

Cathy

**TOWNSHIP OF RUSSELL
PUBLIC UTILITIES**

2001

**WATER AND SANITARY
OPERATIONS REPORT**



MUNICIPALITÉ DE
TOWNSHIP OF

RUSSELL

March 22, 2002

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

Attention: Mike Séguin

Re: Embrun Water

Enclosed is the 2001 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.

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

Sincerely,

Craig Cullen
Superintendent
Public Utilities

Encl.

cc: M. Blanchard

WATER CAPACITY	
Residential Units	1071 x 3.0 = 3213
Apartment Units	251 x 2 = 502
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	4262

TOTAL POPULATION SERVICEABLE	166 x 3.0	=	498 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
As of December 30, 2001**

2001 = 1333 m ³ /D	SERVICED POPULATION = 4085	FLOW = .326m ³ /D/C
2000 = 1225 m ³ /D	SERVICED POPULATION = 4040	FLOW = .314 m ³ /D/C
1999 = 1311 m ³ /D	SERVICED POPULATION = 3920	FLOW = .334 m ³ /D/C

AVERAGE = .325 m³/D/C
AS OF DECEMBER 30, 2001
AT .325 m³/D/C FLOW x 4085 = 1327 m³/D

DESIGN FLOW = .360 m³/D/C
DESIGN POPULATION = 6000
FLOW = 2160 m³/DAY

CR = 2160 m³/DAY - 1327 m³/DAY = 833 m³/DAY

P = EXISTING RESIDENTIAL POPULATION CONNECTED = 3538 AS OF DECEMBER 30, 2001

H = NO. OF CONNECTED RESIDENTIAL UNITS = 1036

F = EXISTING PER CAPITA FLOW = .325 m³/DAY

D = DENSITY = 3.0

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

L = NO. OF UNCOMMITTED APPROVED LOTS =	2 LOTS INFILLING VACANT	POP - 6
LAMADELEINE SUBDIVISION =	36 LOTS	108
MÉLANIE SUBDIVISION =	65 LOTS	195
LAPOINTE DEVELOPMENTS =	37 LOTS	111
LAPALME NURSING HOMES IN HOLDING =	27 LOTS	<u>81</u>
		501

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

= 833 - (167 x .325) x 4085 / 1036

= 833 - 214

= 619 m³/DAY UNCOMMITTED RESERVE

HYDRAULIC CAPACITY FOR AVERAGE DAILY FLOW

UNCOMMITTED NO. OF LOTS (LU)

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

= 619 / 3.0 x .325

= 638

EMBRUN
WATER FLOWS AND CONSUMPTION
2001

DATE 2001	FLOW (m³)	DAILY AVERAGE LITRES (m³)	POPULATION	DAYS	AVERAGE LITRES PERSON/DAY (m³)
JAN	36,753	1186	4085	31	0.290
FEB	34,237	1223	4085	28	0.299
MAR	38,156	1231	4085	31	0.301
APR	35,232	1174	4085	30	0.287
MAY	46,806	1510	4085	31	0.370
JUNE	42,734	1424	4085	30	0.349
JULY	49,064	1583	4085	31	0.388
AUG	47,592	1535	4085	31	0.376
SEP	34,540	1151	4085	30	0.282
OCT	44,206	1426	4085	31	0.349
NOV	38,762	1292	4085	30	0.316
DEC	39,103	1261	4085	31	0.309
TOTAL	487,185	1,333	4085		0.326
2000	448,390	1225	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: 2001
 SERVICED POPULATION: 4085
 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 min. 0.2 mg/L DETECT. RES.
JAN	1.19	1.68	36.75	1.19	31	0	0.09	31	0.64	0.43	31	31
FEB	1.22	1.74	34.24	0.06	28	0	0.09	28	0.64	0.46	28	28
MAR	1.23	1.90	38.16	1.24	31	0	0.09	31	0.66	0.44	31	31
APR	1.17	1.69	35.23	1.37	30	0	0.08	30	0.64	0.48	30	30
MAY	1.51	2.23	46.81	1.24	31	0	0.09	31	0.66	0.44	31	31
JUN	1.42	2.05	42.73	1.53	30	0	0.09	30	0.69	0.49	30	30
JUL	1.58	2.50	49.06	1.81	31	0	0.08	31	0.63	0.41	31	31
AUG	1.53	2.00	47.59	1.59	31	0	0.07	31	0.72	0.52	31	31
SEP	1.15	1.95	34.54	1.37	30	0	0.07	30	0.71	0.49	30	30
OCT	1.43	2.15	44.21	1.56	31	0	0.07	31	0.71	0.50	31	31
NOV	1.29	1.75	38.76	1.58	30	0	0.06	30	0.73	0.52	30	30
DEC	1.26	1.84	39.10	1.49	31	0	0.06	31	0.68	0.49	31	31
TOTAL	15.98	23.48	487.18	16.03	365			365			365	365
AVG	1.33	1.96	40.60	1.34			0.08		0.68	0.47		
MAX	1.58	2.50	49.06	1.81			0.09		0.73	0.52		

DISINFECTANT COMPOUND USED: NaOCl
 FORM OF RESIDUAL DISPLAYED ON ABOVE TABLE: TOTAL AND FREE
 QUANTITY OF DISINFECTANT USED DURING YEAR: 5233 kg
 DISTRIBUTION SYSTEM TARGET RESIDUAL (mg/L): Total 0.80 Free 0.2

ANNUAL SUMMARY - TREATED WATER FLOWS AND WATER TRANSFER

WATER WORKS NAME: EMBRUN/MARIONVILLE WTP - RUSSELL WTP
 YEAR: 2001

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	1.19	1.68	36.75	0.51	0.64	2.00	0.51	0.78	15.80	2.21	3.10	54.55
FEB	1.22	1.74	34.24	0.47	0.68	1.87	0.47	0.71	13.66	2.16	3.13	49.77
MAR	1.23	1.90	38.16	0.46	0.50	1.84	0.49	0.61	15.11	2.18	3.01	55.11
APR	1.17	1.69	35.23	0.52	0.58	2.59	0.52	0.71	15.61	2.21	2.98	53.43
MAY	1.51	2.23	46.81	0.65	0.80	2.59	0.78	1.31	24.31	2.94	4.34	73.71
JUN	1.42	2.05	42.73	0.57	0.71	2.28	0.76	1.09	22.72	2.75	3.85	67.73
JUL	1.58	2.50	49.06	0.69	0.89	3.44	0.88	1.31	27.20	3.15	4.70	79.70
AUG	1.53	2.00	47.59	0.68	0.95	2.73	0.76	1.33	23.56	2.97	4.28	73.88
SEP	1.15	1.95	34.54	0.41	0.58	1.62	0.60	0.75	18.01	2.16	3.28	54.17
OCT	1.43	2.15	44.21	0.49	0.59	2.43	0.71	0.99	21.96	2.63	3.73	68.60
NOV	1.29	1.75	38.76	0.47	0.48	1.88	0.65	0.75	19.61	2.41	2.98	60.25
DEC	1.26	1.84	39.10	0.45	0.47	1.81	0.68	0.96	21.11	2.39	3.27	62.02
TOTAL			487.18			27.08			238.66	30.16	42.65	752.92
AVERAGE	1.33	1.96	40.60	0.53	0.66	2.26	0.65	0.94	19.89	2.51	3.55	62.74
MAXIMUM	1.58	2.50	49.06	0.69	0.95	3.44	0.88	1.33	27.20	3.15	4.70	79.70

ANNUAL SUMMARY - RAW WATER FLOWS

WATER WORKS NAME:

EMBRUN WTP

YEAR:

2001

SERVICED POPULATION:

4085

DESIGN CAPACITY:

6000

MONTH	WELL #2		
	AVERAGE DAY (1000 m3)	MAXIMUM DAY (1000 m3)	MONTHLY TOTAL (1000 m3)
JAN	1.86	2.52	57.71
FEB	1.90	2.54	53.08
MAR	1.90	2.49	58.82
APR	1.81	2.32	54.34
MAY	2.53	3.61	78.56
JUN	2.43	3.34	72.85
JUL	2.74	4.03	84.92
AUG	2.57	3.81	79.54
SEP	2.14	2.82	64.05
OCT	2.36	3.08	73.32
NOV	2.15	2.57	64.46
DEC	2.15	3.31	66.81
TOTAL			808.46
AVERAGE	2.21		67.37
MAXIMUM		4.03	84.92

WELL #1 NOT IN OPERATION

ANNUAL SUMMARY - RAW WATER BACTERIOLOGICAL DATA

WATER WORKS NAME:

EMBRUN

YEAR:

2001

SERVICED POPULATION:

4085

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	5	0	0	0	0	0	0
FEB	4	0	0	0	0	0	0
MAR	4	0	0	0	0	0	0
APR	5	0	0	0	0	0	0
MAY	4	0	0	0	0	0	0
JUN	4	0	0	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	0	0	0	0	0	0
DEC	4	0	0	0	0	0	0
TOTAL	52	0	0	0	0	0	0

ANNUAL SUMMARY - TREATED SYSTEM BACTERIOLOGICAL DATA

WATER WORKS NAME:

EMBRUN

YEAR:

2001

SERVICED POPULATION:

4085

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	5	5	0	0	5	5	0	5	5	0
FEB	4	4	0	0	4	4	0	4	4	0
MAR	4	4	0	0	4	4	0	4	4	0
APR	5	5	0	0	5	5	0	5	5	0
MAY	4	4	0	0	4	4	0	4	4	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	4	4	0	0	4	4	0	4	4	0
TOTAL	52	52	0	0	52	52	0	52	52	0

ANNUAL SUMMARY - DISTRIBUTION SYSTEM BACTERIOLOGICAL DATA

WATER WORKS NAME:

EMBRUN

YEAR:

2001

SERVICED POPULATION:

4085

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	15	15	0	0	15	15	0	15	15	0
FEB	12	12	0	0	12	12	0	12	12	0
MAR	12	12	0	0	12	12	0	12	12	0
APR	15	15	0	0	15	15	0	15	15	0
MAY	12	12	0	0	12	12	0	12	12	0
JUN	12	12	0	0	12	12	0	12	12	0
JUL	15	15	0	0	15	15	0	15	15	0
AUG	14	13	1	1	14	14	0	14	14	0
SEP	12	12	0	0	12	12	0	12	12	0
OCT	17	16	1	1	17	17	0	17	17	0
NOV	12	12	0	0	12	12	0	12	12	0
DEC	12	12	0	0	12	12	0	12	12	0
TOTAL	160	158	2	2	160	160	0	160	160	0

Aug 13 - TC = OG, Background >200

Aug 15 - Re-test - TC = 0

Oct 22 - TC = 1

Oct 24 - Re-test - TC = 0

EMBRUN
WATERWORKS #220004297
ANALYTICAL RESULTS SUMMARY

Sample Location: **Embrun Raw water – Well #2**

PHYSICAL/CHEMICAL PARAMETERS	UNITS	MAC IMAC AO/OG	JAN	APR	JULY	OCT	AVG
Alkalinity (as CaCO ₃)	mg/L	30-500	181	178	188	180	182
Aluminum (Al)	mg/L	0.10	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic (As)	mg/L	0.025	<0.001	<0.001	<0.001	<0.001	<0.001
Chloride (Cl)	mg/L	250	13	15	15	17	15
Conductivity	mg/L	-	795	815	814	822	812
Copper (Cu)	mg/L	1.0	<0.001	<0.001	<0.001	<0.001	<0.001
Dissolved Organic Carbon (DOC)	mg/L	5.0	2.0	1.5	1.3	1.2	1.5
Iron (Fe)	mg/L	0.30	2.20	1.94	1.91	1.79	1.96
Hardness (As CaCO ₃)	mg/L	80-100	470	429	441	418	440
Lead (Pb)	mg/L	.01	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (Mn)	mg/L	0.05	0.31	0.29	0.33	0.27	0.30
Ammonia + Ammonium (N-NH ₃)	mg/L	10	0.25	0.24	0.20	0.24	0.24
Nitrite (as nitrogen) N-NO ₂	mg/L	1.0	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate (as nitrogen) N-NO ₃	mg/L	10.0	<0.10	<0.10	<0.10	<0.10	<0.10
pH	mg/L	6.5-8.5	7.30	7.61	6.89	7.42	7.31
Sodium (Na)	mg/L	200*	5	4	5	4	5
Sulphate (SO ₄)	mg/L	500	250	255	249	262	254
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.36	0.36	0.34	0.44	.38
Total Dissolves Solids	mg/L	500	596	560	624	616	599
Zinc (Zn)	mg/L	5.0	<0.01	<0.01	<0.01	<0.01	<0.01
Phenols	mg/L	-	<0.001	<0.001	<0.001	N/S ¹	<0.001

¹ N/S = No sample – bottle broken at laboratory

* The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restrictive diets.

VOCs Table B	UNITS	MAC IMAC AO/OG	JAN	APR	JULY	OCT	AVG
Benzene	mg/L	0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Carbon Tetrachloride	mg/L	0.005	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009
1,2-Dichlorobenzene	mg/L	0.2	<0.0006	<0.0004	<0.0004	<0.0004	<0.0004
1,4-Dichlorobenzene	mg/L	0.005	<0.0005	<0.0004	<0.0004	<0.0004	<0.0004
1,2-Dichloroethane	mg/L	0.005	<0.0007	<0.0007	<0.0007	<0.0007	<0.0007
1,1-Dichloroethylene	mg/L	0.014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Dichloromethane	mg/L	0.05	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Ethylbenzene	mg/L	0.0024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Monochlorobenzene	mg/L	0.08	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Tetrachloroethylene	mg/L	0.030	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Toluene	mg/L	0.024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Trichloroethylene	mg/L	0.05	<0.0008	<0.0003	<0.0003	<0.0003	<0.0003
Vinyl Chloride	mg/L	0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Xylene	mg/L	0.30	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005

EMBRUN
WATERWORKS #220004297
ANALYTICAL RESULTS SUMMARY

Sample Location: **Embrun Treated - Clearwell**

PHYSICAL/CHEMICAL PARAMETERS	UNITS	MAC IMAC AO/OG	JAN	APR	JULY	OCT	AVG
Alkalinity (as CaCO ₃)	mg/L	30-500	180	179	185	180	181
Aluminum (Al)	mg/L	0.10	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic (As)	mg/L	0.025	<0.001	<0.001	<0.001	<0.001	<0.001
Chloride (Cl)	mg/L	250	20	19	23	25	17
Conductivity	mg/L	-	823	869	817	871	845
Copper (Cu)	mg/L	1.0	<0.001	<0.001	<0.001	<0.001	<0.001
Dissolved Organic Carbon (DOC)	mg/L	5.0	1.8	1.3	1.2	1.2	1.38
Iron (Fe)	mg/L	0.30	0.02	0.02	0.01	<0.01	.02
Hardness (As CaCO ₃)	mg/L	80-100	466	446	432	426	443
Lead (Pb)	mg/L	.01	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (Mn)	mg/L	0.05	<0.01	0.01	<0.01	<0.01	<0.01
Ammonia + Ammonium (N-NH ₃)	mg/L	10	<0.02	0.02	<0.02	<0.02	<0.02
Nitrite (as nitrogen) N-NO ₂	mg/L	1.0	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate (as nitrogen) N-NO ₃	mg/L	10.0	<0.10	<0.10	<0.10	<0.10	<0.10
pH	mg/L	6.5-8.5	7.33	7.64	7.01	7.43	7.36
Sodium (Na)	mg/L	200 ¹	9	8	8	10	9
Sulphate (SO ₄)	mg/L	500	228	267	235	294	156
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.11	0.09	0.11	0.09	0.10
Zinc (Zn)	mg/L	5.0	<0.01	<0.01	<0.01	<0.01	<0.01

1 The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restrictive diets.

VOCs Table B	UNITS	MAC IMAC AO/OG	JAN*	APR*	JULY*	OCT*	AVG
Benzene	mg/L	0.005				<0.0005	<0.0005
Carbon Tetrachloride	mg/L	0.005				<0.0009	<0.0009
1,2-Dichlorobenzene	mg/L	0.2				<0.0004	<0.0004
1,4-Dichlorobenzene	mg/L	0.005				<0.0004	<0.0004
1,2-Dichloroethane	mg/L	0.005				<0.0007	<0.0007
1,1-Dichloroethylene	mg/L	0.014				<0.0005	<0.0005
Dichloromethane	mg/L	0.05				<0.0040	<0.0040
Ethylbenzene	mg/L	0.0024				<0.0005	<0.0005
Monochlorobenzene	mg/L	0.08				<0.0002	<0.0002
Tetrachloroethylene	mg/L	0.030				<0.0003	<0.0003
Toluene	mg/L	0.024				<0.0005	<0.0005
Trichloroethylene	mg/L	0.05				<0.0003	<0.0003
Vinyl Chloride	mg/L	0.002				<0.0005	<0.0005
Xylene	mg/L	0.30				<0.0005	<0.0005
Trihalomethanes	mg/L	0.100	0.025	0.0167	0.022	0.0381	0.025

* VOC parameters in table B are tested annually in accordance with the Drinking Water Regulation Standards, however, quarterly testing is required for Trihalomethanes.

**EMBRUN
WATERWORKS #220004297
ANALYTICAL RESULTS SUMMARY**

Sample Location: Embrun Distribution

PHYSICAL/CHEMICAL PARAMETERS	UNITS	MAC IMAC AO/OG	JAN	APR	JULY	OCT	AVG
Alkalinity (as CaCO ₃)	mg/L	30-500	182	178	187	179	182
Aluminum (Al)	mg/L	0.10	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic (As)	mg/L	0.025	<0.001	<0.001	<0.001	<0.001	<0.001
Chloride (Cl)	mg/L	250	20	20	20	20	20
Conductivity	mg/L	-	831	850	833	880	849
Copper (Cu)	mg/L	1.0	<0.001	<0.001	<0.001	<0.001	<0.001
Dissolved Organic Carbon (DOC)	mg/L	5.0	1.6	1.2	1.2	1.1	1.3
Iron (Fe)	mg/L	0.30	0.01	0.01	0.03	<0.01	.02
Hardness (As CaCO ₃)	mg/L	80-100	446	446	415	414	431
Lead (Pb)	mg/L	.01	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (Mn)	mg/L	0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Ammonia + Ammonium (N-NH ₃)	mg/L	10	<0.02	<0.02	<0.02	<0.02	<0.02
Nitrite (as nitrogen) N-NO ₂	mg/L	1.0	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate (as nitrogen) N-NO ₃	mg/L	10.0	<0.10	<0.10	<0.10	<0.10	<0.10
pH	mg/L	6.5-8.5	7.33	7.63	7.08	7.36	7.35
Sodium (Na)	mg/L	200*	10	8	9	8	9
Sulphate (SO ₄)	mg/L	500	218	259	233	282	248
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.11	0.06	0.11	0.12	0.10
Zinc (Zn)	mg/L	5.0	0.01	<0.01	<0.01	<0.01	<0.01

* The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restrictive diets.

VOCs	UNITS	MAC IMAC AO/OG	JAN	APR	JULY	OCT	AVG
Trihalomethanes	mg/L	0.100	0.026	0.0167	0.028	0.029	0.025

**EMBRUN
WATERWORKS #220004297
ANALYTICAL RESULTS SUMMARY**

Sample Location: **Embrun Raw water – Well #2**

INORGANICS Table C		UNITS	MAC IMAC AO/OG	Results January
Arsenic	As	mg/L	0.025	<0.001
Barium	Ba	mg/L	1.0	0.10
Boron	B	mg/L	5.0	0.02
Cadmium	Cd	mg/L	0.005	<0.0001
Chromium	Cr	mg/L	0.05	0.01
Copper	Cu	mg/L	1.0	<0.001
Iron	Fe	mg/L	0.30	2.20
Lead	Pb	mg/L	0.01*	0.001
Manganese	Mn	mg/L	0.05	0.31
Mercury	Hg	mg/L	0.001	<0.0001
Nitrate	N-NO2	mg/L	10.0	<0.10
Nitrite	N-NO3	mg/L	1.0	<0.10
Selenium	Se	mg/L	0.01	<0.001
Uranium	U	mg/L	0.10	<0.001

* Applies to water at point of consumption

Note: The Drinking Water Regulation Standards require analysis of Inorganics (Table C) every three years however they are sampled annually.

**EMBRUN
WATERWORKS #220004297
ANALYTICAL RESULTS SUMMARY**

Sample Location: Embrun Raw Water – Well #2

**TABLE D
PESTICIDES & PCB**

	UNITS	MAC IMAC	JAN	APR*	JULY	OCT	AVG
Alachlor	mg/L	0.005	<0.0005		<0.0005	<0.0005	<0.0005
Aldicarb	mg/L	0.009	<0.0050		<0.0050	<0.0050	<0.0050
Aldrin+Dieldrin	mg/L	0.0007	<0.0005		<0.0005	<0.0007	<0.0006
Atrazine	mg/L	0.005	<0.0010		<0.0010	<0.0005	<0.0009
Azinphos-methyl	mg/L	0.02	<0.0050		<0.0050	<0.0020	<0.0040
Bendiocarb	mg/L	0.04	<0.0020		<0.0020	<0.0020	<0.0020
Bromoxynil	mg/L	0.005	<0.0010		<0.0010	<0.0005	<0.0009
Carbaryl	mg/L	0.09	<0.0050		<0.0050	<0.0050	<0.0050
Carbofuran	mg/L	0.09	<0.0050		<0.0050	<0.0050	<0.0050
Chlordane (Total)	mg/L	0.007	<0.0005		<0.0005	<0.0007	<0.0006
Chlorpyrifos	mg/L	0.09	<0.0010		<0.0010	<0.0010	<0.0010
Cyanazine	mg/L	0.01	<0.0010		<0.0010	<0.0010	<0.0010
Diazinon	mg/L	0.02	<0.0010		<0.0010	<0.0010	<0.0010
Dicamba	mg/L	0.12	<0.0010		<0.0010	<0.0010	<0.0010
2,4-Dichlorophenol	mg/L	0.9	<0.0005		<0.0005	<0.0005	<0.0005
DDT	mg/L	0.03	<0.0100		<0.0100	<0.0030	<0.0080
2,4-D	mg/L	0.1	<0.0010		<0.0010	<0.0010	<0.0010
Diclofop-methyl	mg/L	0.009	<0.0010		<0.0010	<0.0009	<0.0010
Dimethoate	mg/L	0.02	<0.0050		<0.0050	<0.0025	<0.0040
Dinoseb	mg/L	0.01	<0.0010		<0.0010	<0.0010	<0.0010
Diquat	mg/L	0.07	<0.0020		<0.0050	<0.0070	<0.0050
Diuron	mg/L	0.15	<0.0050		<0.0100	<0.0100	<0.0080
Glyphosate	mg/L	0.28	<0.0100		<0.0100	<0.0100	<0.0100
Heptachlor + heptachlor epoxide	mg/L	0.003	<0.0005		<0.0005	<0.0003	<0.0004
Lindane (Total)	mg/L	0.004	<0.0010		<0.0010	<0.0004	<0.0008
Malathion	mg/L	0.19	<0.0050		<0.0050	<0.0050	<0.0050
Methoxychlor	mg/L	0.9	<0.0010		<0.0010	<0.0009	<0.0010
Metolachlor	mg/L	0.0005	<0.0005		<0.0005	<0.0005	<0.0005
Metribuzin	mg/L	0.08	<0.0050		<0.0050	<0.0050	<0.0050
Paraquat	mg/L	0.01	<0.0080		<0.0080	<0.0010	<0.0060
Parathion	mg/L	0.05	<0.0010		<0.0010	<0.0010	<0.0010
Pentachlorophenol	mg/L	0.06	<0.0005		<0.0005	<0.0005	<0.0005
Phorate	mg/L	0.002	<0.0010		<0.0010	<0.0005	<0.0009
Picloram	mg/L	0.19	<0.0050		<0.0050	<0.0050	<0.0050
PCB	mg/L	0.003	<0.0025		<0.0025	<0.0003	<0.0018
Prometryne	mg/L	0.001	<0.0005		<0.0005	<0.0002	<0.0004
Simazine	mg/L	0.01	<0.0020		<0.0020	<0.0010	<0.0017
Temephos	mg/L	0.28	<0.2000		<0.2000	<0.0100	<0.1400
Terbufos	mg/L	0.001	<0.0005		<0.0005	<0.0007	<0.0006
2,3,4,6-Tetrachlorophenol	mg/L	0.10	<0.0005		<0.0005	<0.0005	<0.0005
Triallate	mg/L	0.23	<0.0010		<0.0010	<0.0010	<0.0010
2,4,6-Trichlorophenol	mg/L	0.005	<0.0005		<0.0005	<0.0005	<0.0005
Trifluralin	mg/L	0.045	<0.0010		<0.0010	<0.0010	<0.0010
2,4,5-T	mg/L	0.28	<0.0010		<0.0010	<0.0010	<0.0010

* RESULTS FROM THE APRIL 2ND COLLECTION ARE NOT AVAILABLE DUE TO SAMPLE BOTTLE BROKEN UPON ARRIVAL AT MAXXAM ANALYTICAL LAB FORWARDED FROM ACCUTEST LAB.

EMBRUN
WATERWORKS #220004297
ANALYTICAL RESULTS SUMMARY

Sample Location: Embrun Distribution

TABLE D PESTICIDES & PCB	UNITS	MAC IMAC	RESULTS OCTOBER
Alachlor	mg/L	0.005	<0.0005
Aldicarb	mg/L	0.009	<0.0050
Aldrin+Dieldrin	mg/L	0.0007	<0.0007
Atrazine	mg/L	0.005	<0.0005
Azinphos-methyl	mg/L	0.02	<0.0020
Bendiocarb	mg/L	0.04	<0.0020
Bromoxynil	mg/L	0.005	<0.0005
Carbaryl	mg/L	0.09	<0.0050
Carbofuran	mg/L	0.09	<0.0050
Chlordane (Total)	mg/L	0.007	<0.0007
Chlorpyrifos	mg/L	0.09	<0.0010
Cyanazine	mg/L	0.01	<0.0010
Diazinon	mg/L	0.02	<0.0010
Dicamba	mg/L	0.12	<0.0010
2,4-Dichlorophenol	mg/L	0.9	<0.0005
DDT	mg/L	0.03	<0.0030
2,4-D	mg/L	0.1	<0.0010
Diclofop-methyl	mg/L	0.009	<0.0009
Dimethoate	mg/L	0.02	<0.0025
Dinoseb	mg/L	0.01	<0.0010
Diquat	mg/L	0.07	<0.0070
Diuron	mg/L	0.15	<0.0100
Glyphosate	mg/L	0.28	<0.010
Heptachlor + heptachlor epoxide	mg/L	0.003	<0.0003
Lindane (Total)	mg/L	0.004	<0.0004
Malathion	mg/L	0.19	<0.0050
Methoxychlor	mg/L	0.9	<0.0009
Metolachlor	mg/L	0.0005	<0.0005
Metribuzin	mg/L	0.08	<0.0050
Paraquat	mg/L	0.01	<0.0010
Parathion	mg/L	0.05	<0.0010
Pentachlorophenol	mg/L	0.06	<0.0005
Phorate	mg/L	0.002	<0.0005
Picloram	mg/L	0.19	<0.0050
PCB	mg/L	0.003	<0.0003
Prometryne	mg/L	0.001	<0.0002
Simazine	mg/L	0.01	<0.0010
Temephos	mg/L	0.28	<0.0100
Terbufos	mg/L	0.001	<0.0007
2,3,4,6-Tetrachlorophenol	mg/L	0.10	<0.0005
Triallate	mg/L	0.23	<0.0010
2,4,6-Trichlorophenol	mg/L	0.005	<0.0005
Trifluralin	mg/L	0.045	<0.0010
2,4,5-T	mg/L	0.28	<0.0010

Note: There is no requirement for sampling Pesticides & PCB (Table D) in the distribution system however they are sampled annually.

