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*Lower Mainland
Precipitation
Chemistry Data*

R. R. McLaren

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Scientific Services Division
Atmospheric Environment Service, Pacific Region
Environment Canada
Vancouver, Canada

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LOWER MAINLAND PRECIPITATION
CHEMISTRY DATA

by

R. McLaren

ABSTRACT

This report presents the precipitation chemistry data collected from January to April, 1982, by the Lower Mainland Sampling Program. This program is being conducted by the Atmospheric Environment Service, Environment Canada, in support of the Western Long Range Transport of Air Pollutants Committee (Western LRTAP) activities for 1982.

This report has received limited distribution. Reference to it is permitted if the words "unpublished manuscript" are part of the bibliographic entry.

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Lower Mainland Rain Sampling Program

1.0 Introduction

The purpose of the Lower Mainland Rain Sampling Program is to gather data on the spatial and temporal variations in the chemical composition of precipitation over the Lower Mainland area. To accomplish this task, the Scientific Services Division of the Atmospheric Environment Service, Pacific Region, is conducting the above mentioned program in support of the Western Long Range Transport of Air Pollutants Committee (Western LRTAP) activities for 1982.

This report details the sampling methods employed and presents the data gathered during the first three months of the study (January to April, 1982). Data are still being collected and it is expected that sampling will continue into 1983.

2.0 Sampling Locations

The Lower Mainland network consists of fourteen sampling locations. Four of these sites are located at high elevation mountain areas. During the period of study the precipitation collected at the mountain sites was mainly snow. A map of the sampling network is presented in Figure 1 and Appendix A lists more specific details on site characteristics.

2.1 Rain Sampling Locations

Four of the rain samplers are co-located with Greater Vancouver Regional District (GVRD) air quality monitoring stations. These stations are as follows:

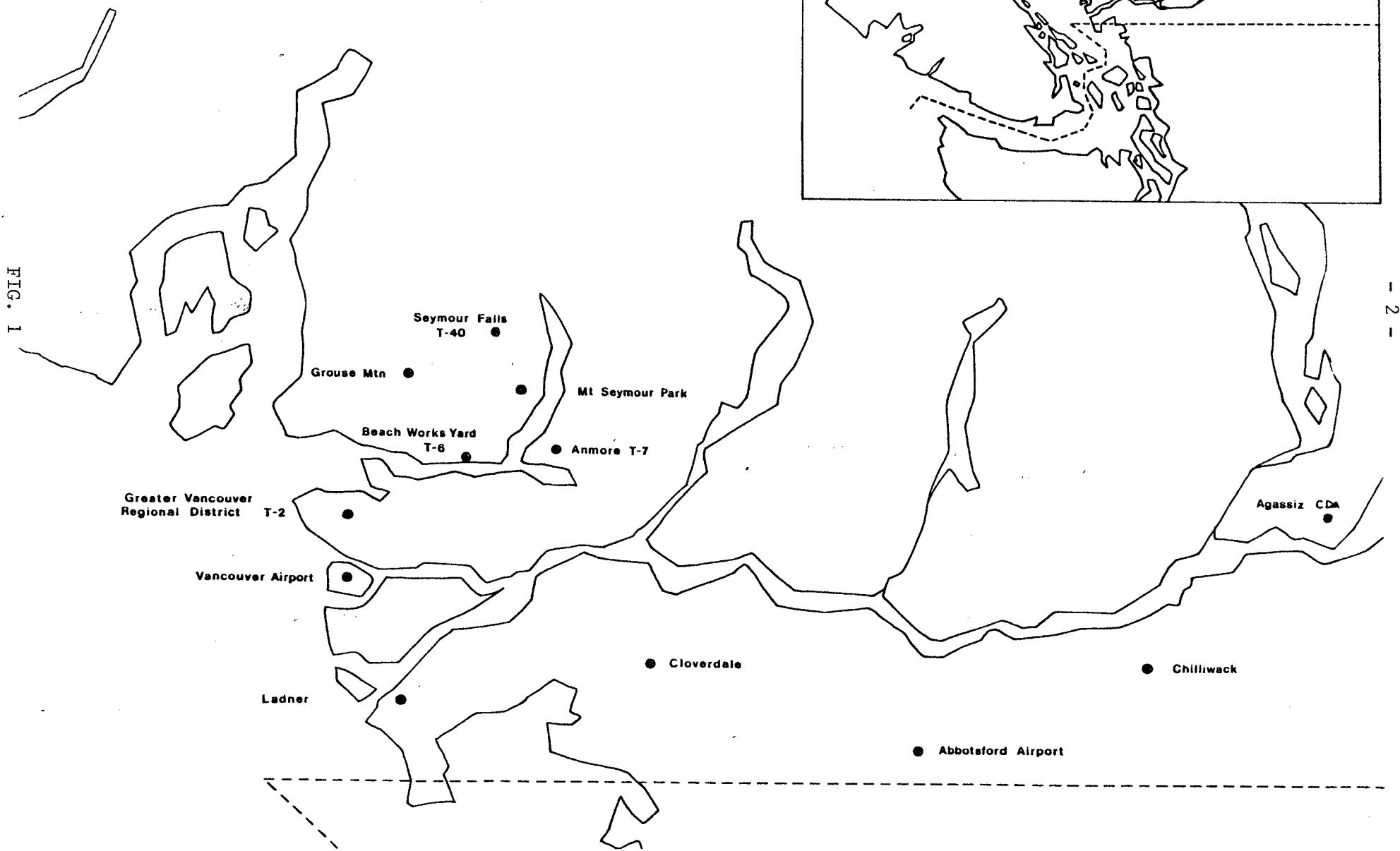
1. GVRD Main Office, Kitsilano. (T2)
2. Beach Works Yard, North Vancouver. (T6)
3. Anmore School, Anmore. (T7)
4. Seymour Falls, Seymour Watershed. (T40)

The remaining samplers are installed at Vancouver International Airport, Ladner, Cloverdale, Abbotsford Airport, Chilliwack and Agassiz.

2.2 Snowfall Sampling Locations

The snow sampling was done at the public ski areas of Seymour Mtn., Grouse Mtn. and Whistler Mtn. The remaining snow sampler was located at the Alta Lake Weather Station.

SAMPLING LOCATIONS



3.0 Sampling Equipment and Methods

3.1 Rain

The rain sampler consists of a 22 cm diameter plastic funnel which is affixed to a cylindrical plastic container into which a 1 litre plastic sample bottle can be inserted, as detailed in Figure 2.

When sampling is not in progress a plastic lid is secured over the funnel opening. The procedure has recently been modified to include covering the entire sampler with a small plastic bag to preclude any possibility of airborne particulates entering the system through gaps in the funnel/cover seal.

The sampler is then mounted in a stainless steel holder designed to discourage bird roosting through a system of protruding spikes. The spikes are placed in such a way as to avoid the possibility of rain drops running down the spikes and into the funnel.

3.2 Snow

Operators of snow sampling sites were supplied with large plastic food storage containers, such as Tupperware 32 cm by 32 cm "Square Keepers". Prior to deployment, the containers were washed at the Water Quality Laboratory and sealed until used.

4.0 Sampling Procedures

4.1 Collection

Gauge operators are contacted prior to the onset of a suitable precipitation event and advised to remove the protective covers from the samplers.

At the completion of the sampling period, the gauges are covered and sample bottles are replaced with clean bottles in preparation for the next sampling period.

In the case of snow sampling sites, the collector is covered and the contents allowed to thaw at room temperature. When melted, the sample is poured into a clean plastic sample bottle. After use, the collector is replaced by a clean unit and the used one is returned to the lab for cleaning.

4.2 Sample Handling

Samples are refrigerated whenever possible and are delivered to the Water Quality Laboratory within 24 to 36 hours of collection.

5.0 Data

The results available to date are presented in two forms, ie. summarized by station and summarized by event. The event numbers are listed in the two left hand columns of the station summary. Normally only the first column will have a number in it but if the sample straddled two events, then the second column will also be filled. A zero in the first column indicates that the sample was not part of a general sampling event.

One problem of having such a small data set is in recognizing data falling outside reasonable limits. Therefore, all data gathered is presented un-edited and care should be exercised in using any extreme values until further data can be collected.

