.50	0.66	845	650		0.00	0.65	0.00	3177	0.20	0.20
MAR	2	480	10.70	1.49	0.48	3.10	344	0.94	0.13	0.34	0.38	824	890		0.00	0.89	0.00	3177	0.28	0.28
MAR	3	471	10.10	1.41	0.47	2.98	507	2.12	0.30	0.51	0.58	978	860		0.00	0.86	0.00	3177	0.27	0.27
MAR	6	1559	35.40	4.93	1.56	3.16	1512	5.50	0.77	1.51	0.51	3071	2930		0.00	2.93	0.00	3177	0.92	0.31
MAR	7	312	8.23	1.15	0.31	3.67	297	1.27	0.18	0.30	0.60	609	570		0.00	0.57	0.00	3177	0.18	0.18
MAR	8	475	10.76	1.50	0.48	3.15	457	1.27	0.18	0.46	0.39	932	880		0.00	0.88	0.00	3177	0.28	0.28
MAR	9	429	9.49	1.32	0.43	3.08	431	0.84	0.12	0.43	0.27	860	790		0.00	0.79	0.00	3177	0.25	0.25
MAR	10	523	12.60	1.75	0.52	3.35	442	1.27	0.18	0.44	0.40	965	940		0.00	0.94	0.00	3177	0.30	0.30
MAR	13	1500	36.70	5.11	1.50	3.41	1575	6.79	0.95	1.58	0.60	3075	2780		0.00	2.78	0.00	3177	0.88	0.29
MAR	14	310	8.86	1.23	0.31	3.98	207	0.84	0.12	0.21	0.56	517	570		0.00	0.57	0.00	3177	0.18	0.18
MAR	15	403	10.10	1.41	0.40	3.49	461	1.27	0.18	0.46	0.38	864	760		0.00	0.76	0.00	3177	0.24	0.24
MAR	16	391	10.10	1.41	0.39	3.60	412	1.69	0.24	0.41	0.57	803	690		0.00	0.69	0.00	3177	0.22	0.22
MAR	17	466	12.00	1.67	0.47	3.58	418	1.69	0.24	0.42	0.56	884	790		0.00	0.79	0.00	3177	0.25	0.25
MAR	20	1579	37.30	5.19	1.58	3.29	1469	4.67	0.65	1.47	0.44	3048	2900		0.00	2.90	0.00	3177	0.91	0.30
MAR	21	345	7.59	1.06	0.35	3.06	295	1.69	0.24	0.30	0.80	640	630		0.00	0.63	0.00	3177	0.20	0.20
MAR	22	526	13.20	1.84	0.53	3.49	465	1.27	0.18	0.47	0.38	991	990		0.00	0.99	0.00	3177	0.31	0.31
MAR	23	338	6.96	0.97	0.34	2.87	430	1.69	0.24	0.43	0.55	768	610		0.00	0.61	0.00	3177	0.19	0.19
MAR	24	468	10.76	1.50	0.47	3.20	438	1.27	0.18	0.44	0.40	906	840		0.00	0.84	0.00	3177	0.26	0.26
MAR	27	1515	32.20	4.48	1.52	2.96	1501	4.67	0.65	1.50	0.43	3016	2800		0.00	2.80	0.00	3177	0.88	0.29
MAR	28	383	8.23	1.15	0.38	2.99	284	1.27	0.18	0.28	0.62	667	690		0.00	0.69	0.00	3177	0.22	0.22
MAR	29	386	10.10	1.41	0.39	3.64	456	2.12	0.30	0.46	0.65	842	710		0.00	0.71	0.00	3177	0.22	0.22
MAR	30	487	12.00	1.67	0.49	3.43	436	1.27	0.18	0.44	0.41	923	890		0.00	0.89	0.00	3177	0.28	0.28
MAR	31	518	9.49	1.32	0.52	2.55	449	1.69	0.24	0.45	0.52	967	930		0.00	0.93	0.00	3177	0.29	0.29
MAR		14209	331.10	46.09	14.21	3.28	13786	49.46	6.88	13.79	0.51	27995	26090	0.00	0.00	26.09	0.00	3177	0.36	0.25
	DAILY AVG	458					445					903	842							
	MAX	526					507					991	990							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2000

		WELL #1 PRE HYPOCHLORITE					TRANSFER						POST HYPOCHLORITE							
Mth	DAY	WELL 1 PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	Mar TW T M3	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	M3 POP/DAY	M3 P/DAY
APR	3	1429	31.00	4.32	1.43	3.02	1458	3.82	0.53	1.46	0.36	2887	2650		0.00	2.65	0.00	3177	0.83	0.28
APR	4	503	12.00	1.67	0.50	3.32	430	1.27	0.18	0.43	0.41	933	890		0.00	0.89	0.00	3177	0.28	0.28
APR	5	420	8.86	1.23	0.42	2.94	402	1.69	0.24	0.40	0.58	822	760		0.00	0.76	0.00	3177	0.24	0.24
APR	6	456	10.10	1.41	0.46	3.08	432	1.69	0.24	0.43	0.54	888	790		0.00	0.79	0.00	3177	0.25	0.25
APR	7	518	10.70	1.49	0.52	2.88	433	1.69	0.24	0.43	0.54	951	910		0.00	0.91	0.00	3177	0.29	0.29
APR	10	1545	31.66	4.41	1.55	2.85	1516	5.50	0.77	1.52	0.51	3061	2840		0.00	2.84	0.00	3177	0.89	0.30
APR	11	403	8.23	1.15	0.40	2.84	305	1.27	0.18	0.31	0.58	708	770		0.00	0.77	0.00	3177	0.24	0.24
APR	12	528	10.10	1.41	0.53	2.66	450	1.27	0.18	0.45	0.39	978	980		0.00	0.98	0.00	3177	0.31	0.31
APR	13	338	6.33	0.88	0.34	2.61	421	0.84	0.12	0.42	0.28	759	550		0.00	0.55	0.00	3177	0.17	0.17
APR	14	534	12.00	1.67	0.53	3.13	420	1.27	0.18	0.42	0.42	954	980		0.00	0.98	0.00	3177	0.31	0.31
APR	17	1517	30.30	4.22	1.52	2.78	1580	4.67	0.65	1.58	0.41	3097	5780		0.00	5.78	0.00	3177	1.82	0.61
APR	18	420	7.59	1.06	0.42	2.52	121	0.42	0.06	0.12	0.48	541	720		0.00	0.72	0.00	3177	0.23	0.23
APR	19	470	10.70	1.49	0.47	3.17	589	1.27	0.18	0.59	0.30	1059	850		0.00	0.85	0.00	3177	0.27	0.27
APR	20	619	12.00	1.67	0.62	2.70	475	1.69	0.24	0.48	0.50	1094	1110		0.00	1.11	0.00	3177	0.35	0.35
APR	25	2327	46.80	6.51	2.33	2.80	2417	5.09	0.71	2.42	0.29	4744	4230		0.00	4.23	0.00	3177	1.33	0.27
APR	26	412	7.59	1.06	0.41	2.56	144	0.42	0.06	0.14	0.41	556	710		0.00	0.71	0.00	3177	0.22	0.22
APR	27	506	10.70	1.49	0.51	2.94	570	2.98	0.41	0.57	0.73	1076	930		0.00	0.93	0.00	3177	0.29	0.29
APR	28	469	10.10	1.41	0.47	3.00	467	1.27	0.18	0.47	0.38	936	880		0.00	0.88	0.00	3177	0.28	0.28
APR		13414	276.76	38.52	13.41	2.88	12630	38.12	5.31	12.63	0.45	30634	27330	0.00	0.00	27.33	0.00	3177	0.47	0.29
DAILY AVG		447					421					868	911							
MAX		619					589					1094	1110							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2000

		WELL #1 PRE HYPOCHLORITE					TRANSFER						POST HYPOCHLORITE							
Mth	DAY	WELL 1 PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	Mar TW T M3	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	M3 POP/DAY	M3 P/DAY
MAY	1	1785	32.90	4.58	1.79	2.57	1831	6.37	0.89	1.83	0.48	3616	3250		0.00	3.25	0.00	3177	1.02	0.34
MAY	2	752	14.50	2.02	0.75	2.68	717	1.69	0.24	0.72	0.33	1469	1310		0.00	1.31	0.00	3177	0.41	0.41
MAY	3	740	13.20	1.84	0.74	2.48	675	1.69	0.24	0.68	0.35	1415	1330		0.00	1.33	0.00	3177	0.42	0.42
MAY	4	646	13.20	1.84	0.65	2.84	590	1.69	0.24	0.59	0.40	1236	1160		0.00	1.16	0.00	3177	0.37	0.37
MAY	5	486	9.40	1.31	0.49	2.69	452	1.69	0.24	0.45	0.52	938	880		0.00	0.88	0.00	3177	0.28	0.28
MAY	8	1848	30.30	4.22	1.85	2.28	1716	5.52	0.77	1.72	0.45	3564	3400		0.00	3.40	0.00	3177	1.07	0.36
MAY	9	547	8.86	1.23	0.55	2.25	386	1.27	0.18	0.39	0.46	933	940		0.00	0.94	0.00	3177	0.30	0.30
MAY	10	384	6.96	0.97	0.38	2.52	242	0.84	0.12	0.24	0.48	626	690		0.00	0.69	0.00	3177	0.22	0.22
MAY	11	403	5.69	0.79	0.40	1.97	507	1.27	0.18	0.51	0.35	910	730		0.00	0.73	0.00	3177	0.23	0.23
MAY	12	447	8.23	1.15	0.45	2.56	348	0.84	0.12	0.35	0.34	795	830		0.00	0.83	0.00	3177	0.26	0.26
MAY	15	1860	32.90	4.58	1.86	2.46	1859	5.09	0.71	1.86	0.38	3719	3340		0.00	3.34	0.00	3177	1.05	0.35
MAY	16	593	12.00	1.67	0.59	2.82	627	2.12	0.30	0.63	0.47	1220	1090		0.00	1.09	0.00	3177	0.34	0.34
MAY	17	377	6.96	0.97	0.38	2.57	495	0.84	0.12	0.50	0.24	872	660		0.00	0.66	0.00	3177	0.21	0.21
MAY	18	402	6.96	0.97	0.40	2.41	408	0.42	0.06	0.41	0.14	810	900		0.00	0.90	0.00	3177	0.28	0.28
MAY	19	537	10.70	1.49	0.54	2.77	412	0.84	0.12	0.41	0.28	949	880		0.00	0.88	0.00	3177	0.28	0.28
MAY	23	2269	41.10	5.72	2.27	2.52	2402	6.79	0.95	2.40	0.39	4671	4340		0.00	4.34	0.00	3177	1.37	0.34
MAY	24	378	6.33	0.88	0.38	2.33	264	0.84	0.12	0.26	0.44	642	780		0.00	0.78	0.00	3177	0.25	0.25
MAY	25	517	10.13	1.41	0.52	2.73	577	10.13	1.41	0.58	2.44	1094	1010		0.00	1.01	0.00	3177	0.32	0.32
MAY	26	497	7.59	1.06	0.50	2.13	418	1.27	0.18	0.42	0.42	915	950		0.00	0.95	0.00	3177	0.30	0.30
MAY	29	1395	26.50	3.69	1.40	2.64	1553	3.39	0.47	1.55	0.30	2948	2790		0.00	2.79	0.00	3177	0.88	0.29
MAY	30	573	12.60	1.75	0.57	3.06	849	1.27	0.18	0.85	0.21	1422	1100		0.00	1.10	0.00	3177	0.35	0.35
MAY	31	428	8.86	1.23	0.43	2.88	615	0.84	0.12	0.62	0.19	1043	840		0.00	0.84	0.00	3177	0.26	0.26
MAY		17864	325.87	45.36	17.86	2.55	17943	56.71	7.89	17.94	0.46	35807	33200	0.00	0.00	33.20	0.00	3177	0.45	0.30
	DAILY AVG	576					579					1155	1071							
	MAX	752					717					1469	1330							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2000

		WELL #1 PRE HYPOCHLORITE					TRANSFER						POST HYPOCHLORITE							
Mth	DAY	WELL 1 PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	Mar TW T M3	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	M3 POP/DAY	M3 P/DAY
JUNE	1	503	10.70	1.49	0.50	2.96	539	1.27	0.18	0.54	0.33	1042	1030		0.00	1.03	0.00	3177	0.32	0.32
JUNE	2	464	8.23	1.15	0.46	2.47	516	1.27	0.18	0.52	0.34	980	910		0.00	0.91	0.00	3177	0.29	0.29
JUNE	5	1934	37.90	5.28	1.93	2.73	2597	3.82	0.53	2.60	0.20	4531	3850		0.00	3.85	0.00	3177	1.21	0.40
JUNE	6	551	11.30	1.57	0.55	2.85	565	1.27	0.18	0.57	0.31	1116	1150		0.00	1.15	0.00	3177	0.36	0.36
JUNE	7	490	9.49	1.32	0.49	2.70	415	1.27	0.18	0.42	0.43	905	970		0.00	0.97	0.00	3177	0.31	0.31
JUNE	8	419	10.10	1.41	0.42	3.36	672	1.27	0.18	0.67	0.26	1091	850		0.00	0.85	0.00	3177	0.27	0.27
JUNE	9	491	9.49	1.32	0.49	2.69	578	2.12	0.30	0.58	0.51	1069	1000		0.00	1.00	0.00	3177	0.31	0.31
JUNE	12	1378	28.40	3.95	1.38	2.87	1589	3.82	0.53	1.59	0.33	2967	2820		0.00	2.82	0.00	3177	0.89	0.30
JUNE	13	535	10.10	1.41	0.54	2.63	532	1.27	0.18	0.53	0.33	1067	1070		0.00	1.07	0.00	3177	0.34	0.34
JUNE	14	331	6.96	0.97	0.33	2.93	521	1.27	0.18	0.52	0.34	852	680		0.00	0.68	0.00	3177	0.21	0.21
JUNE	15	343	6.96	0.97	0.34	2.82	457	1.27	0.18	0.46	0.39	800	770		0.00	0.77	0.00	3177	0.24	0.24
JUNE	16	446	8.23	1.15	0.45	2.57	318	0.84	0.12	0.32	0.37	764	870		0.00	0.87	0.00	3177	0.27	0.27
JUNE	19	1228	24.03	3.34	1.23	2.72	1764	2.54	0.35	1.76	0.20	2992	2750		0.00	2.75	0.00	3177	0.87	0.29
JUNE	20	455	7.59	1.06	0.46	2.32	408	1.27	0.18	0.41	0.43	863	960		0.00	0.96	0.00	3177	0.30	0.30
JUNE	21	339	6.96	0.97	0.34	2.86	717	1.27	0.18	0.72	0.25	1056	920		0.00	0.92	0.00	3177	0.29	0.29
JUNE	22	359	6.33	0.88	0.36	2.45	367	0.09	0.01	0.37	0.03	726	780		0.00	0.78	0.00	3177	0.25	0.25
JUNE	23	424	6.96	0.97	0.42	2.28	550	1.69	0.24	0.55	0.43	974	930		0.00	0.93	0.00	3177	0.29	0.29
JUNE	26	1239	22.10	3.08	1.24	2.49	1562	3.39	0.47	1.56	0.30	2801	2780		0.00	2.78	0.00	3177	0.88	0.29
JUNE	27	435	9.49	1.32	0.44	3.04	545	1.27	0.18	0.55	0.32	980	890		0.00	0.89	0.00	3177	0.28	0.28
JUNE	28	603	9.49	1.32	0.60	2.19	508	1.27	0.18	0.51	0.35	1111	1040		0.00	1.04	0.00	3177	0.33	0.33
JUNE	29	435	8.23	1.15	0.44	2.63	440	1.27	0.18	0.44	0.40	875	860		0.00	0.86	0.00	3177	0.27	0.27
JUNE	30	375	6.33	0.88	0.38	2.35	784	1.69	0.24	0.78	0.30	1159	760		0.00	0.76	0.00	3177	0.24	0.24
JUN DAILY AVG		13777	265.37	36.94	13.78	2.68	16944	36.51	5.08	16.94	0.33	30721	28640	0.00	0.00	28.64	0.00	3177	0.42	0.29
		459					565					1024	955							
		603					784					1159	1150							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2000