EMBRUN/MARIONVILLE WTP DAILY IN-HOUSE TESTING - 2001

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	9				0.08	0.14	0.76	0.35	0.96
FEB	1	7.5	8				0.08	0.12	0.75	0.35	0.87
MAR	1	7.5	7	0.03			0.08	0.14	0.74	0.39	0.89
APR	1	7.5	8				0.07	0.12	0.72	0.29	0.87
MAY	1	7.5	11		0.015		0.07	0.20	0.71	0.31	0.68
JUN	1	7.3	12	0.04	0.020		0.07	0.13	0.71	0.30	0.77
JUL	1	7.5	14	0.05	0.027		0.07	0.16	0.65	0.28	0.70
AUG	1	7.6	14				0.05	0.13	0.66	0.29	0.71
SEP	1	7.6	14				0.04	0.13	0.72	0.30	0.74
OCT	1	7.6	12				0.03	0.11	0.66	0.30	0.66
NOV	1	7.5	11				0.05	0.12	0.70	0.27	0.72
DEC	1	7.4	9				0.04	0.10	0.77	0.39	0.74
AVG	1	7.5	11	0.04	0.021		0.06	0.13	0.71	0.32	0.78

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	6	0.02	0.022		0.06	0.11	0.72	0.40	0.61
FEB	1	7.5	6	0.01	0.008		0.06	0.06	0.72	0.43	0.63
MAR	0	7.5	6	0.03	0.019		0.07	0.12	0.73	0.43	0.68
APR	1	7.5	8	0.03	0.018		0.07	0.10	0.69	0.40	0.59
MAY	0	7.5	12	0.02	0.019		0.06	0.17	0.72	0.40	0.60
JUN	1	7.6	13	0.03	0.017		0.05	0.10	0.70	0.38	0.62
JUL	1	7.5	14	0.02	0.024		0.05	0.13	0.70	0.33	0.69
AUG	1	7.6	14	0.02	0.022		0.06	0.13	0.68	0.30	0.74
SEP	1	7.6	14	0.02	0.021		0.03	0.11	0.70	0.40	0.58
OCT	0	7.6	12	0.02	0.019		0.03	0.13	0.77	0.32	0.67
NOV	1	7.5	11	0.02	0.020		0.04	0.12	0.80	0.42	0.69
DEC	1	7.4	8	0.01	0.018		0.05	0.09	0.81	0.50	0.76
AVG	1	7.5	10	0.02	0.019		0.05	0.11	0.73	0.39	0.66

EMBRUN/MARIONVILLE WTP DAILY IN-HOUSE TESTING - 2001

RAW WATER		COLOUR	PH	TEMP	FE	MN	FL	TUR
JAN		4	7.5	9	2.44	0.429		0.15
FEB		4	7.5	9	2.47	0.334		0.26
MAR		5	7.5	9	2.58	0.445		0.26
APR		3	7.7	9	2.34	0.339		0.16
MAY		3	7.5	9	2.56	0.359		0.19
JUN		3	7.6	9	2.55	0.348		0.21
JUL		4	7.5	9	2.45	0.339		0.22
AUG		4	7.6	9	2.41	0.337		0.20
SEP		3	7.6	9	2.51	0.355		0.22
OCT		4	7.6	9	2.45	0.360		0.16
NOV		5	7.5	9	2.37	0.460		0.13
DEC		5	7.4	9	2.44	0.336		0.12
AVG		4	7.5	9	2.47	0.370		0.19

CLEAR WELL		COLOUR	PH	TEMP	FE	MN	FL	TUR MIN	TUR MAX	CL ² TOTAL	CL ² FREE MIN	CL ² FREE MAX	PWW
JAN		1	7.4	9	0.03	0.019	0.36	0.05	0.13	0.64	0.27	0.59	1189
FEB		0	7.5	9	0.03	0.019	0.39	0.05	0.13	0.64	0.31	0.62	56
MAR		1	7.5	9	0.03	0.020		0.05	0.13	0.66	0.28	0.60	1243
APR		0	7.5	9	0.03	0.022	0.41	0.05	0.11	0.64	0.28	0.69	1367
MAY		1	7.5	9	0.03	0.021		0.05	0.14	0.66	0.28	0.60	1243
JUN		1	7.6	9	0.04	0.024		0.05	0.13	0.69	0.32	0.66	1534
JUL		1	7.5	9	0.03	0.026		0.04	0.13	0.63	0.25	0.57	1811
AUG		1	7.6	9	0.03	0.024		0.04	0.11	0.72	0.32	0.60	1591
SEP		0	7.6	9	0.03	0.024		0.02	0.12	0.71	0.27	0.67	1366
OCT		0	7.6	9	0.03	0.024	0.40	0.02	0.12	0.71	0.29	0.75	1559
NOV		0	7.5	9	0.02	0.020		0.03	0.09	0.73	0.32	0.69	1579
DEC		1	7.4	9	0.02	0.023		0.03	0.09	0.68	0.30	0.72	1489
AVG		1	7.5	9	0.03	0.022	0.39	0.04	0.12	0.68	0.29	0.65	16,027

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2001

		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	3	3838	181.70	25.29	3.84	6.59	78.84	1.58	3.84	0.41	2470	13.69	1.91	2.47	0.77	4085	0.60	0.12
JAN	4	1516	72.10	10.04	1.52	6.62	28.90	0.58	1.52	0.38	1002	4.24	0.59	1.00	0.59	4085	0.25	0.25
JAN	5	2036	94.90	13.21	2.04	6.49	42.00	0.84	2.04	0.41	1314	7.00	0.97	1.31	0.74	4085	0.32	0.32
JAN	8	5716	267.80	37.28	5.72	6.52	109.00	2.18	5.72	0.38	3440	18.80	2.62	3.44	0.76	4085	0.84	0.28
JAN	9	1933	87.30	12.15	1.93	6.29	39.40	0.79	1.93	0.41	1313	7.08	0.99	1.31	0.75	4085	0.32	0.32
JAN	10	2059	93.70	13.04	2.06	6.33	41.30	0.83	2.06	0.40	1370	7.00	0.97	1.37	0.71	4085	0.34	0.34
JAN	11	2092	88.00	12.25	2.09	5.86	40.00	0.80	2.09	0.38	1504	8.40	1.17	1.50	0.78	4085	0.37	0.37
JAN	12	1642	72.18	10.05	1.64	6.12	33.50	0.67	1.64	0.41	928	4.72	0.66	0.93	0.71	4085	0.23	0.23
JAN	15	6246	27.40	3.81	6.25	0.61	124.10	2.48	6.25	0.40	3718	17.90	2.49	3.72	0.67	4085	0.91	0.30
JAN	16	1585	70.20	9.77	1.59	6.17	32.80	0.66	1.59	0.41	1096	6.13	0.85	1.10	0.78	4085	0.27	0.27
JAN	17	1645	72.10	10.04	1.65	6.10	36.10	0.72	1.65	0.44	1095	4.70	0.65	1.10	0.60	4085	0.27	0.27
JAN	18	1948	82.90	11.54	1.95	5.92	37.40	0.75	1.95	0.38	1151	6.60	0.92	1.15	0.80	4085	0.28	0.28
JAN	19	1711	72.80	10.13	1.71	5.92	34.80	0.70	1.71	0.41	1156	7.00	0.97	1.16	0.84	4085	0.28	0.28
JAN	22	6134	262.70	36.57	6.13	5.96	119.50	2.39	6.13	0.39	3877	17.40	2.42	3.88	0.62	4085	0.95	0.32
JAN	23	2521	107.00	14.89	2.52	5.91	51.90	1.04	2.52	0.41	1676	8.90	1.24	1.68	0.74	4085	0.41	0.41
JAN	24	1161	47.40	6.60	1.16	5.68	25.60	0.51	1.16	0.44	692	3.30	0.46	0.69	0.66	4085	0.17	0.17
JAN	25	1538	67.75	9.43	1.54	6.13	28.25	0.57	1.54	0.37	920	3.30	0.46	0.92	0.50	4085	0.23	0.23
JAN	26	1939	80.40	11.19	1.94	5.77	38.10	0.76	1.94	0.39	1315	6.10	0.85	1.32	0.65	4085	0.32	0.32
JAN	29	6560	285.50	39.74	6.56	6.06	132.00	2.64	6.56	0.40	4213	22.60	3.15	4.21	0.75	4085	1.03	0.26
JAN	30	2042	84.80	11.80	2.04	5.78	39.40	0.79	2.04	0.39	1428	6.60	0.92	1.43	0.64	4085	0.35	0.35
JAN	31	1852	74.00	10.30	1.85	5.56	38.10	0.76	1.85	0.41	1075	4.70	0.65	1.08	0.61	4085	0.26	0.13
JAN		57714	2133.83	297.03	53.82	5.84	1150.99	23.02	57.71	0.40	36753	186.16	25.91	36.75	0.70	4085	0.43	0.28
	DAILY AVG	1862									1186							
	MAX	2521									1676							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2001

		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	1363	54.40	7.57	1.36	5.56	28.20	0.56	1.36	0.41	967	28.20	3.93	0.97	4.06	4085	0.24	0.24
FEB	2	1588	67.70	9.42	1.59	5.93	30.80	0.62	1.59	0.39	969	4.72	0.66	0.97	0.68	4085	0.24	0.24
FEB	5	5911	250.60	34.88	5.91	5.90	115.60	2.31	5.91	0.39	3800	21.20	2.95	3.80	0.78	4085	0.93	0.31
FEB	6	1755	70.20	9.77	1.76	5.57	34.80	0.70	1.76	0.40	1092	6.13	0.85	1.09	0.78	4085	0.27	0.27
FEB	7	1906	80.40	11.19	1.91	5.87	34.10	0.68	1.91	0.36	1354	6.60	0.92	1.35	0.68	4085	0.33	0.33
FEB	8	2539	108.20	15.06	2.54	5.93	53.20	1.06	2.54	0.42	1730	7.55	1.05	1.73	0.61	4085	0.42	0.42
FEB	9	1425	59.50	8.28	1.43	5.81	27.50	0.55	1.43	0.39	860	4.72	0.66	0.86	0.76	4085	0.21	0.21
FEB	12	5752	233.60	32.52	5.75	5.65	116.20	2.32	5.75	0.40	3386	15.11	2.10	3.39	0.62	4085	0.83	0.28
FEB	13	1748	72.80	10.13	1.75	5.80	33.50	0.67	1.75	0.38	1113	4.70	0.65	1.11	0.59	4085	0.27	0.27
FEB	14	1994	81.60	11.36	1.99	5.70	37.40	0.75	1.99	0.38	1416	5.66	0.79	1.42	0.56	4085	0.35	0.35
FEB	15	1898	75.90	10.57	1.90	5.57	36.70	0.73	1.90	0.39	1309	7.50	1.04	1.31	0.80	4085	0.32	0.32
FEB	16	2153	94.30	13.13	2.15	6.10	42.70	0.85	2.15	0.40	1443	6.10	0.85	1.44	0.59	4085	0.35	0.35
FEB	19	5752	256.40	35.69	5.75	6.20	111.60	2.23	5.75	0.39	3371	16.90	2.35	3.37	0.70	4085	0.83	0.28
FEB	20	1933	85.40	11.89	1.93	6.15	38.70	0.77	1.93	0.40	1411	5.60	0.78	1.41	0.55	4085	0.35	0.35
FEB	21	1790	75.90	10.57	1.79	5.90	34.10	0.68	1.79	0.38	1122	6.13	0.85	1.12	0.76	4085	0.27	0.27
FEB	22	2489	109.50	15.24	2.49	6.12	48.60	0.97	2.49	0.39	1741	9.40	1.31	1.74	0.75	4085	0.43	0.43
FEB	23	1531	69.00	9.60	1.53	6.27	28.90	0.58	1.53	0.38	855	4.70	0.65	0.86	0.77	4085	0.21	0.21
FEB	26	5898	265.30	36.93	5.90	6.26	112.30	2.24	5.90	0.38	3736	19.80	2.76	3.74	0.74	4085	0.91	0.30
FEB	27	1668	70.90	9.87	1.67	5.92	34.10	0.68	1.67	0.41	1126	6.13	0.85	1.13	0.76	4085	0.28	0.28
FEB	28	1986	88.00	12.25	1.99	6.17	41.30	0.83	1.99	0.42	1436	7.50	1.04	1.44	0.73	4085	0.35	0.35
FEB		53079	2269.60	315.93	53.08	5.92	1040.30	20.80	53.08	0.39	34237	194.35	27.05	34.24	0.86	4085	0.42	0.30
DAILY AVG		1896									1223							
MAX		2539									1741							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2001

		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	2125	97.51	13.57	2.13	6.39	37.40	0.75	2.13	0.35	1361	4.24	0.59	1.36	0.43	4085	0.33	0.33
MAR	2	1651	74.70	10.40	1.65	6.30	31.50	0.63	1.65	0.38	949	6.13	0.85	0.95	0.90	4085	0.23	0.23
MAR	5	6510	294.00	40.92	6.51	6.29	121.50	2.43	6.51	0.37	4284	23.60	3.29	4.28	0.77	4085	1.05	0.35
MAR	6	1560	63.90	8.89	1.56	5.70	36.10	0.72	1.56	0.46	1079	4.72	0.66	1.08	0.61	4085	0.26	0.26
MAR	7	1938	90.05	12.53	1.94	6.47	36.10	0.72	1.94	0.37	1308	8.00	1.11	1.31	0.85	4085	0.32	0.32
MAR	8	1956	91.80	12.78	1.96	6.53	39.40	0.79	1.96	0.40	1155	5.66	0.79	1.16	0.68	4085	0.28	0.28
MAR	9	1532	71.50	9.95	1.53	6.50	28.20	0.56	1.53	0.37	954	3.70	0.52	0.95	0.54	4085	0.23	0.23
MAR	12	6713	309.00	43.01	6.71	6.41	129.40	2.59	6.71	0.39	4370	22.10	3.08	4.37	0.70	4085	1.07	0.36
MAR	13	1785	85.40	11.89	1.79	6.66	37.40	0.75	1.79	0.42	1084	6.13	0.85	1.08	0.79	4085	0.27	0.27
MAR	14	1595	72.10	10.04	1.60	6.29	28.20	0.56	1.60	0.35	1076	5.66	0.79	1.08	0.73	4085	0.26	0.26
MAR	15	1780	82.90	11.54	1.78	6.48	36.79	0.74	1.78	0.41	1117	5.19	0.72	1.12	0.65	4085	0.27	0.27
MAR	16	1846	86.10	11.99	1.85	6.49	34.80	0.70	1.85	0.38	1178	6.60	0.92	1.18	0.78	4085	0.29	0.14
MAR	19	6194	275.00	38.28	6.19	6.18	118.90	2.38	6.19	0.38	4022	21.20	2.95	4.02	0.73	4085	0.98	0.33
MAR	20	1733	72.18	10.05	1.73	5.80	33.50	0.67	1.73	0.39	1151	5.66	0.79	1.15	0.68	4085	0.28	0.28
MAR	21	2491	109.50	15.24	2.49	6.12	46.60	0.93	2.49	0.37	1904	7.00	0.97	1.90	0.51	4085	0.47	0.47
MAR	22	1729	77.80	10.83	1.73	6.26	30.80	0.62	1.73	0.36	938	4.72	0.66	0.94	0.70	4085	0.23	0.23
MAR	23	1597	67.70	9.42	1.60	5.90	28.90	0.58	1.60	0.36	1104	7.00	0.97	1.10	0.88	4085	0.27	0.27
MAR	26	6619	294.40	40.98	6.62	6.19	132.70	2.65	6.62	0.40	4102	21.70	3.02	4.10	0.74	4085	1.00	0.33
MAR	27	1881	74.00	10.30	1.88	5.48	40.00	0.80	1.88	0.43	1422	6.60	0.92	1.42	0.65	4085	0.35	0.35
MAR	28	2360	106.30	14.80	2.36	6.27	53.20	1.06	2.36	0.45	1533	8.02	1.12	1.53	0.73	4085	0.38	0.38
MAR	29	1411	63.90	8.89	1.41	6.30	30.90	0.62	1.41	0.44	904	6.13	0.85	0.90	0.94	4085	0.22	0.22
MAR	30	1815	77.88	10.84	1.82	5.97	29.50	0.59	1.82	0.33	1161	4.72	0.66	1.16	0.57	4085	0.28	0.09
MAR		58821	2637.62	367.16	58.82	6.23	1141.79	22.84	58.82	0.39	38156	194.48	27.07	38.16	0.71	4085	0.42	0.28
DAILY AVG		1897									1231							
MAX		2491									1904							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2001

		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	2	6408	278.60	38.78	6.41	6.05	122.80	2.46	6.41	0.38	4090	20.70	2.88	4.09	0.70	4085	1.00	0.33
APR	3	1745	73.40	10.22	1.75	5.86	36.10	0.72	1.75	0.41	1225	5.66	0.79	1.23	0.64	4085	0.30	0.30
APR	4	2048	86.70	12.07	2.05	5.89	38.10	0.76	2.05	0.37	1340	6.61	0.92	1.34	0.69	4085	0.33	0.33
APR	5	2319	100.60	14.00	2.32	6.04	46.60	0.93	2.32	0.40	1635	7.50	1.04	1.64	0.64	4085	0.40	0.40
APR	6	1690	69.60	9.69	1.69	5.73	30.20	0.60	1.69	0.36	1054	5.66	0.79	1.05	0.75	4085	0.26	0.26
APR	9	6009	258.90	36.04	6.01	6.00	111.60	2.23	6.01	0.37	3707	21.70	3.02	3.71	0.81	4085	0.91	0.30
APR	10	2279	96.20	13.39	2.28	5.88	44.60	0.89	2.28	0.39	1693	9.40	1.31	1.69	0.77	4085	0.41	0.41
APR	11	1891	81.00	11.28	1.89	5.96	40.70	0.81	1.89	0.43	1309	6.60	0.92	1.31	0.70	4085	0.32	0.32
APR	12	2261	91.80	12.78	2.26	5.65	41.39	0.83	2.26	0.37	1587	7.55	1.05	1.59	0.66	4085	0.39	0.39
APR	16	7340	316.60	44.07	7.34	6.00	137.90	2.76	7.34	0.38	4466	25.90	3.61	4.47	0.81	4085	1.09	0.27
APR	17	2298	100.60	14.00	2.30	6.09	43.30	0.87	2.30	0.38	1455	7.55	1.05	1.46	0.72	4085	0.36	0.36
APR	18	1819	78.50	10.93	1.82	6.01	33.50	0.67	1.82	0.37	1319	8.40	1.17	1.32	0.89	4085	0.32	0.32
APR	19	1988	91.81	12.78	1.99	6.43	38.10	0.76	1.99	0.38	1292	4.72	0.66	1.29	0.51	4085	0.32	0.32
APR	20	2147	103.00	14.34	2.15	6.68	39.40	0.79	2.15	0.37	1508	6.10	0.85	1.51	0.56	4085	0.37	0.37
APR	23	6290	318.40	44.32	6.29	7.05	117.60	2.35	6.29	0.37	3803	19.80	2.76	3.80	0.72	4085	0.93	0.31
APR	24	1914	101.30	14.10	1.91	7.37	34.10	0.68	1.91	0.36	1535	8.90	1.24	1.54	0.81	4085	0.38	0.38
APR	25	2119	108.90	15.16	2.12	7.15	40.70	0.81	2.12	0.38	1038	4.70	0.65	1.04	0.63	4085	0.25	0.25
APR	26	1780	96.20	13.39	1.78	7.52	31.50	0.63	1.78	0.35	1176	5.19	0.72	1.18	0.61	4085	0.29	0.29
APR	27	1863	99.40	13.84	1.86	7.43	33.50	0.67	1.86	0.36	1249	6.13	0.85	1.25	0.68	4085	0.31	0.31
APR	30	7463	374.80	52.17	7.46	6.99	142.50	2.85	7.46	0.38	4870	2.59	0.36	4.87	0.07	4085	1.19	0.40
APR	DAILY AVG	54345	2452.11	341.33	54.35	6.30	1028.19	20.56	54.35	0.38	35232	182.64	25.42	35.23	0.70	4085	0.46	0.33
	MAX	1812									1174							
		2319									1693							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2001

		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	1588	70.90	9.87	1.59	6.21	32.80	0.66	1.59	0.41	1115	4.24	0.59	1.12	0.53	4085	0.27	0.27
MAY	2	2843	133.60	18.60	2.84	6.54	50.50	1.01	2.84	0.36	1580	7.55	1.05	1.58	0.67	4085	0.39	0.39
MAY	3	2461	119.00	16.56	2.46	6.73	45.30	0.91	2.46	0.37	1791	8.02	1.12	1.79	0.62	4085	0.44	0.44
MAY	4	3009	146.20	20.35	3.01	6.76	54.50	1.09	3.01	0.36	1826	8.02	1.12	1.83	0.61	4085	0.45	0.45
MAY	7	6731	316.60	44.07	6.73	6.55	124.00	2.48	6.73	0.37	4282	15.50	2.16	4.28	0.50	4085	1.05	0.35
MAY	8	2918	142.40	19.82	2.92	6.79	54.50	1.09	2.92	0.37	1585	6.60	0.92	1.59	0.58	4085	0.39	0.39
MAY	9	3614	158.30	22.04	3.61	6.10	67.10	1.34	3.61	0.37	1770	6.60	0.92	1.77	0.52	4085	0.43	0.43
MAY	10	2237	108.20	15.06	2.24	6.73	41.30	0.83	2.24	0.37	1196	5.66	0.79	1.20	0.66	4085	0.29	0.29
MAY	11	2571	123.00	17.12	2.57	6.66	47.30	0.95	2.57	0.37	1466	8.00	1.11	1.47	0.76	4085	0.36	0.36
MAY	14	7989	388.10	54.02	7.99	6.76	147.16	2.94	7.99	0.37	4735	17.40	2.42	4.74	0.51	4085	1.16	0.39
MAY	15	3016	146.20	20.35	3.02	6.75	56.50	1.13	3.02	0.37	1823	8.97	1.25	1.82	0.68	4085	0.45	0.45
MAY	16	3372	158.30	22.04	3.37	6.53	59.78	1.20	3.37	0.35	2202	11.80	1.64	2.20	0.75	4085	0.54	0.54
MAY	17	3558	170.20	23.69	3.56	6.66	66.30	1.33	3.56	0.37	2229	8.97	1.25	2.23	0.56	4085	0.55	0.55
MAY	18	2794	136.10	18.95	2.79	6.78	54.50	1.09	2.79	0.39	1523	7.00	0.97	1.52	0.64	4085	0.37	0.37
MAY	22	11067	512.80	71.38	11.07	6.45	210.20	4.20	11.07	0.38	6206	31.10	4.33	6.21	0.70	4085	1.52	0.38
MAY	23	2290	105.11	14.63	2.29	6.39	42.70	0.85	2.29	0.37	1582	6.61	0.92	1.58	0.58	4085	0.39	0.39
MAY	24	1745	79.15	11.02	1.75	6.31	34.80	0.70	1.75	0.40	1145	4.72	0.66	1.15	0.57	4085	0.28	0.28
MAY	25	1412	62.05	8.64	1.41	6.12	27.50	0.55	1.41	0.39	767	2.83	0.39	0.77	0.51	4085	0.19	0.19
MAY	28	7404	306.40	42.65	7.40	5.76	137.00	2.74	7.40	0.37	4323	16.00	2.23	4.32	0.52	4085	1.06	0.35
MAY	29	2150	91.18	12.69	2.15	5.90	38.70	0.77	2.15	0.36	1206	6.13	0.85	1.21	0.71	4085	0.30	0.30
MAY	30	1987	85.00	11.83	1.99	5.95	40.00	0.80	1.99	0.40	1342	3.77	0.52	1.34	0.39	4085	0.33	0.33
MAY	31	1802	74.70	10.40	1.80	5.77	29.50	0.59	1.80	0.33	1112	5.66	0.79	1.11	0.71	4085	0.27	0.27
MAY	DAILY AVG	78558	3633.49	505.78	78.56	6.72	1461.94	29.24	78.56	0.37	46806	201.15	28.00	46.81	0.60	4085	0.53	0.37
	MAX	2534									1510							
		3614									2229							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2001

		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	2430	99.40	13.84	2.43	5.69	42.70	0.85	2.43	0.35	1629	7.50	1.04	1.63	0.64	4085	0.40	0.40	
JUNE	4	6464	265.00	36.89	6.46	5.71	134.60	2.69	6.46	0.42	3566	14.10	1.96	3.57	0.55	4085	0.87	0.29	
JUNE	5	1959	88.01	12.25	1.96	6.25	40.70	0.81	1.96	0.42	1200	4.24	0.59	1.20	0.49	4085	0.29	0.29	
JUNE	6	1935	75.30	10.48	1.94	5.42	37.40	0.75	1.94	0.39	1255	5.60	0.78	1.26	0.62	4085	0.31	0.31	
JUNE	7	2166	84.21	11.72	2.17	5.41	44.60	0.89	2.17	0.41	1411	6.13	0.85	1.41	0.60	4085	0.35	0.35	
JUNE	8	2836	119.00	16.56	2.84	5.84	57.00	1.14	2.84	0.40	1815	8.40	1.17	1.82	0.64	4085	0.44	0.44	
JUNE	11	7752	317.00	44.13	7.75	5.69	155.00	3.10	7.75	0.40	4423	16.50	2.30	4.42	0.52	4085	1.08	0.36	
JUNE	12	2474	106.30	14.80	2.47	5.98	50.58	1.01	2.47	0.41	1460	7.08	0.99	1.46	0.68	4085	0.36	0.36	
JUNE	13	2455	99.40	13.84	2.46	5.64	50.50	1.01	2.46	0.41	1277	4.70	0.65	1.28	0.51	4085	0.31	0.31	
JUNE	14	2805	108.90	15.16	2.81	5.40	57.80	1.16	2.81	0.41	1553	7.00	0.97	1.55	0.63	4085	0.38	0.38	
JUNE	15	3007	121.50	16.91	3.01	5.62	61.70	1.23	3.01	0.41	1642	6.13	0.85	1.64	0.52	4085	0.40	0.40	
JUNE	18	8047	331.70	46.17	8.05	5.74	166.20	3.32	8.05	0.41	5031	19.30	2.69	5.03	0.53	4085	1.23	0.41	
JUNE	19	2700	103.84	14.45	2.70	5.35	54.50	1.09	2.70	0.40	1451	5.19	0.72	1.45	0.50	4085	0.36	0.36	
JUNE	20	2694	110.10	15.33	2.69	5.69	53.80	1.08	2.69	0.40	1542	7.08	0.99	1.54	0.64	4085	0.38	0.38	
JUNE	21	2973	121.50	16.91	2.97	5.69	62.40	1.25	2.97	0.42	1866	8.49	1.18	1.87	0.63	4085	0.46	0.46	
JUNE	22	3060	127.90	17.80	3.06	5.82	65.70	1.31	3.06	0.43	1727	8.97	1.25	1.73	0.72	4085	0.42	0.42	
JUNE	25	6112	242.50	33.76	6.11	5.52	124.17	2.48	6.11	0.41	3647	17.90	2.49	3.65	0.68	4085	0.89	0.30	
JUNE	26	3336	143.70	20.00	3.34	6.00	67.00	1.34	3.34	0.40	2046	8.00	1.11	2.05	0.54	4085	0.50	0.50	
JUNE	27	2379	97.50	13.57	2.38	5.70	51.90	1.04	2.38	0.44	1139	5.66	0.79	1.14	0.69	4085	0.28	0.28	
JUNE	28	2581	111.44	15.51	2.58	6.01	51.20	1.02	2.58	0.40	1379	7.00	0.97	1.38	0.71	4085	0.34	0.34	
JUNE	29	2688	113.90	15.85	2.69	5.90	55.18	1.10	2.69	0.41	1675	8.02	1.12	1.68	0.67	4085	0.41	0.41	
JUN		72853	2988.10	415.94	72.85	5.72	1484.63	29.69	72.85	0.41	42734	182.99	25.47	42.73	0.61	4085	0.50	0.37	
DAILY AVG		2428									1424								
MAX		3336									2046								

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2001

		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	2	6115	263.40	36.67	6.12	6.00	122.20	2.44	6.12	0.40	3263	14.10	1.96	3.26	0.60	4085	0.80	0.20
JULY	3	3701	161.40	22.47	3.70	6.07	74.20	1.48	3.70	0.40	2505	11.30	1.57	2.51	0.63	4085	0.61	0.61
JULY	4	1836	83.50	11.62	1.84	6.33	35.40	0.71	1.84	0.39	1132	6.60	0.92	1.13	0.81	4085	0.28	0.28
JULY	5	1641	79.10	11.01	1.64	6.71	36.10	0.72	1.64	0.44	888	2.80	0.39	0.89	0.44	4085	0.22	0.22
JULY	6	2115	86.70	12.07	2.12	5.71	42.00	0.84	2.12	0.40	1244	6.60	0.92	1.24	0.74	4085	0.30	0.30
JULY	9	6845	300.00	41.76	6.85	6.10	134.00	2.68	6.85	0.39	3789	16.50	2.30	3.79	0.61	4085	0.93	0.31
JULY	10	3346	146.90	20.45	3.35	6.11	68.32	1.37	3.35	0.41	2023	7.55	1.05	2.02	0.52	4085	0.50	0.50
JULY	11	2199	95.60	13.31	2.20	6.05	40.70	0.81	2.20	0.37	1223	6.60	0.92	1.22	0.75	4085	0.30	0.30
JULY	12	1690	79.10	11.01	1.69	6.52	35.40	0.71	1.69	0.42	1046	4.70	0.65	1.05	0.63	4085	0.26	0.26
JULY	13	1827	84.20	11.72	1.83	6.42	38.10	0.76	1.83	0.42	1212	4.24	0.59	1.21	0.49	4085	0.30	0.30
JULY	16	7106	356.00	49.56	7.11	6.97	142.00	2.84	7.11	0.40	4372	18.80	2.62	4.37	0.60	4085	1.07	0.36
JULY	17	3063	150.00	20.88	3.06	6.82	59.70	1.19	3.06	0.39	1700	7.00	0.97	1.70	0.57	4085	0.42	0.42
JULY	18	3031	143.10	19.92	3.03	6.57	65.00	1.30	3.03	0.43	1716	6.13	0.85	1.72	0.50	4085	0.42	0.42
JULY	19	3338	171.50	23.87	3.34	7.15	67.00	1.34	3.34	0.40	1799	7.55	1.05	1.80	0.58	4085	0.44	0.44
JULY	20	3185	153.20	21.33	3.19	6.70	64.30	1.29	3.19	0.40	1847	7.08	0.99	1.85	0.53	4085	0.45	0.45
JULY	23	9119	459.00	63.89	9.12	7.01	181.00	3.62	9.12	0.40	5213	24.00	3.34	5.21	0.64	4085	1.28	0.43
JULY	24	3054	132.90	18.50	3.05	6.06	62.40	1.25	3.05	0.41	1849	4.72	0.66	1.85	0.36	4085	0.45	0.45
JULY	25	4035	170.90	23.79	4.04	5.90	82.10	1.64	4.04	0.41	2496	9.90	1.38	2.50	0.55	4085	0.61	0.61
JULY	26	2957	130.40	18.15	2.96	6.14	59.13	1.18	2.96	0.40	1411	6.61	0.92	1.41	0.65	4085	0.35	0.35
JULY	27	2890	117.10	16.30	2.89	5.64	55.10	1.10	2.89	0.38	1560	6.60	0.92	1.56	0.59	4085	0.38	0.38
JULY	30	9423	401.40	55.87	9.42	5.93	196.40	3.93	9.42	0.42	5416	23.60	3.29	5.42	0.61	4085	1.33	0.44
JULY	31	2402	107.00	14.89	2.40	6.20	44.60	0.89	2.40	0.37	1360	7.00	0.97	1.36	0.72	4085	0.33	0.33
JUL		84918	3872.40	539.04	84.92	6.32	1705.15	34.10	84.92	0.40	49064	209.98	29.23	49.06	0.60	4085	0.54	0.38
DAILY AVG		2739									1583							
MAX		4035									2505							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2001

		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
AUG	1	2982	130.00	18.10	2.98	6.07	58.00	1.16	2.98	0.39	1793	5.10	0.71	1.79	0.40	4085	0.44	0.44
AUG	2	3267	145.00	20.18	3.27	6.18	65.70	1.31	3.27	0.40	1836	7.00	0.97	1.84	0.53	4085	0.45	0.45
AUG	3	2303	99.40	13.84	2.30	6.01	45.90	0.92	2.30	0.40	1508	8.00	1.11	1.51	0.74	4085	0.37	0.37
AUG	6	7264	303.00	42.18	7.26	5.81	143.00	2.86	7.26	0.39	4307	16.00	2.23	4.31	0.52	4085	1.05	0.35
AUG	7	3136	134.23	18.68	3.14	5.96	64.38	1.29	3.14	0.41	1913	8.97	1.25	1.91	0.65	4085	0.47	0.47
AUG	8	3811	169.00	23.52	3.81	6.17	70.00	1.40	3.81	0.37	2002	8.40	1.17	2.00	0.58	4085	0.49	0.49
AUG	9	2980	128.50	17.89	2.98	6.00	61.10	1.22	2.98	0.41	1914	9.44	1.31	1.91	0.69	4085	0.47	0.47
AUG	10	2951	129.80	18.07	2.95	6.12	63.00	1.26	2.95	0.43	1776	6.61	0.92	1.78	0.52	4085	0.43	0.43
AUG	13	8658	362.80	50.50	8.66	5.83	168.00	3.36	8.66	0.39	5232	22.60	3.15	5.23	0.60	4085	1.28	0.43
AUG	14	2817	124.10	17.27	2.82	6.13	53.20	1.06	2.82	0.38	1515	5.10	0.71	1.52	0.47	4085	0.37	0.37
AUG	15	2489	102.50	14.27	2.49	5.73	53.20	1.06	2.49	0.43	1358	5.19	0.72	1.36	0.53	4085	0.33	0.33
AUG	16	2649	112.00	15.59	2.65	5.89	54.50	1.09	2.65	0.41	1551	6.13	0.85	1.55	0.55	4085	0.38	0.38
AUG	17	2487	110.00	15.31	2.49	6.16	49.00	0.98	2.49	0.39	1351	4.70	0.65	1.35	0.48	4085	0.33	0.33
AUG	20	7263	319.70	44.50	7.26	6.13	141.90	2.84	7.26	0.39	4484	20.30	2.83	4.48	0.63	4085	1.10	0.37
AUG	21	2303	105.10	14.63	2.30	6.35	46.60	0.93	2.30	0.40	1324	4.72	0.66	1.32	0.50	4085	0.32	0.32
AUG	22	2025	91.80	12.78	2.03	6.31	42.00	0.84	2.03	0.41	1204	6.61	0.92	1.20	0.76	4085	0.29	0.29
AUG	23	2195	99.40	13.84	2.20	6.30	41.30	0.83	2.20	0.38	1297	6.61	0.92	1.30	0.71	4085	0.32	0.32
AUG	24	2068	94.98	13.22	2.07	6.39	41.30	0.83	2.07	0.40	1372	6.60	0.92	1.37	0.67	4085	0.34	0.34
AUG	27	6786	319.70	44.50	6.79	6.56	137.90	2.76	6.79	0.41	4100	21.20	2.95	4.10	0.72	4085	1.00	0.33
AUG	28	2569	115.20	16.04	2.57	6.24	47.90	0.96	2.57	0.37	1585	8.90	1.24	1.59	0.78	4085	0.39	0.39
AUG	29	1977	92.40	12.86	1.98	6.51	39.40	0.79	1.98	0.40	1207	3.70	0.52	1.21	0.43	4085	0.30	0.15
AUG	30	1879	91.10	12.68	1.88	6.75	39.40	0.79	1.88	0.42	1125	5.60	0.78	1.13	0.69	4085	0.28	0.14
AUG	31	2684	132.90	18.50	2.68	6.89	55.18	1.10	2.68	0.41	1838	8.49	1.18	1.84	0.64	4085	0.45	0.22
AUG		79543	3512.61	488.96	79.54	6.20	1581.86	31.64	79.54	0.40	47592	205.97	28.67	47.59	0.60	4085	0.53	0.38
DAILY AVG		2566									1535							
MAX		3811									2002							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2001