A rainfall of approximately 14 mm is needed to provide the 500 mL sample volume that is required for a complete analysis. When less than the minimum sample volume is obtained, metal ion analyses are given a low priority and are only performed if sufficient sample remains after the higher priority tests are done (pH, sulphate, nitrate etc.). Events having insufficient sample volume for a complete analysis are flagged by a -.9 in the metal ions columns indicating that those tests were not performed.

In addition, should any sample remain after the above procedure, some tests will be re-run on parameters that appear to be of suspect validity.

LOWER MAINLAND ACID RAIN STA.

AGASSIZ CDA , B.C.

(VALUES ARE EXPRESSED IN MG PER LITRE)

PERIOD																												
EVENT NO	MO	DY	HR	NO	DY	HR	H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4+	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	NO3-			
1	8	1	15	12	1	18	.8	2.24	5.65	4.8	-.0005	.003	.03	.021	-15.0	28.8	.249	.002	-.001	.001	-.2	.2	-.002	.2	.2	.332		
2	8	1	19	9	1	22	.8	1.82	5.74	13.3	-.9000	-.900	.22	.072	-15.0	28.5	.885	-.900	-.900	-.900	-.2	.7	-.900	1.3	.8	2.050		
3	0	1	22	16	1	25	8	2.95	5.53	2.5	-.0005	.001	.01	.009	-15.0	22.6	.053	.001	-.001	-.001	-.2	-.2	.001	.2	-.2	.066		
4	0	1	25	8	1	26	8	3.31	5.48	4.3	-.0005	.001	.01	.010	-15.0	29.3	.174	.002	-.001	-.001	-.2	-.2	.001	.2	-.2	.244		
5	0	1	29	9	1	29	16	3.80	5.42	5.8	-.9000	-.900	.07	.014	-15.0	33.4	.309	-.900	-.900	-.900	-.2	-.2	-.900	.2	.8	.345		
6	0	1	29	16	2	1	8	1.82	5.74	5.3	-.0005	.005	.08	.017	-15.0	16.0	.386	.001	-.001	.003	-.2	-.2	-.001	.2	-.5	.436		
7	0	2	12	2	3	99	10.96	4.96	-.9	-.9000	-.900	-.90	-.900	17.9	45.3	1.260	-.900	-.900	-.900	-.2	-.4	-.900	-.6	1.0	4.008			
8	0	2	11	9	2	12	16	.81	6.09	6.2	-.9000	-.900	.04	.026	-15.0	34.0	.566	-.900	-.900	-.900	-.2	-.2	-.900	-.2	.5	.620		
9	0	2	12	16	2	15	12	4.07	5.39	2.5	-.0005	.001	.01	-.005	-15.0	35.5	.095	.003	-.003	-.001	-.2	-.2	.003	-.2	-.2	.173		
10	0	2	16	16	2	17	10	5.01	5.38	5.3	-.0005	.002	.01	-.005	-15.0	36.1	.289	.003	-.001	-.001	-.2	-.2	-.001	-.2	.5	.372		
11	0	2	23	14	2	25	16	5.25	5.28	6.0	-.9000	-.900	.02	-.005	-15.0	33.5	.376	-.900	-.900	-.900	-.2	-.2	-.900	-.2	.3	1.661		
12	0	2	26	16	3	1	8	2.75	5.56	3.5	-.9000	-.900	.90	-.900	-15.0	32.2	.158	-.900	-.900	-.900	-.2	-.2	-.900	-.2	3.3	.182		
				3	11	15	3	13	13	1.10	5.96	16.0	-.9000	-.900	.35	.150	-15.0	32.8	.874	-.900	-.900	.005	-.2	1.2	-.900	2.0	1.8	1.019
AVERAGES					3.53	5.45	6.3	-.0005	.002	-.08	-.030	-15.2	31.4	.436	.002	-.001	-.002	-.2	-.3	-.002	-.5	-.8	.887					

- REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CH. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.

TABLE 5.1

LOWER MAINLAND ACID RAIN SURVEY

 CHILLIWACK, B.C.

 (VALUES ARE EXPRESSED IN NG PER LITRE)

		PERIOD																								
EVENT	NO	DY	HR	NO	DY	HR	H+	pH	COND	CD++	CU++	CA++	NG++	S.ACID	T.ACID	NH4+	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	NO3-	
1	8	1	15	12	1	17	11	1.41	5.85	3.9	- .0005	.004	.07	.015	-15.0	29.9	.145	.003	.001	.001	.2	.2	.003	.2	.2	.173
2	8	1	22	16	1	24	11	1.58	5.88	1.8	- .0003	.002	.02	-.005	-15.0	23.8	.053	.001	-.001	-.001	.2	.2	.001	.2	.2	.071
3	8	1	25	8	1	26	11	2.09	5.68	3.9	- .0005	.002	.01	.008	-15.0	30.7	.198	-.001	-.001	.007	.2	.2	-.001	.2	.2	.208
4	8	1	29	9	1	30	17	.66	6.18	6.9	- .0005	.002	.23	.030	-15.0	24.7	.476	-.001	-.001	.002	.2	.2	-.001	.2	.2	.465
5	8	1	30	17	2	1	9	1.29	5.89	3.3	- .0005	.001	.02	.009	-15.0	24.2	.283	-.001	-.001	-.001	.2	.2	-.001	.2	.2	.168
7	8	2	11	11	2	15	9	2.09	5.68	2.6	- .0005	.001	.01	.006	-15.0	28.7	.185	.005	-.001	-.001	.2	.2	-.001	.2	.2	.190
9	8	2	16	16	2	17	9	10.00	5.00	6.9	- .0005	.003	.01	-.005	-15.0	37.2	.225	.002	-.002	-.001	.2	.2	-.001	.2	.2	.421
0	8	2	18	8	2	18	17	1.53	5.81	1.8	- .0003	.003	-.01	-.005	-15.0	28.5	.114	.003	-.001	-.001	.2	.2	-.001	.2	.2	.066
0	8	2	18	17	2	19	17	1.05	5.98	4.4	- .0005	.002	.01	.015	-15.0	32.2	.386	.001	.002	-.001	.2	.2	.001	.2	.2	.217
10	8	2	23	14	2	25	17	1.32	5.88	5.9	- .0005	.002	.02	.011	-15.0	28.5	.579	.002	-.002	-.001	.2	.2	.001	.2	.2	.815
11	8	2	26	9	2	27	8	.28	6.56	6.6	- .0005	.004	.02	.006	-15.0	26.1	.862	.006	-.001	-.001	.2	.2	-.001	.2	.2	.478
11	8	2	28	22	3	1	10	1.48	5.83	2.2	- .0005	.003	.01	-.005	-15.0	26.2	.152	.001	-.001	-.001	.2	.2	-.001	.2	.2	.155
0	8	3	10	23	3	11	17	2.04	5.69	9.4	- .0000	-.900	.16	.090	-15.0	35.5	.810	-.900	-.900	.003	.2	.8	-.900	1.3	.8	.337
12	8	3	11	17	3	12	23	12.88	4.89	12.5	- .0005	.003	.14	.057	16.3	44.7	.242	.009	.005	.004	.2	.5	-.001	.8	.9	.864
0	8	3	12	23	3	14	9	18.20	4.74	14.1	- .0005	.001	.04	.030	21.7	56.3	4.372	.003	.004	-.001	.2	.3	-.001	.4	1.4	.930
AVERAGES							3.86	5.41	5.7	- .0005	.002	-.05	-.020	-15.5	31.8	.605	-.003	-.002	-.002	.2	.3	-.001	.3	.5	.371	

REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.

TABLE 5.2

LOWER MAINLAND ACID RAIN SURVEY

ABBOTSFORD (A), B.C.