		WELL #1					TRANSFER						POST HYPOCHLORITE							
		PRE HYPOCHLORITE																		
Mth	DAY	WELL 1 PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	Mar TW T M3	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	POP/DAY	M3 P/DAY
JULY	4	1743	31.00	4.32	1.74	2.48	1987	3.82	0.53	1.99	0.27	3730	3590		0.00	3.59	0.00	3177	1.13	0.28
JULY	5	421	7.59	1.06	0.42	2.51	314	0.84	0.12	0.31	0.37	735	850		0.00	0.85	0.00	3177	0.27	0.27
JULY	6	423	8.86	1.23	0.42	2.92	442	1.27	0.18	0.44	0.40	865	850		0.00	0.85	0.00	3177	0.27	0.27
JULY	7	390	6.96	0.97	0.39	2.48	788	1.69	0.24	0.79	0.30	1178	810		0.00	0.81	0.00	3177	0.25	0.25
JULY	10	1030	14.50	2.02	1.03	1.96	1514	2.97	0.41	1.51	0.27	2544	2480		0.00	2.48	0.00	3177	0.78	0.26
JULY	11	511	16.40	2.28	0.51	4.47	490	0.84	0.12	0.49	0.24	1001	1040		0.00	1.04	0.00	3177	0.33	0.33
JULY	12	369	5.69	0.79	0.37	2.15	450	0.84	0.12	0.45	0.26	819	780		0.00	0.78	0.00	3177	0.25	0.25
JULY	13	561	13.20	1.84	0.56	3.28	503	0.84	0.12	0.50	0.23	1064	1100		0.00	1.10	0.00	3177	0.35	0.35
JULY	14	387	5.69	0.79	0.39	2.05	453	0.67	0.09	0.45	0.21	840	810		0.00	0.81	0.00	3177	0.25	0.25
JULY	17	1232	22.70	3.16	1.23	2.56	1471	4.60	0.64	1.47	0.44	2703	2650		0.00	2.65	0.00	3177	0.83	0.28
JULY	18	585	12.60	1.75	0.59	3.00	672	1.88	0.26	0.67	0.39	1257	1170		0.00	1.17	0.00	3177	0.37	0.37
JULY	19	317	5.60	0.78	0.32	2.46	383	0.98	0.14	0.38	0.36	700	690		0.00	0.69	0.00	3177	0.22	0.22
JULY	20	407	9.49	1.32	0.41	3.25	480	0.75	0.10	0.48	0.22	887	860		0.00	0.86	0.00	3177	0.27	0.27
JULY	21	447	9.40	1.31	0.45	2.93	530	1.21	0.17	0.53	0.32	977	920		0.00	0.92	0.00	3177	0.29	0.29
JULY	24	1240	32.30	4.50	1.24	3.63	1481	4.70	0.65	1.48	0.44	2721	2660		0.00	2.66	0.00	3177	0.84	0.28
JULY	25	473	2.00	0.28	0.47	0.59	574	1.43	0.20	0.57	0.35	1047	1000		0.00	1.00	0.00	3177	0.31	0.31
JULY	26	483	13.20	1.84	0.48	3.80	572	1.64	0.23	0.57	0.40	1055	990		0.00	0.99	0.00	3177	0.31	0.31
JULY	27	487	13.90	1.93	0.49	3.97	583	2.00	0.28	0.58	0.48	1070	1040		0.00	1.04	0.00	3177	0.33	0.33
JULY	28	478	13.90	1.93	0.48	4.05	587	1.24	0.17	0.59	0.29	1065	1030		0.00	1.03	0.00	3177	0.32	0.32
JULY	31	1539	51.20	7.13	1.54	4.63	1869	5.09	0.71	1.87	0.38	3408	3320		0.00	3.32	0.00	3177	1.05	0.35
JUL		13523	296.18	41.23	13.52	2.96	16143	39.30	5.47	16.14	0.33	29666	28640	0.00	0.00	28.64	0.00	3177	0.42	0.29
DAILY AVG		436					521					957	924							
MAX		561					788					1178	1100							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2000

		WELL #1					TRANSFER						POST HYPOCHLORITE							
		PRE HYPOCHLORITE																		
Mth	DAY	WELL 1 PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	Mar TW T M3	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	M3 POP/DAY	M3 P/DAY
AUG	1	518	15.10	2.10	0.52	4.06	639	2.37	0.33	0.64	0.52	1157	1070		0.00	1.07	0.00	3177	0.34	0.34
AUG	2	345	11.30	1.57	0.35	4.56	421	1.23	0.17	0.42	0.41	766	760		0.00	0.76	0.00	3177	0.24	0.24
AUG	3	378	7.59	1.06	0.38	2.80	464	1.66	0.23	0.46	0.50	842	800		0.00	0.80	0.00	3177	0.25	0.25
AUG	4	521	17.00	2.37	0.52	4.54	645	1.39	0.19	0.65	0.30	1166	1110		0.00	1.11	0.00	3177	0.35	0.35
AUG	8	1564	53.80	7.49	1.56	4.79	1913	5.42	0.75	1.91	0.39	3477	3400		0.00	3.40	0.00	3177	1.07	0.27
AUG	9	455	14.50	2.02	0.46	4.44	569	0.47	0.07	0.57	0.11	1024	980		0.00	0.98	0.00	3177	0.31	0.31
AUG	10	316	8.86	1.23	0.32	3.90	384	0.86	0.12	0.38	0.31	700	660		0.00	0.66	0.00	3177	0.21	0.21
AUG	11	408	15.10	2.10	0.41	5.15	502	1.83	0.25	0.50	0.51	910	860		0.00	0.86	0.00	3177	0.27	0.27
AUG	14	1350	48.10	6.70	1.35	4.96	1689	4.87	0.68	1.69	0.40	3039	2960		0.00	2.96	0.00	3177	0.93	0.31
AUG	15	278	9.49	1.32	0.28	4.75	355	0.69	0.10	0.36	0.27	633	600		0.00	0.60	0.00	3177	0.19	0.19
AUG	16	408	15.80	2.20	0.41	5.39	513	1.16	0.16	0.51	0.31	921	860		0.00	0.86	0.00	3177	0.27	0.27
AUG	17	349	11.30	1.57	0.35	4.51	438	1.24	0.17	0.44	0.39	787	760		0.00	0.76	0.00	3177	0.24	0.24
AUG	18	369	13.20	1.84	0.37	4.98	467	1.64	0.23	0.47	0.49	836	810		0.00	0.81	0.00	3177	0.25	0.25
AUG	21	1183	43.60	6.07	1.18	5.13	1510	4.62	0.64	1.51	0.43	2693	2640		0.00	2.64	0.00	3177	0.83	0.28
AUG	22	566	22.10	3.08	0.57	5.44	742	1.38	0.19	0.74	0.26	1308	1210		0.00	1.21	0.00	3177	0.38	0.38
AUG	23	332	13.90	1.93	0.33	5.83	434	1.79	0.25	0.43	0.57	766	740		0.00	0.74	0.00	3177	0.23	0.23
AUG	24	486	23.40	3.26	0.49	6.70	438	1.73	0.24	0.44	0.55	924	1070		0.00	1.07	0.00	3177	0.34	0.34
AUG	25	419	13.20	1.84	0.42	4.39	722	2.33	0.32	0.72	0.45	1141	930		0.00	0.93	0.00	3177	0.29	0.29
AUG	28	1177	42.40	5.90	1.18	5.01	1512	5.96	0.83	1.51	0.55	2689	2620		0.00	2.62	0.00	3177	0.82	0.27
AUG	29	427	13.90	1.93	0.43	4.53	566	1.32	0.18	0.57	0.32	993	930		0.00	0.93	0.00	3177	0.29	0.29
AUG	30	447	15.10	2.10	0.45	4.70	579	2.00	0.28	0.58	0.48	1026	990		0.00	0.99	0.00	3177	0.31	0.16
AUG	31	356	13.90	1.93	0.36	5.44	471	1.80	0.25	0.47	0.53	827	790		0.00	0.79	0.00	3177	0.25	0.12
AUG		12652	442.64	61.62	12.65	4.82	15973	47.76	6.65	15.97	0.41	28625	27550	0.00	0.00	27.55	0.00	3177	0.41	0.28
DAILY AVG		408					515					923	889							
MAX		566					742					1308	1210							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2000

		WELL #1 PRE HYPOCHLORITE					TRANSFER						POST HYPOCHLORITE							
Mth	DAY	WELL 1 PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	Mar TW T M3	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	M3 POP/DAY	M3 P/DAY
SEP	1	400	14.50	2.02	0.40	5.05	518	1.27	0.18	0.52	0.34	918	870		0.00	0.87	0.00	3177	0.27	0.27
SEP	5	1730	64.50	8.98	1.73	5.19	2262	8.64	1.20	2.26	0.53	3992	3870		0.00	3.87	0.00	3177	1.22	0.30
SEP	6	336	13.20	1.84	0.34	5.47	430	1.41	0.20	0.43	0.46	766	710		0.00	0.71	0.00	3177	0.22	0.22
SEP	7	458	17.00	2.37	0.46	5.17	565	1.67	0.23	0.57	0.41	1023	1020		0.00	1.02	0.00	3177	0.32	0.32
SEP	8	415	14.50	2.02	0.42	4.86	525	1.79	0.25	0.53	0.47	940	870		0.00	0.87	0.00	3177	0.27	0.27
SEP	11	1418	52.50	7.31	1.42	5.15	1816	6.30	0.88	1.82	0.48	3234	3090		0.00	3.09	0.00	3177	0.97	0.32
SEP	12	469	15.40	2.14	0.47	4.57	586	0.94	0.13	0.59	0.22	1055	990		0.00	0.99	0.00	3177	0.31	0.31
SEP	13	452	15.80	2.20	0.45	4.87	538	2.95	0.41	0.54	0.76	990	1010		0.00	1.01	0.00	3177	0.32	0.32
SEP	14	301	10.70	1.49	0.30	4.95	386	2.41	0.34	0.39	0.87	687	630		0.00	0.63	0.00	3177	0.20	0.20
SEP	15	338	12.00	1.67	0.34	4.94	418	5.59	0.78	0.42	1.86	756	730		0.00	0.73	0.00	3177	0.23	0.23
SEP	18	1561	58.50	8.14	1.56	5.22	1796	28.80	4.01	1.80	2.23	3357	3110		0.00	3.11	0.00	3177	0.98	0.33
SEP	19	504	20.89	2.91	0.50	5.77	546	15.00	2.09	0.55	3.82	1050	1050		0.00	1.05	0.00	3177	0.33	0.33
SEP	20	258	10.10	1.41	0.26	5.45	357	11.80	1.64	0.36	4.60	615	520		0.00	0.52	0.00	3177	0.16	0.16
SEP	21	477	18.30	2.55	0.48	5.34	568	7.20	1.00	0.57	1.76	1045	1030		0.00	1.03	0.00	3177	0.32	0.32
SEP	22	324	13.90	1.93	0.32	5.97	426	2.36	0.33	0.43	0.77	750	650		0.00	0.65	0.00	3177	0.20	0.20
SEP	25	1427	54.40	7.57	1.43	5.31	1608	11.50	1.60	1.61	1.00	3033	2960		0.00	2.96	0.00	3177	0.93	0.31
SEP	26	501	18.90	2.63	0.50	5.25	575	0.94	0.13	0.58	0.23	1076	1030		0.00	1.03	0.00	3177	0.32	0.32
SEP	27	367	12.60	1.75	0.37	4.78	419	1.20	0.17	0.42	0.40	786	740		0.00	0.74	0.00	3177	0.23	0.23
SEP	28	299	13.20	1.84	0.30	6.15	351	1.19	0.17	0.35	0.47	650	640		0.00	0.64	0.00	3177	0.20	0.20
SEP	29	484	15.10	2.10	0.48	4.34	550	1.88	0.26	0.55	0.48	1034	990		0.00	0.99	0.00	3177	0.31	0.31
SEP		12519	465.99	64.87	12.52	5.19	15238	114.84	15.99	15.24	1.11	27757	26510	0.00	0.00	26.51	0.66	3177	0.38	0.27
DAILY AVG		417					1905					925	884							
MAX		504					586					1076	1050							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2000