		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	3	6016	272.20	37.89	6.02	6.30	120.20	2.40	6.02	0.40	3690	17.90	2.49	3.69	0.68	4085	0.90	0.30
SEP	4	2618	115.80	16.12	2.62	6.16	53.80	1.08	2.62	0.41	1534	6.61	0.92	1.53	0.60	4085	0.38	0.38
SEP	5	2046	93.00	12.95	2.05	6.33	38.70	0.77	2.05	0.38	1659	8.02	1.12	1.66	0.67	4085	0.41	0.41
SEP	6	2179	100.00	13.92	2.18	6.39	48.60	0.97	2.18	0.45	1365	6.61	0.92	1.37	0.67	4085	0.33	0.33
SEP	7	2708	119.00	16.56	2.71	6.12	57.80	1.16	2.71	0.43	1913	8.00	1.11	1.91	0.58	4085	0.47	0.47
SEP	10	8259	370.00	51.50	8.26	6.24	174.00	3.48	8.26	0.42	4896	23.60	3.29	4.90	0.67	4085	1.20	0.40
SEP	11	2015	91.18	12.69	2.02	6.30	42.70	0.85	2.02	0.42	1189	5.19	0.72	1.19	0.61	4085	0.29	0.29
SEP	12	1893	83.50	11.62	1.89	6.14	39.40	0.79	1.89	0.42	1203	5.66	0.79	1.20	0.65	4085	0.29	0.29
SEP	13	2569	114.60	15.95	2.57	6.21	55.80	1.12	2.57	0.43	1668	8.40	1.17	1.67	0.70	4085	0.41	0.41
SEP	14	2102	94.30	13.13	2.10	6.24	42.70	0.85	2.10	0.41	1254	5.60	0.78	1.25	0.62	4085	0.31	0.31
SEP	17	6957	361.50	50.32	6.96	7.23	143.20	2.86	6.96	0.41	4200	20.30	2.83	4.20	0.67	4085	1.03	0.34
SEP	18	2823	141.00	19.63	2.82	6.95	53.80	1.08	2.82	0.38	1955	9.40	1.31	1.96	0.67	4085	0.48	0.48
SEP	19	2299	113.00	15.73	2.30	6.84	52.50	1.05	2.30	0.46	1401	7.50	1.04	1.40	0.75	4085	0.34	0.34
SEP	20	1816	88.60	12.33	1.82	6.79	35.40	0.71	1.82	0.39	986	5.66	0.79	0.99	0.80	4085	0.24	0.24
SEP	21	2003	94.90	13.21	2.00	6.60	44.60	0.89	2.00	0.45	1199	7.50	1.04	1.20	0.87	4085	0.29	0.29
SEP	24	7733	383.00	53.31	7.73	6.89	156.30	3.13	7.73	0.40	4808	18.80	2.62	4.81	0.54	4085	1.18	0.39
SEP	25	2490	124.10	17.27	2.49	6.94	51.20	1.02	2.49	0.41	1589	7.08	0.99	1.59	0.62	4085	0.39	0.39
SEP	26	1588	81.60	11.36	1.59	7.15	30.80	0.62	1.59	0.39	891	4.70	0.65	0.89	0.73	4085	0.22	0.22
SEP	27	2020	94.90	13.21	2.02	6.54	41.30	0.83	2.02	0.41	1194	4.70	0.65	1.19	0.55	4085	0.29	0.29
SEP	28	1917	92.40	12.86	1.92	6.71	38.10	0.76	1.92	0.40	1170	7.08	0.99	1.17	0.84	4085	0.29	0.29
SEP		64051	3028.58	367.57	55.42	6.59	1146.90	22.94	55.42	0.41	34540	163.80	22.80	34.54	0.68	4085	0.47	0.34
DAILY AVG		2135									1151							
MAX		2823									1955							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2001

		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	1	7547	357.00	49.69	7.55	6.58	150.00	3.00	7.55	0.40	4731	21.20	2.95	4.73	0.62	4085	1.16	0.39
OCT	2	2004	98.14	13.66	2.00	6.82	42.00	0.84	2.00	0.42	1203	4.72	0.66	1.20	0.55	4085	0.29	0.29
OCT	3	2162	101.30	14.10	2.16	6.52	43.30	0.87	2.16	0.40	1447	4.70	0.65	1.45	0.45	4085	0.35	0.35
OCT	4	1688	82.30	11.46	1.69	6.79	35.40	0.71	1.69	0.42	924	4.72	0.66	0.92	0.71	4085	0.23	0.23
OCT	5	2006	96.20	13.39	2.01	6.68	39.40	0.79	2.01	0.39	1193	5.19	0.72	1.19	0.61	4085	0.29	0.29
OCT	8	6458	319.13	44.42	6.46	6.88	129.40	2.59	6.46	0.40	3760	18.80	2.62	3.76	0.70	4085	0.92	0.31
OCT	9	3018	151.90	21.14	3.02	7.01	60.40	1.21	3.02	0.40	1712	7.08	0.99	1.71	0.58	4085	0.42	0.42
OCT	10	2474	123.00	17.12	2.47	6.92	53.80	1.08	2.47	0.43	1417	6.60	0.92	1.42	0.65	4085	0.35	0.35
OCT	11	2253	102.50	14.27	2.25	6.33	45.90	0.92	2.25	0.41	1387	6.61	0.92	1.39	0.66	4085	0.34	0.34
OCT	12	2251	107.01	14.90	2.25	6.62	47.90	0.96	2.25	0.43	1214	5.66	0.79	1.21	0.65	4085	0.30	0.30
OCT	15	6876	278.60	38.78	6.88	5.64	147.10	2.94	6.88	0.43	4172	20.30	2.83	4.17	0.68	4085	1.02	0.34
OCT	16	2063	86.70	12.07	2.06	5.85	39.42	0.79	2.06	0.38	1389	6.13	0.85	1.39	0.61	4085	0.34	0.34
OCT	17	2529	100.00	13.92	2.53	5.50	53.20	1.06	2.53	0.42	1427	5.66	0.79	1.43	0.55	4085	0.35	0.35
OCT	18	1610	60.10	8.37	1.61	5.20	32.80	0.66	1.61	0.41	879	4.24	0.59	0.88	0.67	4085	0.22	0.22
OCT	19	1815	79.10	11.01	1.82	6.07	37.40	0.75	1.82	0.41	1005	4.70	0.65	1.01	0.65	4085	0.25	0.25
OCT	22	6722	305.80	42.57	6.72	6.33	139.90	2.80	6.72	0.42	3963	16.90	2.35	3.96	0.59	4085	0.97	0.32
OCT	23	3079	140.00	19.49	3.08	6.33	64.30	1.29	3.08	0.42	2150	7.50	1.04	2.15	0.49	4085	0.53	0.53
OCT	24	1632	72.18	10.05	1.63	6.16	30.20	0.60	1.63	0.37	822	4.24	0.59	0.82	0.72	4085	0.20	0.20
OCT	25	2069	93.08	12.96	2.07	6.26	41.30	0.83	2.07	0.40	1323	6.13	0.85	1.32	0.64	4085	0.32	0.32
OCT	26	1807	80.40	11.19	1.81	6.19	36.70	0.73	1.81	0.41	1103	5.66	0.79	1.10	0.71	4085	0.27	0.14
OCT	29	6743	311.50	43.36	6.74	6.43	145.19	2.90	6.74	0.43	4012	18.88	2.63	4.01	0.66	4085	0.98	0.16
OCT	30	2032	94.30	13.13	2.03	6.46	48.60	0.97	2.03	0.48	1330	5.19	0.72	1.33	0.54	4085	0.33	0.05
OCT	31	2486	109.50	15.24	2.49	6.13	44.00	0.88	2.49	0.35	1643	8.97	1.25	1.64	0.76	4085	0.40	0.07
OCT	DAILY AVG	73324	3349.74	466.28	73.32	6.33	1507.61	30.15	73.32	0.41	44206	199.78	27.81	44.21	0.63	4085	0.45	0.28
	MAX	2365									1426							
		3079									2150							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2001

		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	1876	79.70	11.09	1.88	5.91	37.40	0.75	1.88	0.40	1204	4.70	0.65	1.20	0.54	4085	0.29	0.10
NOV	2	2099	91.80	12.78	2.10	6.09	47.30	0.95	2.10	0.45	1089	6.60	0.92	1.09	0.84	4085	0.27	0.27
NOV	5	6676	283.60	39.48	6.68	5.91	146.51	2.93	6.68	0.44	3895	17.40	2.42	3.90	0.62	4085	0.95	0.32
NOV	6	2158	94.90	13.21	2.16	6.12	44.60	0.89	2.16	0.41	1314	6.13	0.85	1.31	0.65	4085	0.32	0.32
NOV	7	2352	111.40	15.51	2.35	6.59	49.90	1.00	2.35	0.42	1468	7.08	0.99	1.47	0.67	4085	0.36	0.36
NOV	8	1913	101.43	14.12	1.91	7.38	41.30	0.83	1.91	0.43	1270	5.19	0.72	1.27	0.57	4085	0.31	0.31
NOV	9	1800	88.00	12.25	1.80	6.81	36.13	0.72	1.80	0.40	1087	5.19	0.72	1.09	0.66	4085	0.27	0.27
NOV	12	6443	339.30	47.23	6.44	7.33	138.60	2.77	6.44	0.43	3502	16.05	2.23	3.50	0.64	4085	0.86	0.29
NOV	13	2569	137.40	19.13	2.57	7.44	55.80	1.12	2.57	0.43	1750	8.49	1.18	1.75	0.68	4085	0.43	0.43
NOV	14	1895	99.40	13.84	1.90	7.30	37.40	0.75	1.90	0.39	1035	4.20	0.58	1.04	0.56	4085	0.25	0.25
NOV	15	2108	109.50	15.24	2.11	7.23	44.00	0.88	2.11	0.42	1283	5.19	0.72	1.28	0.56	4085	0.31	0.31
NOV	16	2462	120.90	16.83	2.46	6.84	54.50	1.09	2.46	0.44	1549	8.00	1.11	1.55	0.72	4085	0.38	0.38
NOV	19	6268	307.00	42.73	6.27	6.82	141.00	2.82	6.27	0.45	3630	17.90	2.49	3.63	0.69	4085	0.89	0.30
NOV	20	2055	101.30	14.10	2.06	6.86	44.60	0.89	2.06	0.43	1191	5.19	0.72	1.19	0.61	4085	0.29	0.29
NOV	21	1944	87.38	12.16	1.94	6.26	36.13	0.72	1.94	0.37	1169	5.66	0.79	1.17	0.67	4085	0.29	0.29
NOV	22	2303	107.60	14.98	2.30	6.50	45.90	0.92	2.30	0.40	1454	5.66	0.79	1.45	0.54	4085	0.36	0.36
NOV	23	2277	101.00	14.06	2.28	6.17	50.00	1.00	2.28	0.44	1360	7.00	0.97	1.36	0.72	4085	0.33	0.33
NOV	26	6214	293.80	40.90	6.21	6.58	135.90	2.72	6.21	0.44	3901	19.30	2.69	3.90	0.69	4085	0.95	0.32
NOV	27	2126	94.30	13.13	2.13	6.17	47.30	0.95	2.13	0.44	1351	5.66	0.79	1.35	0.58	4085	0.33	0.33
NOV	28	2437	110.10	15.33	2.44	6.29	46.60	0.93	2.44	0.38	1560	7.08	0.99	1.56	0.63	4085	0.38	0.19
NOV	29	1955	86.70	12.07	1.96	6.17	46.60	0.93	1.96	0.48	1051	5.60	0.78	1.05	0.74	4085	0.26	0.09
NOV	30	2527	113.30	15.77	2.53	6.24	46.60	0.93	2.53	0.37	1649	6.13	0.85	1.65	0.52	4085	0.40	0.13
NOV		64457	3059.81	425.93	64.46	6.59	1374.07	27.48	64.46	0.42	38762	179.40	24.97	38.76	0.64	4085	0.44	0.30
DAILY AVG		2149									1292							
MAX		2569									1750							

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2001

		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	3	5846	255.80	35.61	5.85	6.09	123.50	2.47	5.85	0.42	3410	16.50	2.30	3.41	0.67	4085	0.83	0.28
DEC	4	1775	81.00	11.28	1.78	6.35	37.40	0.75	1.78	0.42	1106	5.19	0.72	1.11	0.65	4085	0.27	0.27
DEC	5	2343	104.40	14.53	2.34	6.20	50.50	1.01	2.34	0.43	1495	6.13	0.85	1.50	0.57	4085	0.37	0.37
DEC	6	2046	89.91	12.52	2.05	6.12	38.10	0.76	2.05	0.37	1178	5.66	0.79	1.18	0.67	4085	0.29	0.29
DEC	7	3314	126.60	17.62	3.31	5.32	62.40	1.25	3.31	0.38	1839	8.49	1.18	1.84	0.64	4085	0.45	0.45
DEC	10	5636	261.50	36.40	5.64	6.46	125.40	2.51	5.64	0.44	3171	15.11	2.10	3.17	0.66	4085	0.78	0.26
DEC	11	1993	84.20	11.72	1.99	5.88	40.70	0.81	1.99	0.41	1150	4.72	0.66	1.15	0.57	4085	0.28	0.28
DEC	12	1934	83.50	11.62	1.93	6.01	36.70	0.73	1.93	0.38	1167	6.60	0.92	1.17	0.79	4085	0.29	0.29
DEC	13	2095	88.00	12.25	2.10	5.85	45.30	0.91	2.10	0.43	1292	6.13	0.85	1.29	0.66	4085	0.32	0.32
DEC	14	1896	85.40	11.89	1.90	6.27	39.40	0.79	1.90	0.42	1435	6.13	0.85	1.44	0.59	4085	0.35	0.35
DEC	17	7201	288.10	40.10	7.20	5.57	155.00	3.10	7.20	0.43	3932	18.80	2.62	3.93	0.67	4085	0.96	0.32
DEC	18	1968	80.40	11.19	1.97	5.69	41.39	0.83	1.97	0.42	1212	5.19	0.72	1.21	0.60	4085	0.30	0.30
DEC	19	1868	74.70	10.40	1.87	5.57	40.00	0.80	1.87	0.43	1134	5.60	0.78	1.13	0.69	4085	0.28	0.28
DEC	20	2035	82.30	11.46	2.04	5.63	40.70	0.81	2.04	0.40	1194	5.19	0.72	1.19	0.61	4085	0.29	0.29
DEC	21	2407	103.00	14.34	2.41	5.96	49.90	1.00	2.41	0.41	1271	6.10	0.85	1.27	0.67	4085	0.31	0.31
DEC	24	6688	281.10	39.13	6.69	5.85	145.10	2.90	6.69	0.43	3980	17.90	2.49	3.98	0.63	4085	0.97	0.32
DEC	27	6178	267.20	37.19	6.18	6.02	134.02	2.68	6.18	0.43	3485	15.50	2.16	3.49	0.62	4085	0.85	0.28
DEC	28	2634	10.30	1.43	2.63	0.54	51.20	1.02	2.63	0.39	1769	10.30	1.43	1.77	0.81	4085	0.43	0.43
DEC	31	6956	310.90	43.28	6.96	6.22	150.00	3.00	6.96	0.43	3883	18.80	2.62	3.88	0.67	4085	0.95	0.32
DEC DAILY AVG MAX		66813 2155 3314	2758.31	383.96	66.81	5.66	1406.71	28.13	26.90	0.42	39103 1261 1839	184.04	25.62	39.10	0.65	4085	0.50	0.32

TOWNSHIP OF RUSSELL
EMBRUN WATER PUMPAGE CHARTS
2001

		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		57714	2133.83	297.03	53.82	5.84	1150.99	23.02	57.71	0.40	36753	186.16	25.91	36.75	0.70	4085	0.43	0.28
FEB		53079	2269.60	315.93	53.08	5.92	1040.30	20.80	53.08	0.39	34237	194.35	27.05	34.24	0.86	4085	0.42	0.30
MAR		58821	2637.62	367.16	58.82	6.23	1141.79	22.84	58.82	0.39	38156	194.48	27.07	38.16	0.71	4085	0.42	0.28
APR		54345	2452.11	341.33	54.35	6.30	1028.19	20.56	54.35	0.38	35232	182.64	25.42	35.23	0.70	4085	0.46	0.33
MAY		78558	3633.49	505.78	78.56	6.72	1461.94	29.24	78.56	0.37	46806	201.15	28.00	46.81	0.60	4085	0.53	0.37
JUNE		72853	2988.10	415.94	72.85	5.72	1484.63	29.69	72.85	0.41	42734	182.99	25.47	42.73	0.61	4085	0.50	0.37
JULY		84918	3872.40	539.04	84.92	6.32	1705.15	34.10	84.92	0.40	49064	209.98	29.23	49.06	0.60	4085	0.54	0.38
AUG		79543	3512.61	488.96	79.54	6.20	1581.86	31.64	79.54	0.40	47592	205.97	28.67	47.59	0.60	4085	0.53	0.38
SEP		64051	3028.58	367.57	55.42	6.59	1146.90	22.94	55.42	0.41	34540	163.80	22.80	34.54	0.68	4085	0.47	0.34
OCT		73324	3349.74	466.28	73.32	6.33	1507.61	30.15	73.32	0.41	44206	199.78	27.81	44.21	0.63	4085	0.45	0.28
NOV		64457	3059.81	425.93	64.46	6.59	1374.07	27.48	64.46	0.42	38762	179.40	24.97	38.76	0.64	4085	0.44	0.30
DEC		66813	2758.31	383.96	66.81	5.66	1406.71	28.13	26.90	0.42	39103	184.04	25.62	39.10	0.65	4085	0.50	0.32
TOTAL		808,476	35,696.20	4,914.90	795.95	6.20	16,030.14	320.60	759.93	0.40	487,185	2,284.74	318.04	487.19	0.66	4,085	0.48	0.33

WATER QUALITY COMPLAINTS – EMBRUN – 2001

[illegible]



MUNICIPALITÉ DE
TOWNSHIP OF **RUSSELL**

March 22, 2002

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

Attention: Mike Séguin

Re: **Embrun Sewage**

Enclosed is the 2001 Annual Operations Report. The facility has met all the terms and conditions of the C.O.A.

- 1) The average design flow of .360 m³/d/c was exceeded in March (.398 m³) and April (.469 m³). This was attributed to spring run-off.
- 2) The Embrun lagoon was discharged automatically in the fall using the hydrograph control system. All conditions of the new certificate were followed during this period.
- 3) As of August 31, 2001 the construction at the Embrun lagoon has been completed.
- 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.

cc: M. Blanchard

EMBRUN

SANITARY CAPACITY REPORT

DECEMBER 31, 2001

SANITARY CAPACITY	
Residential Units	943 x 3.0 = 2829
Apartment Units	235 x 2 = 470
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	3829

APPROVED LOTS	NUMBER OF LOTS	
Infilling Vacant Lots During Original Construction	2	
Allocated for Septic System Failure	50	
In Holding to Lapalme Nursing Homes	27	
Mélanie Construction Phase II Plan #50M-238	65	
Lamadeleine Phase I Plan #50M-236	36	
Lapointe Developments Plan #50M-239	36	

TOTAL POPULATION SERVICEABLE	216 x 3.0	= 648 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
As of December 30, 2001**

2001 = 1259 m ³ /D	SERVICED POPULATION = 3672	FLOW = .343 m ³ /D/C
2000 = 1323 m ³ /D	SERVICED POPULATION = 3717	FLOW = .356 m ³ /D/C
1999 = 1287 m ³ /D	SERVICED POPULATION = 3638	FLOW = .354 m ³ /D/C

AVERAGE = .351 m³/D/C
AS OF DECEMBER 30, 2001
AT .351 m³/D/C FLOW x 3672 = 1288 m³/D

DESIGN FLOW = .360 m³/D/C
DESIGN POPULATION = 6000
FLOW = 2160 m³/DAY

$$CR = 2160 \text{ m}^3/\text{DAY} - 1288 \text{ m}^3/\text{DAY} = 872 \text{ m}^3/\text{DAY}$$

P = EXISTING RESIDENTIAL POPULATION CONNECTED = 3142 AS OF DECEMBER 30, 2001

H = NO. OF CONNECTED RESIDENTIAL UNITS = 908

F = EXISTING PER CAPITA FLOW = .351 m³/DAY

D = DENSITY = 3.0

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

L =	NO. OF UNCOMMITTED APPROVED LOTS	= 2 x 3.0	= 6
	+ ALLOCATED SEPTIC SYSTEM LOTS FOR FUTURE		
	SANITARY CONNECTIONS	= 50 x 3.0	= 150
	LAMADELEINE PHASE I	= 36 x 3.0	= 108
	MÉLANIE CONSTRUCTION PHASE I	= 65 x 3.0	= 195
	LAPORTE DEVELOPMENTS	= 37 x 3.0	= 111
	IN HOLDING TO LAPALME NURSING HOMES	= <u>27</u> x 3.0	= <u>81</u>
	TOTAL LOTS = 217 x 3.0		= 651 POPULATION

$$\text{SUMMARY} = \quad CU = CR - (L \times F) \times (P + O) / H$$

$$= 872 - (167 \times .351) \times 3672 / 908$$

$$= 872 - 237$$

$$= 635 \text{ m}^3/\text{DAY UNCOMMITTED RESERVE}$$

HYDRAULIC CAPACITY FOR AVERAGE DAILY FLOW

UNCOMMITTED NO. OF LOTS (LU)

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

$$= 635 / 3.0 \times .351$$

$$= 605$$

EMBRUN
SEWAGE FLOWS
2001

DATE 2001	METER READING	AVERAGE MONTHLY (m ³)	AVERAGE DAILY (m ³)	POP	DAYS	AVERAGE SEWAGE (m ³)
1-Jan	6062525	35,778	1,154	3672	31	0.314
31-Jan	6098303					
28-Feb	6134124	35,821	1,279	3672	28	0.348
31-Mar	6179403	45,279	1,461	3672	31	0.398
30-Apr	6231109	51,706	1,724	3672	30	0.469
31-May	6268880	37,771	1,218	3672	31	0.332
30-Jun	6307603	38,723	1,291	3672	30	0.352
31-Jul	6338221	30,618	988	3672	31	0.269
31-Aug	6371054	32,833	1,059	3672	31	0.288
30-Sep	6405631	34,577	1,153	3672	30	0.314
31-Oct	6442741	37,110	1,197	3672	31	0.326
30-Nov	6478756	36,015	1,201	3672	30	0.327
31-Dec	6521707	42,951	1,386	3672	31	0.377
AVG m ³ TOTAL m ³ IRON RES	16,027	38,265 459,182	1,259	3672		0.343
YEAR	TOTAL YEARLY m ³	AVERAGE MONTHLY m ³	AVERAGE DAILY m ³	POP		AVERAGE SEWAGE m ³
2000	482,857	40,238	1,320	3717		0.355
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
2001**

**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	35.8	1.16	73			80			3.6		
FEB	35.8	1.27	140			200			6.0		
MAR	45.3	1.46	148			302			6.4		
APR	51.7	1.72	122	8.0	93	270	18.0	93	4.0	0.7	98
MAY	37.8	1.21	145			176			5.4		
JUN	38.8	1.29	130			150			5.7		
JUL	30.6	0.99	146			200			7.1		
AUG	32.8	1.05	110			86			4.7		
SEP	34.6	1.15	168			600			6.5		
OCT	37.1	1.19	282			315			5.5		
NOV	36.0	1.20	167	<1.0	99	148	3.0	98	6.2	0.9	85
DEC	42.9	1.38	147	1.0	99	100	2.0	99	6.2	0.5	92
TOTAL	459.2										
AVG	38.3	1.26	148	4.5		219	7.7		5.6	0.7	
CRITERIA				25			25			1	

**EMBRUN SANITARY SYSTEM
EMBRUN LAGOON ANNUAL
ALUM DOSAGE APPLICATION**

	M2	M1	M2-M1	%	F.R. %	Litres	Kg/L	M ³	Mg/L	Refill
JAN	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
FEB	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
MAR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
APR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
MAY	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
JUNE	1455	487	968	19.0	160	4521	479	38.7	12.4	
JULY	3523	2890	633	19.0	160	2956	313	30.6	10.2	
AUG	2072	1535	537	19.0	160	2508	266	32.8	8.1	
SEP	975	206	769	19.0	160	3591	381	34.5	11.0	
OCT	2117	1009	1108	19.0	160	5174	548	37.1	14.8	
NOV	1091	268	823	19.0	160	3843	407	36.0	11.3	
DEC	2030	1091	939	19.0	160	4385	465	42.9	10.8	
TOTAL						26,979	2,860			

EMBRUN
LAGOON DISCHARGE FLOWS
SPRING 2001

DATE 2001	METER READING	DISCHARGE FLOW (Litres)	DISHCARGE FLOW (L/S)	RIVER FLOW (cms)	DILUTION	LAGOON D.O.	RIVER UPSTREAM D.O.	RIVER DOWNSTREAM D.O.
Apr 5*	calculation	1,980,000	22.9	27.50	1,200			
6-Apr	27,669,262	4,320,000	50.0	39.80	796			
7-Apr	37,001,537	9,332,275	108.0	32.60	302	9.4	9.5	13.9
8-Apr	57,362,849	20,361,312	235.7	38.10	162			
9-Apr	77,724,192	20,361,343	235.7	80.80	343			
10-Apr	16,688,129	38,963,936	451.0	91.90	204	8.3	8.7	12.0
11 Apr*	65,095,438	48,407,309	560.3	68.40	122			
12-Apr	12,603,310	47,507,871	549.9	47.10	86			
13-Apr	29,013,043	16,409,733	189.9	31.40	165			
14-Apr	48,995,366	19,982,323	231.3	21.50	93			
15-Apr	65,734,037	16,738,671	193.7	15.60	81	9.1	9.4	12.0
16-Apr	76,657,867	10,923,830	126.4	11.70	93			
17-Apr	86,857,561	10,199,694	118.1	9.36	79			
18-Apr	96,514,823	9,657,262	111.8	7.34	66			
19 Apr*	9,504,267	12,989,443	150.3	6.07	40			
20-Apr	17,542,368	8,038,101	93.0	5.33	57			
21-Apr	23,521,825	5,979,457	69.2	5.08	73			
22-Apr	29,872,142	6,350,317	73.5	5.08	69			
23-Apr	35,416,251	5,544,109	64.2	4.65	72	9.2	9.4	12.6
24-Apr	40,784,709	5,368,458	62.1	4.65	75			
25-Apr	45,172,111	4,387,402	50.8	3.83	75			
26-Apr	50,081,079	4,908,968	56.8	3.38	59			
27-Apr	54,180,498	4,099,419	47.4	3.05	64			
28-Apr	56,727,867	2,547,369	29.5	2.76	94			
29-Apr	61,438,359	4,710,492	54.5	2.39	44			
30-Apr	63,204,785	1,766,348	20.4	2.33	114	9.3	9.1	10.3
		335,535,442						
* Note: Calculation						9.1	9.2	12.2

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 2001

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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VOLUME - CHEMICALS (BATCH DOSAGE)

VOLUME m ³																																
DOSAGE mg/L																																

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

<1000/100 mL					1										1															1		4
1001-100,000/100 mL									1																						1	
>100,000/100 mL																																

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

<1000/100 mL					1										1															1		5
1001-100,000/100 mL																																
>100,000/100 mL																																

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

EMBRUN
LAGOON DISCHARGE FLOWS
FALL 2001

DATE 2001	METER READING	DISCHARGE FLOW (M³/day)	DISHCARGE FLOW (Avg. cms)	DISCHARGE FLOW (Actual)	RIVER FLOW AVG (cms)	DILUTION	LAGOON D.O.	RIVER UP D.O.	RIVER DOWN D.O.
26-Nov	0	0	0.659	685	6.96	9.7	12.0		
27-Nov	56,901	56,901	0.394	620	6.46	9.7	12.0	12.7	10.3
28-Nov	90,971	34,070	0.543	480	5.63	9.7	11.9		
29-Nov	137,850	46,879	0.409	450	5.68	9.7	11.7		
30-Nov	173,224	35,374	0.486	455	4.67	9.7	11.9		
1-Dec	215,187	41,963	0.485	643	11.60	7.9	12.0	12.4	10.7
TOTAL		215,187	0.496						

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 2001

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	TOT	AVG
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FINAL EFFLUENT*

EFF FLOW 10 ³ m ³																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			</
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ALUM. - CHEMICALS (BATCH DOSAGE)

VOLUME m ³																																		
DOSAGE mg/L																																		

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

>1000/100 mL																																		3
1001-100,000/100 mL																																		1
>100,000/100 mL																																		

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

>1000/100 mL																																		4
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 2001

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	1	TOT	AVG
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FINAL EFFLUENT*

EFF FLOW 10 ³ m ³																																42.0	42.0	
DURATION (hrs)																																14	14	
BOD mg/L																																1		1
SS mg/L																																2		2
AMMONIA mg/L																																0.35		0.35
TKN mg/L																																1.59		1.59
NITRITE mg/L																																<0.10		<0.10
NITRATE mg/L																																0.16		0.16
TOT. P mg/L																																0.59		0.59
H ₂ S mg/L																																0		0
pH																																8.29		8.29

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

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

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

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

[illegible]

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 1** Year **0 1**

Discharge Type **2**

Update Code **R**

C.P. **3 5** **FLOWS**

12 13 Total Flow $(10^3 m^3)$ **5 0 0 1 0** Dec. **3**

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

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** Dec. **3**

Duration (Hrs.) **8 1 6 8 0** **1**

30 34 35 38 46

No. of Occurrence **0**

48 51

3 6 **RAW SEWAGE**

12 13 BOD (mg/L) **0 0 0 0 1** Dec. **0**

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

Monthly Average Results

48 51

3 9 **FINAL EFFLUENT**

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

Flow Duration (Hrs.) **8 1 6 8 0** **1**

Cell Depth (m) **5 0 2 9 0** **1**

BOD (mg/L) **0 0 0 0 1** **1**

SS (mg/L) **0 0 0 0 6** **1**

Ammonia (mg/L) **0 0 0 1 9** **2**

TKN (mg/L) **0 0 0 2 0** **2**

Total P. (mg/L) **0 0 0 3 3** **2**

30 34 35 38 46

Seasonal Discharge Lagoons Only

48 51

0 9 **DISINFECTION**

12 13 Chlorine Used $(kg as Cl_2)$ **5 0 3 2 0** Dec. **1**

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

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	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	2	0	1	3	1	2	R
1	2									16	19	20	21			22	23	

C.P.	
3	5

Flows

Total Flow

Avg. Day Flow

Max. Day Flow

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	5	8						
					1	2	7					

36 46

[illegible]

3	6	RAW SEWAGE
12	13	BOD
		SS
		TKN
		Total P.

(mg/L)	0	0	0	0	1
(mg/L)	0	0	0	0	6
(mg/L)	0	0	0	2	0
(mg/L)	0	0	0	3	3

30

34

35

Monthly Average Results									
								1	4
								2	0
								4	7
								6	0

38

46

No. of Samples			
1			
1			
1			
1			

48

51

3

9

FINAL EFFLUENT

12
13

Total Effl. Volume To Watercourse	<i>(10³m³)</i>	5	0	2	8	0	
Flow Duration	<i>(Hrs.)</i>	8	1	6	8	0	
Cell Depth	<i>(m)</i>	5	0	2	9	0	

BOD	<i>(mg/L)</i>	0	0	0	0	1	
SS	<i>(mg/L)</i>	0	0	0	0	6	
Ammonia	<i>(mg/L)</i>	0	0	0	1	9	
TKN	<i>(mg/L)</i>	0	0	0	2	0	
Total P.	<i>(mg/L)</i>	0	0	0	3	3	

3

1

1

Seasonal Discharge Lagoons Only

0	9	DISINFECTION									
12	13	Chlorine Used	(kg as Cl ₂)	<table border="1" style="text-align: center; width: 100px;"> <tr><td>5</td><td>0</td><td>3</td><td>2</td><td>0</td></tr> </table>	5	0	3	2	0	<table border="1" style="text-align: center; width: 40px;"> <tr><td>1</td></tr> </table>	1
5	0	3	2	0							
1											
		Chlorine Dosage	(mg/L as Cl ₂)	<table border="1" style="text-align: center; width: 100px;"> <tr><td>8</td><td>0</td><td>4</td><td>1</td><td>0</td></tr> </table>	8	0	4	1	0	<table border="1" style="text-align: center; width: 40px;"> <tr><td>1</td></tr> </table>	1
8	0	4	1	0							
1											
		Chlorine Resid.	(mg/L as Cl ₂)	<table border="1" style="text-align: center; width: 100px;"> <tr><td>8</td><td>0</td><td>4</td><td>2</td><td>0</td></tr> </table>	8	0	4	2	0	<table border="1" style="text-align: center; width: 40px;"> <tr><td>1</td></tr> </table>	1
8	0	4	2	0							
1											

30 34

35 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 ST. EMBRUN ON	Address:

File No. 4 6 1 2	Works Number 1 2 0 0 0 2 0 0 4 3 11	Data Period Month Year 0 3 0 1 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 4 5 2 38 46
	Total Flow	(10 ³ m ³)			
	Avg. Day Flow	(10 ³ m ³ /d)			
	Max. Day Flow	(10 ³ m ³ /d)			

C.P. 3 5 12 13	BYPASS		Parameter Code 5 0 2 7 0 30 34	Dec. 3 35	Monthly Results 0 38 46
	Plant Bypass Vol.	(10 ³ m ³)			
	Duration	(Hrs.)			