(VALUES ARE EXPRESSED IN MG PER LITRE)

		PERIOD		H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4+	FE+3	PB++	NN++	K+	NA+	ZN++	CL-	SO4--	NO3-				
EVENT	NO	DY	HR																							
4	5	1	29	14	2	1	11	1.82	5.74	6.8	- .0005	.003	.14	.035	-15.0	28.2	.553	.004	.001	.003	-.2	.3	.004	.4	.8	.363
6	0	2	1	11	2	3	10	.11	6.95	-.9	- .900	- .900	-.90	-.900	-15.0	1.5	3.215	-.900	- .900	- .900	-.9	-.9	-.900	-.9	-.9	4.406
7	0	2	3	10	2	12	16	.22	6.66	20.2	- .900	- .900	-.90	-.900	-15.0	2.9	2.019	-.900	- .900	- .900	-.9	-.9	-.900	-.9	-.9	2.259
8	0	2	12	16	2	13	11	1.58	5.88	2.5	- .0005	.004	.05	.005	-15.0	27.9	.213	.002	.001	-.001	-.2	-.2	-.001	-.2	-.2	.195
8	0	2	13	11	2	14	22	1.45	5.84	3.1	- .0005	.003	.03	-.005	-15.0	30.4	.296	.005	.002	.004	-.2	-.2	-.006	-.2	-.2	.213
8	0	2	14	23	2	15	21	.35	6.45	8.8	- .900	- .900	.08	.022	-15.0	6.7	.759	-.900	- .900	- .900	-.2	.4	-.900	.5	.6	.407
10	0	2	23	14	2	25	16	.91	6.04	9.1	- .0005	.004	.29	.033	-15.0	36.9	.782	.029	.018	.004	-.2	-.3	.008	.5	.7	.996
11	0	2	26	16	2	27	10	11.48	4.94	8.1	- .900	- .900	-.90	-.900	-15.0	40.2	.283	-.900	- .900	- .900	-.2	-.2	-.900	.2	.5	.868
11	0	2	27	10	3	1	11	.69	6.16	4.1	- .0005	.002	.14	.240	-15.0	28.2	.424	.002	.001	-.001	-.2	-.2	-.001	.2	.2	.217
12	0	3	11	13	3	12	13	3.09	5.51	11.9	- .900	- .900	.19	.073	-15.0	39.3	6.173	-.900	- .900	- .900	-.2	.9	-.900	1.3	1.5	.651
AVERAGES				2.17	5.66	8.3	- .0005	.003	.13	-.059	-15.0	24.2	1.472	.008	.005	-.003	-.2	-.3	-.004	-.4	-.6	1.058				

- REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
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 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.

TABLE 5.3

LOWER MAINLAND ACID RAIN SURVEY

 CLOVERDALE, B.C.

 (VALUES ARE EXPRESSED IN MG PER LITRE)

PERIOD		HO	DO	HR	HO	DO	HR	H+	pH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4+	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SD4--	NO3-
8	0	2	12	15	2	15	21	10.00	5.00	6.3	- .0005	.002	.04	.010	-15.0	38.7	.166	.003	.002	- .001	.2	.2	- .001	.2	.5	.469
9	0	2	16	17	2	17	11	8.32	5.08	8.3	- .9000	- .900	- .90	- .900	-15.0	39.8	.315	- .900	- .900	- .900	.2	.3	- .900	.5	.7	.319
10	0	2	23	14	2	26	10	1.95	5.71	9.7	- .9000	- .900	- .90	- .900	-15.0	36.1	.633	- .900	- .900	- .900	.2	.3	- .900	.6	.8	1.187
11	0	2	26	20	3	1	10	8.32	5.08	6.9	- .9000	- .900	- .90	- .900	-15.0	37.9	.210	- .900	- .900	- .900	.2	.2	- .900	.2	.4	.762
12	0	3	11	17	3	12	14	3.55	5.45	10.1	- .9000	- .900	.24	.079	-15.0	35.7	.195	- .900	- .900	- .900	.2	.9	- .900	1.3	.9	.496
AVERAGES								6.43	5.19	8.3	- .0005	.002	.14	.045	-15.0	37.6	.304	.003	.002	- .001	.2	.4	- .001	.6	.7	.631

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 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST
 ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.

TABLE 5.4

LOWER MAINLAND ACID RAIN STUDY

 LADNER, B.C.

 (VALUES ARE EXPRESSED IN MG PER LITRE)

		PERIOD																								
EVENT NO	DAY	HR NO	DAY	HR	H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4+	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	NO3-			
2	0	1	22	18	1	23	13	10.00	5.00	.5.6	-.0005	.002	.06	.005	-15.0	36.2	.033	.005	-.001	-.001	-.2	-.2	.004	-.2	.3	.354
3	0	1	25	7	1	26	7	10.47	4.98	14.9	-.0005	.004	.06	.140	-15.0	39.8	.126	.001	.002	-.001	-.2	1.2	.001	2.2	.8	.314
4	5	1	29	9	2	1	7	10.47	4.98	13.5	-.9000	-.900	.20	.110	-15.0	39.4	.197	-.900	-.900	-.900	-.2	.9	-.900	1.5	1.1	.447
6	0	2	1	9	2	3	7	64.57	4.19	39.6	-.9000	-.900	-.90	-.700	74.1	110.3	1.157	-.900	-.900	-.900	-.9	-.9	-.900	-.9	-.9	7.086
7	0	2	11	7	2	12	16	9.77	5.01	18.2	-.9000	-.900	.69	.130	16.1	51.2	.386	-.900	-.900	-.900	-.2	1.0	-.900	2.0	1.5	1.298
8	0	2	12	16	2	13	9	15.49	4.81	12.7	-.0005	.002	.04	.085	19.6	48.6	.080	.001	.003	-.001	-.2	.7	-.001	1.4	.7	.562
8	0	2	13	9	2	13	17	17.38	4.76	8.6	-.0005	.001	.01	-.005	20.0	51.6	.068	.002	.002	-.001	-.2	-.2	-.001	-.2	.8	.372
8	0	2	13	17	2	14	10	16.98	4.77	8.2	-.0005	.001	.01	-.005	21.3	45.2	.044	.002	.002	-.001	-.2	-.2	-.001	-.2	.4	.580
8	0	2	14	10	2	15	10	11.75	4.93	6.5	-.0005	.002	-.01	.013	15.6	42.5	.073	.004	.006	-.001	-.2	-.2	-.003	.2	.4	.310
9	0	2	16	17	2	17	17	10.47	4.98	-.9	-.9000	-.900	-.90	-.900	-.9	-.9	.306	-.900	-.900	-.900	-.9	-.9	-.900	-.9	-.9	.633
10	0	2	23	16	2	26	7	14.43	4.84	19.8	-.9000	-.900	.29	.118	18.6	50.2	.472	-.900	-.900	-.900	-.2	1.0	-.900	1.9	1.4	1.404
11	0	2	26	16	3	1	7	12.88	4.89	9.4	-.0005	.001	.07	.031	17.6	44.4	.154	.003	.008	-.001	-.2	.3	.002	.4	.5	.782
12	0	3	11	99	3	12	99	5.25	5.28	21.4	-.9000	-.900	-.90	-.900	-15.0	29.4	.104	-.900	-.900	-.900	-.2	2.2	-.900	4.0	1.5	.824
AVERAGES								16.15	4.79	14.9	-.0005	.002	-.14	-.063	-21.9	49.1	.246	.003	-.003	-.001	-.2	-.7	-.002	-1.3	.9	1.150

REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99. INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.

LOWER MAINLAND ACID RAIN STUDY

VANCOUVER (A), B.C.

(VALUES ARE EXPRESSED IN MG PER LITRE)