		WELL #1					TRANSFER						POST HYPOCHLORITE							
		PRE HYPOCHLORITE																		
Mth	DAY	WELL 1 PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	Mar TW T M3	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	POP/DAY	M3 P/DAY
OCT	2	1373	50.60	7.04	1.37	5.13	1599		0.00	1.60	0.00	2972	2830		0.00	2.83	0.00	3177	0.89	0.30
OCT	3	399	13.90	1.93	0.40	4.85	519		0.00	0.52	0.00	918	880		0.00	0.88	0.00	3177	0.28	0.28
OCT	4	384	10.70	1.49	0.38	3.88	506		0.00	0.51	0.00	890	870		0.00	0.87	0.00	3177	0.27	0.27
OCT	5	429	18.30	2.55	0.43	5.94	551		0.00	0.55	0.00	980	930		0.00	0.93	0.00	3177	0.29	0.29
OCT	6	436	15.10	2.10	0.44	4.82	565		0.00	0.57	0.00	1001	950		0.00	0.95	0.00	3177	0.30	0.30
OCT	10	1736	62.60	8.71	1.74	5.02	2259		0.00	2.26	0.00	3995	3800		0.00	3.80	0.00	3177	1.20	0.30
OCT	11	375	12.66	1.76	0.38	4.70	487		0.00	0.49	0.00	862	850		0.00	0.85	0.00	3177	0.27	0.27
OCT	12	405	15.83	2.20	0.41	5.44	522		0.00	0.52	0.00	927	890		0.00	0.89	0.00	3177	0.28	0.28
OCT	13	402	15.10	2.10	0.40	5.23	515		0.00	0.52	0.00	917	850		0.00	0.85	0.00	3177	0.27	0.27
OCT	16	1402	50.60	7.04	1.40	5.02	1808		0.00	1.81	0.00	3210	2960		0.00	2.96	0.00	3177	0.93	0.31
OCT	17	452	15.80	2.20	0.45	4.87	564		0.00	0.56	0.00	1016	910		0.00	0.91	0.00	3177	0.29	0.29
OCT	18	342	14.50	2.02	0.34	5.90	437		0.00	0.44	0.00	779	750		0.00	0.75	0.00	3177	0.24	0.24
OCT	19	367	13.90	1.93	0.37	5.27	479		0.00	0.48	0.00	846	810		0.00	0.81	0.00	3177	0.25	0.25
OCT	20	425	13.20	1.84	0.43	4.32	540		0.00	0.54	0.00	965	890		0.00	0.89	0.00	3177	0.28	0.28
OCT	23	1433	51.90	7.22	1.43	5.04	1810		0.00	1.81	0.00	3243	3130		0.00	3.13	0.00	3177	0.99	0.33
OCT	24	281	8.86	1.23	0.28	4.39	349		0.00	0.35	0.00	630	580		0.00	0.58	0.00	3177	0.18	0.18
OCT	25	433	15.10	2.10	0.43	4.85	549		0.00	0.55	0.00	982	940		0.00	0.94	0.00	3177	0.30	0.30
OCT	26	404	16.40	2.28	0.40	5.65	522		0.00	0.52	0.00	926	900		0.00	0.90	0.00	3177	0.28	0.28
OCT	27	414	13.90	1.93	0.41	4.67	522		0.00	0.52	0.00	936	890		0.00	0.89	0.00	3177	0.28	0.28
OCT	30	1329	43.60	6.07	1.33	4.57	1684		0.00	1.68	0.00	3013	2850		0.00	2.85	0.00	3177	0.90	0.30
OCT	31	361	12.60	1.75	0.36	4.86	450		0.00	0.45	0.00	811	780		0.00	0.78	0.00	3177	0.25	0.25
OCT		13582	485.15	67.53	13.58	4.97	17237	0.00	0.00	17.24	0.00	30819	29240	0.00	0.00	29.24	0.00	3177	0.43	0.28
DAILY AVG		438					556					994	943							
MAX		452					565					1016	950							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2000

2000		WELL #1					TRANSFER					POST HYPOCHLORITE								
		PRE HYPOCHLORITE																		
Mth	DAY	WELL 1 PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	Mar TW T M3	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
NOV	1	375	14.50	2.02	0.38	5.38	472	1.50	0.21	0.47	0.44	847	790	0.00	0.00	0.79	0.00	3177	0.25	0.25
NOV	2	401	12.60	1.75	0.40	4.37	507	1.83	0.25	0.51	0.50	908	890	0.00	0.00	0.89	0.00	3177	0.28	0.28
NOV	3	494	15.10	2.10	0.49	4.25	629	1.88	0.26	0.63	0.56	1123	1030	0.00	0.00	1.03	0.00	3177	0.32	0.32
NOV	6	1013	40.50	5.64	1.01	5.57	1510	6.33	0.88	1.51	0.58	2523	2620	0.00	0.00	2.62	0.00	3177	0.82	0.27
NOV	7	596	13.20	1.84	0.60	3.08	534	1.88	0.26	0.53	0.55	1130	870	0.00	0.00	0.87	0.00	3177	0.27	0.27
NOV	8	373	12.60	1.75	0.37	4.70	500	1.86	0.26	0.50	0.52	873	800	0.00	0.00	0.80	0.00	3177	0.25	0.25
NOV	9	424	13.20	1.84	0.42	4.33	512	2.26	0.31	0.51	0.61	936	920	0.00	0.00	0.92	0.00	3177	0.29	0.29
NOV	10	385	13.20	1.84	0.39	4.77	472	2.03	0.28	0.47	0.60	857	810	0.00	0.00	0.81	0.00	3177	0.25	0.25
NOV	14	1791	62.00	8.63	1.79	4.82	2256	9.56	1.33	2.26	0.59	4047	3820	0.00	0.00	3.82	0.00	3177	1.20	0.30
NOV	15	420	15.10	2.10	0.42	5.00	526	2.83	0.39	0.53	0.75	946	910	0.00	0.00	0.91	0.00	3177	0.29	0.29
NOV	16	243	8.20	1.14	0.24	4.70	303	2.00	0.28	0.30	0.92	546	520	0.00	0.00	0.52	0.00	3177	0.16	0.16
NOV	17	388	15.80	2.20	0.39	5.67	488	1.30	0.18	0.49	0.63	876	780	0.00	0.00	0.78	0.00	3177	0.25	0.25
NOV	20	1313	43.00	5.99	1.31	4.56	1622	6.56	0.91	1.62	0.56	2935	2830	0.00	0.00	2.83	0.00	3177	0.89	0.30
NOV	21	382	13.20	1.84	0.38	4.81	488	1.88	0.26	0.49	0.62	870	800	0.00	0.00	0.80	0.00	3177	0.25	0.25
NOV	22	377	13.90	1.93	0.38	5.13	475	1.77	0.25	0.48	0.52	852	800	0.00	0.00	0.80	0.00	3177	0.25	0.25
NOV	23	407	13.90	1.93	0.41	4.75	534	1.84	0.26	0.53	0.48	941	910	0.00	0.00	0.91	0.00	3177	0.29	0.29
NOV	24	382	13.20	1.84	0.38	4.81	491	2.59	0.36	0.49	0.73	873	830	0.00	0.00	0.83	0.00	3177	0.26	0.26
NOV	27	1288	44.90	6.25	1.27	4.93	1648	7.07	0.98	1.65	0.60	2916	2802	0.00	0.00	2.80	0.00	3177	0.88	0.29
NOV	28	401	13.20	1.84	0.40	4.58	508	1.88	0.26	0.51	0.59	909	850	0.00	0.00	0.85	0.00	3177	0.27	0.27
NOV	29	370	12.60	1.75	0.37	4.74	467	2.23	0.31	0.47	0.66	837	810	0.00	0.00	0.81	0.00	3177	0.25	0.25
NOV	30	394	15.10	2.10	0.39	5.33	508	2.29	0.32	0.51	0.63	902	850	0.00	0.00	0.85	0.00	3177	0.27	0.27
NOV	DAILY AVG	12197	419.00	58.32	12.20	4.78	15450	63.37	8.82	15.45	0.60	27647	26242	0.00	0.00	26.24	0.00	3177	0.40	0.27
	MAX	407					515					922	875							
		596					629					1130	1030							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2000

		WELL #1 PRE HYPOCHLORITE					TRANSFER						POST HYPOCHLORITE							
Mth	DAY	WELL 1 PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	Mar TW T M3	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	M3 POP/DAY	M3 P/DAY
DEC	1	463	14.50	2.02	0.46	4.36	589	1.64	0.23	0.59	0.39	1052	980		0.00	0.98	0.00	3177	0.31	0.31
DEC	4	1461	50.00	6.96	1.46	4.76	1838	7.04	0.98	1.84	0.53	3299	3120		0.00	3.12	0.00	3177	0.98	0.33
DEC	5	293	10.70	1.49	0.29	5.08	375	1.75	0.24	0.38	0.65	668	640		0.00	0.64	0.00	3177	0.20	0.20
DEC	6	515	17.00	2.37	0.52	4.59	642	1.88	0.26	0.64	0.55	1157	1090		0.00	1.09	0.00	3177	0.34	0.34
DEC	7	281	10.10	1.41	0.28	5.00	348	1.75	0.24	0.35	0.70	629	590		0.00	0.59	0.00	3177	0.19	0.19
DEC	8	372	11.30	1.57	0.37	4.23	461	2.16	0.30	0.46	0.65	833	790		0.00	0.79	0.00	3177	0.25	0.25
DEC	11	1299	44.30	6.17	1.30	4.75	1630	5.13	0.71	1.63	0.44	2929	2770		0.00	2.77	0.00	3177	0.87	0.29
DEC	12	382	13.20	1.84	0.38	4.81	476	2.25	0.31	0.48	0.66	858	740		0.00	0.74	0.00	3177	0.23	0.23
DEC	13	358	13.20	1.84	0.38	5.13	458	2.60	0.36	0.46	0.79	816	840		0.00	0.84	0.00	3177	0.26	0.26
DEC	14	661	24.60	3.42	0.66	5.18	821	2.83	0.39	0.82	0.61	1482	1170		0.00	1.17	0.00	3177	0.37	0.37
DEC	15	187	4.43	0.62	0.19	3.30	249	1.00	0.14	0.25	0.56	436	420		0.00	0.42	0.00	3177	0.13	0.13
DEC	18	1285	44.90	6.25	1.29	4.86	1623	4.45	0.62	1.62	0.38	2908	2750		0.00	2.75	0.00	3177	0.87	0.29
DEC	19	545	17.70	2.46	0.55	4.52	682	2.30	0.32	0.68	0.66	1227	1110		0.00	1.11	0.00	3177	0.35	0.35
DEC	20	443	15.80	2.20	0.44	4.96	548	2.32	0.32	0.55	0.59	991	940		0.00	0.94	0.00	3177	0.30	0.30
DEC	21	382	12.60	1.75	0.38	4.59	477	2.30	0.32	0.48	0.93	859	630		0.00	0.63	0.00	3177	0.20	0.20
DEC	22	369	12.60	1.75	0.37	4.75	470	1.95	0.27	0.47	0.58	839	970		0.00	0.97	0.00	3177	0.31	0.31
DEC	25	1386	48.75	6.79	1.39	4.90	1719	7.30	1.02	1.72	0.59	3105	2930		0.00	2.93	0.00	3177	0.92	0.31
DEC	27	812	27.20	3.79	0.81	4.66	1008	3.77	0.52	1.01	0.52	1820	1710		0.00	1.71	0.00	3177	0.54	0.27
DEC	28	394	12.60	1.75	0.39	4.45	484	1.65	0.23	0.48	0.47	878	810		0.00	0.81	0.00	3177	0.25	0.25
DEC	29	437	15.10	2.10	0.44	4.81	545	2.13	0.30	0.55	0.54	982	940		0.00	0.94	0.00	3177	0.30	0.30
DEC	31	1440	46.80	6.51	1.44	4.52	1673	6.17	0.86	1.67	0.51	3113	2830		0.00	2.83	0.00	3177	0.89	0.45
DEC		13765	467.38	65.06	13.77	4.68	17116	64.37	8.96	17.12	0.59	30881	28770	0.00	0.00	28.77	0.00	3177	0.43	0.28
DAILY AVG		444					552					996	928							
MAX		661					821					1482	1170							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2000

		WELL #1 PRE HYPOCHLORITE					TRANSFER					POST HYPOCHLORITE								
Mth	DAY	WELL 1 PRE M3	# OF LTS	# OF KGS	M3 /1000	MG/L	Mar TW T M3	# OF LTS	# OF KGS	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	M3 POP/DAY	M3 P/DAY
JAN		28202	858.19	119.46	28.20	4.29	3100	0.00	0.00	3.10	0.00	31302	28950	0.00	0.00	28.95	0.00	3177	0.48	0.28
FEB		13877	333.86	46.47	13.88	3.31	13552	54.25	7.55	13.55	0.61	14201	26170	0.00	0.00	25.36	0.00	3177	0.40	0.29
MAR		14209	331.10	46.09	14.21	3.28	13786	0.00	0.00	0.00	0.51	27995	26090	0.00	0.00	26.09	0.00	3177	0.36	0.25
APR		13414	276.76	38.52	13.41	2.88	12630	38.12	5.31	12.63	0.45	0	27330	0.00	0.00	27.33	0.00	3177	0.47	0.29
MAY		17864	325.87	45.36	17.86	2.55	17943	56.71	7.89	17.94	0.46	35807	33200	0.00	0.00	33.20	0.00	3177	0.45	0.30
JUNE		13777	265.37	36.94	13.78	2.68	16944	36.51	5.08	16.94	0.33	30721	28640	0.00	0.00	28.64	0.00	3177	0.42	0.29
JULY		13523	296.18	41.23	13.52	2.96	16143	39.43	5.49	16.14	0.33	29666	28640	0.00	0.00	28.64	0.00	3177	0.42	0.29
AUG		12652	442.64	61.62	12.65	4.82	15973	47.76	6.65	15.97	0.41	28625	27550	0.00	0.00	27.55	0.00	3177	0.41	0.28
SEP		12519	465.99	64.87	12.52	5.19	15238	114.84	15.99	15.24	1.11	27757	26510	0.00	0.00	26.51	0.66	3177	0.38	0.27
OCT		13582	485.15	67.53	13.58	4.97	17237	81.32	11.32	17.24	0.69	30819	29240	0.00	0.00	29.24	0.00	3177	0.43	0.28
NOV		12197	419.00	58.32	12.20	4.78	15450	63.37	8.82	15.45	0.60	27647	26242	0.00	0.00	26.24	0.00	3177	0.40	0.27
DEC		13765	467.38	65.06	13.77	4.68	17116	64.37	8.96	17.12	0.59	30881	28770	0.00	0.00	28.77	0.00	3177	0.43	0.28
TOTAL		179581	4967.49	691.48	179.58	3.86	175113	596.68	83.06	161.33	0.51	315421	337332	0.00	0.00	336.52	0.06	3177	0.46	0.30