No. of Occurrence: 0 48 51
--

C.P. 3 6 12 13	RAW SEWAGE		Parameter Code 0 0 0 0 1 30 34	Dec. 0 35	Monthly Average Results 1 4 8 38 46
	BOD	(mg/L)			
	SS	(mg/L)			
	TKN	(mg/L)			
	Total P.	(mg/L)			

No. of Samples 1 48 51
--

C.P. 3 9 12 13	FINAL EFFLUENT		Parameter Code 5 0 2 8 0 30 34	Dec. 3 35	Monthly Results 1 38 46
	Total Effl. Volume To Watercourse	(10 ³ m ³)			
	Flow Duration	(Hrs.)			
	Cell Depth	(m)			
	BOD	(mg/L)			
	SS	(mg/L)			
	Ammonia	(mg/L)			
	TKN	(mg/L)			
	Total P.	(mg/L)			

} Seasonal Discharge Lagoons Only

No. of Samples 1 48 51
--

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

No. of Samples 1 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 ST. EMBRUN ON	Address:

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

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

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

C.P. 3 6	RAW SEWAGE		Parameter Code 0 0 0 0 1 30 34	Dec. 0 35	Monthly Average Results 1 1 2 2 2 7 0 4 3 9 14 0 38 46	No. of Samples 1 1 1 1 48 51
	12 13 BOD	(mg/L)				
	SS	(mg/L)				
	TKN	(mg/L)				
	Total P.	(mg/L)				

C.P. 3 9	FINAL EFFLUENT		Parameter Code 5 0 2 8 0 30 34	Dec. 3 35	Monthly Results 3 3 5 5 5 9 6 8 1 8 2 7 15 1 10 7 38 46	No. of Samples 5 5 5 5 5 48 51
	12 13 Total Effl. Volume To Watercourse	(10 ³ m ³)				
	Flow Duration	(Hrs.)				
	Cell Depth	(m)				
	BOD	(mg/L)				
	SS	(mg/L)				
	Ammonia	(mg/L)				
	TKN	(mg/L)				
	Total P.	(mg/L)				

C.P. 0 9	DISINFECTION		Parameter Code 5 0 3 2 0 30 34	Dec. 1 35	Monthly Results 1 1 1 38 46	No. of Samples 1 1 1 48 51
	12 13 Chlorine Used	(kg as Cl ₂)				
	Chlorine Dosage	(mg/L as Cl ₂)				
	Chlorine Resid	(mg/L as Cl ₂)				

Operator's Comments and Contact Person's Phone number

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to

5

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

ADDITIONAL DATA

[illegible][illegible]

Operator's Comments and Contact Person's Phone number

Return completed yellow form to



Municipality: TOWNSHIP OF RUSSELL		Operating Authority: MUNICIPAL	
Project Name: EMBRUN SEWAGE LAGOON		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 0 5 0 1 16 19	Discharge Type 3 1 20 21	Update Code 2 22	R 80
------------------------	---	---	--------------------------------	------------------------	---------

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

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	Address:

File No. 4 6 1 2	Works Number 1 2 0 0 0 2 0 0 4 3 11	Data Period Month Year 0 6 0 1 16 19	3 1 20 21	Discharge Type 2 22	Update Code R 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><td style="width:20%;"></td></tr> <tr><td></td><td></td><td></td><td></td><td>3</td><td>8</td></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>9</td></tr> </table>																3	8					1	2						9
				3							8																							
				1	2																													
					9																													
	Avg. Day Flow	(10 ³ m ³ /d)	5 0 0 1 5	3																														
	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><td style="width:20%;"></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>0</td></tr> </table>																	0
											0											
	Duration	(Hrs.)	8 1 6 8 0	1																		
			30 34 35		38 46																	

No. of Occurrence
0
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><td style="width:20%;"></td></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>3</td></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>5</td></tr> <tr><td></td><td></td><td></td><td></td><td>4</td><td>4</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>9</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>5</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>7</td></tr> </table>																1	3					1	5					4	4						9						5						7
				1							3																																									
				1	5																																															
				4	4																																															
					9																																															
					5																																															
					7																																															
	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
1
1
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><td style="width:20%;"></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>																																			
	Flow Duration	(Hrs.)	8 1 6 8 0	1																																				
	Cell Depth	(m)	5 0 2 9 0	1																																				
	BOD	(mg/L)	0 0 0 0 1	1	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><td style="width:20%;"></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>																																			
	SS	(mg/L)	0 0 0 0 6	1																																				
	Ammonia	(mg/L)	0 0 0 1 9	2																																				
	TKN	(mg/L)	0 0 0 2 0	2																																				
	Total P.	(mg/L)	0 0 0 3 3	2																																				
			30 34 35		38 46																																			

Seasonal Discharge Lagoons Only

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><td style="width:20%;"></td></tr> <tr><td></td><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	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 7 0 1	3 1	2	R
1 2	3 11	16 19	20 21	22	80

C.P.	3 5	FLOWS		Parameter Code	Dec.	Monthly Results	
	12 13	Total Flow	(10 ³ m ³)	5 0 0 1 0	3	3 0 6 2	
		Avg. Day Flow	(10 ³ m ³ /d)	5 0 0 1 5	3	0 9 9	
		Max. Day Flow	(10 ³ m ³ /d)	5 0 0 2 0	3		
				30 34	35	38 46	

3 5		BYPASS		Parameter Code	Dec.	Monthly Results	
	12 13	Plant Bypass Vol.	(10 ³ m ³)	5 0 2 7 0	3	0	
		Duration	(Hrs.)	8 1 6 8 0	1		
				30 34	35	38 46	

No. of Occurrences
0
48 51

3 6		RAW SEWAGE		Parameter Code	Dec.	Monthly Average Results	
	12 13	BOD	(mg/L)	0 0 0 0 1	0	1 4 6	
		SS	(mg/L)	0 0 0 0 6	0	2 0 0	
		TKN	(mg/L)	0 0 0 2 0	2	5 0 5	
		Total P.	(mg/L)	0 0 0 3 3	1	7 1	
				30 34	35	38 46	

No. of Samples
1
48 51

3 9		FINAL EFFLUENT		Parameter Code	Dec.	Monthly Results	
	12 13	Total Effl. Volume To Watercourse	(10 ³ m ³)	5 0 2 8 0	3		
		Flow Duration	(Hrs.)	8 1 6 8 0	1		
		Cell Depth	(m)	5 0 2 9 0	1		
		BOD	(mg/L)	0 0 0 0 1	1		
		SS	(mg/L)	0 0 0 0 6	1		
		Ammonia	(mg/L)	0 0 0 1 9	2		
		TKN	(mg/L)	0 0 0 2 0	2		
		Total P.	(mg/L)	0 0 0 3 3	2		
				30 34	35	38 46	

Seasonal Discharge Lagoons Only
48 51

0 9		DISINFECTION		Parameter Code	Dec.	Monthly Results	
	12 13	Chlorine Used	(kg as Cl ₂)	5 0 3 2 0	1		
		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 ST. EMBRUN ON	Address:

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

C.P. 3 5	FLOWS	Parameter Code $(10^3 m^3)$ $(10^3 m^3/d)$ $(10^3 m^3/d)$ 5 0 0 1 0 5 0 0 1 5 5 0 0 2 0 Dec. 3 3 3	Monthly Results 3 2 8 3 1 0 1 6 38 46	
3 5	BYPASS	Parameter Code $(10^3 m^3)$ (Hrs.) 5 0 2 7 0 8 1 6 8 0 3 1	Monthly Results 0 38 46	No. of Occ 0 48
3 6	RAW SEWAGE	Parameter Code (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 1 1 0 8 6 5 5 9 4 7 38 46	No. of Sa 1 1 1 1 48
3 9	FINAL EFFLUENT	Parameter Code $(10^3 m^3)$ (Hrs.) (m) (mg/L) (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	Monthly Results 38 46	No. of Occ 48
0 9	DISINFECTION	Parameter Code (kg as Cl₂) (mg/L as Cl₂) (mg/L as Cl₂) 5 0 3 2 0 8 0 4 1 0 8 0 4 2 0 1 1 1	Monthly Results 38 46	No. of Occ 48

Seasonal Disc Lagoons Or

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	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	9	0	1	3	1	2	R							
1	2	3								11				16		19		20		21		22		80	

C.P.
3 5

FLOWS

($10^3 m^3$) Total Flow

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

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

Parameter Code					
5	0	0	1	0	
5	0	0	1	5	
5	0	0	2	0	

Dec.
3
3
3

Monthly Results						
				3	4●	5
					1●	1
					●	

12 13
30 34
35
38 46

3	5
---	---

BYPASS

Plant Bypass Vol.

Duration

($10^3 m^3$)

5	0	2	7	0
8	1	6	8	0

(Hrs.)

3
1

No. of Occurrences
0

48 51

3	6	RAW SEWAGE
---	---	-------------------

12 13

BOD

SS

TKN

Total P.

(mg/L)

0	0	0	0	1
0	0	0	0	6
0	0	0	2	0
0	0	0	3	3

30 34

35

0
0
2
1

35

Monthly Average Results

1	6	8
6	0	0
4	8	0
6	5	

38 46

No. of Samples

1			
1			
1			
1			

48 51

3 9		FINAL EFFLUENT											
12	13	Total Eff. Volume To Watercourse						3					
		Flow Duration						1					
		Cell Depth						1					
		BOD						1					
		SS						1					
		Ammonia						2					
		TKN						2					
		Total P.						2					

(10³m³)

5	0	2	8	0
8	1	6	8	0
5	0	2	9	0

(Hrs.)

(m)

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

35

38

46

48

51

} Seasonal Discharge Lagoons Only

0		9		DISINFECTION	
12	13	Chlorine Used			
		(kg as Cl ₂)	5	0	3
		(mg/L as Cl ₂)	8	0	4
		(mg/L as Cl ₂)	8	0	4
			2	0	0
			1	0	0
			1	0	0

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	Address:

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

C.P.	
3	5

Flows

Total Flow (10³m³)

Avg. Day Flow (10³m³/d)

Max. Day Flow (10³m³/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			7			1 1		
			1			1			9		

3	5
---	---

BYPASS
 12 13 Plant Bypass Vol.
 Duration

$(10^3 m^3)$

5	0	2	7	0
8	1	6	8	0

(Hrs.)

3
1

No. of Occurrence
0

48 51

3	6	RAW SEWAGE
---	---	-------------------

12	13	BOD
		SS
		TKN
		Total P.

(mg/L)	0	0	0	0	1
(mg/L)	0	0	0	0	6
(mg/L)	0	0	0	2	0
(mg/L)	0	0	0	3	3

0
0
2
1

Monthly Average Results									
						2	8	2	
						3	1	5	
						17	2	4	
							5	5	

30	34	35	38	46	48	51
----	----	----	----	----	----	----

[illegible]

0	9	DISINFECTION
12	13	Chlorine Used <i>(kg as Cl₂)</i>
		Chlorine Dosage <i>(mg/L as Cl₂)</i>
		Chlorine Resid. <i>(mg/L as Cl₂)</i>

30	31	32	33	34
5	0	3	2	0

35
1

36	37	38	39	40	41	42	43	44	45

46	47	48	49	50

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	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 1	3 1	2
1 2	3 11	16 18	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			
		Avg. Day Flow (10 ³ m ³ /d)	5 0 0 1 5	3	3 6 0 1			
		Max. Day Flow (10 ³ m ³ /d)	5 0 0 2 0	3	1 2 0			
			30 34	35	38	46		
3 5		BYPASS						
12 13		Plant Bypass Vol. (10 ³ m ³)	5 0 2 7 0	3	0			0
		Duration (Hrs.)	8 1 6 8 0	1				48
			30 34	35	38	46		
3 6		RAW SEWAGE						
12 13		BOD (mg/L)	0 0 0 0 1	0	Monthly Average Results			1
		SS (mg/L)	0 0 0 0 6	0	1 6 7			1
		TKN (mg/L)	0 0 0 2 0	2	1 4 8			1
		Total P. (mg/L)	0 0 0 3 3	1	5 7 0			1
			30 34	35	38	46		48
3 9		FINAL EFFLUENT						
12 13		Total Eff. Volume To Watercourse Flow Duration (10 ³ m ³)	5 0 2 8 0	3	4 3 3			}
	Cell Depth (m)	8 1 6 8 0	1	1 0 7 0			Seasonal Discharge Lagoons Only	
	BOD (mg/L)	5 0 2 9 0	1					
	SS (mg/L)	0 0 0 0 1	1	<1 0				4
	Ammonia (mg/L)	0 0 0 0 6	1	3 0			4	
	TKN (mg/L)	0 0 0 1 9	2	0 2			4	
	Total P. (mg/L)	0 0 0 2 0	2	1 1			4	
		0 0 0 3 3	2	0 9			4	
			30 34	35	38	46		48
0 9		DISINFECTION						
12 13		Chlorine Used (kg as Cl ₂)	5 0 3 2 0	1				
		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

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

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to

WILLIAM W. WILSON

5

Municipality:	TOWNSHIP OF RUSSELL	
Project Name:	EMBRUN SEWAGE LAGOON	Operating Authority: MUNICIPAL
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	1	2	0	1	3	1	2	R
1	2									16	17	18	19	20	21	22	80	

[illegible]

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		Address: 	

ADDITIONAL DATA

[illegible][illegible]

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

Return completed yellow form to:

Facility Name:

Report Year:

NO BYPASSING

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]

20 Pumping Station and Plant Bypass Monthly Summary: EMBRUN SEWAGE SYSTEM - 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	N/I	N/I	N/I	N/I	N/I	N/I
Volume of Bypass as % of *			%			
Average Daily Flow (ADF)						
			%			



MUNICIPALITÉ DE
TOWNSHIP OF **RUSSELL**

March 22, 2002

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

Attention: Mike Séguin

Re: **Russell Water**

Enclosed is the 2001 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 treatment plant had no upsets or failures in its operation procedures.
- 2) There were 3 unsafe samples detected in the distribution system. Regulation procedures were followed and re-sampling results were negative.
- 3) Raw water quality is addressed in the well monitoring program supplied by Robinson Consultants.
- 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.

cc: M. Blanchard

RUSSELL
WATER CAPACITY REPORT
DECEMBER 31, 2001

WATER CAPACITY	
Residential Units	1027 x 3.0 = 3081
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	3537

APPROVED SUBDIVISION LOTS	PLAN FILE #	NUMBER OF LOTS
Lapointe Development	03-T-97003	2
Vacant Lots Infilling		13

TOTAL LOTS =
TOTAL POPULATION SERVICEABLE 15 x 3.0 = 45 PERSONS
DESIGN CAPACITY = 3500 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 WATER
As of December 30, 2001**

2001 = 989 m ³ /D	SERVICED POPULATION = 3450	FLOW = .287 m ³ /D/C
2000 = 921 m ³ /D	SERVICED POPULATION = 3177	FLOW = .290 m ³ /D/C
1999 = 943 m ³ /D	SERVICED POPULATION = 3099	FLOW = .304 m ³ /D/C

AVERAGE = .294 m³/D/C
AS OF DECEMBER 30, 2001
AT .294 m³/D/C FLOW x 3450 = 1014 m³/D

DESIGN FLOW = .360 m³/D/C
DESIGN POPULATION = 3500
FLOW = 1260 m³/DAY

$$CR = 1260 \text{ m}^3/\text{DAY} - 1014 \text{ m}^3/\text{DAY} = 246 \text{ m}^3/\text{DAY}$$

P = EXISTING RESIDENTIAL POPULATION CONNECTED = 3184 AS OF DECEMBER 30, 2001

H = NO. OF CONNECTED RESIDENTIAL UNITS = 998

F = EXISTING PER CAPITA FLOW = .294m³/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

$$\begin{aligned} \text{SUMMARY} = \quad CU &= CR - (L \times F) \times (P + O) / H \\ &= 246 - (40 \times .294) \times 3450 / 998 \\ &= 246 - 40 \\ &= 206 \text{ m}^3/\text{DAY UNCOMMITTED RESERVE} \\ &\quad \text{HYDRAULIC CAPACITY FOR AVERAGE DAILY FLOW} \end{aligned}$$

UNCOMMITTED NO. OF LOTS (LU)

$$\begin{aligned} LU &= CU / D \times F \text{ WHERE } D = P / H \\ &= 206 / 3.0 \times .294 \\ &= 234 \end{aligned}$$

RUSSELL
WATER FLOWS AND CONSUMPTION
2001

DATE 2001	FLOW (m³)	DAILY AVERAGE LITRES (m³)	POPULATION	DAYS	AVERAGE LITRES PERSON/DAY (m³)
JAN	27,050	873	3450	31	0.253
FEB	23,590	843	3450	28	0.244
MAR	25,810	833	3450	31	0.241
APR	27,540	918	3450	30	0.266
MAY	36,150	1166	3450	31	0.338
JUNE	33,250	1108	3450	30	0.321
JULY	39,960	1289	3450	31	0.374
AUG	34,850	1124	3450	31	0.326
SEP	26,450	882	3450	30	0.256
OCT	30,190	974	3450	31	0.282
NOV	27,320	911	3450	30	0.264
DEC	29,370	947	3450	31	0.275
TOTAL	361,530	989	3450		0.287
2000	337,332	921	3177		0.290
1999	345,580	943	3099		0.304
1998	370,782	869	3054		0.285

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

WATERWORKS NAME: RUSSELL
WATERWORKS NUMBER:
WELL NO.: 1
YEAR: 2001
SERVICED POPULATION: 3450
DESIGN CAPACITY:

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 min 0.2 mg/L DETECT. RES.
JAN	0.87	1.31	27.05	n/a	31	0	0.22	31	0.84	0.62	31	31
FEB	0.81	1.20	23.59	n/a	28	0	0.22	28	0.80	0.65	28	28
MAR	0.83	1.03	25.81	n/a	31	0	0.21	31	0.77	0.57	31	31
APR	0.99	1.33	27.54	n/a	30	0	0.21	30	0.83	0.65	30	30
MAY	1.17	2.23	36.15	n/a	31	0	0.22	31	0.76	0.60	31	31
JUN	1.11	1.43	33.25	n/a	30	0	0.17	30	0.80	0.63	30	30
JUL	1.29	1.93	39.96	n/a	31	0	0.18	31	0.84	0.64	31	31
AUG	1.12	1.94	34.85	n/a	31	0	0.23	31	0.76	0.65	31	31
SEP	0.88	1.14	26.45	n/a	30	0	0.23	30	0.80	0.63	30	30
OCT	0.97	1.14	30.19	n/a	31	0	0.23	31	0.84	0.60	31	31
NOV	0.91	1.07	27.32	n/a	30	0	0.22	30	0.81	0.71	30	30
DEC	0.95	1.33	29.37	n/a	31	0	0.28	31	0.82	0.65	31	31
TOTAL			361.53		365			365			365	365
AVG	0.99	1.42	30.13				0.22		0.81	0.63		
MAX	1.29	2.23	39.96				0.28		0.84	0.71		

DISINFECTANT COMPOUND USED: NaOCl
FORM OF RESIDUAL DISPLAYED ON ABOVE TABLE: TOTAL AND FREE
QUANTITY OF DISINFECTANT USED DURING YEAR: 741 kg
DISTRIBUTION SYSTEM TARGET RESIDUAL (mg/L): Total 0.80 Free 0.2

RUSSELL
WATERWORKS #220008060
ANALYTICAL RESULTS SUMMARY

Sample Location: **Russell Raw water – Well #1**

PHYSICAL/CHEMICAL PARAMETERS	UNITS	MAC IMAC AO/OG	JAN	APR	JULY	OCT	AVG
Alkalinity (as CaCO ₃)	mg/L	30-500	311	306	298	295	121
Aluminum (Al)	mg/L	0.10	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic (As)	mg/L	0.025	<0.001	<0.001	<0.001	<0.001	<0.001
Chloride (Cl)	mg/L	250	52	50	55	46	51
Conductivity	mg/L	-	896	870	859	931	889
Copper (Cu)	mg/L	1.0	0.002	<0.001	<0.001	0.005	0.003
Dissolved Organic Carbon (DOC)	mg/L	5.0	1.6	1.2	1.2	1.0	1.3
Iron (Fe)	mg/L	0.30	0.11	0.13	0.13	0.04	0.10
Hardness (As CaCO ₃)	mg/L	80-100	435	393	445	434	427
Lead (Pb)	mg/L	.01	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (Mn)	mg/L	0.05	0.06	0.06	0.06	0.05	0.06
Ammonia + Ammonium (N-NH ₃)	mg/L	10	0.14	0.13	0.09	0.10	0.12
Nitrite (as nitrogen) N-NO ₂	mg/L	1.0	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate (as nitrogen) N-NO ₃	mg/L	10.0	<0.10	<0.10	<0.10	<0.10	<0.10
pH	mg/L	6.5-8.5	7.50	7.46	7.08	7.39	7.36
Sodium (Na)	mg/L	200*	30	26	15	21	23
Sulphate (SO ₄)	mg/L	500	112	125	249	130	154
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.21	0.26	0.21	0.29	0.25
Total Dissolves Solids	mg/L	500	628	548	524	616	579
Zinc (Zn)	mg/L	5.0	<0.01	<0.01	<0.01	<0.01	<0.01
Phenols	mg/L	-	<0.001	<0.001	<0.001	<0.001	<0.001

* The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restrictive diets.

VOCs Table B	UNITS	MAC IMAC AO/OG	JAN	APR	JULY	OCT	AVG
Benzene	mg/L	0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Carbon Tetrachloride	mg/L	0.005	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009
1,2-Dichlorobenzene	mg/L	0.2	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
1,4-Dichlorobenzene	mg/L	0.005	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
1,2-Dichloroethane	mg/L	0.005	<0.0007	<0.0007	<0.0007	<0.0007	<0.0007
1,1-Dichloroethylene	mg/L	0.014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Dichloromethane	mg/L	0.05	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Ethylbenzene	mg/L	0.0024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Monochlorobenzene	mg/L	0.08	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Tetrachloroethylene	mg/L	0.030	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Toluene	mg/L	0.024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Trichloroethylene	mg/L	0.05	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Vinyl Chloride	mg/L	0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Xylene	mg/L	0.30	<0.0010	<0.0010	<0.0005	<0.0005	<0.0008

**RUSSELL
WATERWORKS #220008060
ANALYTICAL RESULTS SUMMARY**

Sample Location: Russell Treated – Clearwell

PHYSICAL/CHEMICAL PARAMETERS	UNITS	MAC IMAC AO/OG	JAN	APR	JULY	OCT	AVG
Alkalinity (as CaCO ₃)	mg/L	30-500	233	233	226	221	229
Aluminum (Al)	mg/L	0.10	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic (As)	mg/L	0.025	<0.001	<0.001	<0.001	<0.001	<0.001
Chloride (Cl)	mg/L	250	34	34	31	34	34
Conductivity	mg/L	-	852	856	831	862	851
Copper (Cu)	mg/L	1.0	0.013	<0.001	<0.007	0.018	0.039
Dissolved Organic Carbon (DOC)	mg/L	5.0	1.7	1.2	1.1	1.2	1.3
Iron (Fe)	mg/L	0.30	0.06	0.07	0.05	0.03	.05
Hardness (As CaCO ₃)	mg/L	80-100	439	424	410	399	418
Lead (Pb)	mg/L	.01	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (Mn)	mg/L	0.05	0.02	0.02	<0.02	0.01	0.02
Ammonia + Ammonium (N-NH ₃)	mg/L	10	<0.02	<0.02	<0.02	<0.02	<0.02
Nitrite (as nitrogen) N-NO ₂	mg/L	1.0	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate (as nitrogen) N-NO ₃	mg/L	10.0	<0.10	<0.10	<0.10	<0.10	<0.10
pH	mg/L	6.5-8.5	7.58	7.74	7.36	7.55	7.56
Sodium (Na)	mg/L	200*	19	17	14	15	17
Sulphate (SO ₄)	mg/L	500	183	197	201	232	204
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.07	<0.05	0.11	0.07	.08
Zinc (Zn)	mg/L	5.0	<0.01	<0.01	<0.01	<0.01	<0.01

* The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restrictive diets.

VOCs Table B	UNITS	MAC IMAC AO/OG	JAN	APR	JULY	OCT	AVG
Benzene	mg/L	0.005				<0.0005	<0.0005
Carbon Tetrachloride	mg/L	0.005				<0.0009	<0.0009
1,2-Dichlorobenzene	mg/L	0.2				<0.0004	<0.0004
1,4-Dichlorobenzene	mg/L	0.005				<0.0004	<0.0004
1,2-Dichloroethane	mg/L	0.005				<0.0007	<0.0007
1,1-Dichloroethylene	mg/L	0.014				<0.0005	<0.0005
Dichloromethane	mg/L	0.05				<0.0040	<0.0040
Ethylbenzene	mg/L	0.0024				<0.0005	<0.0005
Monochlorobenzene	mg/L	0.08				<0.0002	<0.0002
Tetrachloroethylene	mg/L	0.030				<0.0003	<0.0003
Toluene	mg/L	0.024				<0.0005	<0.0005
Trichloroethylene	mg/L	0.05				<0.0003	<0.0003
Vinyl Chloride	mg/L	0.002				<0.0005	<0.0005
Xylene	mg/L	0.30				<0.0005	<0.0005
Trihalomethanes	mg/L	0.100	<0.002	0.026	0.036	0.041	0.027

Quarterly testing is required for Trihalomethanes only. Other parameters in table B are tested annually in accordance with the Drinking Water Regulation Standards.

RUSSELL
WATERWORKS #220008060
ANALYTICAL RESULTS SUMMARY

Sample Location: **Russell Distribution**

PHYSICAL/CHEMICAL PARAMETERS	UNITS	MAC IMAC AO/OG	JAN	APR	JULY	OCT	AVG
Alkalinity (as CaCO ₃)	mg/L	30-500	235	232	224	222	229
Aluminum (Al)	mg/L	0.10	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic (As)	mg/L	0.025	<0.001	<0.001	<0.001	<0.001	<0.001
Chloride (Cl)	mg/L	250	34	34	31	30	33
Conductivity	mg/L	-	850	848	835	866	850
Copper (Cu)	mg/L	1.0	0.001	<0.001	<0.001	<0.002	0.001
Dissolved Organic Carbon (DOC)	mg/L	5.0	1.8	1.2	1.0	1.2	1.3
Iron (Fe)	mg/L	0.30	0.06	0.06	0.06	0.03	0.06
Hardness (As CaCO ₃)	mg/L	80-100	431	420	427	422	425
Lead (Pb)	mg/L	.01	<0.001	<0.001	<0.001	<0.01	<0.01
Manganese (Mn)	mg/L	0.05	0.02	0.02	<0.02	<0.02	<0.02
Ammonia + Ammonium (N-NH ₃)	mg/L	10	<0.02	<0.02	<0.02	<0.02	<0.02
Nitrite (as nitrogen) N-NO ₂	mg/L	1.0	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate (as nitrogen) N-NO ₃	mg/L	10.0	<0.10	<0.10	<0.10	<0.10	<0.10
pH	mg/L	6.5-8.5	7.59	7.79	7.41	7.67	7.62
Sodium (Na)	mg/L	200*	19	17	13	16	17
Sulphate (SO ₄)	mg/L	500	181	195	203	200	195
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.07	<0.09	0.07	0.06	0.08
Zinc (Zn)	mg/L	5.0	<0.01	<0.05	<0.01	<0.01	<0.20
		-					

* The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restrictive diets.

VOCs	UNITS	MAC IMAC AO/OG	JAN	APR	JULY	OCT	AVG
Trihalomethanes	mg/L	0.100	0.024	0.029	0.040	0.043	0.034

RUSSELL
WATERWORKS #220008060
ANALYTICAL RESULTS SUMMARY

Sample Location: **Russell Raw water – Well #1**

INORGANICS Table C		UNITS	MAC IMAC AO/OG	Results January
Arsenic	As	mg/L	0.025	<0.001
Barium	Ba	mg/L	1.0	0.20
Boron	B	mg/L	5.0	0.13
Cadmium	Cd	mg/L	0.005	<0.0001
Chromium	Cr	mg/L	0.05	0.01
Copper	Cu	mg/L	1.0	<0.002
Iron	Fe	mg/L	0.30	0.11
Lead	Pb	mg/L	0.01*	0.001
Manganese	Mn	mg/L	0.05	0.06
Mercury	Hg	mg/L	0.001	<0.0001
Nitrate	N-NO2	mg/L	10.0	<0.10
Nitrite	N-NO3	mg/L	1.0	<0.10
Selenium	Se	mg/L	0.01	<0.001
Uranium	U	mg/L	0.10	<0.005

* Applies to water at point of consumption

Note: The Drinking Water Regulation Standards require analysis of Inorganics (Table C) every three years however they are sampled annually.