PERIOD			HO	DO	HR	HO	DO	HR	H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4+	FE+3	PB++	MN++	K+	Na+	ZN++	CL-	SO4--	NO3-
1	0	1	14	15	1	16	11		3.89	5.41	4.4	- .0005	.002	.17	.009	-15.0	32.9	.045	.006	.002	-.001	.2	.2	.084	-.2	.4	.368
1	0	1	16	11	1	18	8		5.62	5.25	9.7	- .0005	.001	.06	.120	-15.0	33.2	.057	.003	.001	-.001	.2	1.0	.001	1.6	.5	.173
2	0	1	18	8	1	24	9		7.94	5.10	8.9	- .0005	.005	.20	.060	-15.0	33.8	.059	.008	.005	.001	.2	.5	.007	.9	.8	.297
3	0	1	23	9	1	26	9		8.32	5.08	12.7	- .0005	.005	.10	.100	-15.0	34.3	.094	.002	.004	.001	.2	1.0	.002	1.8	.7	.279
4	0	1	26	9	1	28	9		19.58	4.71	32.3	- .9000	-.900	.62	.320	23.9	60.8	.225	-.900	-.900	-.900	.2	2.6	-.900	4.7	2.6	1.005
5	0	1	28	9	1	29	10		1.45	5.84	7.5	- .9000	-.900	.54	.039	-15.0	28.5	.143	-.900	-.900	-.900	.2	.3	-.900	.4	.8	.762
4	0	1	29	10	1	31	8		10.47	4.98	14.8	- .9000	-.900	.44	.100	-15.0	40.3	.156	-.900	-.900	-.900	.2	1.0	-.900	1.6	1.7	.753
5	0	1	31	8	2	1	9		11.75	4.93	12.8	- .0005	.005	.15	.094	-15.0	40.4	.112	.005	.009	.002	.2	.9	.004	1.6	1.0	.425
6	0	2	1	99	2	3	99		43.63	4.36	-.9	- .9000	-.900	.70	.340	53.4	100.0	.482	-.900	-.900	-.900	.2	1.0	-.900	1.8	2.9	3.432
7	0	2	11	9	2	12	9		10.96	4.96	20.0	- .9000	-.900	.62	.190	15.6	48.2	.399	-.900	-.900	-.900	.2	1.2	-.900	2.2	2.1	1.727
8	0	2	12	9	2	13	9		17.38	4.76	12.7	- .0005	.002	.02	.068	20.0	46.7	.120	.008	.010	-.001	.2	.6	.005	1.8	.8	.740
8	0	2	13	9	2	14	9		16.60	4.78	7.4	- .0005	.003	-.01	-.005	18.7	44.9	.044	.008	.007	-.001	.2	-.2	.004	-.2	.5	.363
8	0	2	14	9	2	15	8		16.96	4.96	7.6	- .0005	.003	.03	.015	15.2	39.8	.058	.005	.007	-.001	.2	-.2	.004	.4	.5	.363
0	0	2	15	8	2	16	8		16.98	4.77	12.6	- .9000	-.900	.09	.056	19.7	47.8	.113	-.900	-.900	-.900	.2	.5	-.900	.9	.8	.257
9	0	2	16	8	2	17	10		3.09	5.51	18.3	- .9000	-.900	-.90	-.900	-15.0	32.6	.190	-.900	-.900	-.900	.9	.9	-.900	-.9	-.9	.598
0	0	2	17	10	2	19	8		12.59	4.98	16.3	- .0005	.004	.19	.150	15.6	43.7	.072	.010	.008	.002	.2	1.2	.005	2.3	1.1	.407
0	0	2	19	8	2	21	9		16.60	4.78	19.9	- .9000	-.900	.38	.150	22.1	51.5	.184	-.900	-.900	-.900	.2	1.2	-.900	2.3	1.7	.859
0	0	2	21	9	2	22	9		12.88	4.89	50.2	- .9000	-.900	1.50	3.300	18.6	51.5	.251	-.900	-.900	-.900	.2	5.2	-.900	9.6	3.6	1.935
10	0	2	22	9	2	25	9		4.57	5.34	18.5	- .9000	-.900	1.30	.130	-15.0	37.6	.347	-.900	-.900	-.900	.2	1.1	-.900	2.1	1.8	1.461
0	0	2	23	9	2	27	9		16.22	4.79	13.1	- .0005	.003	.30	.045	19.9	53.9	.167	.030	.017	.004	.2	.3	.008	.6	1.1	1.041
11	0	2	27	9	3	1	9		4.07	5.39	6.1	- .0005	.002	.22	.038	-15.0	32.1	.148	.012	.007	.002	.2	.2	.004	.6	.5	.350
0	0	3	1	9	3	2	9		4.79	5.32	11.2	- .0005	.004	.28	.010	-15.0	35.0	.077	.040	.014	.004	.2	.8	.008	1.5	.9	.651
0	0	3	2	9	3	5	9		14.45	4.84	19.6	- .0005	.006	.83	.066	18.5	55.0	.424	.040	.029	.010	.2	.5	.020	1.1	2.2	2.303
12	0	3	5	9	3	13	9		10.23	4.99	19.6	- .9000	-.900	.50	.210	-15.0	44.1	.103	-.900	-.900	-.900	.2	1.7	-.900	2.9	1.4	.842
0	0	3	13	9	4	1	9		.68	6.17	23.6	- .0012	.015	1.50	.180	-15.0	33.6	.509	.040	.015	.003	.5	1.4	.012	2.5	3.2	1.856
0	0	4	1	9	4	3	23		5.89	5.23	18.8	- .0005	.006	.40	.230	-15.0	34.6	.210	.015	.013	.002	.2	1.6	.002	3.1	1.4	.974
0	0	4	3	23	4	12	8		1.78	5.77	11.2	- .0005	.007	.52	.100	-15.0	32.7	.134	.001	.005	.004	.2	.8	.004	1.5	1.2	.660
0	0	4	12	8	4	14	9		3.63	5.44	23.4	- .0005	.006	.34	.340	-15.0	33.4	.062	.038	.010	.005	.2	2.8	.004	5.2	1.0	.434
AVERAGES			10.60	4.97	15.7	- .0005	.005	-.44	- .239	-17.9	43.0	.178	.016	.010	-.003	-.2	-1.1	.006	-2.0	1.4	.922						

REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM, S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
(2) MISSING DATA ARE DESIGNATED AS -.9
(3) 99 INDICATES TIME UNKNOWN
(4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.

TABLE 5.6

LOWER MAINLAND ACID RAIN ST.

T-2 , B.C.

(VALUES ARE EXPRESSED IN NG PER LITRE)

		PERIOD		H+	PH	COND	CD++	CU++	CA++	HG++	S.ACID	T.ACID	NH4+	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	NO3-				
EVENT	HO	DY	HR																							
1	0	1	15	99	1	18	99	7.76	5.11	8.2	- .0005	.004	.04	.050	-15.0	44.4	.175	.006	.005	.001	- .2	.5	.001	.7	.9	.306
2	0	1	22	99	1	25	99	8.32	5.08	8.3	- .0005	.004	.11	.026	-15.0	34.9	.595	.006	.011	-.001	- .2	.2	.003	.4	1.3	.337
3	0	1	25	8	1	26	8	10.96	4.96	11.1	- .0005	.003	.06	.064	-15.0	40.2	.211	.005	.007	.001	- .2	.6	.002	1.1	1.0	.354
4	0	1	29	9	2	1	11	16.22	4.79	16.7	- .0005	.005	.26	.060	19.4	49.5	.643	.005	.019	.005	- .2	.5	.007	.8	2.2	.709
5	0	2	1	99	2	3	99	19.05	4.72	- .9	- .9000	-.900	-.90	-.900	29.6	63.1	4.861	-.900	-.900	-.900	- .9	.9	-.900	-.9	-.9	6.554
6	0	2	11	99	2	12	13	4.47	5.35	25.6	- .9000	-.900	.71	.110	-15.0	40.8	1.929	-.900	-.900	-.900	- .8	.8	-.900	1.4	4.6	1.639
7	0	2	12	13	2	15	99	14.13	4.85	9.2	- .0005	.003	.04	.016	16.9	47.1	.283	.007	.008	.001	- .2	.2	.001	.2	1.0	.554
8	0	2	16	99	2	17	99	2.45	5.61	-.9	- .9000	-.900	-.90	-.900	-15.0	36.0	-.900	-.900	-.900	-.900	- .9	.9	-.900	-.9	-.900	
9	0	2	23	99	2	25	99	19.05	4.72	20.5	- .0005	.009	.38	.061	24.7	61.7	.601	.100	.030	.006	- .2	.5	.012	.9	2.1	1.233
10	0	2	26	14	3	1	11	15.14	4.82	12.5	- .0005	.002	.14	.022	18.4	48.0	.373	.001	-.001	.003	- .2	.2	-.001	.4	1.2	.846
11	0	3	11	99	3	12	99	7.41	5.13	21.5	- .0005	.004	.69	.180	-15.0	50.1	.579	.033	.030	.007	- .2	1.4	.011	2.3	2.6	1.218
AVERAGES				11.36	4.94	14.8	- .0005	.004	.27	.065	-18.1	46.9	1.025	.020	- .014	-.003	-.2	-.5	-.005	.9	1.9	1.377				

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 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
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LOWER MAINLAND ACID RAIN SITE

T-6 , B.C.