ANNUAL SUMMARY - RAW WATER FLOWS

WATER WORKS NAME: RUSSELL WTP
 YEAR: 2000
 SERVICED POPULATION: 3054
 DESIGN CAPACITY: 3500

MONTH	WELL #1			WELL #2		
	AVERAGE DAY (1000 m3)	MAXIMUM DAY (1000 m3)	MONTHLY TOTAL (1000 m3)	AVERAGE DAY (1000 m3)	MAXIMUM DAY (1000 m3)	MONTHLY TOTAL (1000 m3)
JAN	0.91	1.08	28.20			
FEB	0.47	0.79	13.87			
MAR	0.45	0.52	14.20			
APR	0.44	0.61	13.41			
MAY	0.57	0.75	17.86			
JUN	0.45	0.60	13.77	NOT IN OPERATION		
JUL	0.43	0.56	13.52			
AUG	0.40	0.56	12.65			
SEP	0.41	0.50	12.51			
OCT	0.43	0.45	13.58			
NOV	0.40	0.59	12.19			
DEC	0.44	0.66	13.76			
TOTAL			179.52	0.00	0.00	0.00
AVERAGE	0.48	0.64	14.96			
MAXIMUM	0.91	1.08	28.20	0.00	0.00	0.00

ANNUAL SUMMARY - RAW WATER BACTERIOLOGICAL DATA

WATER WORKS NAME:

RUSSELL #1

YEAR:

2000

SERVICED POPULATION:

3177

LABORATORIES WHICH PERFORMED ANALYSES:

ACCUTEST LABORATORIES

MONTH	TOTAL COLIFORM				FECAL COLIFORM/ESCHERICHIA COLI		
	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES 1-100 ORG./100ml	NO. OF SAMPLES 101-5000 ORG./100ml	NO. OF SAMPLES > 5000 ORG./100 ml	NO. OF SAMPLES 1-10 ORG./100ml	NO. OF SAMPLES 11-500 ORG./100ml	NO. OF SAMPLES >500 ORG./100 ml
JAN	4	3	0	0	0	0	0
FEB	3	0	0	0	0	0	0
MAR	4	3	0	0	0	0	0
APR	4	3	0	0	0	0	0
MAY	5	4	0	0	0	0	0
JUN	4	1	0	0	0	0	0
JUL	5	3	0	0	0	0	0
AUG	4	2	0	0	0	0	0
SEP	4	1	0	0	0	0	0
OCT	5	0	0	0	0	0	0
NOV	4	0	0	0	0	0	0
DEC	3	2	0	0	0	0	0
TOTAL	49	22	0	0	0	0	0

ANNUAL SUMMARY - RAW WATER BACTERIOLOGICAL DATA

WATER WORKS NAME:

RUSSELL #2 - CLOSED

YEAR:

2000

SERVICED POPULATION:

3177

LABORATORIES WHICH PERFORMED ANALYSES:

ACCUTEST LABORATORIES

MONTH	TOTAL COLIFORM				FECAL COLIFORM/ESCHERICHIA COLI		
	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES 1-100 ORG./100ml	NO. OF SAMPLES 101-5000 ORG./100ml	NO. OF SAMPLES > 5000 ORG./100 ml	NO. OF SAMPLES 1-10 ORG./100ml	NO. OF SAMPLES 11-500 ORG./100ml	NO. OF SAMPLES >500 ORG./100 ml
JAN	1	0	0	0	0	0	0
FEB	2	0	0	0	0	0	0
MAR	4	0	0	0	0	0	0
APR	4	0	0	0	0	0	0
MAY	5	0	0	0	0	0	0
JUN	4	0	0	0	0	0	0
JUL	5	0	0	0	0	0	0
AUG	4	1	0	0	0	0	0
SEP	2	0	0	0	0	0	0
OCT	0	0	0	0	0	0	0
NOV	0	0	0	0	0	0	0
DEC	0	0	0	0	0	0	0
TOTAL	31	1	0	0	0	0	0

ANNUAL SUMMARY - DISTRIBUTION SYSTEM BACTERIOLOGICAL DATA

WATER WORKS NAME:

RUSSELL

YEAR:

2000

SERVICED POPULATION:

3177

LABORATORIES WHICH PERFORMED ANALYSES:

ACCUTEST LABORATORIES

MONTH	TOTAL COLIFORM				FECAL COLIFORM/ESCHERICHIA			HPC		
	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES UNSAFE	NO. OF SAMPLES DETERIORATING	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES UNSAFE	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES DETERIORATING
JAN	12	12	0	0	12	12	0	12	12	0
FEB	9	9	0	0	9	9	0	9	9	0
MAR	12	12	0	0	12	12	0	12	12	0
APR	12	12	0	0	12	12	0	12	12	0
MAY	22	22	0	2	22	22	0	22	22	1
JUN	12	12	0	0	12	12	0	12	12	0
JUL	15	14	1	0	15	14	1	15	15	1
AUG	18	18	0	1	18	18	0	18	18	0
SEP	12	12	0	0	12	12	0	12	12	0
OCT	15	15	0	0	15	15	0	15	15	0
NOV	12	12	0	0	12	12	0	12	12	0
DEC	9	9	0	0	9	9	0	9	9	0
TOTAL	160	159	1	3	160	159	1	160	160	2

ANNUAL SUMMARY - TREATED SYSTEM BACTERIOLOGICAL DATA

WATER WORKS NAME:

RUSSELL

YEAR:

2000

SERVICED POPULATION:

3177

LABORATORIES WHICH PERFORMED ANALYSES:

ACCUTEST LABORATORIES

MONTH	TOTAL COLIFORM				FECAL COLIFORM/ESCHERICHIA			HPC		
	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES UNSAFE	NO. OF SAMPLES DETERIORATING	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES UNSAFE	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES DETERIORATING
JAN	4	4	0	0	4	4	0	4	4	0
FEB	3	3	0	0	3	3	0	3	3	0
MAR	4	4	0	0	4	4	0	4	4	0
APR	4	4	0	0	4	4	0	4	4	0
MAY	5	5	0	0	5	5	0	5	5	0
JUN	4	4	0	0	4	4	0	4	4	0
JUL	6	6	0	0	6	6	0	6	6	0
AUG	4	4	0	0	4	4	0	4	4	0
SEP	4	4	0	0	4	4	0	4	4	0
OCT	5	5	0	0	5	5	0	5	5	0
NOV	4	4	0	0	4	4	0	4	4	0
DEC	3	3	0	0	3	3	0	3	3	0
TOTAL	50	50	0	0	50	50	0	50	50	0

**RUSSELL
RAW WATER
CHEMICAL TESTING**

[illegible]

RUSSELL
TREATED WATER
CHEMICAL TESTING

PARAMETER	UNITS	2000				
		JAN	APR	JUL	OCT	AVERAGE
ALKALINITY	mg/L CaCO ₃	320	242	242	231	259
HARDNESS	mg/L CaCO ₃	461	466	380	431	435
SODIUM (Na)	mg/L	48	23	21	16	27
IRON (Fe)	mg/L	0.06	0.01	<0.01	0.02	0.03
COPPER (Cu)	mg/L	<0.005	0.024	<0.01	<0.011	0.024
LEAD (Pb)	mg/L	<0.002	<0.002	<0.001	<0.001	<0.002
ZINC (Zn)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
ARSENIC (As)	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
ALUMINUM (Al)	mg/L	<0.03	<0.03	<0.05	<0.05	<0.05
MANGANESE (Mn)	mg/L	0.04	0.03	0.01	0.01	0.02
CONDUCTIVITY	umhos/cm	1014	848	857	842	890
CHLORIDE (Cl)	mg/L	82	42	26	30	45
SULPHATE (SO ₄)	mg/L	126	208	185	189	177
TOTAL AMMONIA	mg/L	0.11	0.10	0.14	<0.02	0.12
TKN	mg/L	0.21	0.27	0.22	0.07	0.19
NITRITE (N-NO ₂)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
NITRATE (N-NO ₃)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
DOC	mg/L	1.7	1.3	1.7	1.7	1.6
pH					7.77	7.8
THM	mg/L	0.005	0.004	0.004	0.033	0.012
ION BALANCE		1.00				1.00

RUSSELL
DISTRIBUTION SYSTEM
CHEMICAL TESTING

PARAMETER	UNITS	2000				
		JAN	APR	JUL	OCT	AVERAGE
COLOUR	Pt/Co units	<2	2	<2	<2	2
pH		7.85	7.65	7.13	7.77	7.60
ALKALINITY	mg/L CaCO ₃	320	244	242	232	260
HARDNESS	mg/L CaCO ₃	464	468	435	439	452
SODIUM (Na)	mg/L	48	23	16	17	26
IRON (Fe)	mg/L	0.06	<0.01	<0.01	0.02	0.04
COPPER (Cu)	mg/L	<0.005	0.007	<0.01	0.002	0.005
LEAD (Pb)	mg/L	<0.002	<0.002	<0.001	<0.001	<0.002
ZINC (Zn)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
ARSENIC (As)	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
ALUMINUM (Al)	mg/L	<0.03	<0.03	<0.05	<0.05	<0.05
MANGANESE (Mn)	mg/L	0.04	0.03	<0.01	<0.01	0.04
CONDUCTIVITY	umhos/cm	1024	863	852	834	893
CHLORIDE (Cl)	mg/L	82	43	27	30	46
SULPHATE (SO ₄)	mg/L	133	207	186	184	178
TOTAL AMMONIA	mg/L	0.10	0.10	0.13	0.02	0.09
TKN	mg/L	0.14	0.27	0.29	0.07	0.19
NITRITE (N-NO ₂)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
NITRATE (N-NO ₃)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
DOC	mg/L	1.5	1.4	1.5	1.7	1.5
THM		0.006	0.003	0.004	0.025	0.01
ION BALANCE		0.99				

ACCUTEST LABORATORIES LTD.

146 Colonnade Road, Unit 8, Nepean, Ontario K2E 7Y1 Tel: (613) 727-5692 Fax: (613) 727-5222

CLIENT: Township of Russell
 Ship to: 851 Route 400
 Bill to: 717 Notre-Dame
 Embrun, Ontario K0A 1W1

Date Collected: 10-10-2000

Tel: (613) 443-1747

Tel: (613) 443-5111

Attention: Craig Cullen, Superintendent

Project: Russell Raw Water

WATERWORKS #220008060

PARAMETER TABLE B Volatile Organics				Sample Location
	MAC (mg/L)	IMAC (mg/L)	AO/OG	Russell Well #1
Benzene	0.005			<0.0005
Toluene			0.024 AO	<0.0005
Ethylbenzene			0.0024 AO	<0.0005
m/p-Xylene				<0.0005
o-Xylene			0.30 AO	<0.0005
Bromodichloromethane				<0.0003
Bromoform				<0.0005
Carbon Tetrachloride	0.005			<0.0009
Monochlorobenzene	0.08			<0.0002
Chloroform				<0.0006
Dibromochloromethane				<0.0003
1,2-Dichlorobenzene	0.2			<0.0010
1,4-Dichlorobenzene	0.005			<0.0010
1,2-Dichloroethane		0.005		<0.0007
1,1-Dichloroethylene	0.014			<0.0005
Dichloromethane	0.05			<0.0040
Tetrachloroethylene	0.030			<0.0003
Trichloroethylene	0.05			<0.0003
Vinyl chloride	0.005			<0.0005

ACCUTEST LABORATORIES LTD.

146 Colonnade Road, Unit 8, Nepean, Ontario K2E 7Y1 Tel: (613) 727-5692 Fax: (613) 727-5222

CLIENT: Township of Russell
 Ship to: 851 Route 400
 Bill to: 717 Notre-Dame
 Embrun, Ontario K0A 1W1

Date Collected: 10-10-2000

Tel: (613) 443-1747

Tel: (613) 443-5111

Attention: Craig Cullen, Superintendent

Project: Russell Treated Water

WATERWORKS #220008060

PARAMETER TABLE B Volatile Organics				Sample Location
	MAC (mg/L)	IMAC (mg/L)	AO/OG	Russell Clearwell
Benzene	0.005			<0.0005
Toluene			0.024 AO	<0.0005
Ethylbenzene			0.0024 AO	<0.0005
m/p-Xylene				<0.0005
o-Xylene			0.30 AO	<0.0005
Bromodichloromethane				<0.0074
Bromoform				<0.0055
Carbon Tetrachloride	0.005			<0.0009
Monochlorobenzene	0.08			<0.0002
Chloroform				<0.0113
Dibromochloromethane				<0.0092
1,2-Dichlorobenzene	0.2			<0.0010
1,4-Dichlorobenzene	0.005			<0.0010
1,2-Dichloroethane		0.005		<0.0007
1,1-Dichloroethylene	0.014			<0.0005
Dichloromethane	0.05			<0.0040
Tetrachloroethylene	0.030			<0.0003
Trichloroethylene	0.05			<0.0003
Vinyl chloride	0.002			<0.0005

ACCUTEST LABORATORIES LTD

146 Colonnade Road, Unit 8, Nepean, Ontario K2E 7Y1 Tel: (613) 727-5692 Fax: (613) 727-5222

CLIENT: Township of Russell
 Ship to: 851 Route 400
 Bill to: 717 Notre-Dame
 Embrun, Ontario K0A 1W1

Date Collected: 10-10-2000

Tel: (613) 443-1747

Tel: (613) 443-5111

RAW

Attention: Craig Cullen, Superintendent

Project: Russell ~~Treated~~ Water**WATERWORKS #220008060**

TABLE C Inorganics PARAMETERS	MAC (mg/L)	IMAC (mg/L)	AO / OG	
Arsenic		0.025		<.001
Barium	1.0			.13
Boron		5.0		.06
Cadmium	0.005			<0.0001
Chromium	0.05			<0.01
Copper			1.0 AO	<.004
Iron			0.30 AO	<.03
Lead	0.01*			<.001
Manganese			0.05 AO	.02
Mercury	0.001			.0001
Nitrate	10.0			<.10
Nitrite	1.0			<.10
Selenium	0.01			<0.001
Uranium	0.10			0.002

* This standard applies to water at point of consumption.

ACCUTEST LABORATORIES LTD.