RUSSELL
WATERWORKS #220008060
ANALYTICAL RESULTS SUMMARY

Sample Location: Russell Raw Water – Well #1

TABLE D PESTICIDES & PCB	UNITS	MAC IMAC	JAN	APR	JULY	OCT	AVG
Alachlor	mg/L	0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Aldicarb	mg/L	0.009	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Aldrin+Dieldrin	mg/L	0.0007	<0.0005	<0.0005	<0.0005	<0.0007	<0.0006
Atrazine	mg/L	0.005	<0.0010	<0.0010	<0.0010	<0.0005	<0.0009
Azinphos-methyl	mg/L	0.02	<0.0050	<0.0020	<0.0020	<0.0020	<0.0028
Bendiocarb	mg/L	0.04	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Bromoxynil	mg/L	0.005	<0.0010	<0.0010	<0.0010	<0.0005	<0.0009
Carbaryl	mg/L	0.09	<0.0005	<0.0050	<0.0050	<0.0050	<0.0050
Carbofuran	mg/L	0.09	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Chlordane (Total)	mg/L	0.007	<0.0005	<0.0005	<0.0005	<0.0007	<0.0006
Chlorpyrifos	mg/L	0.09	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cyanazine	mg/L	0.01	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Diazinon	mg/L	0.02	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dicamba	mg/L	0.12	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
2,4-Dichlorophenol	mg/L	0.9	<0.0005	<0.0005	<0.0005	<0.0070	<0.0006
DDT	mg/L	0.03	<0.0100	<0.0100	<0.0100	<0.0030	<0.0083
2,4-D	mg/L	0.1	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Diclofop-methyl	mg/L	0.009	<0.0010	<0.0010	<0.0010	<0.0009	<0.0010
Dimethoate	mg/L	0.02	<0.0050	<0.0050	<0.0050	<0.0025	<0.0044
Dinoseb	mg/L	0.01	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Diquat	mg/L	0.07	<0.0200	<0.0020	<0.0020	<0.0070	<0.0033
Diuron	mg/L	0.15	<0.0050	<0.0050	<0.0100	<0.0100	<0.0075
Glyphosate	mg/L	0.28	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Heptachlor + heptachlor epoxide	mg/L	0.003	<0.0005	<0.0005	<0.0005	<0.0003	<0.0005
Lindane (Total)	mg/L	0.004	<0.0010	<0.0010	<0.0010	<0.0004	<0.0009
Malathion	mg/L	0.19	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Methoxychlor	mg/L	0.9	<0.0010	<0.0010	<0.0010	<0.0900	<0.0010
Metolachlor	mg/L	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Metribuzin	mg/L	0.08	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Paraquat	mg/L	0.01	<0.0080	<0.0080	<0.0080	<0.0010	<0.0063
Parathion	mg/L	0.05	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Pentachlorophenol	mg/L	0.06	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Phorate	mg/L	0.002	<0.0010	<0.0010	<0.0010	<0.0005	<0.0009
Picloram	mg/L	0.19	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
PCB	mg/L	0.003	<0.0025	<0.0025	<0.0025	<0.0003	<0.0020
Prometryne	mg/L	0.001	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005
Simazine	mg/L	0.01	<0.0020	<0.0020	<0.0020	<0.0010	<0.0018
Temephos	mg/L	0.28	<0.0200	<0.0100	<0.0100	<0.0100	<0.0125
Terbufos	mg/L	0.001	<0.0005	<0.0005	<0.0005	<0.0007	<0.0006
2,3,4,6-Tetrachlorophenol	mg/L	0.10	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Triallate	mg/L	0.23	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
2,4,6-Trichlorophenol	mg/L	0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Trifluralin	mg/L	0.045	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
2,4,5-T	mg/L	0.28	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010

RUSSELL
WATERWORKS #220008060
ANALYTICAL RESULTS SUMMARY

Sample Location: Russell Distribution

TABLE D PESTICIDES & PCB	UNITS	MAC IMAC	RESULTS OCTOBER
Alachlor	mg/L	0.005	<0.0005
Aldicarb	mg/L	0.009	<0.0050
Aldrin+Dieldrin	mg/L	0.0007	<0.0007
Atrazine	mg/L	0.005	N/A*
Azinphos-methyl	mg/L	0.02	<0.0020
Bendiocarb	mg/L	0.04	<0.0020
Bromoxynil	mg/L	0.005	<0.0005
Carbaryl	mg/L	0.09	<0.0050
Carbofuran	mg/L	0.09	<0.0050
Chlordane (Total)	mg/L	0.007	<0.0007
Chlorpyrifos	mg/L	0.09	<0.0010
Cyanazine	mg/L	0.01	<0.0010
Diazinon	mg/L	0.02	<0.0010
Dicamba	mg/L	0.12	<0.0010
2,4-Dichlorophenol	mg/L	0.9	<0.0005
DDT	mg/L	0.03	<0.0030
2,4-D	mg/L	0.1	<0.0009
Diclofop-methyl	mg/L	0.009	<0.0009
Dimethoate	mg/L	0.02	<0.0025
Dinoseb	mg/L	0.01	<0.0010
Diquat	mg/L	0.07	<0.0070
Diuron	mg/L	0.15	<0.0100
Glyphosate	mg/L	0.28	<0.0100
Heptachlor + heptachlor epoxide	mg/L	0.003	<0.0003
Lindane (Total)	mg/L	0.004	<0.0004
Malathion	mg/L	0.19	<0.0050
Methoxychlor	mg/L	0.9	<0.0900
Metolachlor	mg/L	0.0005	<0.0005
Metribuzin	mg/L	0.08	<0.0050
Paraquat	mg/L	0.01	<0.0010
Parathion	mg/L	0.05	<0.0010
Pentachlorophenol	mg/L	0.06	<0.0005
Phorate	mg/L	0.002	<0.0005
Picloram	mg/L	0.19	<0.0050
PCB	mg/L	0.003	<0.0003
Prometryne	mg/L	0.001	<0.0002
Simazine	mg/L	0.01	<0.0010
Temephos	mg/L	0.28	<0.0100
Terbufos	mg/L	0.001	<0.0007
2,3,4,6-Tetrachlorophenol	mg/L	0.10	<0.0005
Triallate	mg/L	0.23	<0.0010
2,4,6-Trichlorophenol	mg/L	0.005	<0.0005
Trifluralin	mg/L	0.045	<0.0010
2,4,5-T	mg/L	0.28	<0.0010

Note: There is no requirement for sampling Pesticides & PCB (Table D) in the distribution system however they are sampled annually.

ANNUAL SUMMARY - RAW WATER FLOWS

WATER WORKS NAME: RUSSELL WTP
 YEAR: 2001
 SERVICED POPULATION: 3450
 DESIGN CAPACITY: 3500

MONTH	WELL #1			WELL #2		
	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	0.42	0.66	13.14			
FEB	0.40	0.59	11.68			
MAR	0.41	0.50	12.78			
APR	0.47	0.62	14.21			
MAY	0.46	1.14	14.18			
JUN	0.42	0.59	12.63	NOT IN OPERATION		
JUL	0.51	0.77	15.72			
AUG	0.45	0.78	13.91			
SEP	0.35	0.44	10.53			
OCT	0.37	0.45	11.45			
NOV	0.32	0.36	9.53			
DEC	0.34	0.48	10.43			
TOTAL			150.19			0.00
AVERAGE	0.41		12.52			
MAXIMUM		1.14	15.72	0.00	0.00	0.00

ANNUAL SUMMARY - RAW WATER BACTERIOLOGICAL DATA

WATER WORKS NAME:

RUSSELL #1

YEAR:

2001

SERVICED POPULATION:

3450

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	5	0	0	0	0	0	0
FEB	5	2	0	0	0	0	0
MAR	4	1	0	0	0	0	0
APR	5	3	1	0	0	0	0
MAY	4	1	0	0	0	0	0
JUN	4	1	0	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	0	0	0	0	0	0
DEC	4	1	0	0	0	0	0
TOTAL	53	9	1	0	0	0	0

ANNUAL SUMMARY - TREATED SYSTEM BACTERIOLOGICAL DATA

WATER WORKS NAME: RUSSELL
 YEAR: 2001
 SERVICED POPULATION: 3450
 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	5	5	0	0	5	5	0	5	5	0
FEB	4	4	0	0	4	4	0	4	4	0
MAR	4	4	0	0	4	4	0	4	4	0
APR	5	5	0	0	5	5	0	5	5	0
MAY	4	4	0	0	4	4	0	4	4	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	4	4	0	0	4	4	0	4	4	0
TOTAL	52	52	0	0	52	52	0	52	52	0

ANNUAL SUMMARY - DISTRIBUTION SYSTEM BACTERIOLOGICAL DATA

WATER WORKS NAME:

RUSSELL

YEAR:

2001

SERVICED POPULATION:

3450

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	15	15	0	0	15	15	0	15	15	0
FEB	15	14	1	1	15	15	0	15	15	0
MAR	12	12	0	0	12	12	0	12	12	0
APR	15	15	0	0	15	15	0	15	15	0
MAY	12	12	0	0	12	12	0	12	12	0
JUN	12	12	0	0	12	12	0	12	12	0
JUL	17	16	1	1	17	17	0	17	17	0
AUG	14	13	1	1	14	14	0	14	14	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	12	12	0	0	12	12	0	12	12	0
TOTAL	163	160	3	3	163	163	0	163	163	0

Feb 10 - TC = 1

Feb 23 - TC = 0

July 9 - TC = OG, Background >200

July 11 - TC = 0

Aug 27 - TC = OG, Background >200

Aug 29 - TC = 0

RUSSELL WTP DAILY IN-HOUSE TESTING

2001

CLEAR WELL	COLOUR	PH	TEMP	FE	MN	FL	TUR MIN	TUR MAX	CL ² TOTAL	CL ² FREE MIN	CL ² FREE MAX
JAN	4	7.6	8	0.12	0.036	0.46	0.16	0.28	0.84	0.46	0.78
FEB	3	7.5	8	0.07	0.037	0.36	0.18	0.26	0.80	0.51	0.79
MAR	4	7.5	8	0.07	0.084		0.17	0.25	0.77	0.47	0.67
APR	4	7.5	8	0.08	0.039		0.15	0.26	0.83	0.51	0.78
MAY	3	7.6	9	0.08	0.300		0.13	0.31	0.76	0.42	0.77
JUN	3	7.5	12	0.08	0.033		0.12	0.22	0.80	0.50	0.75
JUL	3	7.5	13	0.09	0.040	0.35	0.13	0.22	0.84	0.49	0.78
AUG	4	7.5	13	0.08	0.036		0.13	0.33	0.76	0.46	0.83
SEP	3	7.5	12	0.05	0.037		0.15	0.30	0.80	0.47	0.78
OCT	3	7.5	10	0.07	0.033		0.15	0.31	0.84	0.39	0.80
NOV	4	7.5	10	0.08	0.008		0.10	0.33	0.81	0.50	0.92
DEC	4	7.5	10	0.13	0.063	0.54	0.19	0.37	0.82	0.45	0.84
AVG	3	7.5	10	0.08	0.062	0.43	0.15	0.29	0.81	0.47	0.79

DISTRIBUTION	COLOUR	PH	TEMP	FE	MN	FL	TUR MIN	TUR MAX	CL ² TOTAL	CL ² FREE MIN	CL ² FREE MAX
JAN	5	7.4	5	0.08			0.18	0.28	0.69	0.40	0.61
FEB	4	7.5	4	0.08			0.19	0.29	0.67	0.39	0.56
MAR	5	7.5	5	0.07			0.19	0.40	0.66	0.34	0.60
APR	5	7.5	5	0.06	0.043		0.20	0.28	0.70	0.29	0.70
MAY	4	7.6	10	0.06			0.14	0.43	0.61	0.30	0.70
JUN	4	7.5	13				0.13	0.27	0.60	0.33	0.61
JUL	4	7.5	15	0.11	0.039		0.12	0.24	0.64	0.37	0.70
AUG	4	7.5	15				0.14	0.30	0.47	0.34	0.69
SEP	4	7.5	14	0.06	0.036		0.15	0.29	0.68	0.35	0.75
OCT	4	7.7	12				0.16	0.30	0.69	0.36	0.73
NOV	4	7.5	11				0.16	0.26	0.68	0.40	0.65
DEC	4	7.5	9	0.07			0.17	0.23	0.70	0.37	0.70
AVG	4	7.5	10	0.07	0.039		0.12	0.23	0.47	0.29	0.56

RUSSELL WTP DAILY IN-HOUSE TESTING
2001

WELL 1		COLOUR	PH	TEMP	FE	MN	FL	TUR	H2S
JAN		6	7.5	9	0.23	0.062		0.32	0.432
FEB		7	7.5	7	0.21	0.041		0.40	0.060
MAR		7	7.5	7	0.25	0.134		0.45	0.134
APR		5	7.6	7	0.16	0.058		0.34	0.280
MAY		6	7.5	0	0.40	0.510		0.65	0.081
JUN		4	7.7	9	0.18	0.080		0.09	0.112
JUL		7	7.5	10	0.11	0.081		0.28	0.109
AUG		7	7.5	11	0.34	0.064		0.37	0.041
SEP		9	7.5	10	0.36	0.047		0.96	0.018
OCT		7	7.5	10	0.44	0.046		0.67	0.014
NOV		2	7.5	10	0.27	0.054		0.40	0.009
DEC		2	7.5	10	0.27	0.054		0.40	0.009
AVG		6	7.5	8	0.27	0.103		0.44	0.108

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2001

		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	M TW T M3/W	# OF LTS/W	# OF KGS/W	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	3	893	29.10	4.05	0.89	4.54	1116				1.12		2009	1890		0.00	1.89	0.00	3450	0.55	0.18
JAN	4	398	13.90	1.93	0.40	4.86	483				0.48		881	820		0.00	0.82	0.00	3450	0.24	0.24
JAN	5	425	15.80	2.20	0.43	5.17	536				0.54		961	910		0.00	0.91	0.00	3450	0.26	0.26
JAN	8	1335	44.90	6.25	1.34	4.68	1631	3766	15.90	2.21	3.77	0.59	2966	2780		0.00	2.78	0.00	3450	0.81	0.27
JAN	9	631	21.50	2.99	0.63	4.74	770				0.77		1401	1310		0.00	1.31	0.00	3450	0.38	0.38
JAN	10	309	10.13	1.41	0.31	4.56	385				0.39		694	640		0.00	0.64	0.00	3450	0.19	0.19
JAN	11	371	9.49	1.32	0.37	3.56	456				0.46		827	790		0.00	0.79	0.00	3450	0.23	0.23
JAN	12	502	14.50	2.02	0.50	4.02	611				0.61		1113	1000		0.00	1.00	0.00	3450	0.29	0.29
JAN	15	1216	39.20	5.46	1.22	4.49	1520	3742	12.60	1.75	3.74	0.47	2736	2580		0.00	2.58	0.00	3450	0.75	0.25
JAN	16	409	13.90	1.93	0.41	4.73	496				0.50		905	830		0.00	0.83	0.00	3450	0.24	0.24
JAN	17	390	12.60	1.75	0.39	4.50	470				0.47		860	810		0.00	0.81	0.00	3450	0.23	0.23
JAN	18	441	15.10	2.10	0.44	4.77	535				0.54		976	910		0.00	0.91	0.00	3450	0.26	0.26
JAN	19	455	13.20	1.84	0.46	4.04	540				0.54		995	940		0.00	0.94	0.00	3450	0.27	0.27
JAN	22	1330	44.30	6.17	1.33	4.64	1555	3596	10.20	1.42	3.60	0.39	2885	2700		0.00	2.70	0.00	3450	0.78	0.26
JAN	23	384	12.60	1.75	0.38	4.57	452				0.45		836	790		0.00	0.79	0.00	3450	0.23	0.23
JAN	24	424	12.60	1.75	0.42	4.14	489				0.49		913	830		0.00	0.83	0.00	3450	0.24	0.24
JAN	25	401	13.90	1.93	0.40	4.83	482				0.48		883	820		0.00	0.82	0.00	3450	0.24	0.24
JAN	26	519	16.40	2.28	0.52	4.40	678				0.68		1197	1030		0.00	1.03	0.00	3450	0.30	0.30
JAN	29	1246	42.40	5.90	1.25	4.74	1351	3452	11.10	1.55	3.45	0.45	2597	2530		0.00	2.53	0.00	3450	0.73	0.24
JAN	30	403	12.60	1.75	0.40	4.35	473				0.47		876	830		0.00	0.83	0.00	3450	0.24	0.24
JAN	31	660	21.50	2.99	0.66	4.53	775				0.78		1435	1310		0.00	1.31	0.00	3450	0.38	0.38
JAN		13142	429.62	59.80	13.14	4.52	15804	14556	49.80	6.93	24.30	0.47	28946	27050	0.00	0.00	27.05	0.00	3450	0.37	0.26
DAILY AVG		424					510						934	873							
MAX		660					775						1435	1310							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2001

		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	M TW T M3/W	# OF LTS/W	# OF KGS/W	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
FEB	1	175	5.69	0.79	0.18	4.53	207				0.21		382	380		0.00	0.38	0.00	3450	0.11	0.11
FEB	2	479	15.80	2.20	0.48	4.59	553				0.55		1032	910		0.00	0.91	0.00	3450	0.26	0.26
FEB	5	1363	44.30	6.17	1.36	4.52	1502	3510	11.80	1.64	3.51	0.47	2865	2700		0.00	2.70	0.00	3450	0.78	0.26
FEB	6	346	12.00	1.67	0.35	4.83	382				0.38		728	680		0.00	0.68	0.00	3450	0.20	0.20
FEB	7	405	13.90	1.93	0.41	4.78	434				0.43		839	820		0.00	0.82	0.00	3450	0.24	0.24
FEB	8	430	13.90	1.93	0.43	4.50	494				0.49		924	820		0.00	0.82	0.00	3450	0.24	0.24
FEB	9	431	12.60	1.75	0.43	4.07	528				0.53		959	870		0.00	0.87	0.00	3450	0.25	0.25
FEB	12	1331	40.50	5.64	1.33	4.24	1589	3427	11.70	1.63	3.43	0.48	2920	2730		0.00	2.73	0.00	3450	0.79	0.26
FEB	13	584	18.30	2.55	0.58	4.36	710				0.71		1294	1200		0.00	1.20	0.00	3450	0.35	0.35
FEB	14	251	6.96	0.97	0.25	3.86	301				0.30		552	550		0.00	0.55	0.00	3450	0.16	0.16
FEB	15	372	12.00	1.67	0.37	4.49	437				0.44		809	760		0.00	0.76	0.00	3450	0.22	0.22
FEB	16	453	14.50	2.02	0.45	4.46	546				0.55		999	900		0.00	0.90	0.00	3450	0.26	0.26
FEB	19	1360	44.30	6.17	1.36	4.53	1614	3608	9.60	1.34	3.61	0.37	2974	2750		0.00	2.75	0.00	3450	0.80	0.27
FEB	20	370	12.60	1.75	0.37	4.74	443				0.44		813	770		0.00	0.77	0.00	3450	0.22	0.22
FEB	21	452	15.10	2.10	0.45	4.65	532				0.53		984	910		0.00	0.91	0.00	3450	0.26	0.26
FEB	22	385	15.10	2.10	0.39	5.46	447				0.45		832	740		0.00	0.74	0.00	3450	0.21	0.21
FEB	23	591	16.40	2.28	0.59	3.86	694				0.69		1285	1190		0.00	1.19	0.00	3450	0.34	0.34
FEB	26	1176	40.50	5.64	1.18	4.79	1374	3490	11.20	1.56	3.49	0.45	2550	2410		0.00	2.41	0.00	3450	0.70	0.23
FEB	27	370	12.60	1.75	0.37	4.74	438				0.44		808	730		0.00	0.73	0.00	3450	0.21	0.21
FEB	28	358	10.70	1.49	0.36	4.16	432				0.43		790	770		0.00	0.77	0.00	3450	0.22	0.22
FEB		11682	377.75	52.58	11.68	4.51	13657	14035	44.30	6.17	21.61	0.44	25339	23590			23.59	0.00	3450	0.34	0.24
	DAILY AVG	403					471						874	813							
	MAX	591					710						1294	1200							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2001

		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	M TW T M3/W	# OF LTS/W	# OF KGS/W	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	419	13.90	1.93	0.42	4.62	503				0.50		922	830		0.00	0.83	0.00	3450	0.24	0.24
MAR	2	437	14.50	2.02	0.44	4.62	521				0.52		958	880		0.00	0.88	0.00	3450	0.26	0.26
MAR	5	1323	43.00	5.99	1.32	4.52	1587	3481	14.70	2.05	3.48	0.59	2910	2690		0.00	2.69	0.00	3450	0.78	0.26
MAR	6	367	12.60	1.75	0.37	4.78	464				0.46		831	770		0.00	0.77	0.00	3450	0.22	0.22
MAR	7	366	12.00	1.67	0.37	4.56	427				0.43		793	760		0.00	0.76	0.00	3450	0.22	0.22
MAR	8	448	15.80	2.20	0.45	4.91	544				0.54		992	920		0.00	0.92	0.00	3450	0.27	0.27
MAR	9	420	14.50	2.02	0.42	4.81	522				0.52		942	850		0.00	0.85	0.00	3450	0.25	0.25
MAR	12	1269	42.40	5.90	1.27	4.65	1547	3504	12.32	1.71	3.50	0.49	2816	2630		0.00	2.63	0.00	3450	0.76	0.25
MAR	13	322	11.30	1.57	0.32	4.88	383				0.38		705	660		0.00	0.66	0.00	3450	0.19	0.19
MAR	14	407	13.90	1.93	0.41	4.75	495				0.50		902	840		0.00	0.84	0.00	3450	0.24	0.24
MAR	15	378	13.20	1.84	0.38	4.86	445				0.45		823	790		0.00	0.79	0.00	3450	0.23	0.23
MAR	16	503	17.70	2.46	0.50	4.90	609				0.61		1112	1030		0.00	1.03	0.00	3450	0.30	0.30
MAR	19	1295	43.60	6.07	1.30	4.69	1562	3494	14.70	2.05	3.49	0.59	2857	2600		0.00	2.60	0.00	3450	0.75	0.25
MAR	20	388	13.20	1.84	0.39	4.74	424				0.42		812	770		0.00	0.77	0.00	3450	0.22	0.22
MAR	21	390	13.20	1.84	0.39	4.71	449				0.45		839	780		0.00	0.78	0.00	3450	0.23	0.23
MAR	22	450	15.10	2.10	0.45	4.67	520				0.52		970	860		0.00	0.86	0.00	3450	0.25	0.25
MAR	23	458	15.80	2.20	0.46	4.80	530				0.53		988	940		0.00	0.94	0.00	3450	0.27	0.27
MAR	26	1421	47.40	6.60	1.42	4.64	1611	3534	10.80	1.50	3.53	0.43	3032	2800		0.00	2.80	0.00	3450	0.81	0.27
MAR	27	389	13.20	1.84	0.39	4.72	447				0.45		836	760		0.00	0.76	0.00	3450	0.22	0.22
MAR	28	413	13.20	1.84	0.41	4.45	465				0.47		878	810		0.00	0.81	0.00	3450	0.23	0.23
MAR	29	422	13.90	1.93	0.42	4.59	478				0.48		900	840		0.00	0.84	0.00	3450	0.24	0.24
MAR	30	501	17.00	2.37	0.50	4.72	576				0.58		1077	1000		0.00	1.00	0.00	3450	0.29	0.29
MAR		12786	430.40	59.91	12.79	4.71	15109	14013	52.52	7.31	22.82	0.52	27895	25810	0.00	0.00	25.81	0.00	3450	0.34	0.25
DAILY AVG		412					487						900	833							
MAX		503					609						1112	1030							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2001

		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	M TW T M3/W	# OF LTS/W	# OF KGS/W	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
APR	2	1343	43.00	5.99	1.34	4.46	1501	3467	14.30	1.99	1.50	1.33	2844	2610		0.00	2.61	0.00	3450	0.76	0.25
APR	3	375	16.40	2.28	0.38	6.09	424					0.42	799	740		0.00	0.74	0.00	3450	0.21	0.21
APR	4	386	13.20	1.84	0.39	4.76	445					0.45	831	780		0.00	0.78	0.00	3450	0.23	0.23
APR	5	416	12.60	1.75	0.42	4.22	493					0.49	909	830		0.00	0.83	0.00	3450	0.24	0.24
APR	6	622	20.80	2.90	0.62	4.65	712					0.71	1334	1180		0.00	1.18	0.00	3450	0.34	0.34
APR	9	1186	35.40	4.93	1.19	4.15	1356	3430	10.20	1.42	3.43	0.41	2542	2410		0.00	2.41	0.00	3450	0.70	0.23
APR	10	452	15.10	2.10	0.45	4.65	501					0.50	953	900		0.00	0.90	0.00	3450	0.26	0.26
APR	11	346	10.30	1.43	0.35	4.14	387					0.39	733	630		0.00	0.63	0.00	3450	0.18	0.18
APR	12	427	14.50	2.02	0.43	4.73	462					0.46	889	930		0.00	0.93	0.00	3450	0.27	0.27
APR	16	1808	58.80	8.18	1.81	4.53	2027	3377	9.40	1.31	2.03	0.65	3835	3460		0.00	3.46	0.00	3450	1.00	0.25
APR	17	549	17.70	2.46	0.55	4.49	619					0.62	1168	1060		0.00	1.06	0.00	3450	0.31	0.31
APR	18	372	10.70	1.49	0.37	4.00	399					0.40	771	740		0.00	0.74	0.00	3450	0.21	0.21
APR	19	578	18.90	2.63	0.58	4.55	618					0.62	1196	1090		0.00	1.09	0.00	3450	0.32	0.32
APR	20	365	13.29	1.85	0.37	5.07	422					0.42	787	750		0.00	0.75	0.00	3450	0.22	0.22
APR	23	1527	45.50	6.33	1.53	4.15	1577	3635	14.30	1.99	3.64	0.55	3104	2870		0.00	2.87	0.00	3450	0.83	0.28
APR	24	449	13.20	1.84	0.45	4.09	488					0.49	937	860		0.00	0.86	0.00	3450	0.25	0.25
APR	25	502	16.40	2.28	0.50	4.55	515					0.52	1017	940		0.00	0.94	0.00	3450	0.27	0.27
APR	26	398	10.10	1.41	0.40	3.53	426					0.43	824	790		0.00	0.79	0.00	3450	0.23	0.23
APR	27	466	14.50	2.02	0.47	4.33	479					0.48	945	850		0.00	0.85	0.00	3450	0.25	0.25
APR	30	1643	44.30	6.17	1.64	3.75	1757	3665	12.99	1.81	3.67	0.49	3400	3120		0.00	3.12	0.00	3450	0.90	0.30
APR		14210	444.69	61.90	14.21	4.44	15608	17574	61.19	8.52	21.65	0.69	30634	27540	0.00	0.00	27.54	0.00	3450	0.39	0.26
DAILY AVG		474					520						994	918							
MAX		622					712						1334	1180							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2001

		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	M TW T M3/W	# OF LTS/W	# OF KGS/W	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	623	15.80	2.20	0.62	3.53	668				0.67		1291	1080		0.00	1.08	0.00	3450	0.31	0.31
MAY	2	520	13.20	1.84	0.52	3.53	569				0.57		1089	1160		0.00	1.16	0.00	3450	0.34	0.34
MAY	3	541	15.10	2.10	0.54	3.89	588				0.59		1129	1020		0.00	1.02	0.00	3450	0.30	0.30
MAY	4	754	24.00	3.34	0.75	4.43	753				0.75		1507	1320		0.00	1.32	0.00	3450	0.38	0.38
MAY	7	1732	51.90	7.22	1.73	4.17	1858	4436	14.70	2.05	4.44	0.46	3590	3350		0.00	3.35	0.00	3450	0.97	0.32
MAY	8	1144	34.80	4.84	1.14	4.23	1237				1.24		2381	2230		0.00	2.23	0.00	3450	0.65	0.65
MAY	9	762	25.30	3.52	0.76	4.62	1307				1.31		2069	1950		0.00	1.95	0.00	3450	0.57	0.57
MAY	10	373	14.50	2.02	0.37	5.41	839				0.84		1212	1150		0.00	1.15	0.00	3450	0.33	0.33
MAY	11	400	12.60	1.75	0.40	4.38	895				0.90		1295	1220		0.00	1.22	0.00	3450	0.35	0.35
MAY	14	1086	36.70	5.11	1.09	4.70	2430	6708	22.70	3.16	6.71	0.47	3516	3330		0.00	3.33	0.00	3450	0.97	0.32
MAY	15	419	13.90	1.93	0.42	4.62	936				0.94		1355	1290		0.00	1.29	0.00	3450	0.37	0.37
MAY	16	391	12.60	1.75	0.39	4.49	881				0.88		1272	1200		0.00	1.20	0.00	3450	0.35	0.35
MAY	17	455	15.80	2.20	0.46	4.83	1028				1.03		1483	1410		0.00	1.41	0.00	3450	0.41	0.41
MAY	18	424	13.20	1.84	0.42	4.33	858				0.86		1282	1210		0.00	1.21	0.00	3450	0.35	0.35
MAY	22	1721	55.70	7.75	1.72	4.51	3842	7545	26.70	3.72	7.55	0.49	5563	5260		0.00	5.26	0.00	3450	1.52	0.38
MAY	23	233	6.90	0.96	0.23	4.12	504				0.50		737	720		0.00	0.72	0.00	3450	0.21	0.21
MAY	24	254	7.59	1.06	0.25	4.16	491				0.49		745	680		0.00	0.68	0.00	3450	0.20	0.20
MAY	25	330	12.00	1.67	0.33	5.06	648				0.65		978	910		0.00	0.91	0.00	3450	0.26	0.26
MAY	28	1070	37.30	5.19	1.07	4.85	2101	3744	12.80	1.78	3.74	0.48	3171	3000		0.00	3.00	0.00	3450	0.87	0.29
MAY	29	352	12.00	1.67	0.35	4.75	719				0.72		1071	990		0.00	0.99	0.00	3450	0.29	0.29
MAY	30	430	15.80	2.20	0.43	5.11	874				0.87		1304	1210		0.00	1.21	0.00	3450	0.35	0.35
MAY	31	174	6.96	0.97	0.17	5.57	286				0.29		460	460		0.00	0.46	0.00	3450	0.13	0.13
MAY		14188	453.65	63.15	14.19	4.51	24312	22433	76.90	10.70	36.51	0.48	38500	36150	0.00	0.00	36.15	0.00	3450	0.48	0.34
DAILY AVG		458					784						1242	1166							
MAX		1144					1307						2381	2230							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS

2001

		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	M TW T M3/W	# OF LTS/W	# OF KGS/W	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	455	15.10	2.10	0.46	4.62	839				0.84		1294	1210		0.00	1.21	0.00	3450	0.35	0.35	
JUNE	4	940	33.50	4.66	0.94	4.96	1803	4521	15.00	2.09	4.52	0.46	2743	2540		0.00	2.54	0.00	3450	0.74	0.25	
JUNE	5	306	10.70	1.49	0.31	4.87	579				0.58		885	860		0.00	0.86	0.00	3450	0.25	0.25	
JUNE	6	334	10.70	1.49	0.33	4.46	616				0.62		950	930		0.00	0.93	0.00	3450	0.27	0.27	
JUNE	7	377	13.20	1.84	0.38	4.87	701				0.70		1078	1000		0.00	1.00	0.00	3450	0.29	0.29	
JUNE	8	453	15.10	2.10	0.45	4.64	768				0.77		1221	1180		0.00	1.18	0.00	3450	0.34	0.34	
JUNE	11	1262	37.90	5.28	1.26	4.18	2288	4952	17.40	2.42	4.95	0.49	3550	3290		0.00	3.29	0.00	3450	0.95	0.32	
JUNE	12	520	17.00	2.37	0.52	4.55	926				0.93		1446	1360		0.00	1.36	0.00	3450	0.39	0.39	
JUNE	13	424	12.60	1.75	0.42	4.14	763				0.76		1187	1110		0.00	1.11	0.00	3450	0.32	0.32	
JUNE	14	519	14.50	2.02	0.52	3.89	945				0.95		1464	1390		0.00	1.39	0.00	3450	0.40	0.40	
JUNE	15	540	16.40	2.28	0.54	4.23	967				0.97		1507	1410		0.00	1.41	0.00	3450	0.41	0.41	
JUNE	18	1329	39.20	5.46	1.33	4.11	2379	5980	19.30	2.69	5.98	0.45	3708	3490		0.00	3.49	0.00	3450	1.01	0.34	
JUNE	19	520	15.80	2.20	0.52	4.23	864				0.86		1384	1290		0.00	1.29	0.00	3450	0.37	0.37	
JUNE	20	593	18.90	2.63	0.59	4.44	1092				1.09		1685	1400		0.00	1.40	0.00	3450	0.41	0.41	
JUNE	21	429	10.10	1.41	0.43	3.28	749				0.75		1178	1310		0.00	1.31	0.00	3450	0.38	0.38	
JUNE	22	518	16.40	2.28	0.52	4.41	912				0.91		1430	1340		0.00	1.34	0.00	3450	0.39	0.39	
JUNE	25	1106	36.00	5.01	1.11	4.53	1954	5571	19.90	2.77	5.57	0.50	3060	3280		0.00	3.28	0.00	3450	0.95	0.32	
JUNE	26	510	16.40	3.08	0.51	6.04	893				0.89		1403	930		0.00	0.93	0.00	3450	0.27	0.27	
JUNE	27	551	16.40	2.28	0.55	4.14	982				0.98		1533	1430		0.00	1.43	0.00	3450	0.41	0.41	
JUNE	28	521	17.70	2.46	0.52	4.73	926				0.93		1447	1360		0.00	1.36	0.00	3450	0.39	0.39	
JUNE	29	429	13.20	1.84	0.43	4.28	773				0.77		1202	1140		0.00	1.14	0.00	3450	0.33	0.33	
JUN		12636	396.80	56.03	12.64	4.46	22719	21024	71.60	9.97	35.32	0.47	35355	33250	0.00	0.00	33.25	0.00	3450	0.46	0.34	
DAILY AVG		421					757						1179	1108								
MAX		593					1092						1685	1430								