(VALUES ARE EXPRESSED IN MG PER LITRE)

		PERIOD																								
EVENT	NO	DY	HR	NO	DY	HR	H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4+	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	NO3-	
1	0	1	15	99	1	18	99	26.30	4.58	15.2	- .0005	.003	.05	.050	27.6	55.3	.067	.009	.005	.001	.2	.6	.008	.9	1.3	.350
2	0	1	22	99	1	25	99	13.18	4.88	7.3	- .0005	.003	.02	.023	16.9	39.8	.022	.006	.003	- .001	.2	.2	.011	.4	.4	.204
3	0	1	25	8	1	26	8	25.12	4.60	17.3	- .0014	.007	.10	.055	27.5	52.6	.080	.025	.008	.003	.2	.6	.480	1.1	1.3	.430
4	0	1	29	9	2	1	8	22.91	4.64	17.8	- .0003	.089	.30	.072	24.9	55.5	.138	.012	.021	.004	.2	.7	.050	1.1	1.7	.797
6	0	2	1	10	2	3	15	109.65	3.96	-.9	- .9000	-.900	-.90	-.900	128.2	209.4	2.379	-.900	-.900	-.900	.9	.9	-.900	-.9	-.9	10.319
7	0	2	11	99	2	12	9	2.00	5.70	28.3	- .9000	-.900	2.40	.140	-15.0	40.7	.203	-.900	-.900	-.900	.2	2.1	-.900	2.5	3.5	1.794
8	0	2	12	9	2	15	10	27.54	4.56	14.7	- .0009	.007	.16	.031	29.4	60.3	.058	.070	.004	.001	.2	.3	.016	.5	1.3	.509
9	0	2	16	16	2	17	11	29.51	4.53	21.8	- .9000	-.900	-.90	-.900	38.0	74.8	.117	-.900	-.900	-.900	.9	.9	-.900	-.9	2.0	.638
10	0	2	23	16	2	24	13	51.29	4.29	38.0	- .9000	-.900	.42	.110	58.7	100.6	.202	-.900	-.900	-.900	.2	1.3	-.900	2.2	2.4	2.050
10	0	2	24	13	2	25	11	18.62	4.73	17.1	- .9000	-.900	.39	.033	22.5	53.2	.135	-.900	-.900	-.900	.2	.7	-.900	.8	1.6	.797
11	0	2	26	16	3	1	8	12.02	4.92	10.9	- .0005	.004	.27	.014	16.3	44.7	.073	.020	.004	.005	.2	.5	.012	.9	.9	.593
12	0	3	11	99	3	12	99	7.41	5.13	11.9	- .0005	.005	.63	.841	-15.0	42.9	.084	.080	.010	.002	.2	.6	.017	.9	1.5	.536
AVERAGES							28.80	4.54	18.2	- .0007	.005	.47	.057	-35.0	69.2	.297	.032	.008	- .002	.2	.8	.085	1.1	1.6	1.585	

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 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.

LOWER MAINLAND ACID RAIN ST.

T-7 , B.C.*****
(VALUES ARE EXPRESSED IN MG PER LITRE)

		PERIOD		HO		DY		HR		HO		DY		HR		H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4+	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	NO3-
1	8	1	15	99	1	18	99	10.00	5.00	7.2	- .0005	.002	.02	.038	-15.0	38.1	.081	.005	.003	-.001	-.2	.5	.001	.6	.5	.341								
2	0	1	22	99	1	25	99	9.55	5.82	5.6	- .0005	.002	.03	.021	-15.0	33.3	.019	.002	.003	-.001	-.2	-.2	-.001	.3	.2	.168								
3	0	1	25	11	1	26	12	17.78	4.75	12.5	- .0005	.002	.04	.053	21.1	43.8	.117	.002	.002	-.001	-.2	.4	.007	.8	.7	.558								
4	5	1	29	9	2	1	9	25.70	4.59	15.6	- .0005	.004	.07	.060	29.2	54.1	.123	.006	.009	.001	-.2	.5	.007	.8	1.3	.864								
6	0	2	1	16	2	3	16	-.90	-.90	-.9	- .9000	-.900	-.90	-.900	-.9	-.9	1.029	-.900	-.900	-.900	-.9	-.9	-.900	-.9	-.9	13.064								
7	0	2	11	99	2	12	99	30.20	4.52	15.3	- .0005	.003	.09	.024	32.3	64.3	.123	.009	.004	.001	-.2	.3	.005	.4	1.2	1.085								
8	0	2	12	99	2	15	99	19.95	4.70	9.2	- .0005	.001	.01	.007	-15.0	54.2	.062	.003	.002	-.001	-.2	-.2	-.001	-.2	.6	.447								
9	0	2	15	99	2	16	16	13.18	4.88	8.5	- .0005	.001	.04	.026	16.4	44.4	.071	.002	.002	.003	-.2	.2	.002	.4	.3	.390								
10	0	2	16	16	2	17	9	19.95	4.70	14.4	- .9000	-.900	.09	.018	25.2	60.8	.077	-.900	-.900	-.900	-.2	.4	-.900	.6	1.0	.562								
11	0	2	26	16	3	1	99	14.13	4.85	7.5	- .0005	.002	.04	.005	16.8	43.8	.049	.003	.002	-.001	-.2	-.2	.002	.2	.4	.496								
12	0	3	11	99	3	12	99	20.42	4.69	14.9	- .0005	.003	.32	.047	24.5	61.6	.060	.023	.011	.004	-.2	.2	.008	.6	1.2	1.218								
AVERAGES								18.09	4.74	11.1	- .0005	.002	.08	.038	-21.0	49.8	.165	.006	.004	-.002	-.2	-.3	-.004	-.5	.8	1.745								

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TABLE 5.9

LOWER MAINLAND ACID RAIN SURVEY

T-40, B.C.

(VALUES ARE EXPRESSED IN NG PER LITRE)

		PERIOD		MO	DY	HR	MO	DY	HR	H+	PH	COND	CD++	Cu++	Ca++	Mg++	S.ACID	T.ACID	NH4+	FE+3	PB++	Mn++	K+	Nat	Zn++	Cl-	SO4--	NO3-
1	0	1	15	99	1	18	99	14.13	4.85	10.2	- .0005	.005	.06	.047	17.7	41.3	.030	.005	.002	.002	-.2	.4	.005	.6	.8	.421		
2	0	1	22	99	1	25	99	13.18	4.88	9.1	- .0005	.003	.03	.049	16.4	37.4	.041	.003	.005	-.001	-.2	.4	.003	.8	.4	.430		
3	0	1	25	99	1	26	99	14.13	4.85	7.4	- .0005	.002	.01	.018	15.7	41.7	.040	.001	-.001	.003	-.2	-.2	.001	.2	.4	.275		
4	0	1	29	11	1	29	19	13.18	4.88	8.6	- .0005	.002	.03	.019	18.8	44.6	.084	.002	.006	-.001	-.2	-.2	.002	.6	.6	.436		
5	0	1	29	19	2	1	9	16.22	4.79	8.7	- .0005	.001	.03	.018	19.0	46.2	.054	.002	.007	-.001	-.2	-.2	.001	.3	.5	.567		
6	0	2	1	9	2	3	16	16.98	4.77	8.1	- .0005	.002	-.01	-.005	19.8	43.1	.028	.004	.005	.002	-.2	-.2	.004	-.2	-.2	.775		
7	0	2	11	99	2	12	10	19.95	4.70	9.3	- .0005	.006	.02	.012	21.0	48.9	.059	.016	.003	.005	-.2	-.2	.014	-.2	.7	.624		
8	0	2	12	10	2	12	17	13.49	4.87	6.6	- .0005	.001	-.01	-.005	15.8	42.1	.035	.003	.003	.001	-.2	-.2	-.001	-.2	.6	.230		
8	0	2	12	17	2	15	9	15.85	4.80	7.6	- .0005	.003	.01	-.005	18.8	46.6	.042	.003	-.001	-.001	-.2	-.2	-.001	-.2	.6	.270		
9	0	2	16	16	2	17	9	16.60	4.78	8.7	- .0005	.002	-.01	.009	19.8	45.5	.051	.002	.003	.003	-.2	-.2	.005	-.2	.5	.474		
10	0	2	23	15	2	25	99	14.45	4.84	8.0	- .0005	.002	.02	.007	17.7	43.8	.044	.004	.003	-.001	-.2	-.2	-.001	-.2	.3	.496		
11	0	2	26	16	3	1	9	11.22	4.95	6.8	- .0005	.001	.05	.014	15.1	38.5	.046	.001	.003	-.001	-.2	-.2	-.001	-.2	.2	.474		
AVERAGES								14.95	4.83	8.3	- .0005	.002	-.02	-.017	-17.8	43.3	.046	.004	-.003	-.002	-.2	-.2	-.003	-.3	-.5	.458		

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 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
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LOWER MAINLAND ACID RAIN STUDY

GROUSE MTN., B.C.