146 Colonnade Road, Unit 8, Nepean, Ontario K2E 7Y1 Tel: (613) 727-5692 Fax: (613) 727-5222

CLIENT: Township of Russell
 Ship to: 851 Route 400
 Bill to: 717 Notre-Dame
 Embrun, Ontario K0A 1W1

Date Collected: January 3, 1997

Tel: (613) 443-1747

Tel: (613) 443-5111

Attention: Craig Cullen, Superintendent

Project: Russell Raw Water
 Quarterly (1 Sample)

WATERWORKS #220008060

TABLE D PESTICIDES and PCB	MAC (mg/L)	IMAC (mg/L)	Sample Location
			Well #1
Alachlor		0.005	ND
Aldicarb	0.009		ND
Aldrin+Dieldrin	0.0007		ND
Atrazine		0.005	ND
Azinphos-methyl	0.02		ND
Bendiocarb	0.04		ND
Bromoxynil		0.005	ND
Carbaryl	0.09		ND
Carbofuran	0.09		ND
Chlordane(Total)	0.007		ND
Chlorpyrifos	0.09		ND
Cyanazine		0.01	ND
Diazinon	0.02		ND
Dicamba	0.12		ND
2,4-Dichlorophenol	0.9		ND
DDT	0.03		ND
2,4-D		0.1	ND
Diclofop-methyl	0.009		ND
Dimethoate		0.02	ND
Dinoseb	0.01		ND
Diquat	0.07		ND
Diuron	0.15		ND

TABLE D PESTICIDES and PCB	MAC (mg/L)	IMAC (mg/L)	Sample Location
			Well #1
Glyphosate		0.28	ND
Heptachlor + heptachlor epoxide	0.003		ND
Lindane(Total)	0.004		ND
Malathion	0.19		ND
Methoxychlor	0.9		ND
Metolachlor		0.05	ND
Metribuzin	0.08		ND
Paraquat		0.01	ND
Parathion	0.05		ND
Pentachlorophenol	0.06		ND
Phorate		0.002	ND
Picloram		0.19	ND
PCB		0.003	ND
Prometryne		0.001	ND
Simazine		0.01	ND
Temephos		0.28	ND
Terbufos		0.001	ND
2,3,4,6-Tetrachlorophenol	0.10		ND
Triallate	0.23		ND
2,4,6-Trichlorophenol	0.005		ND
Trifluralin		0.045	ND
2,4,5-T	0.28		ND

RUSSELL WTP DAILY IN-HOUSE TESTING
2000

FROM MARIONV	COLOUR	PH	TEMP	FE	MN	FL	TUR MIN	TUR MAX	CL ² TOTAL	CL ² FREE MIN	CL ² FREE MAX
JAN	6	7.5	9	0.18	0.033		0.50	0.030			
FEB	1	7.3	7				0.17		0.86	0.13	
MAR	0	7.2	9				0.08		0.78	0.12	
APR	1	7.2	7	0.02	0.012		0.16		0.80	0.12	
MAY	2	7.5	9	0.06	0.018		0.15		0.87	0.14	
JUN	1	7.1	10	0.02			0.10		0.86	0.15	
JUL	1	7.1	10	0.02	0.021		0.10		0.95	0.12	
AUG	1	7.5	10				0.09	0.29	0.95	0.10	0.21
SEP			13						0.70	0.09	0.55
OCT							0.11		0.62	0.28	
NOV									0.60	0.21	
DEC									0.69	0.40	
AVG	1	4.9	7	0.06	0.021		0.09	0.29	0.79	0.09	0.55

RUSSELL WTP DAILY IN-HOUSE TESTING
2000

WELL 1	COLOUR	PH	TEMP	FE	MN	FL	TUR	H2S
JAN	6	7.4	8	0.23	0.064		0.61	0.242
FEB	5	7.3	7	0.25	0.127		0.30	0.493
MAR	4	7.2	8	0.16	0.067		0.19	0.235
APR	3	7.3	8	0.16			0.19	0.184
MAY	6	7.6	0	0.15	0.074		0.26	0.103
JUN	6	7.2	8	0.15	0.064		0.38	0.126
JUL	6	7.1	9	0.13	0.061		0.36	0.078
AUG	11	7.1	9	0.13	0.076		0.49	0.105
SEP	6	7.1	10	0.14	0.025		0.23	0.111
OCT								
NOV	5	7.6	8	0.20	0.075		0.31	0.094
DEC	5	7.6	8	0.20	0.075		0.31	0.094
AVG	6	7.3	7	0.16	0.071		0.33	0.169

WELL 2	COLOUR	PH	TEMP	FE	MN	FL	TUR	H2S
JAN	9	7.3		0.33	0.046		0.65	0.030
FEB	9	7.4	7	0.26	0.031		0.57	0.852
MAR								
APR	31	7.5	8	0.28			3.09	1.695
MAY	28	7.7		0.23	0.032		3.45	
JUN	17	7.2	8	0.27	0.042		1.62	0.404
JUL	20	7.2	8	0.30	0.052		2.72	0.246
AUG	26	7.7	8	0.54	0.035		3.59	0.160
SEP							0.37	
OCT								
NOV								
DEC								
AVG	20	7.4	8	0.18	0.039		1.34	0.282

RUSSELL WTP DAILY IN-HOUSE TESTING
2000

CLEAR WELL	COLOUR	PH	TEMP	FE	MN	FL	TUR MIN	TUR MAX	CL ² TOTAL	CL ² FREE MIN	CL ² FREE MAX
JAN	5	7.6	9	0.18	0.055	0.43	0.66		0.67	0.22	
FEB	2	7.3	8	0.17	0.129	0.48	0.30		0.69	0.16	
MAR	4	7.4	8	0.09	0.038		0.27		0.68	0.14	
APR	3	7.4	8	0.10	0.041		0.25		0.72	0.15	
MAY	3	7.5	9	0.15	0.117		0.27		0.69	0.15	
JUN	3	7.2	9	0.12	0.034		0.22		0.80	0.17	
JUL	2	7.0	10	0.09	0.040	0.16	0.22		0.80	0.15	
AUG	2	7.3	10	0.09	0.036		0.14	0.34	0.78	0.11	0.25
SEP	2	7.3	10	0.12	0.026		0.15	0.37	0.50	0.10	0.43
OCT	4	7.2	10				0.16	0.35	0.84	0.28	1.04
NOV	3	7.6	10	0.14	0.022		0.18	0.32	0.75	0.47	0.67
DEC	3	7.6	9	0.08	0.040	0.19	0.17	0.300	0.81	0.42	0.73
AVG	3	7.4	9	0.12	0.048	0.32	0.14	0.37	0.73	0.10	0.43

DISTRIBUTION	COLOUR	PH	TEMP	FE	MN	FL	TUR MIN	TUR MAX	CL ² TOTAL	CL ² FREE MIN	CL ² FREE MAX
JAN	6	7.7	4	0.14			0.65		0.49	0.15	
FEB	3	7.3	6	0.08			0.29		0.58	0.13	
MAR	4	7.3	6				0.24		0.54	0.12	
APR	3	7.4	8	0.08	0.034		0.20		0.60	0.11	
MAY	4	7.5	9	0.13	0.040	0.34	0.20		0.60	0.12	
JUN	3	7.2	11	0.16			0.20		0.65	0.13	
JUL	2	7.0	14	0.08	0.037		0.19		0.65	0.13	
AUG	3	7.2	16				0.15	0.28	0.51	0.10	0.16
SEP	3	7.3	14	0.14	0.012		0.17	0.35	0.37	0.07	0.29
OCT	4	7.2	13				0.18	0.360	0.44	0.20	0.38
NOV	4	7.6	11				0.19	0.290	0.61	0.20	0.54
DEC	4	7.6	6	0.08			0.18	0.290	0.69	0.34	0.61
AVG	4	7.4	10	0.11	0.031	0.34	0.15	0.35	0.56	0.07	0.29

WATER QUALITY COMPLAINTS – RUSSELL – 2000

[illegible]



MUNICIPALITÉ DE
TOWNSHIP OF

RUSSELL

March 19, 2001

MOE
113 Amelia Street, 2nd Floor
Cornwall, Ontario
K6H 3P1

Attention: Mike Séguin

Re: **Russell Sewage**

Enclosed is the 2000 Annual Operations Report. The facility has met all the terms and conditions of the C.O.A.

- 1) There were no operating problems with the Russell sewage system in 2000
- 2) The design flow of 400 m³/d/c was exceeded for the month of April (466 m³/d/c) due to infiltration.
- 3) The pumps were changed due to their age and lack of performance and a failure of one pump. Attached is a letter to this effect. As per the design calculations provided by Lecompte Engineering (see attached letter) the fact the pumps capacity presently (40 l/s) are not pumping at the estimate as provided by the engineer (45 l/s) I am presently evaluating my options. As you are aware the pumping station is rated at 45 l/s so until the capacity problem is addressed I will forward a letter to council recommending that no new development be approved until further notice.
- 4) A list of complaints is attached for your review

If you have any questions please contact the undersigned at (613) 443-1747.

Sincerely,

Craig Cullen
Superintendent
Public Utilities

Encl.



MUNICIPALITÉ DE
TOWNSHIP OF **RUSSELL**

January 8, 2001

Ministry of Environment
113 Amelia Street, 2nd floor
Cornwall, Ontario
K6H 3P1

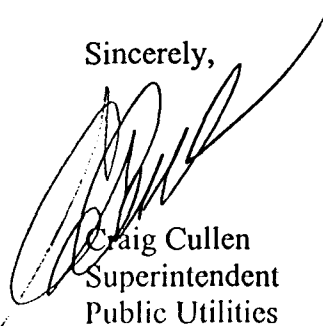
Attention: Michael Séguin

Re: Russell Sewage

As discussed, I was quite concerned with the condition of the pumps at the Russell sewage station. Both pumps could not achieve the design flow of 45 L/s. One pump was deteriorating and could not pump more than 30 L/s. As a precaution we have changed both pumps in an emergency situation to prevent a failure and possible overflow at the station. As previously mentioned, the flow of the new pumps will be calibrated and recorded and an amendment to the certificate will be sent to the Approvals Branch in the near future.

If you have any questions, please contact me at (613) 443-1747.

Sincerely,

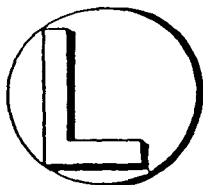


Craig Cullen
Superintendent
Public Utilities

CC/cg

cc: Marcel Blanchard

Encl.



LECOMPTE ENGINEERING LTD.

CONSULTING ENGINEERS - INGÉNIEURS CONSEILS

MEMORANDUM

To : Marcel Blanchard, CAO, Township of Russell
Craig Cullen, Utilities Supt., Township of Russell

From : Jean Hébert, P.Eng., Lecompte Engineering Ltd.

Re : Township of Russell
Village of Russell
Replacement of Russell Sewage Pumps with Embrun Sewage Pumps
File : 5914.21

Date : October 10, 2000

The two available options are :

- Option A - Existing 150 mm diameter gate valve and check valve at pump discharge to remain.
- Option B - Replace valves with 200 mm diameter models.

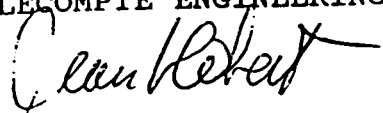
The work and the capacity involved are as follows :

	Present Condition	Option A	Option B
Gate Valve & Check Valve diameter (mm)	150	150	200
Flowrate (L/s)	45.4	47.0	48.0
Additional Flow (L/s)	-	1.6	2.6
Additional Equivalent (eq.h)	-	38	61

	Present Condition	Option A	Option B
Work Involved	-	Pumps, discharge reducers and duplex control panel are replaced	In addition major piping replacement is required; valves would have to be mounted vertically
Pumping Station Shutdown duration	-	A few hours (duplex control panel replacement)	A few days; temporary sewage pumping would be required

Please confirm which option you prefer.

Prepared by :
LECOMPTE ENGINEERING LTD.


Jean Hébert, P.Eng.

US914-mcm.rus

RUSSELL
SANITARY CAPACITY REPORT
DECEMBER 31, 2000

SANITARY CAPACITY	
Residential Units	694 x 3.0 = 2082
Apartment Units	92 x 2 = 184
Commercial Units	60 x 1 = 60
Residential/Commercial	3 x 1 = 3
Senior Citizen Apartments	30 x 1 = 30
Schools	= 172
TOTAL POPULATION SERVICED	2531

APPROVED SUBDIVISION LOTS	PLAN FILE #	NUMBER OF LOTS
Vacant Lots Infilling		14
Lapointe Development	03-T-97003	26

TOTAL VACANT LOTS = 40
TOTAL POPULATION SERVICEABLE 40 x 3.0 = 120 PERSONS
DESIGN CAPACITY = 2600 PERSONS

NOTE: AVERAGE PERSONS PER HOUSEHOLD = 3.0 (STATISTICS CANADA 1996)
SCHOOLS POPULATION BASIS: @ 40% RURAL ÷ 3 (8 HR SCHOOL DAY)
@ 60% URBAN ÷ 3 (8 HR SCHOOL DAY)

**RUSSELL HYDRAULIC RESERVE
ACTUAL CAPACITY SEWAGE**

$$CU = CR - (L \times F) \times (P + O) / H$$

CR = HYDRAULIC RESERVE CAPACITY

2000 = 724 m ³ /D	SERVICED POPULATION = 2531	FLOW = .299 m ³ /D/C
1999 = 714 m ³ /D	SERVICED POPULATION = 2422	FLOW = .325 m ³ /D/C
1998 = 705 m ³ /D	SERVICED POPULATION = 2265	FLOW = .327 m ³ /D/C

AVERAGE = .317 m³/D/C

AS OF DECEMBER 31, 2000

AT .317 m³/D/C FLOW x 2531 = 802 m³/D

DESIGN FLOW = .400 m³/D/C

DESIGN POPULATION = 2600

FLOW = 1000 m³/DAY

CR = 1000 m³/DAY - 802 m³/DAY = 198 m³/DAY

P = EXISTING RESIDENTIAL POPULATION CONNECTED = 2266 AS OF DECEMBER 31, 2000

H = NO. OF CONNECTED RESIDENTIAL UNITS = 694

F = EXISTING PER CAPITA FLOW = .317 m³/DAY

D = DENSITY = 3.0

O = COM/RES, COMMERCIAL, SENIORS, SCHOOLS, OTHER = 265 TOTAL POPULATION

L = NO. OF UNCOMMITTED APPROVED LOTS = 14 x 3.0 = 42

LAPOINTE DEVELOPMENTS = 26 x 3.0 = 26

78 POPULATION

SUMMARY = CU = CR - (L x F) x (P + O) / H

= 198 - (40 x .317) x 2266 / 694

= 198 - 41

= 157 m³/DAY UNCOMMITTED RESERVE

HYDRAULIC CAPACITY FOR AVERAGE DAILY FLOW

UNCOMMITTED NO. OF LOTS (LU)