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2001

		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	M TW T M3/W	# OF LTS/W	# OF KGS/W	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	M3 POP/DAY	M3 P/DAY
JULY	2	1208	40.50	5.64	1.21	4.67	2188	5762	20.50	2.85	5.76	0.50	3396	3180		0.00	3.18	0.00	3450	0.92	0.31
JULY	3	523	17.09	2.38	0.52	4.55	917				0.92		1440	1350		0.00	1.35	0.00	3450	0.39	0.39
JULY	4	382	13.20	1.84	0.38	4.81	676				0.68		1058	970		0.00	0.97	0.00	3450	0.28	0.28
JULY	5	338	10.70	1.49	0.34	4.41	619				0.62		957	950		0.00	0.95	0.00	3450	0.28	0.28
JULY	6	364	12.60	1.75	0.36	4.82	667				0.67		1031	950		0.00	0.95	0.00	3450	0.28	0.28
JULY	9	1275	43.00	5.99	1.28	4.69	2320	5199	16.90	2.35	5.20	0.45	3595	3290		0.00	3.29	0.00	3450	0.95	0.32
JULY	10	489	15.80	2.20	0.49	4.50	742				0.74		1231	1250		0.00	1.25	0.00	3450	0.36	0.36
JULY	11	421	14.50	2.02	0.42	4.79	736				0.74		1157	1080		0.00	1.08	0.00	3450	0.31	0.31
JULY	12	344	11.30	1.57	0.34	4.57	590				0.59		934	870		0.00	0.87	0.00	3450	0.25	0.25
JULY	13	268	9.49	1.32	0.27	4.93	473				0.47		741	690		0.00	0.69	0.00	3450	0.20	0.20
JULY	16	1225	44.90	6.25	1.23	5.10	2109	4650	17.20	2.39	4.65	0.51	3334	3070		0.00	3.07	0.00	3450	0.89	0.30
JULY	17	586	20.80	2.90	0.59	4.94	1013				1.01		1599	1510		0.00	1.51	0.00	3450	0.44	0.44
JULY	18	588	18.30	2.55	0.59	4.33	1018				1.02		1606	1510		0.00	1.51	0.00	3450	0.44	0.44
JULY	19	646	26.50	3.69	0.65	5.71	1097				1.10		1743	1580		0.00	1.58	0.00	3450	0.46	0.46
JULY	20	676	24.60	3.42	0.68	5.07	1175				1.18		1851	1690		0.00	1.69	0.00	3450	0.49	0.49
JULY	23	1622	58.20	8.10	1.62	4.99	2743	7046	25.60	3.56	7.05	0.51	4365	4070		0.00	4.07	0.00	3450	1.18	0.39
JULY	24	643	23.40	3.26	0.64	5.07	1085				1.09		1728	1620		0.00	1.62	0.00	3450	0.47	0.47
JULY	25	771	27.20	3.79	0.77	4.91	1314				1.31		2085	1930		0.00	1.93	0.00	3450	0.56	0.56
JULY	26	525	18.90	2.63	0.53	5.01	898				0.90		1423	1320		0.00	1.32	0.00	3450	0.38	0.38
JULY	27	623	24.60	3.42	0.62	5.50	1067				1.07		1690	1600		0.00	1.60	0.00	3450	0.46	0.46
JULY	30	1740	60.70	8.45	1.74	4.86	2947	7311	26.80	3.73	7.31	0.51	4687	4320		0.00	4.32	0.00	3450	1.25	0.42
JULY	31	464	16.40	2.28	0.46	4.92	802				0.80		1266	1160		0.00	1.16	0.00	3450	0.34	0.34
JUL		15721	552.68	76.93	15.72	4.87	27196	24206	107.00	14.89	44.86	0.50	42917	39960	0.00	0.00	39.96	0.00	3450	0.51	0.37
DAILY AVG		507					877						1384	1289							
MAX		771					1314						2085	1930							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2001

		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	M TW T M3/W	# OF LTS/W	# OF KGS/W	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY	
AUG	1	570	20.80	2.90	0.57	5.08	962				0.96		1532	1430	0.00	1.43	0.00		3450	0.41	0.41	
AUG	2	702	25.30	3.52	0.70	5.02	1188				1.19		1890	1750	0.00	1.75	0.00		3450	0.51	0.51	
AUG	3	313	10.70	1.49	0.31	4.76	529				0.53		842	780	0.00	0.78	0.00		3450	0.23	0.23	
AUG	6	1328	48.10	6.70	1.33	5.04	2243	5724	21.60	3.01	5.72	0.53	3571	3320	0.00	3.32	0.00		3450	0.96	0.32	
AUG	7	776	30.30	4.22	0.78	5.44	1329				1.33		2105	1940	0.00	1.94	0.00		3450	0.56	0.56	
AUG	8	541	20.20	2.81	0.54	5.20	909				0.91		1450	1340	0.00	1.34	0.00		3450	0.39	0.39	
AUG	9	574	20.89	2.91	0.57	5.07	966				0.97		1540	1430	0.00	1.43	0.00		3450	0.41	0.41	
AUG	10	562	18.30	2.55	0.56	4.53	955				0.96		1517	1400	0.00	1.40	0.00		3450	0.41	0.41	
AUG	13	1513	52.50	7.31	1.51	4.83	2527	6686	28.20	3.93	6.69	0.59	4040	3730	0.00	3.73	0.00		3450	1.08	0.36	
AUG	14	570	21.50	2.99	0.57	5.25	965				0.97		1535	1440	0.00	1.44	0.00		3450	0.42	0.42	
AUG	15	552	19.60	2.73	0.55	4.94	938				0.94		1490	1380	0.00	1.38	0.00		3450	0.40	0.40	
AUG	16	563	19.60	2.73	0.56	4.85	933				0.93		1496	1390	0.00	1.39	0.00		3450	0.40	0.40	
AUG	17	397	15.80	2.20	0.40	5.54	707				0.71		1104	1030	0.00	1.03	0.00		3450	0.30	0.30	
AUG	20	1248	50.60	7.04	1.25	5.64	2093	5636	22.60	3.15	5.64	0.56	3341	3110	0.00	3.11	0.00		3450	0.90	0.30	
AUG	21	396	13.20	1.84	0.40	4.64	672				0.67		1068	1000	0.00	1.00	0.00		3450	0.29	0.29	
AUG	22	322	15.80	2.20	0.32	6.83	552				0.55		874	820	0.00	0.82	0.00		3450	0.24	0.24	
AUG	23	379	17.00	2.37	0.38	6.24	650				0.65		1029	960	0.00	0.96	0.00		3450	0.28	0.28	
AUG	24	385	17.00	2.37	0.39	6.15	649				0.65		1034	980	0.00	0.98	0.00		3450	0.28	0.28	
AUG	27	1158	50.00	6.96	1.16	6.01	2005	4528	17.20	2.39	4.53	0.53	3163	2940	0.00	2.94	0.00		3450	0.85	0.28	
AUG	28	394	14.50	2.02	0.39	5.12	665				0.67		1059	990	0.00	0.99	0.00		3450	0.29	0.29	
AUG	29	333	13.20	1.84	0.33	5.52	556				0.56		889	850	0.00	0.85	0.00		3450	0.25	0.25	
AUG	30	343	15.80	2.20	0.34	6.41	568				0.57		911	840	0.00	0.84	0.00		3450	0.24	0.24	
AUG	31	336	13.90	1.93	0.34	5.76	584				0.58		920	870	0.00	0.87	0.00		3450	0.25	0.25	
AUG		13919	530.69	73.87	13.92	5.37	23561	22574	89.60	12.47	37.27	0.55	37480	34850	0.00	0.00	34.85	0.00	3450	0.48	0.34	
DAILY AVG		449					760						1209	1124								
MAX		776					1329						2105	1940								

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2001

		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	M TW T M3/W	# OF LTS/W	# OF KGS/W	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	3	992	43.60	6.07	0.99	6.12	1630	4003	16.00	2.23	4.00	0.56	2622	2450		0.00	2.45	0.00	3450	0.71	0.24
SEP	4	444	19.60	2.73	0.44	6.14	747				0.75		1191	1140		0.00	1.14	0.00	3450	0.33	0.33
SEP	5	290	12.00	1.67	0.29	5.76	489				0.49		779	710		0.00	0.71	0.00	3450	0.21	0.21
SEP	6	352	15.10	2.10	0.35	5.97	590				0.59		942	860		0.00	0.86	0.00	3450	0.25	0.25
SEP	7	346	15.80	2.20	0.35	6.36	565				0.57		911	870		0.00	0.87	0.00	3450	0.25	0.25
SEP	10	1373	58.80	8.18	1.37	5.96	2296	4687	19.70	2.74	4.69	0.59	3669	3440		0.00	3.44	0.00	3450	1.00	0.33
SEP	11	394	18.30	2.55	0.39	6.47	633				0.63		1027	970		0.00	0.97	0.00	3450	0.28	0.28
SEP	12	342	15.80	2.20	0.34	6.43	617				0.62		959	870		0.00	0.87	0.00	3450	0.25	0.25
SEP	13	353	13.20	1.84	0.35	5.21	632				0.63		985	890		0.00	0.89	0.00	3450	0.26	0.26
SEP	14	346	14.50	2.02	0.35	5.83	576				0.58		922	850		0.00	0.85	0.00	3450	0.25	0.25
SEP	17	1233	52.50	7.31	1.23	5.93	2091	4549	21.40	2.98	4.55	0.65	3324	3100		0.00	3.10	0.00	3450	0.90	0.30
SEP	18	366	18.30	2.55	0.37	6.96	624				0.62		990	960		0.00	0.96	0.00	3450	0.28	0.28
SEP	19	361	15.80	2.20	0.36	6.09	592				0.59		953	870		0.00	0.87	0.00	3450	0.25	0.25
SEP	20	362	16.40	2.28	0.36	6.31	594				0.59		956	900		0.00	0.90	0.00	3450	0.26	0.26
SEP	21	343	15.80	2.20	0.34	6.41	700				0.70		1043	860		0.00	0.86	0.00	3450	0.25	0.25
SEP	24	1246	54.40	7.57	1.25	6.08	2088	4598	19.70	2.74	4.60	0.60	3334	3120		0.00	3.12	0.00	3450	0.90	0.30
SEP	25	360	15.10	2.10	0.36	5.84	616				0.62		976	910		0.00	0.91	0.00	3450	0.26	0.26
SEP	26	330	14.50	2.02	0.33	6.12	646				0.65		976	840		0.00	0.84	0.00	3450	0.24	0.24
SEP	27	319	14.50	2.02	0.32	6.33	632				0.63		951	800		0.00	0.80	0.00	3450	0.23	0.23
SEP	28	387	17.00	2.37	0.39	6.11	653				0.65		1040	1040		0.00	1.04	0.00	3450	0.30	0.30
SEP		10539	461.00	64.17	10.54	6.12	18011	17837	76.80	10.69	27.74	0.60	28550	26450	0.00	0.00	26.45	0.00	3450	0.37	0.27
DAILY AVG		351					600						952	882							
MAX		444					747						1191	1140							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2001

		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	M TW T M3/W	# OF LTS/W	# OF KGS/W	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	M3 POP/DAY	M3 P/DAY
OCT	1	1180	51.90	7.22	1.18	6.12	2063	4610	19.70	2.74	4.61	0.59	3243	2990		0.00	2.99	0.00	3450	0.87	0.29
OCT	2	313	13.90	1.93	0.31	6.18	532				0.53		845	800		0.00	0.80	0.00	3450	0.23	0.23
OCT	3	343	15.10	2.10	0.34	6.13	605				0.61		948	870		0.00	0.87	0.00	3450	0.25	0.25
OCT	4	348	13.20	1.84	0.35	5.28	594				0.59		942	940		0.00	0.94	0.00	3450	0.27	0.27
OCT	5	387	14.50	2.02	0.39	5.22	695				0.70		1082	950		0.00	0.95	0.00	3450	0.28	0.28
OCT	8	1027	47.40	6.60	1.03	6.42	2006	4432	17.30	2.41	4.43	0.54	3033	2640		0.00	2.64	0.00	3450	0.77	0.26
OCT	9	451	18.90	2.63	0.45	5.83	989				0.99		1440	1140		0.00	1.14	0.00	3450	0.33	0.33
OCT	10	322	10.70	1.49	0.32	4.63	805				0.81		1127	810		0.00	0.81	0.00	3450	0.23	0.23
OCT	11	319	17.70	2.46	0.32	7.72	764				0.76		1083	810		0.00	0.81	0.00	3450	0.23	0.23
OCT	12	336	17.00	2.37	0.34	7.04	687				0.69		1023	910		0.00	0.91	0.00	3450	0.26	0.26
OCT	15	1121	53.10	7.39	1.12	6.59	2030	5275	22.20	3.09	5.28	0.59	3151	2970		0.00	2.97	0.00	3450	0.86	0.29
OCT	16	307	14.50	2.02	0.31	6.57	560				0.56		867	820		0.00	0.82	0.00	3450	0.24	0.24
OCT	17	333	16.40	2.28	0.33	6.86	821				0.82		1154	860		0.00	0.86	0.00	3450	0.25	0.25
OCT	18	339	14.50	2.02	0.34	5.95	630				0.63		969	890		0.00	0.89	0.00	3450	0.26	0.26
OCT	19	300	12.60	1.75	0.30	5.85	549				0.55		849	790		0.00	0.79	0.00	3450	0.23	0.23
OCT	22	1108	44.90	6.25	1.11	5.64	2010	4570	18.90	2.63	4.57	0.58	3118	2950		0.00	2.95	0.00	3450	0.86	0.29
OCT	23	333	15.10	2.10	0.33	6.31	593				0.59		926	870		0.00	0.87	0.00	3450	0.25	0.25
OCT	24	331	13.90	1.93	0.33	5.85	600				0.60		931	870		0.00	0.87	0.00	3450	0.25	0.25
OCT	25	331	14.50	2.02	0.33	6.10	624				0.62		955	860		0.00	0.86	0.00	3450	0.25	0.25
OCT	26	301	13.20	1.84	0.30	6.10	565				0.57		866	850		0.00	0.85	0.00	3450	0.25	0.25
OCT	29	1024	43.60	6.07	1.02	5.93	2042	4424	17.84	2.48	4.42	0.56	3066	2890		0.00	2.89	0.00	3450	0.84	0.28
OCT	30	294	12.60	1.75	0.29	5.97	593				0.59		887	850		0.00	0.85	0.00	3450	0.25	0.25
OCT	31	302	12.60	1.75	0.30	5.81	608				0.61		910	860		0.00	0.86	0.00	3450	0.25	0.25
OCT	DAILY AVG	11450	501.80	69.85	11.45	6.09	21965	18701	95.94	13.35	35.13	0.57	33415	30190	0.00	0.00	30.19	0.00	3450	0.37	0.26
		369					709						1078	974							
	MAX	451					989						1440	1140							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS

2001

		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	M TW T M3/W	# OF LTS/W	# OF KGS/W	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	M3 POP	M3 POP/DAY	M3 P/DAY
NOV	1	360	14.50	2.02	0.36	5.61	731				0.73		1091	1070	0.00	0.00	1.07	0.00	3450	0.31	0.31
NOV	2	207	8.23	1.15	0.21	5.53	423				0.42		630	500	0.00	0.00	0.50	0.00	3450	0.14	0.14
NOV	5	1080	40.50	5.64	1.08	5.22	2205	4560	19.90	2.77	4.56	0.61	3285	3120	0.00	0.00	3.12	0.00	3450	0.90	0.30
NOV	6	304	10.70	1.49	0.30	4.90	619				0.62		923	860	0.00	0.00	0.86	0.00	3450	0.25	0.25
NOV	7	275	10.70	1.49	0.28	5.42	571				0.57		846	800	0.00	0.00	0.80	0.00	3450	0.23	0.23
NOV	8	274	10.10	1.41	0.27	5.13	582				0.58		856	780	0.00	0.00	0.78	0.00	3450	0.23	0.23
NOV	9	348	15.80	2.20	0.35	6.32	750				0.75		1098	1040	0.00	0.00	1.04	0.00	3450	0.30	0.30
NOV	12	993	41.15	5.73	0.99	5.77	1985	4504	18.69	2.60	4.50	0.58	2978	2800	0.00	0.00	2.80	0.00	3450	0.81	0.27
NOV	13	321	13.93	1.94	0.32	6.04	654				0.65		975	930	0.00	0.00	0.93	0.00	3450	0.27	0.27
NOV	14	306	12.60	1.75	0.31	5.73	620				0.62		926	860	0.00	0.00	0.86	0.00	3450	0.25	0.25
NOV	15	306	12.60	1.75	0.31	5.73	633				0.63		939	890	0.00	0.00	0.89	0.00	3450	0.26	0.26
NOV	16	288	12.60	1.75	0.29	6.09	588				0.59		876	850	0.00	0.00	0.85	0.00	3450	0.25	0.25
NOV	19	1028	42.40	5.90	1.03	5.74	2099	4594	18.40	2.56	4.59	0.56	3127	2920	0.00	0.00	2.92	0.00	3450	0.85	0.28
NOV	20	311	12.60	1.75	0.31	5.64	617				0.62		928	870	0.00	0.00	0.87	0.00	3450	0.25	0.25
NOV	21	320	15.10	2.10	0.32	6.57	661				0.66		981	930	0.00	0.00	0.93	0.00	3450	0.27	0.27
NOV	22	295	11.30	1.57	0.30	5.33	618				0.62		913	840	0.00	0.00	0.84	0.00	3450	0.24	0.24
NOV	23	304	13.20	1.84	0.30	6.04	627				0.63		931	880	0.00	0.00	0.88	0.00	3450	0.26	0.26
NOV	26	978	37.90	5.28	0.98	5.39	2068	4586	19.97	2.78	4.59	0.61	3046	2820	0.00	0.00	2.82	0.00	3450	0.82	0.27
NOV	27	314	13.90	1.93	0.31	6.16	643				0.64		957	900	0.00	0.00	0.90	0.00	3450	0.26	0.26
NOV	28	305	11.30	1.57	0.31	5.16	649				0.65		954	910	0.00	0.00	0.91	0.00	3450	0.26	0.26
NOV	29	309	13.90	1.93	0.31	6.26	640				0.64		949	860	0.00	0.00	0.86	0.00	3450	0.25	0.25
NOV	30	309	12.00	1.67	0.31	5.41	629				0.63		938	890	0.00	0.00	0.89	0.00	3450	0.26	0.26
NOV		9535	387.01	53.87	9.54	5.69	19612	18244	76.96	10.71	29.50	0.59	29147	27320	0.00	0.00	27.32	0.00	3450	0.37	0.26
DAILY AVG		318					654						972	911							
MAX		360					750						1098	1070							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS
2001

		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	M TW T M3/W	# OF LTS/W	# OF KGS/W	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
DEC	3	988	41.10	5.72	0.99	5.79	2012	4573	18.90	2.63	4.57	0.58	3000	2820		0.00	2.82	0.00	3450	0.82	0.27
DEC	4	273	12.00	1.67	0.27	6.12	517				0.52		790	790		0.00	0.79	0.00	3450	0.23	0.23
DEC	5	324	12.60	1.75	0.32	5.41	680				0.68		1004	880		0.00	0.88	0.00	3450	0.26	0.26
DEC	6	291	10.70	1.49	0.29	5.12	587				0.59		878	860		0.00	0.86	0.00	3450	0.25	0.25
DEC	7	327	12.00	1.67	0.33	5.11	673				0.67		1000	920		0.00	0.92	0.00	3450	0.27	0.27
DEC	10	1073	37.90	5.28	1.07	4.92	2229	4686	20.30	2.83	4.69	0.60	3302	2980		0.00	2.98	0.00	3450	0.86	0.29
DEC	11	314	12.60	1.75	0.31	5.59	617				0.62		931	870		0.00	0.87	0.00	3450	0.25	0.25
DEC	12	282	10.10	1.41	0.28	4.99	566				0.57		848	830		0.00	0.83	0.00	3450	0.24	0.24
DEC	13	484	14.50	2.02	0.48	4.17	961				0.96		1445	1330		0.00	1.33	0.00	3450	0.39	0.39
DEC	14	47	2.53	0.35	0.05	7.49	96				0.10		143	120		0.00	0.12	0.00	3450	0.03	0.03
DEC	17	1200	37.90	5.28	1.20	4.40	2380	4620	18.60	2.59	4.62	0.56	3580	3380		0.00	3.38	0.00	3450	0.98	0.33
DEC	18	321	10.10	1.41	0.32	4.38	614				0.61		935	960		0.00	0.96	0.00	3450	0.28	0.28
DEC	19	347	10.10	1.41	0.35	4.05	689				0.69		1036	950		0.00	0.95	0.00	3450	0.28	0.28
DEC	20	423	13.90	1.93	0.42	4.57	848				0.85		1271	1150		0.00	1.15	0.00	3450	0.33	0.33
DEC	21	368	10.13	1.41	0.37	3.83	739				0.74		1107	1010		0.00	1.01	0.00	3450	0.29	0.29
DEC	24	952	32.20	4.48	0.95	4.71	1877	4767	19.30	2.69	4.77	0.56	2829	2690		0.00	2.69	0.00	3450	0.78	0.26
DEC	27	988	31.60	4.40	0.99	4.45	2068				2.07		3056	2800		0.00	2.80	0.00	3450	0.81	0.27
DEC	28	354	10.10	1.41	0.35	3.97	710				0.71		1064	970		0.00	0.97	0.00	3450	0.28	0.28
DEC	31	1076	33.50	4.66	1.08	4.33	2245	5023	19.30	2.69	5.02	0.53	3321	3060		0.00	3.06	0.00	3450	0.89	0.30
DEC		10432	355.56	49.49	10.43	4.92	21108	23669	96.40	13.42	34.03	0.57	31540	29370	0.00	0.00	29.37	0.00	3450	0.45	0.27
DAILY AVG		337					681						1017	947							
MAX		484					961						1445	1330							

TOWNSHIP OF RUSSELL
RUSSELL WATER PUMPAGE CHARTS

2001

		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	M TW T M3/W	# OF LTS/W	# OF KGS/W	M3 /1000	MG/L	TOTAL	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY	
JAN		13142	429.62	59.80	13.14	4.52	15804	14556	49.80	6.93	24.30	0.47	28946	27050	0.00	0.00	27.05	0.00	3450	0.37	0.26	
FEB		11682	377.75	52.58	11.68	4.51	13657	14035	44.30	6.17	21.61	0.44	25339	23590	0.00	0.00	23.59	0.00	3450	0.34	0.24	
MAR		12786	430.40	59.91	12.79	4.71	15109	14013	52.52	7.31	22.82	0.52	27895	25810	0.00	0.00	25.81	0.00	3450	0.34	0.25	
APR		14210	444.69	61.90	14.21	4.44	15608	17574	61.19	8.52	21.65	0.69	30634	27540	0.00	0.00	27.54	0.00	3450	0.39	0.26	
MAY		14188	453.65	63.15	14.19	4.51	24312	22433	76.90	10.70	36.51	0.48	38500	36150	0.00	0.00	36.15	0.00	3450	0.48	0.34	
JUNE		12636	396.80	56.03	12.64	4.46	22719	21024	71.60	9.97	35.32	0.47	35355	33250	0.00	0.00	33.25	0.00	3450	0.46	0.34	
JULY		15721	552.68	76.93	15.72	4.87	27196	24206	107.00	14.89	44.86	0.50	42917	39960	0.00	0.00	39.96	0.00	3450	0.51	0.37	
AUG		13919	530.69	73.87	13.92	5.37	23561	22574	89.60	12.47	37.27	0.55	37480	34850	0.00	0.00	34.85	0.00	3450	0.48	0.34	
SEP		10539	461.00	64.17	10.54	6.12	18011	17837	76.80	10.69	27.74	0.60	28550	26450	0.00	0.00	26.45	0.00	3450	0.37	0.27	
OCT		11450	501.80	69.85	11.45	6.09	21965	18701	95.94	13.35	35.13	0.57	33415	30190	0.00	0.00	30.19	0.00	3450	0.37	0.26	
NOV		9535	387.01	53.87	9.54	5.69	19612	18244	76.96	10.71	29.50	0.59	29147	27320	0.00	0.00	27.32	0.00	3450	0.37	0.26	
DEC		10432	355.56	49.49	10.43	4.92	21108	23669	96.40	13.42	34.03	0.57	31540	29370	0.00	0.00	29.37	0.00	3450	0.45	0.27	
TOTAL		150,240	5321.65	741.57	150.24	5.02	238,662	395,176	899.01	125.14	370.74	0.54	389,718	361,530	0.00	0.00	361.53	0.00	3450	0.45	0.31	

TOWNSHIP OF RUSSELL
MARIONVILLE/RUSSELL POST WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE				
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L
JAN	3	1249	5.19	0.72	1.25	0.58
JAN	4	415	1.41	0.20	0.42	0.47
JAN	5	558	1.88	0.26	0.56	0.47
JAN	8	1997	9.40	1.31	2.00	0.66
JAN	9	499	1.88	0.26	0.50	0.52
JAN	10	515	1.88	0.26	0.52	0.51
JAN	11	520	1.41	0.20	0.52	0.38
JAN	12	633	2.36	0.33	0.63	0.52
JAN	15	2059	6.61	0.92	2.06	0.45
JAN	16	384	6.13	0.85	0.38	2.22
JAN	17	552	1.41	0.20	0.55	0.36
JAN	18	611	1.88	0.26	0.61	0.43
JAN	19	466	0.94	0.13	0.47	0.28
JAN	22	1898	6.60	0.92	1.90	0.48
JAN	23	608	1.88	0.26	0.61	0.43
JAN	24	450	1.41	0.20	0.45	0.44
JAN	25	537	1.88	0.26	0.54	0.49
JAN	26	527	1.88	0.26	0.53	0.50
JAN	29	1970	6.13	0.85	1.97	0.43
JAN	30	504	1.41	0.20	0.50	0.39
JAN	31	598	1.88	0.26	0.60	0.44
JAN		17550	65.45	9.11	17.55	0.55
DAILY AVG		566				
MAX		633				

TOWNSHIP OF RUSSELL
MARIONVILLE/RUSSELL POST WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE				
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L
FEB	1	314	0.94	0.13	0.31	0.42
FEB	2	543	1.88	0.26	0.54	0.48
FEB	5	1809	6.60	0.92	1.81	0.51
FEB	6	533	1.88	0.26	0.53	0.49
FEB	7	503	2.30	0.32	0.50	0.64
FEB	8	704	2.83	0.39	0.70	0.56
FEB	9	360	1.41	0.20	0.36	0.55
FEB	12	2009	5.66	0.79	2.01	0.39
FEB	13	455	1.41	0.20	0.46	0.43
FEB	14	522	1.41	0.20	0.52	0.38
FEB	15	549	1.41	0.20	0.55	0.36
FEB	16	544	1.41	0.20	0.54	0.36
FEB	19	2010	5.10	0.71	2.01	0.35
FEB	20	438	1.41	0.20	0.44	0.45
FEB	21	510	1.88	0.26	0.51	0.51
FEB	22	509	1.88	0.26	0.51	0.51
FEB	23	530	1.88	0.26	0.53	0.49
FEB	26	1968	5.60	0.78	1.97	0.40
FEB	27	412	1.41	0.20	0.41	0.48
FEB	28	492	1.88	0.26	0.49	0.53
FEB		15714	50.18	6.99	15.71	0.46
DAILY AVG		542				
MAX		704				

TOWNSHIP OF RUSSELL
MARIONVILLE/RUSSELL POST WATER PUMPAGE CHARTS

2001		POST HYPOCHLORITE				
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L
MAR	1	531	1.88	0.26	0.53	0.49
MAR	2	514	1.88	0.26	0.51	0.51
MAR	5	1954	9.40	1.31	1.95	0.67
MAR	6	438	1.41	0.20	0.44	0.45
MAR	7	505	1.88	0.26	0.51	0.52
MAR	8	537	1.88	0.26	0.54	0.49
MAR	9	556	2.36	0.33	0.56	0.59
MAR	12	1964	6.60	0.92	1.96	0.47
MAR	13	451	1.88	0.26	0.45	0.58
MAR	14	521	2.80	0.39	0.52	0.75
MAR	15	532	2.36	0.33	0.53	0.62
MAR	16	509	2.36	0.33	0.51	0.65
MAR	19	1904	7.00	0.97	1.90	0.51
MAR	20	396	1.88	0.26	0.40	0.66
MAR	21	517	1.41	0.20	0.52	0.38
MAR	22	543	2.36	0.33	0.54	0.60
MAR	23	551	1.41	0.20	0.55	0.36
MAR	26	2022	5.19	0.72	2.02	0.36
MAR	27	385	1.41	0.20	0.39	0.51
MAR	28	510	2.36	0.33	0.51	0.64
MAR	29	519	2.36	0.33	0.52	0.63
MAR	30	543	2.36	0.33	0.54	0.60
MAR		16902	64.43	8.97	16.90	0.55
DAILY AVG		545				
MAX		556				

TOWNSHIP OF RUSSELL
MARIONVILLE/RUSSELL POST WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE				
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L
APR	2	1983	8.02	1.12	1.98	0.56
APR	3	386	1.41	0.20	0.39	0.51
APR	4	538	2.36	0.33	0.54	0.61
APR	5	541	1.41	0.20	0.54	0.36
APR	6	523	1.88	0.26	0.52	0.50
APR	9	1954	4.72	0.66	1.95	0.34
APR	10	409	1.88	0.26	0.41	0.64
APR	11	501	1.41	0.20	0.50	0.39
APR	12	508	1.41	0.20	0.51	0.39
APR	16	2478	6.13	0.85	2.48	0.34
APR	17	684	2.83	0.39	0.68	0.58
APR	18	373	0.94	0.13	0.37	0.35
APR	19	521	1.41	0.20	0.52	0.38
APR	20	552	1.41	0.20	0.55	0.36
APR	23	2013	9.91	1.38	2.01	0.69
APR	24	342	1.41	0.20	0.34	0.57
APR	25	894	2.80	0.39	0.89	0.44
APR	26	477	1.88	0.26	0.48	0.55
APR	27	554	1.88	0.26	0.55	0.47
APR	30	1975	7.08	0.99	1.98	0.50
APR		18206	62.18	8.66	18.21	0.48
DAILY AVG		607				
MAX		894				

TOWNSHIP OF RUSSELL
MARIONVILLE/RUSSELL POST WATER PUMPAGE CHARTS

2001		POST HYPOCHLORITE				
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L
MAY	1	408	1.41	0.20	0.41	0.48
MAY	2	1039	2.83	0.39	1.04	0.38
MAY	3	654	2.36	0.33	0.65	0.50
MAY	4	836	3.30	0.46	0.84	0.55
MAY	7	2167	7.00	0.97	2.17	0.45
MAY	8	1150	5.19	0.72	1.15	0.63
MAY	9	1557	4.24	0.59	1.56	0.38
MAY	10	906	2.83	0.39	0.91	0.43
MAY	11	1003	3.70	0.52	1.00	0.51
MAY	14	2683	8.97	1.25	2.68	0.47
MAY	15	1046	4.24	0.59	1.05	0.56
MAY	16	988	2.83	0.39	0.99	0.40
MAY	17	1107	4.72	0.66	1.11	0.59
MAY	18	960	4.72	0.66	0.96	0.68
MAY	22	4243	13.20	1.84	4.24	0.43
MAY	23	603	2.83	0.39	0.60	0.65
MAY	24	394	1.41	0.20	0.39	0.50
MAY	25	673	2.83	0.39	0.67	0.59
MAY	28	2603	7.50	1.04	2.60	0.40
MAY	29	773	3.77	0.52	0.77	0.68
MAY	30	537	2.36	0.33	0.54	0.61
MAY	31	586	1.88	0.26	0.59	0.45
MAY		26916	94.12	13.10	26.92	0.52
DAILY AVG		868				
MAX		1557				

TOWNSHIP OF RUSSELL
MARIONVILLE/RUSSELL POST WATER PUMPAGE CHARTS

2001

		POST HYPOCHLORITE				
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L
JUNE	1	666	1.88	0.26	0.67	0.39
JUNE	4	2392	6.60	0.92	2.39	0.38
JUNE	5	626	2.36	0.33	0.63	0.52
JUNE	6	589	1.88	0.26	0.59	0.44
JUNE	7	697	2.83	0.39	0.70	0.57
JUNE	8	791	2.36	0.33	0.79	0.42
JUNE	11	2807	9.90	1.38	2.81	0.49
JUNE	12	1005	3.30	0.46	1.01	0.46
JUNE	13	870	2.30	0.32	0.87	0.37
JUNE	14	1060	3.30	0.46	1.06	0.43
JUNE	15	1077	4.24	0.59	1.08	0.55
JUNE	18	2678	8.40	1.17	2.68	0.44
JUNE	19	974	3.30	0.46	0.97	0.47
JUNE	20	1026	3.77	0.52	1.03	0.51
JUNE	21	1002	4.24	0.59	1.00	0.59
JUNE	22	1005	2.83	0.39	1.01	0.39
JUNE	25	2147	8.02	1.12	2.15	0.52
JUNE	26	1031	2.80	0.39	1.03	0.38
JUNE	27	1095	3.77	0.52	1.10	0.48
JUNE	28	1023	4.24	0.59	1.02	0.58
JUNE	29	850	3.77	0.52	0.85	0.62
JUN		25411	86.09	11.98	25.41	0.48
DAILY AVG		847				
MAX		1095				