(VALUES ARE EXPRESSED IN MG PER LITRE)

EVENT	PERIOD		H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4+	FE+3	PB++	HN++	K+	NA+	ZN++	CL-	SO4--	NO3-					
	HO	DY																								
1	0	1	15	99	1	18	99	4.47	5.35	5.7	- .0005	.003	.02	.033	-15.0	32.2	.068	.002	.001	- .001	- .2	.3	.002	.4	.2	.235
2	0	1	22	99	1	25	99	7.94	5.10	5.1	- .0005	.003	.01	.029	-15.0	34.8	.054	.003	.001	- .001	- .2	.3	.001	.6	.2	.306
3	0	1	25	8	1	26	9	7.94	5.10	8.0	- .0005	.005	.03	.032	-15.0	33.3	.098	.001	.002	- .001	- .2	.4	.006	.6	.2	.368
4	0	1	29	9	1	29	16	6.61	5.18	3.6	- .0005	.003	.05	.027	-15.0	29.4	.076	.001	.003	.006	- .2	.3	.001	.4	.3	.283
5	0	1	29	16	2	1	11	10.47	4.98	7.3	- .0005	.003	.05	.026	-15.0	34.9	.071	.003	.004	- .001	- .2	.2	.003	.3	.5	.421
6	0	2	1	12	2	3	12	14.13	4.85	8.6	- .0005	.000	.02	- .005	16.2	40.3	.102	- .900	- .900	- .900	- .2	.2	- .900	.2	.2	.686
7	8	2	11	99	2	15	99	11.22	4.95	6.6	- .0005	.002	.02	- .005	-15.0	36.5	.063	.003	.002	- .001	- .2	.2	.001	.2	.4	.350
10	0	2	23	99	2	24	99	17.78	4.75	12.9	- .0005	.005	.08	.022	19.6	46.4	.145	.004	.011	- .001	- .2	.2	.006	.5	.2	.802
11	0	2	26	16	3	1	9	10.47	4.98	7.2	- .0005	.004	.05	.011	-15.0	36.5	.058	.002	.003	- .001	- .2	.2	.006	.3	.3	.354
12	0	3	12	8	3	12	12	6.92	5.16	9.0	- .0005	.005	.18	.050	-15.0	35.1	.076	.002	.001	- .001	- .2	.4	.002	.9	.6	.266
AVERAGES			9.79	5.01	7.6	- .0005	.004	.05	- .024	-15.6	35.9	.081	.002	.003	- .002	- .2	- .3	.003	.4	.4	.407					

REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CH. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
(2) MISSING DATA ARE DESIGNATED AS -.9
(3) 99 INDICATES TIME UNKNOWN
(4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.

LOWER MAINLAND ACID RAIN ST.

MT. SEYOUR , B.C.*****

(VALUES ARE EXPRESSED IN MG PER LITRE)

		PERIOD		MO	DY	HR	MO	DY	HR	H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4+	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	NO3-
2	0	1	22	99	1	25	99	3.02	5.52	1.9	- .0005	.003	- .01	- .005	-15.0	24.2	.006	.001	.001	- .001	- .2	- .2	- .001	- .2	- .2	.097		
4	0	1	29	13	1	30	15	25.70	4.59	15.8	- .0003	.002	.07	.047	26.3	54.2	.153	.003	.013	.001	- .2	- .5	.008	.8	1.2	1.019		
5	0	1	30	15	1	31	11	5.62	5.25	4.8	- .0005	.003	.03	.022	-15.0	29.0	.073	.001	.010	- .001	- .2	- .2	.001	.3	.2	.270		
8	0	2	12	99	2	13	99	19.50	4.71	11.3	- .0005	.003	.03	.014	22.2	52.2	.136	.005	.006	.001	- .2	- .2	.002	.3	.8	.748		
8	0	2	13	99	2	14	99	7.41	5.13	3.3	- .0005	.002	- .01	- .005	-15.0	35.2	.005	.002	.001	- .001	- .2	- .2	- .001	- .2	- .2	.093		
8	0	2	14	99	2	15	99	12.88	4.89	11.7	- .0000	.000	.06	- .005	17.9	53.4	.086	- .900	- .900	- .900	- .2	- .7	- .900	.6	.9	.930		
10	0	2	24	12	2	25	12	15.85	4.80	10.9	- .0005	.004	.07	.015	19.0	49.9	.127	.004	.004	- .001	- .2	- .2	.006	.3	.5	.540		
12	0	3	12	99	3	13	99	7.94	5.10	18.4	- .0005	.004	.52	.180	-15.0	46.4	.159	.007	.018	.003	- .2	1.3	.007	2.4	1.7	.771		
AVERAGES							12.24	4.91	9.8	- .0005	.003	- .10	- .037	-18.2	43.1	.093	.003	.008	- .001	- .2	- .4	- .004	-.6	-.7	.559			

- REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM, S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST
 ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.

TABLE 5.12

LOWER MAINLAND ACID RAIN SITE

 WHISTLER MTN , B.C.

 (VALUES ARE EXPRESSED IN MG PER LITRE)

		PERIOD		H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4+	FE+3	PB++	HN++	K+	NA+	ZN++	CL-	SO4--	NO3-				
EVENT	NO	DY	HR																							
2	0	1	22	99	1	25	99	2.57	5.59	1.5	- .0005	.003	-.01	-.005	-15.0	27.4	-.003	.002	-.001	.001	-.2	-.2	.002	-.2	-.2	.071
3	0	1	25	9	1	27	9	3.39	5.47	2.1	- .0005	.003	.01	-.005	-15.0	25.5	-.003	.001	-.001	-.001	-.2	-.2	.001	-.2	-.2	.080
4	0	1	29	9	1	30	9	1.66	5.78	3.2	- .0005	.003	.16	.018	-15.0	27.8	.013	.005	-.001	.001	-.2	-.2	.004	-.2	-.2	.213
5	0	1	30	9	1	31	14	1.48	5.83	2.9	- .0005	.004	.13	.018	-15.0	20.8	.015	.002	.001	-.001	-.2	-.2	.007	-.2	-.2	.102
7	0	2	11	14	2	12	9	5.75	5.24	3.0	- .0005	-.001	-.01	-.005	-15.0	20.6	.003	.004	-.001	-.001	-.2	-.2	-.001	-.2	-.2	.204
8	0	2	12	14	2	14	14	3.09	5.51	2.2	- .0005	.002	-.01	-.005	-15.0	23.3	-.003	.001	.002	-.001	-.2	-.2	.001	-.2	-.2	.146
9	0	2	16	16	2	17	14	.15	6.82	5.6	- .0005	.003	1.30	.015	-15.0	20.4	-.003	.001	-.001	-.001	-.2	-.2	.005	-.2	-.2	.106
11	0	2	26	16	3	1	14	3.80	5.42	2.5	- .0005	.003	.05	.007	-15.0	29.8	.006	.001	-.001	-.001	-.2	-.2	.002	-.2	-.2	.155
AVERAGES				2.74	5.56	2.9	- .0005	-.003	-.21	-.009	-15.0	25.4	-.006	.002	-.001	-.001	-.2	-.2	-.003	-.2	-.2	.135				

REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM, S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.

TABLE 5.13

LOWER MAINLAND ACID RAIN STATION

 ALTA LAKE, B.C.