LU = CU / D x F WHERE D = P / H

= 157 / 3.0 x .317

= 165

RUSSELL
SEWAGE FLOWS
2000

DATE 2000	METER READING	AVERAGE MONTHLY (m³)	AVERAGE DAILY (m³)	POP	DAYS	AVERAGE SEWAGE (m³)
1-Jan	364109	16,166	521	2422	31	0.215
31-Jan	380275					
28-Feb	399874	19,599	676	2422	29	0.279
31-Mar	423086	23,212	749	2422	31	0.309
30-Apr	456962	33,876	1,129	2422	30	0.466
31-May	486601	29,639	956	2422	31	0.395
30-Jun	509568	22,967	766	2422	30	0.316
31-Jul	531044	21,476	693	2422	31	0.286
31-Aug	550062	19,018	613	2422	31	0.253
30-Sep	569075	19,013	634	2422	30	0.262
31-Oct	589971	20,896	674	2422	31	0.278
30-Nov	609909	19,938	665	2422	30	0.274
31-Dec	629022	19,113	617	2422	31	0.255
TOTAL m³		264,913				
AVG m³		22,076	724	2422		0.299
YEAR	TOTAL YEARLY m³	AVERAGE MONTHLY m³	AVERAGE DAILY m³	POP		AVERAGE SEWAGE m³
1999	261374	21,781	714	2265		0.315
1998		22,150	705	2235		0.327
1997	267634	22,303	734	2189		0.336

RUSSELL
COMPLIANCE STATUS REPORT - SEWAGE
2000

PROJECT: RUSSELL SEWAGE WORKS
WORKS NUMBER: 110001514

COURSE: CASTOR
DESIGN CAPACITY: 1000 m³/D

MONTH	FLOWS		BIOCHEMICAL O ² DEMAND			SUSPENDED SOLIDS			PHOSPHORUS		
	TOTAL FLOW 1000 m ³	AVG DAY FLOW 1000 m ³	AVG RAW BOD mg/L	AVG EFF BOD mg/L	PERCENT REMOVAL	AVG RAW SS mg/L	AVG EFF SS mg/L	PERCENT REMOVAL	AVG RAW PHOS.	AVG EFF PHOS.	PERCENT REMOVAL
JAN	16.3	0.52	356			445			10.3		
FEB	19.6	0.67	268			48			9.1		
MAR	23.2	0.74	183			152			7.3		
APR	33.9	1.13	164	12.0	93	150	18.7	88	6.6	0.4	99
MAY	29.5	0.96	227			405			8.5		
JUN	22.9	0.77	n/a			n/a			n/a		
JUL	21.4	0.69	239			230			6.8		
AUG	19.0	0.61	148			150			5.7		
SEP	19.0	0.61	181			150			5.5		
OCT	20.8	0.67	221			250			8.4		
NOV	19.9	0.66	390	11.0		315	17.0		8.6	0.2	
DEC	19.1	0.61	285	6.0		214	11.0		8.1	0.2	
TOTAL	264.6										
AVG	22.1	0.72	242	9.7		228	15.6		7.7	0.3	
CRITERIA				25			25			1	

NOTE: JUNE SAMPLES LOST IN TRANSIT

Waste Stabilization Ponds and Aerated Lagoons

UTILITY MONITORING SYSTEM

D2

Municipality: Township of Russell
Project Name: Village of Russell
Project Number: I10001514
Superintendent: Craig Cullen

DATE: April 2000

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOT	AVG	
FINAL EFFLUENT*																																		
EFF FLOW 10 ³ m ³													11.8	31.7	26.3	23	16.5	12.3	19.6													131.5		
DURATION (hrs)													9	24	24	24	24	24	14													143		
BOD mg/L														11	12		12		12														12	
SS mg/L														14	20		18		23														18.7	
AMMONIA mg/L														19	17.6		17.6		14.6														17.2	
TKN mg/L														18.4	15.3		18.2		14.6														16.6	
NITRITE mg/L														.10	.10		.10		.10														.10	
NITRATE mg/L														.15	.14		.16		.10														.13	
TOT. P. mg/L														.05	.45		.93		.22														.41	
H ₂ S mg/L														0	0		0		0														0	
pH														7.4	7.7		7.6		7.9														7.7	
ALUM. - CHEMICALS (BATCH DOSAGE)																																		
VOLUME m ³	18.9	30.3																																
DOSAGE mg/L	27.8	50.0																																
TOTAL COLL. - FINAL EFFLUENT* (BACTERIOLOGICAL) - INDICATE NUMBER OF SAMPLES IN EACH RANGE																																		
0-1000/100 mL														1	1				1														3	
1001-100,000/100 mL																																		
>100,000/100 mL																																		
FECAL COLL. - FINAL EFFLUENT* (BACTERIOLOGICAL) - INDICATE NUMBER OF SAMPLES IN EACH RANGE																																		
0-1000/100 mL														1					1														1	
1001-100,000/100 mL															1				1														2	
>100,000/100 mL																																		

* RECORD DATA FOR FINAL EFFLUENT TO WATERCOURSE ONLY (IF IT OCCURS)

RUSSELL
LAGOON DISCHARGE
SPRING 2000

DATE	DAY	HRS	PLUME L/S	FLOW M ³ /DAY	DILUTION	RIVER FLOW (CMS)
April 13	1	9	367.1	11,894	69.1	25.4
April 14	2	24	367.1	31,717	72.4	26.6
April 15	3	24	305.5	26,395	83.1	25.4
April 16	4	24	266.9	23,060	64.4	17.2
April 17	5	24	191.2	16,519	64.8	12.4
April 18	6	24	142.8	12,337	71.4	10.2
April 19	7	14	191.2	9,636	45.8	8.76
TOTAL		143		131,558		

	D.O. UPSTREAM	DOWNSTREAM	LAGOON DISCHARGE
13/04/00	12.7	11.7	10.3
19/04/00	12.2	11.3	12.0

Waste Stabilization Ponds and Aerated Lagoons

Municipality: Township of Russell
Project Name: Village of Russell
Project Number: 110001514
Superintendent: Craig Cullen

DATE: November 2000

[illegible][illegible]

TOTAL COLL.	- FINAL EFFLUENT*	(BACTERIOLOGICAL)	- INDICATE NUMBER OF SAMPLES IN EACH RANGE
0-1000/100 mL			
1001-100,000/100 mL			
> 100,000/100 mL			

[illegible]

Waste Stabilization Ponds and Aerated Lagoons

UTILITY MONITORING SYSTEM

D2

Municipality: Township of Russell
Project Name: Village of Russell
Project Number: 110001514
Superintendent: Craig Cullen

DATE: December 2000

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOT	AVG
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FINAL EFFLUENT*

EFF FLOW 10 ³ m ³	5.2	2.5	2.5	2.5	1.8	1.1	6.2	3.6																								25.4	
DURATION (hrs)	24	24	24	24	24	24	24	14																								182	
BOD mg/L	6							6																									6
SS mg/L	9							13																									11
AMMONIA mg/L	1.87							2.28																									2.07
TKN mg/L	2.91							5.27																									4.09
NITRITE mg/L	.10							.10																									.10
NITRATE mg/L	.28							.27																									.27
TOT. P. mg/L	.19							.26																									.22
H ₂ S mg/L	0							0																									0
pH mg/L	8.18							7.78																									7.98

ALUM. - CHEMICALS (BATCH DOSAGE)

VOLUME m ³																																	
DOSAGE mg/L																																	

TOTAL COLI. - FINAL EFFLUENT* (BACTERIOLOGICAL) - INDICATE NUMBER OF SAMPLES IN EACH RANGE

0-1000/100 mL	✓							✓																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</
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FECAL COLI. - FINAL EFFLUENT* (BACTERIOLOGICAL) - INDICATE NUMBER OF SAMPLES IN EACH RANGE

0-1000/100 mL	✓							✓																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</
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* RECORD DATA FOR FINAL EFFLUENT TO WATERCOURSE ONLY (IF IT OCCURS)

RUSSELL LAGOON FALL DISCHARGE - 2000

DATE	DAY	HRS	PLUME inches	FLOW L/s	FLOW m ³ /d	DILUTION	RIVER FLOW (cms)
9-Nov	1	10	6	39.8	860	18.3	0.726
10-Nov	2	24	9	72.8	6290	14	1.02
11-Nov	3	24	9	72.8	6290	15.7	1.15
12-Nov	4	24	9	72.8	6290	21.4	1.56
13-Nov	5	24	8	60.6	5235	22.2	1.35
14-Nov	6	24	6	39.8	3439	27.8	1.28
15-Nov	7	24	8	60.6	5235	17.6	1.07
16-Nov	8	24	8	60.6	5235	15.6	0.950
17-Nov	9	24	8	60.6	5235	15.9	0.964
18-Nov	10	24	8	60.6	5235	15.9	0.964
19-Nov	11	24	8	60.6	5235	15.6	0.950
20-Nov	12	24	8	60.6	5235	13.9	0.848
21-Nov	13	24	8	60.6	5235	15.9	0.964
22-Nov	14	24	8	60.6	5235	14.8	0.898
23-Nov	15	24	8	60.6	5235	13.9	0.848
24-Nov	16	24	7	50.0	4320	12.8	0.644
25-Nov	17	24	6	39.8	3439	14.1	0.565
26-Nov	18	24	6	39.8	3439	13.9	0.554
27-Nov	19	24	6 set 19	39.8	3439	121.8	4.85
28-Nov	20	24	19	229.7	19846	50.0	11.5
29-Nov	21	24	14	142.8	12338	72.8	10.4
30-Nov	22	24	15	158.4	13685	50.5	8.09
1-Dec	23	24	8	60.6	5235	97.2	5.89
2-Dec	24	24	5	29.5	2548	132.8	3.92
3-Dec	25	24	5	29.5	2548	97.9	2.89
4-Dec	26	24	5	29.5	2548	91.8	2.71
5-Dec	27	24	4	21.4	1849	103.2	2.21
6-Dec	28	24	3	13.7	1183	170.0	2.33
7-Dec	29	24	2	7.2	622	423.6	3.05
8-Dec	30	14	2	7.2	362	386.1	2.78
TOTAL		696			152,920		

DATE	D.O. UPSTREAM	DOWNSTREAM	LAGOON DISCHARGE
10-Nov	12.1	11.4	12.6
27-Nov	11.9	11	12.5
1-Dec	12.2	12.3	13.2

Facility Name:

RUSSELL SEWAGE

Report Year:

2000

NO BYPASSING

1.0

[illegible]

2.0 Pumping Station and Plant Bypass Monthly Summary: RUSSELL SEWAGE - NO BYPASSING

Month	Primary Bypass			Secondary Bypass		
	No. of Days (days)	Duration (hours)	Volume ³ (1,000 m ³)	No. of Days (days)	Duration (hours)	Volume ³ (1,000 m ³)
January						
February						
March						
April						
May						
June						
July						
August						
September						
October						
November						
December						
TOTAL	NIL	NIL	NIL	NIL	NIL	NIL
Volume of Bypass as % of "			%			
Average Daily Flow (ADF)						



MUNICIPALITÉ DE
TOWNSHIP OF **RUSSELL**

March 19, 2001

MOE
113 Amelia Street, 2nd Floor
Cornwall, Ontario
K6H 3P1

Attention: Mike Séguin

Re: **Marionville Water**

Enclosed is the 2000 Annual Operations Report. The facility has met all the terms and conditions of the C.O.A. and the Ontario Drinking Water Regulations.

With the installation of the forcemain to Russell the chlorine residual in the Marionville tower has been maintained at a more constant level therefore eliminating the residual problems we were encountering in 1999.

In the year 2000 yard hydrants were installed on the distribution system for sampling purposes and quality control.

If you have any questions, please contact the undersigned at (613) 443-1747.

Sincerely,

Craig Cullen
Superintendent
Public Utilities

Encl.

**MARIONVILLE WATER
CAPACITY REPORT
DECEMBER 31, 2000**

WATER CAPACITY	
Residential Units	101 x 3.0 = 303
Apartment Units	5 x 2.0 = 10
Commercial Units	2 x 1 = 2
Residential/Commercial	3 x 1 = 3
Senior Citizen Apartments	22 x 1 = 22
Schools	= 9
TOTAL POPULATION SERVICED	349

APPROVED SUBDIVISION LOTS	NUMBER OF LOTS
Vacant Lots Infilling	14

TOTAL VACANT LOTS = 14
TOTAL POPULATION SERVICEABLE 14 x 3.0 = 42 PERSONS
DESIGN CAPACITY = 1050 PERSONS

NOTE: AVERAGE PERSONS PER HOUSEHOLD = 3.0 (STATISTICS CANADA 1996)
SCHOOLS POPULATION BASIS: @ 40% RURAL ÷ 3 (8 HR SCHOOL DAY)
@ 60% URBAN ÷ 3 (8 HR SCHOOL DAY)

**MARIONVILLE HYDRAULIC RESERVE
ACTUAL CAPACITY WATER**

$$CU = CR - (L \times F) \times (P + O) / H$$

CR = HYDRAULIC RESERVE CAPACITY

2000 = 88 m ³ /D	SERVICED POPULATION = 349	FLOW = .253 m ³ /D/C
1999 = 90 m ³ /D	SERVICED POPULATION = 346	FLOW = .234 m ³ /D/C
1998 = 85 m ³ /D	SERVICED POPULATION = 383	FLOW = .222 m ³ /D/C

AVERAGE = .236 m ³ /D/C	DESIGN FLOW = .360 m ³ /D/C
AS OF DECEMBER 31, 2000	DESIGN POPULATION = 1050
AT .236 m ³ /D/C FLOW x 349 = 82 m ³ /D	FLOW = 378 m ³ /DAY

$$CR = 378 \text{ m}^3/\text{DAY} - 82 \text{ m}^3/\text{DAY} = 296 \text{ m}^3/\text{DAY}$$

P = EXISTING RESIDENTIAL POPULATION CONNECTED = 313 AS OF DECEMBER 31, 2000

H = NO. OF CONNECTED RESIDENTIAL UNITS = 101

F = EXISTING PER CAPITA FLOW = .236 m³/DAY

D = DENSITY = 3.0

O = COM/RES, COMMERCIAL, SENIORS, SCHOOLS, OTHER = 36 TOTAL POPULATION

L = NO. OF UNCOMMITTED APPROVED LOTS = 14 LOTS x 3.0 = 42 POPULATION

SUMMARY =

$$CU = CR - (L \times F) \times (P + O) / H$$
$$= 296 - (14 \times .236) \times 313 / 101$$
$$= 296 - 10$$
$$= 286 \text{ m}^3/\text{DAY UNCOMMITTED RESERVE}$$