TOWNSHIP OF RUSSELL
MARIONVILLE/RUSSELL POST WATER PUMPAGE CHARTS

2001		POST HYPOCHLORITE				
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L
JULY	2	2435	8.49	1.18	2.44	0.49
JULY	3	985	3.30	0.46	0.99	0.47
JULY	4	594	1.41	0.20	0.59	0.33
JULY	5	602	2.30	0.32	0.60	0.53
JULY	6	824	2.80	0.39	0.82	0.47
JULY	9	2665	8.97	1.25	2.67	0.47
JULY	10	936	3.30	0.46	0.94	0.49
JULY	11	813	2.30	0.32	0.81	0.39
JULY	12	657	3.70	0.52	0.66	0.78
JULY	13	534	2.30	0.32	0.53	0.60
JULY	16	2295	7.50	1.04	2.30	0.45
JULY	17	1065	2.36	0.33	1.07	0.31
JULY	18	1221	3.77	0.52	1.22	0.43
JULY	19	1199	4.72	0.66	1.20	0.55
JULY	20	1228	5.19	0.72	1.23	0.59
JULY	23	3158	12.70	1.77	3.16	0.56
JULY	24	1207	4.72	0.66	1.21	0.54
JULY	25	1467	5.19	0.72	1.47	0.49
JULY	26	1015	3.30	0.46	1.02	0.45
JULY	27	1199	4.24	0.59	1.20	0.49
JULY	30	3312	12.70	1.77	3.31	0.53
JULY	31	888	4.20	0.58	0.89	0.66
JUL		30299	109.46	15.24	30.30	0.50
DAILY AVG		977				
MAX		1467				

TOWNSHIP OF RUSSELL
MARIONVILLE/RUSSELL POST WATER PUMPAGE CHARTS

2001		POST HYPOCHLORITE				
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L
AUG	1	1092	4.70	0.65	1.09	0.60
AUG	2	1253	4.72	0.66	1.25	0.52
AUG	3	656	2.36	0.33	0.66	0.50
AUG	6	2410	8.00	1.11	2.41	0.46
AUG	7	1281	6.13	0.85	1.28	0.67
AUG	8	1279	4.70	0.65	1.28	0.51
AUG	9	948	3.77	0.52	0.95	0.55
AUG	10	1213	4.72	0.66	1.21	0.54
AUG	13	2914	12.70	1.77	2.91	0.61
AUG	14	1056	2.36	0.33	1.06	0.31
AUG	15	1042	4.72	0.66	1.04	0.63
AUG	16	955	4.72	0.66	0.96	0.69
AUG	17	932	2.30	0.32	0.93	0.34
AUG	20	2317	11.30	1.57	2.32	0.68
AUG	21	743	2.80	0.39	0.74	0.52
AUG	22	618	2.83	0.39	0.62	0.64
AUG	23	747	2.83	0.39	0.75	0.53
AUG	24	720	2.30	0.32	0.72	0.44
AUG	27	2242	9.44	1.31	2.24	0.59
AUG	28	751	3.70	0.52	0.75	0.69
AUG	29	633	1.88	0.26	0.63	0.41
AUG	30	638	3.30	0.46	0.64	0.72
AUG	31	677	2.36	0.33	0.68	0.49
AUG		27117	108.64	15.12	27.12	0.55
DAILY AVG		875				
MAX		1281				

TOWNSHIP OF RUSSELL
MARIONVILLE/RUSSELL POST WATER PUMPAGE CHARTS

2001		POST HYPOCHLORITE				
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L
SEP	3	1879	7.08	0.99	1.88	0.52
SEP	4	833	3.30	0.46	0.83	0.55
SEP	5	419	1.41	0.20	0.42	0.47
SEP	6	613	2.36	0.33	0.61	0.54
SEP	7	645	2.36	0.33	0.65	0.51
SEP	10	2713	12.70	1.77	2.71	0.65
SEP	11	725	2.83	0.39	0.73	0.54
SEP	12	684	3.30	0.46	0.68	0.67
SEP	13	688	3.30	0.46	0.69	0.67
SEP	14	669	3.30	0.46	0.67	0.69
SEP	17	2319	11.33	1.58	2.32	0.68
SEP	18	701	4.20	0.58	0.70	0.83
SEP	19	661	2.80	0.39	0.66	0.59
SEP	20	664	3.30	0.46	0.66	0.69
SEP	21	693	3.30	0.46	0.69	0.66
SEP	24	2428	8.40	1.17	2.43	0.48
SEP	25	689	2.83	0.39	0.69	0.57
SEP	26	659	2.30	0.32	0.66	0.49
SEP	27	688	3.30	0.46	0.69	0.67
SEP	28	595	3.30	0.46	0.60	0.77
SEP		17253	76.62	10.67	17.25	0.62
DAILY AVG		575				
MAX		833				

TOWNSHIP OF RUSSELL
MARIONVILLE/RUSSELL POST WATER PUMPAGE CHARTS

2001		POST HYPOCHLORITE				
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L
OCT	1	2444	10.80	1.50	2.44	0.62
OCT	2	538	2.36	0.33	0.54	0.61
OCT	3	626	3.30	0.46	0.63	0.73
OCT	4	614	2.36	0.33	0.61	0.54
OCT	5	682	2.30	0.32	0.68	0.47
OCT	8	2349	8.49	1.18	2.35	0.50
OCT	9	1089	4.72	0.66	1.09	0.60
OCT	10	818	3.70	0.52	0.82	0.63
OCT	11	844	3.77	0.52	0.84	0.62
OCT	12	767	3.77	0.52	0.77	0.68
OCT	15	2346	8.97	1.25	2.35	0.53
OCT	16	491	1.88	0.26	0.49	0.53
OCT	17	950	3.77	0.52	0.95	0.55
OCT	18	571	2.36	0.33	0.57	0.58
OCT	19	692	2.80	0.39	0.69	0.56
OCT	22	2382	10.38	1.44	2.38	0.61
OCT	23	665	2.36	0.33	0.67	0.49
OCT	24	668	2.83	0.39	0.67	0.59
OCT	25	667	3.30	0.46	0.67	0.69
OCT	26	662	2.83	0.39	0.66	0.60
OCT	29	2249	8.49	1.18	2.25	0.53
OCT	30	537	2.36	0.33	0.54	0.61
OCT	31	626	3.30	0.46	0.63	0.73
OCT		24277	101.20	14.09	24.28	0.59
DAILY AVG		783				
MAX		1089				

TOWNSHIP OF RUSSELL
MARIONVILLE/RUSSELL POST WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE				
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L
NOV	1	667	2.80	0.39	0.67	0.58
NOV	2	776	3.30	0.46	0.78	0.59
NOV	5	2434	10.30	1.43	2.43	0.59
NOV	6	681	2.83	0.39	0.68	0.58
NOV	7	642	3.30	0.46	0.64	0.72
NOV	8	547	2.36	0.33	0.55	0.60
NOV	9	649	2.83	0.39	0.65	0.61
NOV	12	2466	9.44	1.31	2.47	0.53
NOV	13	720	2.83	0.39	0.72	0.55
NOV	14	679	3.30	0.46	0.68	0.68
NOV	15	693	2.83	0.39	0.69	0.57
NOV	16	655	2.30	0.32	0.66	0.49
NOV	19	2313	8.90	1.24	2.31	0.54
NOV	20	681	3.30	0.46	0.68	0.67
NOV	21	741	3.30	0.46	0.74	0.62
NOV	22	679	2.83	0.39	0.68	0.58
NOV	23	689	2.80	0.39	0.69	0.57
NOV	26	2257	9.90	1.38	2.26	0.61
NOV	27	707	2.83	0.39	0.71	0.56
NOV	28	714	3.30	0.46	0.71	0.64
NOV	29	701	2.80	0.39	0.70	0.56
NOV	30	694	2.83	0.39	0.69	0.57
NOV		21785	91.21	12.70	21.79	0.59
DAILY AVG		726				
MAX		2466				

TOWNSHIP OF RUSSELL
MARIONVILLE/RUSSELL POST WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE				
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L
DEC	3	2178	8.97	1.25	2.18	0.57
DEC	4	467	2.36	0.33	0.47	0.70
DEC	5	708	3.30	0.46	0.71	0.65
DEC	6	685	3.30	0.46	0.69	0.67
DEC	7	914	4.24	0.59	0.91	0.65
DEC	10	2381	9.44	1.31	2.38	0.55
DEC	11	703	2.83	0.39	0.70	0.56
DEC	12	628	2.30	0.32	0.63	0.51
DEC	13	747	2.36	0.33	0.75	0.44
DEC	14	304	1.41	0.20	0.30	0.65
DEC	17	2699	11.80	1.64	2.70	0.61
DEC	18	646	2.36	0.33	0.65	0.51
DEC	19	593	1.41	0.20	0.59	0.33
DEC	20	818	3.30	0.46	0.82	0.56
DEC	21	936	5.10	0.71	0.94	0.76
DEC	24	2229	8.97	1.25	2.23	0.56
DEC	27	2253	8.97	1.25	2.25	0.55
DEC	28	704	2.30	0.32	0.70	0.45
DEC	31	2522	9.90	1.38	2.52	0.55
DEC DAILY AVG		23115 746	94.62	13.17	23.12	0.57
MAX		2253				

TOWNSHIP OF RUSSELL
MARIONVILLE/RUSSELL POST WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE				
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L
JAN		17550	65.45	9.11	17.55	0.55
FEB		15714	50.18	6.99	15.71	0.46
MAR		16902	64.43	8.97	16.90	0.55
APR		18206	62.18	8.66	18.21	0.48
MAY		26916	94.12	13.10	26.92	0.52
JUNE		25411	86.09	11.98	25.41	0.48
JULY		30299	109.46	15.24	30.30	0.50
AUG		27117	108.64	15.12	27.12	0.55
SEP		17253	76.62	10.67	17.25	0.62
OCT		24277	101.20	14.09	24.28	0.59
NOV		21785	91.21	12.70	21.79	0.59
DEC		23115	94.62	13.17	23.12	0.57
TOTAL		264,545	1,004.20	139.79	264.55	0.54

[illegible]



MUNICIPALITÉ DE
TOWNSHIP OF **RUSSELL**

March 22, 2002

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

Attention: Mike Séguin

Re: **Russell Sewage**

Enclosed is the 2001 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.
- 2) The design flow of 400 m³/d/c was not exceeded.
- 3) With the exchange of pumps and modifications to the piping system, the station's flow capacity now stands at 46.8 l/s which exceeds the original design of 45 l/s. We are still reviewing different options to modify the station to above 50 l/s. These modifications will be completed in the near future and as previously mentioned, upon their completion, we will apply for amendments to the COA concerning its design.
- 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.

cc: M. Blanchard

RUSSELL
SANITARY CAPACITY REPORT
DECEMBER 31, 2001

SANITARY CAPACITY	
Residential Units	723 x 3.0 = 2169
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	2618

APPROVED SUBDIVISION LOTS	PLAN FILE #	NUMBER OF LOTS
Vacant Lots Infilling		13
Lapointe Development	03-T-97003	2

TOTAL VACANT LOTS		=	15
TOTAL POPULATION SERVICEABLE	15 x 3.0	=	45 PERSONS
DESIGN CAPACITY		=	2600 PERSONS

NOTE: AVERAGE PERSONS PER HOUSEHOLD = 3.0 (STATISTICS CANANA 1996)

**RUSSELL HYDRAULIC RESERVE
ACTUAL CAPACITY SEWAGE
As of December 30, 2001**

2001 = 674 m ³ /D	SERVICED POPULATION = 2531	FLOW = .266 m ³ /D/C
2000 = 724 m ³ /D	SERVICED POPULATION = 2422	FLOW = .299 m ³ /D/C
1999 = 714 m ³ /D	SERVICED POPULATION = 2265	FLOW = .325m ³ /D/C

AVERAGE = .297 m³/D/C
AS OF DECEMBER 30, 2001
AT .297 m³/D/C FLOW x 2531 = 751 m³/D

DESIGN FLOW = .400 m³/D/C
DESIGN POPULATION = 2600
FLOW = 1000 m³/DAY

CR = 1000 m³/DAY - 751 m³/DAY = 249 m³/DAY

P = EXISTING RESIDENTIAL POPULATION CONNECTED = 2266 AS OF DECEMBER 30, 2001

H = NO. OF CONNECTED RESIDENTIAL UNITS = 694

F = EXISTING PER CAPITA FLOW = .297 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 = 78

120 POPULATION

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

= 249 - (40 x .297) x 2531 / 694

= 249 - 43

= 206 m³/DAY UNCOMMITTED RESERVE

HYDRAULIC CAPACITY FOR AVERAGE DAILY FLOW

UNCOMMITTED NO. OF LOTS (LU)

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

= 206 / 3.0 x .297

= 231

RUSSELL
SEWAGE FLOWS
2001

DATE 2001	METER READING	AVERAGE MONTHLY (m³)	AVERAGE DAILY (m³)	POP	DAYS	AVERAGE SEWAGE (m³)
1-Jan	629022	20,416	659	2531	31	0.260
31-Jan	649438					
28-Feb	667466	18,028	644	2531	28	0.254
31-Mar	689659	22,193	716	2531	31	0.283
30-Apr	718528	28,869	962	2531	30	0.380
31-May	739158	20,630	665	2531	31	0.263
30-Jun	751225	17,993	600	2531	30	0.237
31-Jul	21394	16,081	519	2531	31	0.205
31-Aug	39644	18,250	589	2531	31	0.233
30-Sep	58746	19,102	637	2531	30	0.252
31-Oct	79336	20,590	664	2531	31	0.262
30-Nov	99090	19,754	658	2531	30	0.260
31-Dec	122985	23,895	771	2531	31	0.305
TOTAL m³		245,801				
AVG m³		20,483	674	2531		0.266
YEAR	TOTAL YEARLY m³	AVERAGE MONTHLY m³	AVERAGE DAILY m³	POP		AVERAGE SEWAGE m³
2000	264913	22,076	724	2422		0.299
1999	261374	21,781	714	2265		0.315
1998		22,150	705	2235		0.327
1997	267634	22,303	734	2189		0.336

June meter failure 17,993 estimated

RUSSELL
COMPLIANCE STATUS REPORT - SEWAGE
2001

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	20.4	0.66	242			300			7.5		
FEB	18.0	0.64	198			255			9.8		
MAR	22.2	0.72	196			238			9.8		
APR	28.8	0.97	160			170			6.1		
MAY	20.6	0.67	320	14.0	96	515	17.0	97	9.3	0.2	98
JUN	18.0	0.60	184			495			8.1		
JUL	16.9	0.52	170			160			7.8		
AUG	18.2	0.59	186			440			9.7		
SEP	19.1	0.64	191			155			9.8		
OCT	20.5	0.66	352			270			6.9		
NOV	19.7	0.65	201	4.0	98	148	13.0	91	6.0	0.5	92
DEC	23.8	0.77	201			125			6.5		
TOTAL	246.2										
AVG	20.5	0.67	217	9.0		273	15.0		8.1	0.4	
CRITERIA				25			25			1	

RUSSELL LAGOON
SPRING DISCHARGE 2001

<i>DATE</i>	<i>DAY</i>	<i>HRS</i>	<i>PLUME (L/S)</i>	<i>DISCHARGE FLOW M³/DAY</i>	<i>RIVER FLOW (CMS)</i>	<i>DILUTION</i>
2-May	1	14	60.6	3,054.2	2.06	34.0
3-May	2	24	60.6	5,235.8	1.99	32.8
4-May	3	24	60.6	5,235.8	1.85	30.5
5-May	4	24	60.6	5,235.8	1.91	31.5
6-May	5	24	60.6	5,235.8	1.77	29.2
7-May	6	24	50.0	4,320.0	1.60	32.0
8-May	7	24	50.0	4,320.0	1.55	31.0
9-May	8	24	50.0	4,320.0	1.97	39.4
10-May	9	24	50.0	4,320.0	1.42	28.4
11-May	10	24	39.8	3,438.7	1.35	33.9
12-May	11	24	39.8	3,438.7	1.30	32.7
13-May	12	24	29.5	2,548.8	1.30	44.1
14-May	13	24	21.4	1,849.0	1.27	59.3
15-May	14	24	21.4	1,849.0	1.13	52.8
TOTAL				54,401.8		

DATE	D.O. UPSTREAM	D.O. DOWNSTREAM	LAGOON DISCHARGE
4-May	12.5	11.2	10.0

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: May 2001

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		3.0	5.2	5.2	5.2	5.2	4.3	4.3	4.3	4.3	3.4	3.4	2.5	1.8	1.2																	53.3	
DURATION (hrs)		14	24	24	24	24	24	24	24	24	24	24	24	24	16																	318	
BOD mg/L			14						10						17																		14
S mg/L			17						11						24																		17
AMMONIA mg/L			17.5						18.3						16.5																		17.4
KN mg/L			21.7						22.2						17.9																		17.4
TRITE mg/L			<0.10						<0.10						<0.10																		20.6
TRATE mg/L			<0.10						6.20						1.65																		<0.10
OT P mg/L			0.19						0.22						0.21																		2.65
S mg/L																																	0.21
mg/L			7.59						7.45						8.16																		7.74

F.L.M. - CHEMICALS (BATCH DOSAGE)

VOLUME m ³	10	34																															
DOSAGE mg/L	4.2	22																															

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

<1000/100 mL			1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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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)

RUSSELL LAGOON FALL DISCHARGE - 2001

DATE	DAY	HRS	PLUME SET IN.	PLUME ACTUAL IN.	FLOW L/s	FLOW m ³ /d	DILUTION	RIVER FLOW (cms)
15-Nov	1	10	7	7	50	1,800	37.8	1.89
16-Nov	2	24	7	7	50	4,320	41.2	2.06
17-Nov	3	24	7	7	50	4,320	36.2	1.81
18-Nov	4	24	6	6	39.8	3,438	42.2	1.68
19-Nov	5	24	6	5	30.2	2,609	47.6	1.44
20-Nov	6	24	8	5	30.2	2,609	48.6	1.47
21-Nov	7	24	8	12	60.6	9,797	35.8	2.17
22-Nov	8	24	8	12	60.6	9,797	32.1	1.95
23-Nov	9	24	8	12	60.6	9,797	79.8	1.81
24-Nov	10	24	7	7	50	9,797	35.8	1.79
25-Nov	11	24	7	7	50	5,235	34.2	1.71
26-Nov	12	24	7	7	50	4,320	30.2	1.51
27-Nov	13	24	7	6	39.8	3,438	40.7	1.62
28-Nov	14	14	7	6	39.8	1,432	39.1	1.56
TOTAL		312				72,709		

DATE	D.O. UPSTREAM		DOWNSTREAM	LAGOON DISCHARGE
16-Nov	13.4		12.1	8.1
21-Nov	13.9		12.4	8.0
28-Nov	12.7		10.3	9.7

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: November 2001

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															1.8	4.3	4.3	3.4	2.6	2.6	9.8	9.8	9.8	9.8	5.2	4.3	3.4	1.4				72.5	
DURATION (hrs)															10	24	24	24	24	24	24	24	24	24	24	24	24	14				312	
BOD mg/L																4			2				2					8					4
S mg/L																5			7				14					24					13
AMMONIA mg/L																7.78			8.84				10.8					11.4					9.71
NH mg/L																9.60			10.4				12.3					12.5					11.20
CHLORITE mg/L																<0.10			<0.10				<0.10					<0.10					<0.10
CHLORATE mg/L																0.40			0.34				0.28					0.57					0.40
OT.P mg/L																0.56			0.39				0.56					0.52					0.51
HS mg/L																0			0				0					0					0
H mg/L																7.72			7.87				7.90					8.17					7.92

VOLUME - CHEMICALS (BATCH DOSAGE)

VOLUME m ³																																	
DOSAGE mg/L																																	

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

1000/100 mL																																	1
101-100,000/100 mL																1																	3
>100,000/100 mL																																	

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

1000/100 mL																1																	3
101-100,000/100 mL																																	1
>100,000/100 mL																																	

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

SEWAGE COMPLAINTS – RUSSELL – 2001

DATE	ADDRESS	COMPLAINT
Apr 9	112 Mill Street	Blocked sewer
June 14	11 Gold	Sewer back-up
Sep 15	108 Stiver	Sewer back-up

Municipality: **TOWNSHIP OF RUSSELL**

Project Name: **RUSSELL SEWAGE LAGOON**

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

Operating Authority: **MUNICIPAL**

Address:

File No. **4 6**

Works Number **1 1 0 0 0 1 5 1 4**

Data Period Month **0 1** Year **0 1**

Discharge Type **3 1**

Update Code **2**

R

C.P. **3 5**

FLOWS

12 13 Total Flow
Avg. Day Flow
Max. Day Flow

Parameter Code

(10³m³) **5 0 0 1 0**

(10³m³/d) **5 0 0 1 5**

(10³m³/d) **5 0 0 2 0**

Dec. **3**

3

3

Monthly Results

2 0 4

6 5

3 5

BYPASS

12 13 Plant Bypass Vol.
Duration

(10³m³) **5 0 2 7 0**

(Hrs.) **8 1 6 8 0**

3

1

0

No. of Occurrences

0

3 6

RAW SEWAGE

12 13 BOD
SS
TKN
Total P.

(mg/L) **0 0 0 0 1**

(mg/L) **0 0 0 0 6**

(mg/L) **0 0 0 2 0**

(mg/L) **0 0 0 3 3**

0

0

2

1

Monthly Average Results

2 4 2

3 10 10

6 9 9

7 5

No. of Samples

1

1

1

1

3 9

FINAL EFFLUENT

12 13 Total Eff. Volume To Watercourse
Flow Duration
Cell Depth
BOD
SS
Ammonia
TKN
Total P.

(10³m³) **5 0 2 8 0**

(Hrs.) **8 1 6 8 0**

(m) **5 0 2 9 0**

(mg/L) **0 0 0 0 1**

(mg/L) **0 0 0 0 6**

(mg/L) **0 0 0 1 9**

(mg/L) **0 0 0 2 0**

(mg/L) **0 0 0 3 3**

3

1

1

1

1

2

2

2

7

Seasonal Discharge Lagoons Only

0 9

DISINFECTION

12 13 Chlorine Used
Chlorine Dosage
Chlorine Resid.

(kg as Cl₂) **5 0 3 2 0**

(mg/L as Cl₂) **8 0 4 1 0**

(mg/L as Cl₂) **8 0 4 2 0**

1

1

1

1

1

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: RUSSELL SEWAGE LAGOON		Address:	
Address: 717 NOTRE-DAME ST. EMBRUN ON			

File No. 4 6 1 2	Works Number 1 1 0 0 0 1 5 1 4 3 11	Data Period Month Year 0 2 0 1 16 19	3 1 20 21	Discharge Type 2 22	Update Code R 80
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C.P. 3 5 12 13	FLOWS	Parameter Code (10³m³) 5 0 0 1 0 (10³m³/d) 5 0 0 1 5 (10³m³/d) 5 0 0 2 0 30 34	Dec. 3 35	Monthly Results 1 8 0 6 4 38 46
	Total Flow			
	Avg. Day Flow			
	Max. Day Flow			

3 5 12 13	BYPASS	Parameter Code (10³m³) 5 0 2 7 0 (Hrs.) 8 1 6 8 0 30 34	Dec. 3 35	Monthly Results 0 38 46	No. of Occurrences 0 48 51
	Plant Bypass Vol.				
	Duration				

3 6 12 13	RAW SEWAGE	Parameter Code (mg/L) 0 0 0 0 1 (mg/L) 0 0 0 0 6 (mg/L) 0 0 0 2 0 (mg/L) 0 0 0 3 3 30 34	Dec. 0 35	Monthly Average Results 1 9 8 2 5 5 5 4 4 9 8 38 46	No. of Samples 1 1 1 1 48 51
	BOD				
	SS				
	TKN				
	Total P.				

3 9 12 13	FINAL EFFLUENT	Parameter Code (10³m³) 5 0 2 8 0 (Hrs.) 8 1 6 8 0 (m) 5 0 2 9 0 (mg/L) 0 0 0 0 1 (mg/L) 0 0 0 0 6 (mg/L) 0 0 0 1 9 (mg/L) 0 0 0 2 0 (mg/L) 0 0 0 3 3 30 34	Dec. 3 35	Monthly Results 1 8 0 6 4 5 4 4 9 8 38 46	Seasonal Discharge Lagoons Only 1 8 0 6 4 5 4 4 9 8 48 51
	Total Effl. Volume To Watercourse				
	Flow Duration				
	Cell Depth				
	BOD				
	SS				
	Ammonia				
	TKN				
	Total P.				

0 9 12 13	DISINFECTION	Parameter Code (kg as Cl₂) 5 0 3 2 0 (mg/L as Cl₂) 8 0 4 1 0 (mg/L as Cl₂) 8 0 4 2 0 30 34	Dec. 1 35	Monthly Results 8 0 4 1 0 8 0 4 2 0 38 46	No. of Occurrences 0 48 51
	Chlorine Used				
	Chlorine Dosage				
	Chlorine Resid.				

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Return completed blue form to:

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Project Name: RUSSELL SEWAGE LAGOON	Address: 717 NOTRE-DAME ST. EMBRUN ON

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

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

3 5	BYPASS		Parameter Code	Dec.	Monthly Results	
12 13		Plant Bypass Vol.	(10 ³ m ³)	5 0 2 7 0	3	
		Duration	(Hrs.)	8 1 6 8 0	1	
				30 34	35	38 46

No. of Occurrences
0
48 51

3 6	RAW SEWAGE		Parameter Code	Dec.	Monthly Average Results	
12 13		BOD	(mg/L)	0 0 0 0 1	0	
		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		Parameter Code	Dec.	Monthly Results	
12 13		Total Effl. Volume To Watercourse	(10 ³ m ³)	5 0 2 8 0	3	
		Flow Duration	(Hrs.)	8 1 6 8 0	1	
		Cell Depth	(m)	5 0 2 9 0	1	
		BOD	(mg/L)	0 0 0 0 1	1	
		SS	(mg/L)	0 0 0 0 6	1	
		Ammonia	(mg/L)	0 0 0 1 9	2	
		TKN	(mg/L)	0 0 0 2 0	2	
		Total P.	(mg/L)	0 0 0 3 3	2	
				30 34	35	38 46

Seasonal Discharge Lagoons Only

No. of Occurrences
1
48 51

0 9	DISINFECTION		Parameter Code	Dec.	Monthly Results	
12 13		Chlorine Used	(kg as Cl ₂)	5 0 3 2 0	1	
		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

No. of Occurrences
1
48 51

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

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(613) 443-1747

Return completed blue form to:

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

File No. 46	Works Number 110001514	Data Period Month Year 0401	Discharge Type 31	Update Code 2
1 2	3 11	16 19	20 21	22 80

C.P. 35	FLOWS 12 13 Total Flow Avg. Day Flow Max. Day Flow	(10 ³ m ³) 50010 (10 ³ m ³ /d) 50015 (10 ³ m ³ /d) 50020	Dec. 3	Monthly Results 288 096	No. of Occurrences: 0
		30 34 35 38 46			48 51
35	BYPASS 12 13 Plant Bypass Vol. Duration	(10 ³ m ³) 50270 (Hrs.) 81680	3 1	0	No. of Samples 1
		30 34 35 38 46			48 51
36	RAW SEWAGE 12 13 BOD SS TKN Total P.	(mg/L) 00001 (mg/L) 00006 (mg/L) 00020 (mg/L) 00033	0 0 2 1	Monthly Average Results 160 170 391 61	No. of Samples 1
		30 34 35 38 46			48 51
39	FINAL EFFLUENT 12 13 Total Effl. Volume To Watercourse Flow Duration Cell Depth BOD SS Ammonia TKN Total P.	(10 ³ m ³) 50280 (Hrs.) 81680 (m) 50290 (mg/L) 00001 (mg/L) 00006 (mg/L) 00019 (mg/L) 00020 (mg/L) 00033	3 1 1 1 2 2 2	Seasonal Discharge Lagoons Only 0	
		30 34 35 38 46			48 51
09	DISINFECTION 12 13 Chlorine Used Chlorine Dosage Chlorine Resid	(kg as Cl ₂) 50320 (mg/L as Cl ₂) 80410 (mg/L as Cl ₂) 80420	1 1 1	0	
		30 34 35 38 40 48 51			

Operator's Comments and Contact Person's Phone number

Craig Cullen, Superintendent
(613) 443-1747

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

File No. 4 6 1 2	Works Number 1 1 0 0 0 1 5 1 4 311	Data Period Month Year 0 5 0 1 1619	3 1 2021	Discharge Type 2 22	Update Code R 80
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C.P. 3 5		FLOWS							
12 13		Total Flow	(10 ³ m ³)	5 0 0 1 0	3	Monthly Results 2 0 6 0 6 7			
		Avg. Day Flow	(10 ³ m ³ /d)	5 0 0 1 5	3				
		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	No. of Occurrence 0			
		Duration	(Hrs.)	8 1 6 8 0	1				
				30 34 35					
				38 46		48 51			

3 6		RAW SEWAGE							
12 13		BOD	(mg/L)	0 0 0 0 1	0	Monthly Average Results 3 2 0 5 1 5 5 3 6 9 3			
		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	48 51	

3 9		FINAL EFFLUENT							
12 13		Total Eff. Volume To Watercourse	(10 ³ m ³)	5 0 2 8 0	3	Seasonal Discharge Lagoons Only 5 3 3 3 1 8 0 9			
		Flow Duration	(Hrs.)	8 1 6 8 0	1				
		Cell Depth	(m)	5 0 2 9 0	1				
		BOD	(mg/L)	0 0 0 0 1	1	30 34 35	38 46	48 51	
		SS	(mg/L)	0 0 0 0 6	1				
		Ammonia	(mg/L)	0 0 0 1 9	2				
		TKN	(mg/L)	0 0 0 2 0	2				
		Total P.	(mg/L)	0 0 0 3 3	2				

0 9		DISINFECTION							
12 13		Chlorine Used	(kg as Cl ₂)	5 0 3 2 0	1	No. of Samples 1 1 1 1			
		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 40 48 51			

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

Address:

James W.P.