 (VALUES ARE EXPRESSED IN MG PER LITRE)

		PERIOD		NO	DO	DY	HR	NO	DO	DY	HR	H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4+	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	NO3-
4	0	1	28	10	1	30	16	5.25	5.28	5.1	- .0005	.006	.11	.014	-15.0	30.9	.031	.002	.004	.001	-.2	.2	.013	.2	.4	.434				
5	0	1	30	16	2	1	11	10.23	4.99	12.1	- .0005	.011	.03	.005	-15.0	36.4	.041	.005	.010	.004	-.2	1.2	.020	1.8	-.2	4.420				
7	0	2	11	20	2	12	21	14.13	4.85	8.5	- .0005	.006	.03	- .005	16.4	40.1	.021	.001	.001	-.001	-.2	.5	.002	.6	-.2	.598				
8	0	2	12	21	2	13	17	8.51	5.07	4.4	- .0005	.003	.02	- .005	-15.0	35.8	.014	.002	.001	-.001	-.2	.2	.001	-.2	-.2	.403				
10	0	2	23	14	2	26	8	7.94	5.18	6.3	- .0005	.003	.02	- .005	-15.0	30.5	.018	-.001	.004	-.001	-.2	.4	.001	.6	-.2	.394				
11	0	2	26	9	3	1	9	9.33	5.03	8.8	- .0005	.001	.07	- .005	-15.0	34.3	.026	.001	.001	-.001	-.2	.7	-.001	1.1	-.2	.363				
AVERAGES								9.23	5.03	7.5	- .0005	.005	.05	- .007	-15.2	34.7	.025	-.002	.003	-.002	-.2	.5	-.006	-.8	-.2	1.102				

REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS - .9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.

TABLE 5.14

LOWER MAINLAND ACID RAIN STUDY

EVENT NO. 1

(VALUES ARE EXPRESSED IN MG PER LITRE)

STATION NAME	PERIOD		H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4++	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	NO3-	
	ND	DY	HR	ND	DY	HR																
ALTA LAKE				SAMPLE NOT TAKEN FOR THIS EVENT																		
WHISTLER MTN				SAMPLE NOT TAKEN FOR THIS EVENT																		
T-40	1	15	99	1	18	99	14.13	4.85	10.2	- .0005	.005	.06	.047	17.7	41.3	.030	.005	.002	-.002	-.2	.4	.005
CROUSE MTN	1	15	99	1	18	99	4.47	5.35	3.7	- .0005	.003	.02	.033	-15.0	32.2	.068	.002	.001	-.001	-.2	.3	.002
MT. SEYHOUR				SAMPLE NOT TAKEN FOR THIS EVENT																		
T-6	1	15	99	1	18	99	26.30	4.58	15.2	- .0005	.003	.05	.050	27.6	55.3	.067	.009	.005	.001	-.2	.6	.008
T-7	1	15	99	1	18	99	10.00	5.00	7.2	- .0005	.002	.02	.038	-15.0	38.1	.081	.005	.003	-.001	-.2	.5	.001
T-2	1	15	99	1	18	99	7.76	5.11	8.2	- .0005	.004	.04	.050	-15.0	44.4	.175	.006	.005	.001	-.2	.5	.001
VANCOUVER (A)	1	14	15	1	16	11	3.89	5.41	4.4	- .0005	.002	.17	.009	-15.0	32.9	.043	.006	.002	-.001	-.2	.2	.004
VANCOUVER (A)	1	16	11	1	18	8	5.62	5.25	9.7	- .0005	.001	.06	.120	-15.0	33.2	.057	.003	.001	-.001	-.2	1.0	.001
LADNER				SAMPLE NOT TAKEN FOR THIS EVENT																		
CLOVERDALE				SAMPLE NOT TAKEN FOR THIS EVENT																		
ABBOTSFORD (A)				SAMPLE NOT TAKEN FOR THIS EVENT																		
CHILLIWACK	1	15	12	1	17	11	1.41	5.85	3.9	- .0005	.004	.07	.015	-15.0	29.9	.145	.003	.001	.001	-.2	.2	.003
AGASSIZ CDA	1	15	12	1	18	8	2.24	5.65	4.8	- .0005	.003	.03	.021	-15.0	28.8	.249	.002	-.001	.001	-.2	.2	-.002
AVERAGES				8.42	5.07	7.7	- .0005	.003	.06				.043	-16.7	37.3	.102	.005	-.002	-.001	-.2	-.4	-.003

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- REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST
 ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.
 (5) * FLAGS THE OVERLAPPED EVENT

TABLE 5.15

LOWER MAINLAND ACID RAIN STUDY

EVENT NO. 2

(VALUES ARE EXPRESSED IN MG PER LITRE)

STATION NAME	PERIOD		NO	DY	HR	NO	DY	HR	H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4++	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	NO3-
	1	2																									
SAMPLE NOT TAKEN FOR THIS EVENT																											
ALTA LAKE	1	22	99	1	25	99	2.57	5.59	1.5	- .0005	.003	-.01	-.005	-15.0	27.4	-.003	.002	-.001	.001	-.2	-.2	.002	-.2	-.2	.071		
WHISTLER MTH	1	22	99	1	25	99	13.18	4.88	9.1	- .0005	.003	.03	.049	16.4	37.4	.041	.003	.005	-.001	-.2	-.4	.003	-.8	-.4	.430		
GROUSE HTN	1	22	99	1	25	99	7.94	5.10	5.1	- .0005	.003	.01	.029	-15.0	34.8	.054	.003	.001	-.001	-.2	-.3	.001	-.6	-.2	.306		
MT. SEYMOUR	1	22	99	1	25	99	3.02	5.52	1.9	- .0005	.003	-.01	-.005	-15.0	24.2	.006	.001	.001	-.001	-.2	-.2	-.001	-.2	-.2	.097		
T-6	1	22	99	1	25	99	13.18	4.88	7.3	- .0005	.003	.02	.023	16.9	39.8	.022	.006	.003	-.001	-.2	-.2	.011	.4	.4	.204		
J-7	1	22	99	1	25	99	9.55	5.02	5.6	- .0005	.002	.03	.021	-15.0	33.3	.019	.002	.003	-.001	-.2	-.2	-.001	-.3	-.2	.168		
J-2	1	22	99	1	25	99	8.32	5.08	8.3	- .0005	.004	.11	.026	-15.0	34.9	.595	.006	.011	-.001	-.2	-.2	.003	.4	1.3	.337		
VANCOUVER (A)	1	18	8	1	24	9	7.94	5.10	8.9	- .0005	.005	.28	.060	-15.0	33.8	.059	.008	.005	.001	-.2	-.5	.007	-.9	.8	.297		
LADNER	1	22	18	1	23	13	10.00	5.00	5.6	- .0005	.002	.06	.005	-15.0	36.2	.033	.005	-.001	-.001	-.2	-.2	.004	-.2	.3	.354		
CLOVERDALE	SAMPLE NOT TAKEN FOR THIS EVENT																										
ABBOTSFORD (A)	SAMPLE NOT TAKEN FOR THIS EVENT																										
CHILLIWACK	1	22	16	1	24	11	1.58	5.80	1.8	- .0005	.002	.02	-.005	-15.0	23.0	.053	.001	-.001	-.001	-.2	-.2	.001	-.2	-.2	.071		
AGASSIZ CDA	1	22	16	1	25	8	2.95	5.53	2.5	- .0005	.001	.01	-.009	-15.0	22.6	.053	.001	-.001	-.001	-.2	-.2	.001	-.2	-.2	.066		

AVERAGES	7.30	5.14	5.2	- .0005	.003	-.05	-.022	-15.3	31.6	-.085	.003	-.003	-.001	-.2	-.3	-.003	-.4	-.4	.218
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- REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST
 ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.
 (5) * FLAGS THE OVERLAPPED EVENT

TABLE 5.16

LOWER MAINLAND ACID RAIN STUDY

EVENT NO. 3

(VALUES ARE EXPRESSED IN MG PER LITRE)