HYDRAULIC CAPACITY FOR AVERAGE DAILY FLOW

UNCOMMITTED NO. OF LOTS (LU)

$$LU = CU / D \times F \text{ WHERE } D = P / H$$
$$= 286 / 3.0 \times .236$$
$$= 404$$

MARIONVILLE
WATER FLOWS AND CONSUMPTION
2000

DATE 2000	FLOW (m³)	DAILY AVERAGE LITRES (m³)	POPULATION	DAYS	AVERAGE LITRES PERSON/DAY (m³)
JAN	6,112	197	346	31	0.570
FEB	2,847	98	346	29	0.284
MAR	1,587	51	346	31	0.148
APR	1,831	61	346	30	0.176
MAY	1,989	64	346	31	0.185
JUNE	1,873	62	346	30	0.180
JULY	2,707	87	346	31	0.252
AUG	2,794	90	346	31	0.260
SEP	2,334	78	346	30	0.225
OCT	2,679	86	346	31	0.250
NOV	2,373	79	346	30	0.229
DEC	3,045	98	346	31	0.284
TOTAL	32,171	88	346		0.253
1999	32,846	90	383		0.234
1998	30,762	85	383		0.222
1997	31,901	91	383		0.239

ANNUAL SUMMARY - DISTRIBUTION SYSTEM BACTERIOLOGICAL DATA

WATER WORKS NAME:

MARIONVILLE

YEAR:

2000

SERVICED POPULATION:

346

LABORATORIES WHICH PERFORMED ANALYSES:

ACCUTEST LABORATORIES

MONTH	TOTAL COLIFORM				FECAL COLIFORM/ESCHERICHIA			HPC		
	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES UNSAFE	NO. OF SAMPLES DETERIORATING	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES UNSAFE	NO. OF SAMPLES COLLECTED	NO. OF SAMPLES SAFE	NO. OF SAMPLES DETERIORATING
JAN	8	8	0	0	8	8	0	8	8	0
FEB	6	6	0	0	6	6	0	6	6	0
MAR	8	8	0	0	8	8	0	8	8	0
APR	8	8	0	0	8	8	0	8	8	0
MAY	10	10	0	0	10	10	0	10	10	0
JUN	8	8	0	0	8	8	0	8	8	0
JUL	10	10	0	0	10	10	0	10	10	0
AUG	8	8	0	0	8	8	0	8	8	0
SEP	12	12	0	0	12	12	0	12	12	0
OCT	10	10	0	0	10	10	0	10	10	0
NOV	8	8	0	0	8	8	0	8	8	0
DEC	6	6	0	0	6	6	0	6	6	0
TOTAL	102	102	0	0	102	102	0	102	102	0

**MARIONVILLE
DISTRIBUTION SYSTEM
CHEMICAL TESTING**

PARAMETER	UNITS	2000				
		JAN	APR	JUL	OCT	AVERAGE
COLOUR	Pt/Co units	<2	2	<2	<2	2
pH		7.57	7.40	6.97	7.61	7.39
ALKALINITY	mg/L CaCO ₃	187	181	200	185	188
HARDNESS	mg/L CaCO ₃	490	492	417	440	460
SODIUM (Na)	mg/L	9	8	6	9	8
IRON (Fe)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
COPPER (Cu)	mg/L	<0.005	0.014	<0.01	0.002	0.008
LEAD (Pb)	mg/L	<0.002	<0.002	<0.001	<0.001	<0.002
ZINC (Zn)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
ARSENIC (As)	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
ALUMINUM (Al)	mg/L	<0.03	<0.03	<0.05	<0.05	<0.05
MANGANESE (Mn)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
CONDUCTIVITY	umhos/cm	859	816	836	830	835
CHLORIDE (Cl)	mg/L	17	18	14	18	17
SULPHATE (SO ₄)	mg/L	257	279	225	245	252
TOTAL AMMONIA	mg/L	<0.02	0.11	0.18	<0.02	0.15
TKN	mg/L	0.10	0.24	0.34	0.07	0.188
NITRITE (N-NO ₂)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
NITRATE (N-NO ₃)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
DOC	mg/L	1.5	1.3	1.8	1.6	1.6
THM	mg/L	0.005	0.003	<0.002	0.026	0.011
ION BALANCE		1.06				1.06

EMBRUN/MARIONVILLE WTP DAILY IN-HOUSE TESTING - 2000

MARIONVILLE DISTRIBUTION	COLOUR	PH	TEMP	FE	MN	FL	TUR MIN	TUR MAX	CL ² TOTAL	CL ² FREE MIN	CL ² FREE MAX
JAN	1	7.4	4	0.02	0.019		0.10		0.40	0.21	
FEB	1	7.2	5				0.08		0.80	0.12	
MAR	1	7.2	7				0.06		0.79	0.12	
APR	1	7.3	8	0.03	0.010		0.12		0.80	0.12	
MAY	1	7.3	10				0.08		0.83	0.13	
JUN	1	7.1	13				0.08		0.88	0.13	
JUL	1	7.1	15				0.08		0.95	0.12	
AUG	1	7.1	15				0.04	0.11	0.96	0.10	0.20
SEP	1	7.2	13				0.08	0.30	0.71	0.07	0.42
OCT	1	7.2	12				0.07	0.250	0.60	0.33	0.51
NOV	1	7.4	10				0.07	0.150	0.64	0.31	0.52
DEC	1	7.4	8	0.00			0.06	0.140	0.71	0.45	0.58
AVG	1	7.2	10	0.02			0.04	0.30	0.76	0.07	0.42

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2000

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
JAN	5	448	11.80	1.64	0.45	3.67	346	1.29	0.26
JAN	6	58	0.94	0.13	0.06	2.26	346	0.17	0.17
JAN	7	64	1.41	0.20	0.06	3.07	346	0.18	0.18
JAN	10	452	8.00	1.11	0.45	2.46	346	1.31	0.44
JAN	11	85	1.41	0.20	0.09	2.31	346	0.25	0.25
JAN	12	136	2.36	0.33	0.14	2.42	346	0.39	0.39
JAN	13	80	1.88	0.26	0.08	3.27	346	0.23	0.23
JAN	14	179	3.30	0.46	0.18	2.57	346	0.52	0.52
JAN	17	417	8.90	1.24	0.42	2.97	346	1.21	0.40
JAN	18	731	7.50	1.04	0.73	1.43	346	2.11	2.11
JAN	19	773	6.13	0.85	0.77	1.10	346	2.23	2.23
JAN	20	757	14.63	2.04	0.76	2.69	346	2.19	2.19
JAN	21	279	2.83	0.39	0.28	1.41	346	0.81	0.81
JAN	24	657	11.30	1.57	0.66	2.39	346	1.90	0.63
JAN	25	322	5.19	0.72	0.32	2.24	346	0.93	0.93
JAN	26	274	5.19	0.72	0.27	2.64	346	0.79	0.79
JAN	27	80	4.24	0.59	0.08	7.38	346	0.23	0.23
JAN	28	80	2.83	0.39	0.08	4.92	346	0.23	0.23
JAN	31	240	13.22	1.84	0.24	7.67	346	0.69	0.23
JAN		6112	113.06	15.74	6.11	3.10	346	0.93	0.70
DAILY AVG		197							
MAX		773							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2000

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
FEB	1	849	3.77	0.52	0.85	0.62	346	2.45	2.45
FEB	2	80	0.47	0.07	0.08	0.82	346	0.23	0.23
FEB	3	76	0.79	0.11	0.08	1.45	346	0.22	0.22
FEB	4	80	0.38	0.05	0.08	0.66	346	0.23	0.23
FEB	7	80	0.43	0.06	0.08	0.75	346	0.23	0.08
FEB	8	80	0.46	0.06	0.08	0.80	346	0.23	0.23
FEB	9	80	0.37	0.05	0.08	0.64	346	0.23	0.23
FEB	10	80	0.35	0.05	0.08	0.61	346	0.23	0.23
FEB	11	80	0.57	0.08	0.08	0.99	346	0.23	0.23
FEB	14	240	1.05	0.15	0.24	0.61	346	0.69	0.23
FEB	15	80	0.25	0.03	0.08	0.44	346	0.23	0.23
FEB	16	82	0.94	0.13	0.08	1.60	346	0.24	0.24
FEB	17	80	0.24	0.03	0.08	0.42	346	0.23	0.23
FEB	18	80	0.47	0.07	0.08	0.82	346	0.23	0.23
FEB	21	160	0.70	0.10	0.16	0.61	346	0.46	0.15
FEB	22	80	0.21	0.03	0.08	0.37	346	0.23	0.23
FEB	23	80	0.15	0.02	0.08	0.26	346	0.23	0.23
FEB	24	80	0.29	0.04	0.08	0.50	346	0.23	0.23
FEB	25	80	0.50	0.07	0.08	0.87	346	0.23	0.23
FEB	28	240	0.78	0.11	0.24	0.45	346	0.69	0.23
FEB	29	80	0.46	0.06	0.08	0.80	346	0.23	0.23
FEB		2847	13.63	1.83	2.85	0.72	346	0.39	0.33
DAILY AVG		98							
MAX		849							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2000

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
MAR	1	76	0.36	0.05	0.08	0.66	346	0.22	0.22
MAR	2	80	0.19	0.03	0.08	0.33	346	0.23	0.23
MAR	3	56	0.23	0.03	0.06	0.57	346	0.16	0.16
MAR	6	168	0.61	0.08	0.17	0.51	346	0.49	0.16
MAR	7	33	0.14	0.02	0.03	0.59	346	0.10	0.10
MAR	8	51	0.14	0.02	0.05	0.38	346	0.15	0.15
MAR	9	47	0.09	0.01	0.05	0.27	346	0.14	0.14
MAR	10	49	0.14	0.02	0.05	0.40	346	0.14	0.14
MAR	13	175	0.75	0.10	0.18	0.60	346	0.51	0.17
MAR	14	23	0.09	0.01	0.02	0.54	346	0.07	0.07
MAR	15	51	0.14	0.02	0.05	0.38	346	0.15	0.15
MAR	16	45	0.18	0.03	0.05	0.56	346	0.13	0.07
MAR	17	46	0.18	0.03	0.05	0.54	346	0.13	0.13
MAR	20	163	0.51	0.07	0.16	0.44	346	0.47	0.16
MAR	21	32	0.18	0.03	0.03	0.78	346	0.09	0.09
MAR	22	51	0.14	0.02	0.05	0.38	346	0.15	0.15
MAR	23	47	0.18	0.03	0.05	0.53	346	0.14	0.14
MAR	24	48	0.14	0.02	0.05	0.41	346	0.14	0.14
MAR	27	166	0.51	0.07	0.17	0.43	346	0.48	0.16
MAR	28	32	0.14	0.02	0.03	0.62	346	0.09	0.09
MAR	29	50	0.23	0.03	0.05	0.64	346	0.14	0.14
MAR	30	49	0.14	0.02	0.05	0.40	346	0.14	0.05
MAR	31	50	0.18	0.03	0.05	0.50	346	0.14	0.05
MAR		1587	5.59	0.78	1.59	0.50	346	0.20	0.13
DAILY AVG		51							
MAX		80							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2000

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
APR	3	162	0.42	0.06	0.16	0.36	346	0.47	0.12
APR	4	47	0.14	0.02	0.05	0.41	346	0.14	0.14
APR	5	45	0.18	0.03	0.04	0.56	346	0.13	0.13
APR	6	48	0.18	0.03	0.05	0.52	346	0.14	0.14
APR	7	482	0.18	0.03	0.48	0.05	346	1.39	1.39
APR	10	168	0.61	0.08	0.17	0.51	346	0.49	0.16
APR	11	33	0.14	0.02	0.03	0.59	346	0.10	0.10
APR	12	50	0.14	0.02	0.05	0.39	346	0.14	0.14
APR	13	47	0.09	0.01	0.05	0.27	346	0.14	0.14
APR	14	46	0.14	0.02	0.05	0.42	346	0.13	0.13
APR	17	175	0.51	0.07	0.18	0.41	346	0.51	0.17
APR	18	13	0.04	0.01	0.01	0.43	346	0.04	0.04
APR	19	65	0.14	0.02	0.07	0.30	346	0.19	0.19
APR	20	52	0.19	0.03	0.05	0.50	346	0.15	0.15
APR	25	268	0.56	0.08	0.27	0.29	346	0.77	0.15
APR	26	16	0.04	0.01	0.02	0.35	346	0.05	0.05
APR	27	63	0.33	0.05	0.06	0.73	346	0.18	0.18
APR	28	51	0.14	0.02	0.05	0.38	346	0.15	0.15
APR		1831	4.17	0.58	1.83	0.42	346	0.29	0.21
DAILY AVG		61							
MAX		482							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2000

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
MAY	1	203	0.70	0.10	0.20	0.48	346	0.59	0.15
MAY	2	79	0.18	0.03	0.08	0.32	346	0.23	0.23
MAY	3	79	0.18	0.03	0.08	0.32	346	0.23	0.23
MAY	4	66	0.18	0.03	0.07	0.38	346	0.19	0.10
MAY	5	50	0.18	0.03	0.05	0.50	346	0.15	0.15
MAY	8	190	0.61	0.08	0.19	0.45	346	0.55	0.18
MAY	9	42	0.14	0.02	0.04	0.46	346	0.12	0.12
MAY	10	26	0.09	0.01	0.03	0.48	346	0.08	0.08
MAY	11	56	0.14	0.02	0.06	0.35	346	0.16	0.16
MAY	12	38	0.09	0.01	0.04	0.33	346	0.11	0.11
MAY	15	206	0.56	0.08	0.21	0.38	346	0.60	0.20
MAY	16	69	0.23	0.03	0.07	0.46	346	0.20	0.20
MAY	17	55	0.09	0.01	0.06	0.23	346	0.16	0.16
MAY	18	45	0.04	0.01	0.05	0.12	346	0.13	0.13
MAY	19	45	0.09	0.01	0.05	0.28	346	0.13	0.13
MAY	23	266	0.75	0.10	0.27	0.39	346	0.77	0.19
MAY	24	29	0.09	0.01	0.03	0.43	346	0.08	0.08
MAY	25	64	0.14	0.02	0.06	0.30	346	0.18	0.18
MAY	26	46	0.14	0.02	0.05	0.42	346	0.13	0.13
MAY	29	173	0.38	0.05	0.17	0.30	346	0.50	0.17
MAY	30	94	0.14	0.02	0.09	0.21	346	0.27	0.07
MAY	31	68	0.09	0.01	0.07	0.18	346	0.20	0.10
MAY		1989	5.23	0.73	1.99	0.35	346	0.25	0.15
	DAILY AVG	64							
	MAX	94							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2000