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

File No. 4 6	Works Number 1 1 0 0 0 1 5 1 4	Data Period 0 6 0 1	3 1	Discharge Type 2	Update Code R
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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 1 7 9 10 6	
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 Occurrence 0
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 1 8 4 4 9 5 4 5 6 8 1	No. of Samples 1 1 1 1
3 9	FINAL EFFLUENT 12 13 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) (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
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	 	

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: RUSSELL 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 1 0 0 0 1 5 1 4	0 7 0 1	3 1 2	R
1 2	3 11	16 19	20 21 22	80

C.P.	3 5	FLOWS	Parameter Code	Dec.	Monthly Results
12 13		Total Flow (10 ³ m ³)	5 0 0 1 0	3	1 6 0 9
		Avg. Day Flow (10 ³ m ³ /d)	5 0 0 1 5	3	10 5 2
		Max. Day Flow (10 ³ m ³ /d)	5 0 0 2 0	3	
			30 34	35	38 46

3 5	BYPASS	Plant Bypass Vol. (10 ³ m ³)	5 0 2 7 0	3	<table border="1" style="width: 100%; text-align: center;"> <tr><td colspan="10">No. of Occurrences</td></tr> <tr><td colspan="10">0 </td></tr> <tr><td colspan="10">48 51</td></tr> </table>	No. of Occurrences										0										48 51									
No. of Occurrences																																			
0																																			
48 51																																			
12 13	Duration (Hrs.)	8 1 6 8 0	1	38 46																															

3 6	RAW SEWAGE	BOD (mg/L)	0 0 0 0 1	0	<table border="1" style="width: 100%; text-align: center;"> <tr><td colspan="10">No. of Samples</td></tr> <tr><td colspan="10">1 </td></tr> <tr><td colspan="10">1 </td></tr> <tr><td colspan="10">1 </td></tr> <tr><td colspan="10">1 </td></tr> <tr><td colspan="10">48 51</td></tr> </table>	No. of Samples										1										1										1										1										48 51									
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48 51																																																																	
12 13	SS (mg/L)	0 0 0 0 6	0	38 46																																																													
	TKN (mg/L)	0 0 0 2 0	2																																																														
	Total P. (mg/L)	0 0 0 3 3	1																																																														

3 9	FINAL EFFLUENT	Total Effl. Volume To Watercourse Flow Duration (10 ³ m ³)	5 0 2 8 0	3	<table border="1" style="width: 100%; text-align: center;"> <tr><td colspan="10">Seasonal Discharge Lagoons Only</td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10">48 51</td></tr> </table>	Seasonal Discharge Lagoons Only																																																																																																				48 51									
Seasonal Discharge Lagoons Only																																																																																																																			
48 51																																																																																																																			
12 13	Cell Depth (m)	8 1 6 8 0	1	38 46																																																																																																															
	BOD (mg/L)	5 0 2 9 0	1																																																																																																																
	SS (mg/L)	0 0 0 0 1	1																																																																																																																
	Ammonia (mg/L)	0 0 0 0 6	1																																																																																																																
	TKN (mg/L)	0 0 0 1 9	2																																																																																																																
	Total P. (mg/L)	0 0 0 2 0	2																																																																																																																
		0 0 0 3 3	2																																																																																																																

0 9	DISINFECTION	Chlorine Used (kg as Cl ₂)	5 0 3 2 0	1	<table border="1" style="width: 100%; text-align: center;"> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10"> </td></tr> <tr><td colspan="10">48 51</td></tr> </table>																																																																																																					48 51									
48 51																																																																																																																			
12 13	Chlorine Dosage (mg/L as Cl ₂)	8 0 4 1 0	1	38 46																																																																																																															
	Chlorine Resid. (mg/L as Cl ₂)	8 0 4 2 0	1																																																																																																																

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: RUSSELL SEWAGE LAGOON	Operating Authority: MUNICIPAL
Address: 717 NOTRE-DAME ST. EMBRUN ON	Address:

File No. 4 6 1 2	Works Number 1 1 0 0 0 1 5 1 4 3 11	Data Period 0 8 0 1 16 19	3 1 20 21	Discharge Type 2 22	Update Code R 80
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C.P. 3 5 12 13	FLOWS		Parameter Code 5 0 0 1 0 30 34	Dec. 3 35	Monthly Results <table style="width:100%; border-collapse: collapse; font-size: 10px;"> <tr><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td>1</td><td>8</td><td>2</td><td>5</td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td>0</td><td>5</td><td>9</td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> 38 46															1	8	2	5								0	5	9												
				1	8	2	5																																						
					0	5	9																																						

C.P. 3 5 12 13	BYPASS		Parameter Code 5 0 2 7 0 30 34	Dec. 3 35	<table style="width:100%; border-collapse: collapse; font-size: 10px;"> <tr><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td>0</td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> 38 46																	0														No. of Occurrences 0 48 51
						0																														

C.P. 3 6 12 13	RAW SEWAGE		Parameter Code 0 0 0 0 1 30 34	Dec. 0 35	Monthly Average Results <table style="width:100%; border-collapse: collapse; font-size: 10px;"> <tr><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td>1</td><td>8</td><td>6</td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td>4</td><td>4</td><td>0</td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td>6</td><td>8</td><td>8</td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td>9</td><td>7</td><td> </td><td> </td><td> </td><td> </td></tr> </table> 38 46															1	8	6								4	4	0								6	8	8								9	7					No. of Samples 1 48 51
				1	8	6																																																		
				4	4	0																																																		
				6	8	8																																																		
				9	7																																																			

C.P. 3 9 12 13	FINAL EFFLUENT		Parameter Code 5 0 2 8 0 30 34	Dec. 3 35	<table style="width:100%; border-collapse: collapse; font-size: 10px;"> <tr><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> 38 46																																																																																	Seasonal Discharge Lagoons Only <table style="width:100%; border-collapse: collapse; font-size: 10px;"> <tr><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> 48 51																																																		

C.P. 0 9 12 13	DISINFECTION		Parameter Code 5 0 3 2 0 30 34	Dec. 1 35	<table style="width:100%; border-collapse: collapse; font-size: 10px;"> <tr><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td><td style="border-bottom: 1px solid black; width: 10%;"> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> 38 46																																									 48 51

Operator's Comments and <u>Contact Person's Phone number:</u> Craig Cullen, Superintendent (613) 443-1747	Return completed blue form to:
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Municipality: TOWNSHIP OF RUSSELL	
Project Name: RUSSELL 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 1 0 0 0 1 5 1 4	1 0 0 1	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	<table border="1" style="width:100%; text-align: center;"> <tr><td colspan="5">Monthly Results</td></tr> <tr><td colspan="5">2 0 5 9</td></tr> <tr><td colspan="5">0 6 6</td></tr> </table>					Monthly Results					2 0 5 9					0 6 6																														
Monthly Results																																																			
2 0 5 9																																																			
0 6 6																																																			
		Avg. Day Flow	(10 ³ m ³ /d)	5 0 0 1 5	3																																														
		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	<table border="1" style="width:100%; text-align: center;"> <tr><td colspan="5">No. of Occurrence</td></tr> <tr><td colspan="5">0</td></tr> </table>					No. of Occurrence					0																																			
No. of Occurrence																																																			
0																																																			
		Duration	(Hrs.)	8 1 6 8 0	1																																														
				30 34	35	38	46																																												
3 6		RAW SEWAGE																																																	
12	13	BOD	(mg/L)	0 0 0 0 1	0	<table border="1" style="width:100%; text-align: center;"> <tr><td colspan="5">Monthly Average Results</td></tr> <tr><td colspan="5">3 5 2</td></tr> <tr><td colspan="5">2 7 0</td></tr> <tr><td colspan="5">5 6 1</td></tr> <tr><td colspan="5">6 9</td></tr> </table>					Monthly Average Results					3 5 2					2 7 0					5 6 1					6 9																				
Monthly Average Results																																																			
3 5 2																																																			
2 7 0																																																			
5 6 1																																																			
6 9																																																			
		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																																												
3 9		FINAL EFFLUENT																																																	
12	13	Total Effl. Volume To Watercourse	(10 ³ m ³)	5 0 2 8 0	3	<table border="1" style="width:100%; text-align: center;"> <tr><td colspan="5">Seasonal Discharge Lagoons Only</td></tr> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></td></tr> </table>					Seasonal Discharge Lagoons Only																																								
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		Flow Duration	(Hrs.)	8 1 6 8 0	1																																														
		Cell Depth	(m)	5 0 2 9 0	1																																														
		BOD	(mg/L)	0 0 0 0 1	1																																														
		SS	(mg/L)	0 0 0 0 6	1																																														
		Ammonia	(mg/L)	0 0 0 1 9	2																																														
		TKN	(mg/L)	0 0 0 2 0	2																																														
		Total P.	(mg/L)	0 0 0 3 3	2																																														
				30 34	35	38	46																																												
0 9		DISINFECTION																																																	
12	13	Chlorine Used	(kg as Cl ₂)	5 0 3 2 0	1	<table border="1" style="width:100%; text-align: center;"> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></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																																												

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: RUSSELL SEWAGE LAGOON	Operating Authority: MUNICIPAL
Address: 717 NOTRE-DAME ST. EMBRUN ON	Address:

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

C.P. 3 5 12 13	FLOWS	Parameter Code	Dec.	Monthly Results
Total Flow	(10 ³ m ³)	5 0 0 1 0	3	1 9 7 5
Avg. Day Flow	(10 ³ m ³ /d)	5 0 0 1 5	3	0 6 5
Max. Day Flow	(10 ³ m ³ /d)	5 0 0 2 0	3	
		30 34	35	38 46

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

3 6 12 13	RAW SEWAGE	Parameter Code	Dec.	Monthly Average Results	No. of Samples
BOD	(mg/L)	0 0 0 0 1	0	2 10 11	1
SS	(mg/L)	0 0 0 0 6	0	1 4 8	1
TKN	(mg/L)	0 0 0 2 0	2	5 10 14	1
Total P.	(mg/L)	0 0 0 3 3	1	6 0	1
		30 34	35	38 46	48 51

3 9 12 13	FINAL EFFLUENT	Parameter Code	Dec.	Monthly Results	Seasonal Discharge Lagoons Only
Total Eff. Volume To Watercourse	(10 ³ m ³)	5 0 2 8 0	3	7 2 5	
Flow Duration	(Hrs.)	8 1 6 8 0	1	3 1 2	
Cell Depth	(m)	5 0 2 9 0	1		
BOD	(mg/L)	0 0 0 0 1	1	14 10	4
SS	(mg/L)	0 0 0 0 6	1	1 13 10	4
Ammonia	(mg/L)	0 0 0 1 9	2	19 17	4
TKN	(mg/L)	0 0 0 2 0	2	1 12	4
Total P.	(mg/L)	0 0 0 3 3	2	0 5	4
		30 34	35	38 46	48 51

0 9 12 13	DISINFECTION	Parameter Code	Dec.	Monthly Results
Chlorine Used	(kg as Cl ₂)	5 0 3 2 0	1	
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

Operator's Comments and Contact Person's Phone number

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to:



**Municipal Utility Monitoring Program
Lagoons**

Municipality:	TOWNSHIP OF RUSSELL	
Project Name:	RUSSELL 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	1	0	0	0	1	5	1	4	1	2	3	1	2	R
1 2	3 11								16 19		20 21	22	80		

C.P.	
3	5

Flows

Total Flow (10³m³)

Avg. Day Flow (10³m³/d)

Max. Day Flow (10³m³/d)

Parameter Code					
5	0	0	1	0	
5	0	0	1	5	
5	0	0	2	0	

30
34

Dec.	Monthly Results
3	2 3 8 9
3	0 7 7
3	. . .

35
36
46

3	5	BYPASS
12	13	Plant Bypass Vol.
		Duration

$(10^3 m^3)$	5	0	2	7	0
(Hrs.)	8	1	6	8	0

30
34

3
1

$10^3 m^3$

38
46

No. of Occurrence
0

No. of Occurrence

48
52

3		6		RAW SEWAGE										Monthly Average Results										No. of Samples									
12		13		BOD		(mg/L)		0	0	0	0	1	0		12		0	1	1		1		1		1		1		1				
				SS		(mg/L)		0	0	0	0	6	0		1		1	2	15														
				TKN		(mg/L)		0	0	0	2	0	2		2		2	1															
				Total P.		(mg/L)		0	0	0	3	3	1		16		15																
								30				34		35		38				46		48				50							

FINAL EFFLUENT

3	9
---	---

12 13

Total Eff. Volume To Watercourse

Flow Duration

Cell Depth

BOD

SS

Ammonia

TKN

Total P.

(10³m³)

(hrs.)

(m)

(mg/L)

(mg/L)

(mg/L)

(mg/L)

(mg/L)

30 34 35 36 46 48 51

Seasonal Discharge Lagoons Only

The figure displays a series of charts for final effluent data. At the top, a table shows flow duration and cell depth. Below this, a series of charts show BOD, SS, Ammonia, TKN, and Total P. The charts are arranged in a grid, with the first column showing flow duration and cell depth, and the subsequent columns showing BOD, SS, Ammonia, TKN, and Total P. The charts are labeled with seasonal discharge for lagoons only. The x-axis for the charts is labeled with values 30, 34, 35, 36, 46, 48, and 51. The y-axis for the charts is labeled with values 12, 13, 3, 9, 1, 1, 2, 2, and 2. The charts are arranged in a grid, with the first column showing flow duration and cell depth, and the subsequent columns showing BOD, SS, Ammonia, TKN, and Total P. The charts are labeled with seasonal discharge for lagoons only.

0	9	DISINFECTION																																																
12	13	Chlorine Used Chlorine Dosage Chlorine Resid (kg as Cl₂) (mg/L as Cl₂) (mg/L as Cl₂) <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td>5</td><td>0</td><td>3</td><td>2</td><td>0</td></tr> <tr><td>8</td><td>0</td><td>4</td><td>1</td><td>0</td></tr> <tr><td>8</td><td>0</td><td>4</td><td>2</td><td>0</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td>1</td></tr> <tr><td>1</td></tr> <tr><td>1</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>	5	0	3	2	0	8	0	4	1	0	8	0	4	2	0	1	1	1																														
5	0	3	2	0																																														
8	0	4	1	0																																														
8	0	4	2	0																																														
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Operator's Comments and Contact Person's Phone number

Craig Cullen, Superintendent
(613) 443-1747

Return completed blue form to:

Faculty Name:

NO BYPASSING

2001

Report Year:

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.

26 Pumping Station and Plant Bypass Monthly Summary: RUSSELL SEWAGE SYSTEM - 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 22, 2002

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

Attention: Mike Séguin

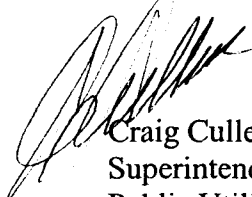
Re: Marionville Water

Enclosed is the 2001 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.

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

Sincerely,



Craig Cullen
Superintendent
Public Utilities

Encl.

cc: M. Blanchard

**MARIONVILLE WATER
CAPACITY REPORT
DECEMBER 31, 2001**

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

As of December 30, 2001

2001	= 88 m ³ /D	SERVICED POPULATION = 349	FLOW = .253 m ³ /D/C
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

AVERAGE = .236 m³/D/C
AS OF DECEMBER 30, 2000
AT .236 m³/D/C FLOW x 349 = 82 m³/D

DESIGN FLOW = .360 m³/D/C
DESIGN POPULATION = 1050
FLOW = 378 m³/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 30, 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

$$\begin{aligned}\text{SUMMARY} = \quad CU &= CR - (L \times F) \times (P + O) / H \\ &= 296 - (14 \times .236) \times 349 / 101 \\ &= 296 - 11.4 \\ &= 285 \text{ m}^3/\text{DAY UNCOMMITTED RESERVE} \\ &\quad \text{HYDRAULIC CAPACITY FOR AVERAGE DAILY FLOW}\end{aligned}$$

UNCOMMITTED NO. OF LOTS (LU)

$$\begin{aligned}LU &= CU / D \times F \text{ WHERE } D = P / H \\ &= 285 / 3.0 \times .236 \\ &= 407\end{aligned}$$

MARIONVILLE
WATER FLOWS AND CONSUMPTION
2001

DATE 2001	FLOW (m³)	DAILY AVERAGE LITRES (m³)	POPULATION	DAYS	AVERAGE LITRES PERSON/DAY (m³)
JAN	2,004	65	349	31	0.185
FEB	1,875	67	349	28	0.192
MAR	1,836	59	349	31	0.170
APR	2,589	86	349	30	0.247
MAY	2,587	83	349	31	0.239
JUNE	2,284	76	349	30	0.218
JULY	3,442	111	349	31	0.318
AUG	2,732	88	349	31	0.253
SEP	1,621	54	349	30	0.155
OCT	2,434	79	349	31	0.225
NOV	1,888	63	349	30	0.180
DEC	1,806	58	349	31	0.167
TOTAL	27,098	77	349		0.220
2000	50,317	74	346		0.212
1999	32,846	90	383		0.234
1998	30,762	85	383		0.222

ANNUAL SUMMARY - DISTRIBUTION SYSTEM BACTERIOLOGICAL DATA

WATER WORKS NAME:

MARIONVILLE

YEAR:

2001

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	10	10	0	0	10	10	0	10	10	0
FEB	6	6	0	0	6	6	0	6	6	0
MAR	8	8	0	0	8	8	0	8	8	0
APR	10	10	0	0	10	10	0	10	10	0
MAY	8	8	0	0	8	8	0	8	8	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	8	8	0	0	8	8	0	8	8	0
OCT	10	10	0	0	10	10	0	10	10	0
NOV	8	8	0	0	8	8	0	8	8	0
DEC	8	8	0	0	8	8	0	8	8	0
TOTAL	102	102	0	0	102	102	0	102	102	0

**EMBRUN/MARIONVILLE
WATERWORKS #220004297
ANALYTICAL RESULTS SUMMARY**

Sample Location: Marionville Distribution

PHYSICAL/CHEMICAL PARAMETERS	UNITS	MAC IMAC AO/OG	JAN	APR	JULY	OCT	AVG
Alkalinity (as CaCO ₃)	mg/L	30-500	181	178	187	181	182
Aluminum (Al)	mg/L	0.10	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic (As)	mg/L	0.025	<0.001	<0.001	<0.001	<0.001	<0.001
Chloride (Cl)	mg/L	250	20	20	21	26	22
Conductivity	mg/L	-	829	841	843	883	849
Copper (Cu)	mg/L	1.0	0.002	<0.001	<0.002	0.003	0.002
Dissolved Organic Carbon (DOC)	mg/L	5.0	1.8	1.3	1.2	1.1	1.4
Iron (Fe)	mg/L	0.30	0.02	0.03	0.01	<0.01	0.02
Hardness (As CaCO ₃)	mg/L	80-100	447	419	440	437	436
Lead (Pb)	mg/L	.01	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (Mn)	mg/L	0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Ammonia + Ammonium (N-NH ₃)	mg/L	10	<0.02	<0.02	<0.02	<0.02	<0.02
Nitrite (as nitrogen) N-NO ₂	mg/L	1.0	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate (as nitrogen) N-NO ₃	mg/L	10.0	<0.10	<0.10	<0.10	<0.10	<0.10
pH	mg/L	6.5-8.5	7.23	7.60	7.08	7.48	7.35
Sodium (Na)	mg/L	200*	9	8	9	10	9
Sulphate (SO ₄)	mg/L	500	227	264	239	239	243
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.73	0.13	0.07	0.07	0.25
Zinc (Zn)	mg/L	5.0	0.04	<0.01	<0.01	<0.01	.02

* The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restrictive diets.

VOCs	UNITS	MAC IMAC AO/OG	JAN	APR	JULY	OCT	AVG
Trihalomethanes	mg/L	0.100	0.026	0.019	0.025	0.026	0.024

**EMBRUN/MARIONVILLE
WATERWORKS #220004297
ANALYTICAL RESULTS SUMMARY**

Sample Location: Marionville Distribution

TABLE D PESTICIDES & PCB	UNITS	MAC IMAC	RESULTS OCTOBER
Alachlor	mg/L	0.005	<0.0005
Aldicarb	mg/L	0.009	<0.0050
Aldrin+Dieldrin	mg/L	0.0007	<0.0007
Atrazine	mg/L	0.005	<0.0005
Azinphos-methyl	mg/L	0.02	<0.0020
Bendiocarb	mg/L	0.04	<0.0020
Bromoxynil	mg/L	0.005	<0.0005
Carbaryl	mg/L	0.09	<0.0050
Carbofuran	mg/L	0.09	<0.0050
Chlordane (Total)	mg/L	0.007	<0.0007
Chlorpyrifos	mg/L	0.09	<0.0010
Cyanazine	mg/L	0.01	<0.0010
Diazinon	mg/L	0.02	<0.0010
Dicamba	mg/L	0.12	<0.0010
2,4-Dichlorophenol	mg/L	0.9	<0.0005
DDT	mg/L	0.03	<0.0030
2,4-D	mg/L	0.1	<0.0010
Diclofop-methyl	mg/L	0.009	<0.0009
Dimethoate	mg/L	0.02	<0.0025
Dinoseb	mg/L	0.01	<0.0010
Diquat	mg/L	0.07	<0.0070
Diuron	mg/L	0.15	<0.0100
Glyphosate	mg/L	0.28	<0.010
Heptachlor + heptachlor epoxide	mg/L	0.003	<0.0003
Lindane (Total)	mg/L	0.004	<0.0004
Malathion	mg/L	0.19	<0.0050
Methoxychlor	mg/L	0.9	<0.0010
Metolachlor	mg/L	0.0005	<0.0005
Metribuzin	mg/L	0.08	<0.0050
Paraquat	mg/L	0.01	<0.0010
Parathion	mg/L	0.05	<0.0010
Pentachlorophenol	mg/L	0.06	<0.0005
Phorate	mg/L	0.002	<0.0005
Picloram	mg/L	0.19	<0.0050
PCB	mg/L	0.003	<0.0003
Prometryne	mg/L	0.001	<0.0002
Simazine	mg/L	0.01	<0.0010
Temephos	mg/L	0.28	<0.0100
Terbufos	mg/L	0.001	<0.0007
2,3,4,6-Tetrachlorophenol	mg/L	0.10	<0.0005
Triallate	mg/L	0.23	<0.0010
2,4,6-Trichlorophenol	mg/L	0.005	<0.0005
Trifluralin	mg/L	0.045	<0.0010
2,4,5-T	mg/L	0.28	<0.0010

Note: There is no requirement for sampling Pesticides & PCB (Table D) in the distribution system however they are sampled annually.

WATER QUALITY COMPLAINTS – MARIONVILLE – 2001

[illegible]

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	6	0.02	0.022		0.06	0.11	0.72	0.40	0.61
FEB		1	7.5	6	0.01	0.008		0.06	0.06	0.72	0.43	0.63
MAR		0	7.5	6	0.03	0.019		0.07	0.12	0.73	0.43	0.68
APR		1	7.5	8	0.03	0.018		0.07	0.10	0.69	0.40	0.59
MAY		0	7.5	12	0.02	0.019		0.06	0.17	0.72	0.40	0.60
JUN		1	7.6	13	0.03	0.017		0.05	0.10	0.70	0.38	0.62
JUL		1	7.5	14	0.02	0.024		0.05	0.13	0.70	0.33	0.69
AUG		1	7.6	14	0.02	0.022		0.06	0.13	0.68	0.30	0.74
SEP		1	7.6	14	0.02	0.021		0.03	0.11	0.70	0.40	0.58
OCT		0	7.6	12	0.02	0.019		0.03	0.13	0.77	0.32	0.67
NOV		1	7.5	11	0.02	0.020		0.04	0.12	0.80	0.42	0.69
DEC		1	7.4	8	0.01	0.018		0.05	0.09	0.81	0.50	0.76
AVG		1	7.5	10	0.02	0.019		0.05	0.11	0.73	0.39	0.66

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
JAN	3								
JAN	4								
JAN	5								
JAN	8	453	1.97	0.27	0.45	0.61	349	1.30	0.19
JAN	9								
JAN	10								
JAN	11								
JAN	12								
JAN	15	484	1.55	0.22	0.48	0.45	349	1.39	0.20
JAN	16								
JAN	17								
JAN	18								
JAN	19								
JAN	22	427	1.53	0.21	0.43	0.50	349	1.22	0.17
JAN	23								
JAN	24								
JAN	25								
JAN	26								
JAN	29	640	2.11	0.29	0.64	0.46	349	1.83	0.26
JAN	30								
JAN	31								
JAN		2004	7.16	1.00	2.00	0.50	349	1.44	0.21
AVG		501							
MAX		640							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
FEB	1								
FEB	2								
FEB	5	258	0.89	0.12	0.26	0.48	349	0.74	0.11
FEB	6								
FEB	7								
FEB	8								
FEB	9								
FEB	12	681	2.40	0.33	0.68	0.49	349	1.95	0.28
FEB	13								
FEB	14								
FEB	15								
FEB	16								
FEB	19	471	1.19	0.17	0.47	0.35	349	1.35	0.19
FEB	20								
FEB	21								
FEB	22								
FEB	23								
FEB	26	465	1.52	0.21	0.47	0.46	349	1.33	0.19
FEB	27								
FEB	28								
FEB		1875	6.00	0.84	1.88	0.44	349	1.34	0.19
AVG		469							
MAX		681							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
MAR	1								
MAR	2								
MAR	5	422	1.81	0.25	0.42	0.60	349	1.21	0.17
MAR	6								
MAR	7								
MAR	8								
MAR	9								
MAR	12	496	1.84	0.26	0.50	0.52	349	1.42	0.20
MAR	13								
MAR	14								
MAR	15								
MAR	16								
MAR	19	423	1.81	0.25	0.42	0.60	349	1.21	0.17
MAR	20								
MAR	21								
MAR	22								
MAR	23								
MAR	26	495	1.47	0.20	0.50	0.41	349	1.42	0.20
MAR	27								
MAR	28								
MAR	29								
MAR	30								
MAR		1836	6.93	0.96	1.84	0.53	349	1.32	0.19
AVG		459							
MAX		496							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
APR	2	473	2.14	0.30	0.47	0.63	349	1.36	0.19
APR	3								
APR	4								
APR	5								
APR	6								
APR	9	512	1.53	0.21	0.51	0.42	349	1.47	0.21
APR	10								
APR	11								
APR	12								
APR	16	519	1.41	0.20	0.52	0.38	349	1.49	0.21
APR	17								
APR	18								
APR	19								
APR	20								
APR	23	508	2.14	0.30	0.51	0.59	349	1.46	0.21
APR	24								
APR	25								
APR	26								
APR	27								
APR	30	577	2.11	0.29	0.58	0.51	349	1.65	0.24
APR		2589	9.33	1.30	2.59	0.50	349	1.52	0.22
AVG		518							
MAX		577							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
MAY	1								
MAY	2								
MAY	3								
MAY	4								
MAY	7	668	2.20	0.31	0.67	0.46	349	1.91	0.27
MAY	8								
MAY	9								
MAY	10								
MAY	11								
MAY	14	591	2.25	0.31	0.59	0.53	349	1.69	0.24
MAY	15								
MAY	16								
MAY	17								
MAY	18								
MAY	22	799	2.90	0.40	0.80	0.51	349	2.29	0.33
MAY	23								
MAY	24								
MAY	25								
MAY	28	529	1.75	0.24	0.53	0.46	349	1.52	0.22
MAY	29								
MAY	30								
MAY	31								
MAY		2587	9.10	1.27	2.59	0.49	349	1.85	0.26
AVG		647							
MAX		799							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
JUNE	1								
JUNE	4	433	1.48	0.21	0.43	0.48	349	1.24	0.18
JUNE	5								
JUNE	6								
JUNE	7								
JUNE	8								
JUNE	11	558	1.93	0.27	0.56	0.48	349	1.60	0.23
JUNE	12								
JUNE	13								
JUNE	14								
JUNE	15								
JUNE	18	710	2.30	0.32	0.71	0.45	349	2.03	0.29
JUNE	19								
JUNE	20								
JUNE	21								
JUNE	22								
JUNE	25	583	2.21	0.31	0.58	0.53	349	1.67	0.24
JUNE	26								
JUNE	27								
JUNE	28								
JUNE	29								
JUN		2284	7.92	1.10	2.28	0.48	349	1.64	0.23
AVG		571							
MAX		710							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
JULY	2	672	2.54	0.35	0.67	0.53	349	1.93	0.28
JULY	3								
JULY	4								
JULY	5								
JULY	6								
JULY	9	471	1.69	0.24	0.47	0.50	349	1.35	0.19
JULY	10								
JULY	11								
JULY	12								
JULY	13								
JULY	16	585	2.10	0.29	0.59	0.50	349	1.68	0.24
JULY	17								
JULY	18								
JULY	19								
JULY	20								
JULY	23	825	3.10	0.43	0.83	0.52	349	2.36	0.34
JULY	24								
JULY	25								
JULY	26								
JULY	27								
JULY	30	889	3.32	0.46	0.89	0.52	349	2.55	0.36
JULY	31								
JUL		3442	12.75	1.77	3.44	0.51	349	1.98	0.28
AVG		688							
MAX		889							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
AUG	1								
AUG	2								
AUG	3								
AUG	6	575	2.40	0.33	0.58	0.58	349	1.65	0.24
AUG	7								
AUG	8								
AUG	9								
AUG	10								
AUG	13	949	3.85	0.54	0.95	0.56	349	2.72	0.39
AUG	14								
AUG	15								
AUG	16								
AUG	17								
AUG	20	666	2.80	0.39	0.67	0.59	349	1.91	0.27
AUG	21								
AUG	22								
AUG	23								
AUG	24								
AUG	27	542	2.12	0.30	0.54	0.54	349	1.55	0.22
AUG	28								
AUG	29								
AUG	30								
AUG	31								
AUG		2732	11.17	1.55	2.73	0.57	349	1.96	0.28
AVG		683							
MAX		949							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
SEP	3	575	2.39	0.33	0.58	0.58	349	1.65	0.24
SEP	4								
SEP	5								
SEP	6								
SEP	7								
SEP	10	536	2.40	0.33	0.54	0.62	349	1.54	0.22
SEP	11								
SEP	12								
SEP	13								
SEP	14								
SEP	17	536	2.64	0.37	0.54	0.69	349	1.54	0.22
SEP	18								
SEP	19								
SEP	20								
SEP	21								
SEP	24	549	2.44	0.34	0.55	0.62	349	1.57	0.22
SEP	25								
SEP	26								
SEP	27								
SEP	28								
SEP		1621	7.48	1.04	1.62	0.64	349	1.55	0.22
AVG		405							
MAX		575							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
OCT	1	465	2.80	0.39	0.47	0.84	349	1.33	0.19
OCT	2								
OCT	3								
OCT	4								
OCT	5								
OCT	8	377	1.51	0.21	0.38	0.56	349	1.08	0.15
OCT	9								
OCT	10								
OCT	11								
OCT	12								
OCT	15	589	2.75	0.38	0.59	0.65	349	1.69	0.24
OCT	16								
OCT	17								
OCT	18								
OCT	19								
OCT	22	516	2.33	0.32	0.52	0.63	349	1.48	0.21
OCT	23								
OCT	24								
OCT	25								
OCT	26								
OCT	29	487	1.98	0.28	0.49	0.57	349	1.40	0.20
OCT	30								
OCT	31								
OCT		2434	11.37	1.58	2.43	0.65	349	1.42	0.20
AVG		487							
MAX		589							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
NOV	1								
NOV	2								
NOV	5	480	2.21	0.31	0.48	0.64	349	1.38	0.20
NOV	6								
NOV	7								
NOV	8								
NOV	9								
NOV	12	481	2.07	0.29	0.48	0.60	349	1.38	0.20
NOV	13								
NOV	14								
NOV	15								
NOV	16								
NOV	19	466	1.80	0.25	0.47	0.54	349	1.34	0.19
NOV	20								
NOV	21								
NOV	22								
NOV	23								
NOV	26	461	2.21	0.31	0.46	0.67	349	1.32	0.19
NOV	27								
NOV	28								
NOV	29								
NOV	30								
NOV		1888	8.29	1.15	1.89	0.61	349	1.35	0.19
AVG		472							
MAX		481							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
DEC	3	421	1.86	0.26	0.42	0.61	349	1.21	0.17
DEC	4								
DEC	5								
DEC	6								
DEC	7								
DEC	10	469	2.26	0.31	0.47	0.67	349	1.34	0.19
DEC	11								
DEC	12								
DEC	13								
DEC	14								
DEC	17	461	2.07	0.29	0.46	0.63	349	1.32	0.19
DEC	18								
DEC	19								
DEC	20								
DEC	21								
DEC	24	455	1.91	0.27	0.46	0.58	349	1.30	0.19
DEC	27								
DEC	28								
DEC	31								
DEC		1806	8.10	1.13	1.81	0.62	349	1.29	0.18
AVG		452							
MAX		469							

TOWNSHIP OF RUSSELL
MARIONVILLE WATER PUMPAGE CHARTS
2001

		POST HYPOCHLORITE							
Mth	DAY	TOTAL POST M3	# OF LTS	# OF KGS	M3 /1000	MG/L	POP	M3 POP/DAY	M3 P/DAY
JAN		2004	7.16	1.00	2.00	0.50	349	1.44	0.21
FEB		1875	6.00	0.84	1.88	0.44	349	1.34	0.19
MAR		1836	6.93	0.96	1.84	0.53	349	1.32	0.19
APR		2589	9.33	1.30	2.59	0.50	349	1.52	0.22
MAY		2587	9.10	1.27	2.59	0.49	349	1.85	0.26
JUNE		2284	7.92	1.10	2.28	0.48	349	1.64	0.23
JULY		3442	12.75	1.77	3.44	0.51	349	1.98	0.28
AUG		2732	11.17	1.55	2.73	0.57	349	1.96	0.28
SEP		1621	7.48	1.04	1.62	0.64	349	1.55	0.22
OCT		2434	11.37	1.58	2.43	0.65	349	1.42	0.20
NOV		1888	8.29	1.15	1.89	0.61	349	1.35	0.19
DEC		1806	8.10	1.13	1.81	0.62	349	1.29	0.18
TOTAL		27098	105.60	14.70	27.10	0.55	349	1.53	0.22