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
JUNE	1	59	0.14	0.02	0.06	0.33	346	0.17	0.17
JUNE	2	57	0.14	0.02	0.06	0.34	346	0.16	0.16
JUNE	5	288	0.42	0.06	0.29	0.20	346	0.83	0.28
JUNE	6	62	0.14	0.02	0.06	0.31	346	0.18	0.18
JUNE	7	46	0.14	0.02	0.05	0.42	346	0.13	0.13
JUNE	8	74	0.14	0.02	0.07	0.26	346	0.21	0.21
JUNE	9	64	0.23	0.03	0.06	0.50	346	0.18	0.18
JUNE	12	176	0.42	0.06	0.18	0.33	346	0.51	0.17
JUNE	13	59	0.14	0.02	0.06	0.33	346	0.17	0.17
JUNE	14	57	0.14	0.02	0.06	0.34	346	0.16	0.16
JUNE	15	50	0.14	0.02	0.05	0.39	346	0.14	0.14
JUNE	16	35	0.09	0.01	0.04	0.36	346	0.10	0.10
JUNE	19	196	0.28	0.04	0.20	0.20	346	0.57	0.19
JUNE	20	45	0.14	0.02	0.05	0.43	346	0.13	0.13
JUNE	21	79	0.14	0.02	0.08	0.25	346	0.23	0.23
JUNE	22	40	0.09	0.01	0.04	0.31	346	0.12	0.12
JUNE	23	61	0.18	0.03	0.06	0.41	346	0.18	0.18
JUNE	26	173	0.38	0.05	0.17	0.30	346	0.50	0.17
JUNE	27	60	0.14	0.02	0.06	0.32	346	0.17	0.17
JUNE	28	57	0.14	0.02	0.06	0.34	346	0.16	0.16
JUNE	29	48	0.14	0.02	0.05	0.41	346	0.14	0.14
JUNE	30	87	0.18	0.03	0.09	0.29	346	0.25	0.13
JUN		1873	4.09	0.57	1.87	0.34	346	0.25	0.17
DAILY AVG		62							
MAX		87							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2000

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
JULY	4	220	0.42	0.06	0.22	0.27	346	0.64	0.32
JULY	5	35	0.09	0.01	0.03	0.36	346	0.10	0.03
JULY	6	49	0.14	0.02	0.05	0.40	346	0.14	0.14
JULY	7	88	0.18	0.03	0.09	0.29	346	0.25	0.25
JULY	10	168	0.33	0.05	0.17	0.27	346	0.49	0.16
JULY	11	54	0.09	0.01	0.05	0.23	346	0.16	0.16
JULY	12	50	0.09	0.01	0.05	0.25	346	0.14	0.05
JULY	13	55	0.09	0.01	0.06	0.23	346	0.16	0.16
JULY	14	473	0.72	0.10	0.47	0.21	346	1.37	1.37
JULY	17	178	0.57	0.08	0.18	0.45	346	0.51	0.17
JULY	18	0	0.00	0.00	0.00	0.00	346	0.00	0.00
JULY	19	351	0.90	0.13	0.35	0.36	346	1.01	1.01
JULY	20	120	0.19	0.03	0.12	0.22	346	0.35	0.35
JULY	21	84	0.19	0.03	0.08	0.31	346	0.24	0.24
JULY	24	127	0.41	0.06	0.13	0.45	346	0.37	0.12
JULY	25	184	0.45	0.06	0.18	0.34	346	0.53	0.53
JULY	26	80	0.24	0.03	0.08	0.42	346	0.23	0.23
JULY	27	105	0.35	0.05	0.11	0.46	346	0.30	0.30
JULY	28	75	0.16	0.02	0.08	0.30	346	0.22	0.22
JULY	31	211	0.56	0.08	0.21	0.37	346	0.61	0.20
JUL		2707	6.17	0.86	2.71	0.31	346	0.39	0.32
DAILY AVG		87							
MAX		473							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2000

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
AUG	1	126	0.45	0.06	0.13	0.50	346	0.36	0.36
AUG	2	63	0.18	0.03	0.06	0.40	346	0.18	0.18
AUG	3	65	0.22	0.03	0.07	0.47	346	0.19	0.19
AUG	4	-133	0.49	0.07	-0.13	-0.51	346	-0.38	-0.38
AUG	8	408	1.18	0.16	0.41	0.40	346	1.18	0.29
AUG	9	-133	0.00	0.00	-0.13	0.00	346	-0.38	-0.38
AUG	10	34	0.07	0.01	0.03	0.29	346	0.10	0.10
AUG	11	16	0.05	0.01	0.02	0.44	346	0.05	0.05
AUG	14	280	0.79	0.11	0.28	0.39	346	0.81	0.27
AUG	15	368	0.72	0.10	0.37	0.27	346	1.06	1.06
AUG	16	116	0.25	0.03	0.12	0.30	346	0.34	0.34
AUG	17	60	0.16	0.02	0.06	0.37	346	0.17	0.17
AUG	18	69	0.24	0.03	0.07	0.48	346	0.20	0.20
AUG	21	191	0.57	0.08	0.19	0.42	346	0.55	0.18
AUG	22	11	0.02	0.00	0.01	0.25	346	0.03	0.03
AUG	23	20	0.09	0.01	0.02	0.63	346	0.06	0.06
AUG	24	38	0.15	0.02	0.04	0.55	346	0.11	0.11
AUG	25	5	0.02	0.00	0.01	0.56	346	0.01	0.01
AUG	28	413	1.58	0.22	0.41	0.53	346	1.19	0.40
AUG	29	240	0.56	0.08	0.24	0.32	346	0.69	0.69
AUG	30	-355	0.00	0.00	-0.36	0.00	346	-1.03	-0.51
AUG	31	892	4.24	0.59	0.89	0.66	346	2.58	1.29
AUG		2794	12.03	1.67	2.79	0.35	346	0.33	0.20
DAILY AVG		90							
MAX		892							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2000

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
SEP	1	59	0.14	0.02	0.06	0.33	346	0.17	0.17
SEP	5	212	0.80	0.11	0.21	0.53	346	0.61	0.15
SEP	6	0	0.00	0.00	0.00	0.00	346	0.00	0.00
SEP	7	72	0.21	0.03	0.07	0.41	346	0.21	0.21
SEP	8	28	0.09	0.01	0.03	0.45	346	0.08	0.08
SEP	11	512	1.70	0.24	0.51	0.46	346	1.48	0.49
SEP	12	0	0.00	0.00	0.00	0.00	346	0.00	0.00
SEP	13	65	0.35	0.05	0.07	0.75	346	0.19	0.19
SEP	14	144	0.89	0.12	0.14	0.86	346	0.42	0.42
SEP	15	228	2.90	0.40	0.23	1.77	346	0.66	0.66
SEP	18	266	4.30	0.60	0.27	2.25	346	0.77	0.26
SEP	19	82	1.45	0.20	0.08	2.46	346	0.24	0.24
SEP	20	87	1.32	0.18	0.09	2.11	346	0.25	0.25
SEP	21	67	0.82	0.11	0.07	1.70	346	0.19	0.19
SEP	22	0	0.00	0.00	0.00	0.00	346	0.00	0.00
SEP	25	500	3.58	0.50	0.50	1.00	346	1.45	0.48
SEP	26	0	0.00	0.00	0.00	0.00	346	0.00	0.00
SEP	27	76	0.21	0.03	0.08	0.38	346	0.22	0.22
SEP	28	207	0.69	0.10	0.21	0.46	346	0.60	0.60
SEP	29	0	0.00	0.00	0.00	0.00	346	0.00	0.00
SEP		2334	18.51	2.58	2.33	0.84	346	0.37	0.24
DAILY AVG		78							
MAX		228							
		Note:	Sep 18	900 m3 discharged to drain					
			Sep 19	300 m3 discharged to drain					
			Sep 20	380 m3 discharged to drain					

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2000

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
OCT	2	440	1.90	0.26	0.44	0.60	346	1.27	0.64
OCT	3	69	0.33	0.05	0.07	0.67	346	0.20	0.20
OCT	4	24	0.26	0.04	0.02	1.51	346	0.07	0.07
OCT	5	0	0.00	0.00	0.00	0.00	346	0.00	0.00
OCT	6	0	0.00	0.00	0.00	0.00	346	0.00	0.00
OCT	10	548	2.30	0.32	0.55	0.58	346	1.58	0.40
OCT	11	66	0.44	0.06	0.07	0.93	346	0.19	0.19
OCT	12	24	0.08	0.01	0.02	0.46	346	0.07	0.07
OCT	13	0	0.00	0.00	0.00	0.00	346	0.00	0.00
OCT	16	362	1.80	0.25	0.36	0.69	346	1.05	0.35
OCT	17	72	0.15	0.02	0.07	0.29	346	0.21	0.21
OCT	18	63	0.17	0.02	0.06	0.38	346	0.18	0.18
OCT	19	0	0.00	0.00	0.00	0.00	346	0.00	0.00
OCT	20	0	0.00	0.00	0.00	0.00	346	0.00	0.00
OCT	23	293	0.98	0.14	0.29	0.47	346	0.85	0.28
OCT	24	186	0.49	0.07	0.19	0.37	346	0.54	0.54
OCT	25	0	0.00	0.00	0.00	0.00	346	0.00	0.00
OCT	26	25	0.08	0.01	0.03	0.45	346	0.07	0.07
OCT	27	54	0.17	0.02	0.05	0.44	346	0.16	0.16
OCT	30	363	1.42	0.20	0.36	0.54	346	1.05	0.35
OCT	31	90	0.31	0.04	0.09	0.48	346	0.26	0.26
OCT		2679	10.88	1.51	2.68	0.42	346	0.35	0.16
DAILY AVG		86							
MAX		186							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2000

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
NOV	1	122	0.38	0.05	0.12	0.43	346	0.35	0.12
NOV	2	15	0.05	0.01	0.02	0.46	346	0.04	0.04
NOV	3	0	0.00	0.00	0.00	0.00	346	0.00	0.00
NOV	6	516	2.16	0.30	0.52	0.58	346	1.49	0.50
NOV	7	0	0.00	0.00	0.00	0.00	346	0.00	0.00
NOV	8	8	0.02	0.00	0.01	0.35	346	0.02	0.02
NOV	9	23	0.10	0.01	0.02	0.61	346	0.07	0.07
NOV	10	77	0.33	0.05	0.08	0.60	346	0.22	0.22
NOV	14	412	1.74	0.24	0.41	0.59	346	1.19	0.30
NOV	15	0	0.00	0.00	0.00	0.00	346	0.00	0.00
NOV	16	237	3.30	0.46	0.24	1.94	346	0.68	0.68
NOV	17	20	0.09	0.01	0.02	0.63	346	0.06	0.06
NOV	20	357	1.44	0.20	0.36	0.56	346	1.03	0.34
NOV	21	0	0.00	0.00	0.00	0.00	346	0.00	0.00
NOV	22	32	0.11	0.02	0.03	0.48	346	0.09	0.09
NOV	23	12	0.04	0.01	0.01	0.46	346	0.03	0.03
NOV	24	46	0.24	0.03	0.05	0.73	346	0.13	0.13
NOV	27	451	1.90	0.26	0.45	0.59	346	1.30	0.43
NOV	28	0	0.00	0.00	0.00	0.00	346	0.00	0.00
NOV	29	28	0.13	0.02	0.03	0.65	346	0.08	0.04
NOV	30	17	0.07	0.01	0.02	0.57	346	0.05	0.02
NOV		2373	12.10	1.68	2.37	0.49	346	0.34	0.15
DAILY AVG		79							
MAX		451							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2000

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
DEC	1	87	0.24	0.03	0.09	0.38	346	0.25	0.25
DEC	4	134	0.51	0.07	0.13	0.53	346	0.39	0.13
DEC	5	335	1.55	0.22	0.34	0.64	346	0.97	0.97
DEC	6	0	0.00	0.00	0.00	0.00	346	0.00	0.00
DEC	7	310	1.55	0.22	0.31	0.70	346	0.90	0.90
DEC	8	45	0.20	0.03	0.05	0.62	346	0.13	0.13
DEC	11	151	0.47	0.07	0.15	0.43	346	0.44	0.15
DEC	12	24	0.11	0.02	0.02	0.64	346	0.07	0.07
DEC	13	125	0.70	0.10	0.13	0.78	346	0.36	0.36
DEC	14	0	0.00	0.00	0.00	0.00	346	0.00	0.00
DEC	15	104	0.41	0.06	0.10	0.55	346	0.30	0.30
DEC	18	422	1.15	0.16	0.42	0.38	346	1.22	0.41
DEC	19	0	0.00	0.00	0.00	0.00	346	0.00	0.00
DEC	20	232	0.98	0.14	0.23	0.59	346	0.67	0.67
DEC	21	0	0.00	0.00	0.00	0.00	346	0.00	0.00
DEC	22	99	0.41	0.06	0.10	0.58	346	0.29	0.29
DEC	25	505	2.14	0.30	0.51	0.59	346	1.46	0.49
DEC	27	115	1.16	0.16	0.12	1.40	346	0.33	0.17
DEC	28	70	0.23	0.03	0.07	0.46	346	0.20	0.20
DEC	29	60	0.23	0.03	0.06	0.53	346	0.17	0.17
DEC	31	227	0.83	0.12	0.23	0.51	346	0.66	0.33
DEC		3045	12.87	1.79	3.05	0.49	346	0.42	0.28
DAILY AVG		98							
MAX		335							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2000

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
JAN		6112	113.06	15.74	6.11	3.10	346	0.93	0.70
FEB		2847	13.63	1.83	2.85	0.72	346	0.39	0.33
MAR		1587	5.59	0.78	1.59	0.50	346	0.20	0.13
APR		1831	4.17	0.58	1.83	0.42	346	0.29	0.21
MAY		1989	5.23	0.73	1.99	0.35	346	0.25	0.15
JUNE		1873	4.09	0.57	1.87	0.34	346	0.25	0.17
JULY		2707	6.17	0.86	2.71	0.31	346	0.39	0.32
AUG		2794	12.03	1.67	2.79	0.35	346	0.33	0.20
SEP		2334	18.51	2.58	2.33	0.84	346	0.37	0.24
OCT		2679	10.88	1.51	2.68	0.42	346	0.35	0.16
NOV		2373	12.10	1.68	2.37	0.49	346	0.34	0.15
DEC		3045	12.87	1.79	3.05	0.49	346	0.42	0.28
TOTAL		32170	218.32	30.32	32.17	0.69	346	0.55	0.37