STATION NAME	PERIOD											NO3-													
	NO	DY	HR	NO	DY	HR	H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4++	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	
ALTA LAKE																									
WHISTLER MTN	1	25	9	1	27	9	3.39	5.47	2.1	- .0005	.003	.01	- .005	-15.8	25.5	- .003	.001	- .001	- .001	.2	.2	.001	.2	.2	.080
T-40	1	25	99	1	26	99	14.13	4.85	7.4	- .0005	.002	.01	.018	15.7	41.7	.040	.001	- .001	.003	.2	.2	.001	.2	.4	.275
GROUSE MTN	1	25	8	1	26	9	7.94	5.10	8.0	- .0005	.005	.03	.032	-15.0	33.3	.098	.001	.002	- .001	.2	.4	.006	.6	.5	.368
MT. SEYOUR																									
T-6																									
J-7	1	25	8	1	26	8	25.12	4.60	17.3	.0014	.007	.10	.055	27.5	52.6	.080	.025	.008	.003	.2	.6	.480	1.1	1.3	.430
T-2	1	25	11	1	26	12	17.78	4.75	12.5	- .0005	.002	.04	.053	21.1	43.8	.117	.002	.002	- .001	.2	.4	.007	.8	.7	.558
VANCOUVER (A)	1	25	8	1	26	8	10.96	4.96	11.1	- .0005	.003	.06	.064	-15.0	40.2	.211	.005	.007	.001	.2	.6	.002	1.1	1.0	.354
LADNER	1	25	9	1	26	9	8.32	5.08	12.7	- .0005	.005	.10	.100	-15.0	34.3	.094	.002	.004	.001	.2	.6	.002	1.8	.7	.279
CLOVERDALE																									
ABBOTSFORD (A)																									
CHILLIWACK	1	25	8	1	26	11	2.89	5.68	3.9	- .0005	.002	.01	.008	-15.0	30.7	.198	- .001	- .001	.007	.2	.2	- .001	.2	.2	.208
AGASSIZ CDA	1	25	8	1	26	8	3.31	5.48	4.3	- .0005	.001	.01	.018	-15.0	29.3	.174	.002	- .001	- .001	.2	.2	.001	.2	.2	.244

AVERAGES

10.35 4.99 9.4 - .0006 .003 .04 - .049 -16.9 37.1 -.114 -.004 -.003 -.002 -.2 -.5 -.050 -.8 -.6 .311

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- REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CH. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST
 ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.
 (5) * FLAGS THE OVERLAPPED EVENT

TABLE 5.17

LOWER MAINLAND ACID RAIN STUDY

EVENT NO. 4

(VALUES ARE EXPRESSED IN KG PER LITRE)

STATION NAME	PERIOD		NO	DY	HR	H+	PH	COND	CD++	Cl++	Ca++	Mg++	S.ACID	T.ACID	NH4++	FE+3	PB++	Mn++	K+	Na+	Zn++	CL-	SD4--	NO3-		
	1	2																								
ALTA LANE	1	28	10	1	30	16	5.25	5.28	5.1	- .0005	.006	.11	.014	-15.0	39.9	.031	.002	.004	.001	.001	.2	.013	.2	.4	.434	
WHISTLER MTN	1	29	9	1	30	9	1.66	5.78	3.2	- .0005	.003	.16	.018	-15.0	27.8	.013	.005	.002	.001	.001	.2	.004	.2	.2	.213	
T-40	1	29	11	1	29	19	13.18	4.88	8.6	- .0005	.002	.03	.019	18.0	44.6	.084	.002	.006	.001	.001	.2	.002	.2	.2	.456	
GROUSE MTN	1	29	9	1	29	16	6.61	5.18	5.6	- .0005	.003	.05	.027	-15.0	29.4	.076	.001	.003	.006	.006	.2	.001	.2	.2	.283	
MT. SEYMOUR	1	29	13	1	30	15	25.70	4.59	15.8	- .0005	.002	.07	.047	26.3	54.2	.153	.003	.013	.001	.001	.2	.008	.2	.2	1.019	
*T-6	1	29	9	2	1	8	22.91	4.64	17.8	- .0005	.009	.30	.072	24.9	55.5	.139	.012	.021	.004	.004	.2	.7	.050	.1	.797	
*T-7	1	29	9	2	1	9	25.70	4.59	15.6	- .0005	.004	.67	.060	29.2	54.1	.123	.006	.009	.001	.001	.2	.5	.007	.8	.864	
*T-2	1	29	9	2	1	11	16.22	4.79	16.7	- .0005	.005	.26	.060	19.4	49.5	.643	.005	.019	.005	.005	.2	.5	.007	.8	.2	
VANCOUVER (A)	1	29	10	1	31	8	10.47	4.98	14.8	- .0005	.005	.44	.100	-15.0	40.3	.156	.003	.008	.000	.000	.2	.1.5	.007	.1.5	.709	
SLADNER	1	29	9	2	1	7	10.47	4.98	13.5	- .0005	.009	.20	.110	-15.0	39.4	.197	.000	.000	.000	.000	.2	.9	.000	.1.5	.753	
CLOVERDALE	1	29	10	2	1	7	SAMPLE NOT TAKEN FOR THIS EVENT																		.447	
RABBOTSFORD (A)	1	29	14	2	11	1	82	5.74	6.8	- .0005	.003	.14	.035	-15.0	28.2	.553	.004	.001	.003	.001	.2	.3	.004	.4	.363	
CHILLIWACK	1	29	9	1	30	17	.66	6.18	6.9	- .0005	.002	.23	.030	-15.0	24.7	.476	- .001	.001	.002	.001	.2	.2	.001	.2	.465	
ABASSIZ CDA	1	29	9	1	29	16	3.80	5.42	5.8	- .0005	.000	.07	.014	-15.0	33.4	.309	- .900	.000	.000	.000	.2	.2	.000	.2	.345	
AVERAGES							11.11	4.95	10.5	- .0005	.004	.16	.047	-18.3	39.4	.227	- .004	.008	- .002	.002	.2	.4	- .010	- .7	-1.0	.550

REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST
 ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.
 (5) * FLAGS THE OVERLAPPED EVENT

LOWER MAINLAND ACID RAIN STUDY

EVENT NO. 5

(VALUES ARE EXPRESSED IN MG PER LITRE)

STATION NAME	PERIOD										MG++	S.ACID	T.ACID	NH4++	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	NO3-		
	MO	DY	HR	MO	DY	HR	H+	PH	COND	CD++	CU++	CA++													
ALTA LAKE	1	30	16	2	1	11	10.23	4.99	12.1	- .0005	.011	.03	.005	-15.0	36.4	.041	.005	.010	.004	-2	1.2	.020	1.8	-2	4.420
WHISTLER MTN	1	30	9	1	31	14	1.48	5.83	2.9	- .0005	.004	.13	.010	-15.0	20.8	.015	.002	.001	-.001	-2	-2	.007	-2	-2	.102
T-40	1	29	19	2	1	9	16.22	4.79	8.7	- .0005	.001	.03	.018	19.0	46.2	.054	.002	.007	-.001	-2	-2	.001	5	5	.567
GROUSE MTN	1	29	16	2	1	11	10.47	4.98	7.3	- .0005	.003	.05	.026	-15.0	34.9	.071	.003	.004	-.001	-2	-2	.003	5	5	.421
MT. SEYOUR	1	30	15	1	31	11	5.62	5.25	4.8	- .0005	.003	.03	.022	-15.0	29.0	.073	.001	.010	-.001	-2	-2	.001	5	5	.270
*T-6	1	29	9	2	1	8	22.91	4.64	17.8	- .0005	.009	.30	.072	24.9	55.5	.138	.012	.021	.004	-2	7	.050	1.1	1.7	.797
*T-7	1	29	9	2	1	9	25.70	4.59	13.6	- .0005	.004	.07	.060	29.2	54.1	.123	.006	.009	.001	-2	5	.007	.8	1.3	.864
*T-2	1	29	9	2	1	11	16.22	4.79	16.7	- .0005	.005	.26	.060	19.4	49.5	.643	.005	.019	.005	-2	5	.007	.8	2.2	.709
VANCOUVER (A)	1	31	8	2	1	9	11.75	4.93	12.8	- .0005	.005	.15	.094	-15.0	40.4	.112	.005	.009	.002	-2	9	.004	1.6	1.0	.425
*LADNER	1	29	9	2	1	7	10.47	4.98	13.5	- .0005	.900	.20	.110	-15.0	39.4	.197	-.900	-.900	-.900	-2	9	-.900	1.5	1.1	.447
CLOVERDALE	SAMPLE NOT TAKEN FOR THIS EVENT																								
*ABBOTSFORD (A)	1	29	14	2	1	11	1.82	5.74	6.8	- .0005	.003	.14	.035	-15.0	28.2	.553	.004	.001	.003	-2	3	.004	.4	.8	.363
CHILLIWACK	1	30	17	2	1	9	1.29	5.89	3.3	- .0005	.001	.02	.009	-15.0	24.2	.283	-.001	-.001	-.001	-2	-2	-.001	-2	-2	.168
AGASSIZ CDA	1	29	16	2	1	8	1.82	5.74	5.3	- .0005	.005	.08	.017	-15.0	16.0	.386	.001	.001	.003	-2	-2	-.001	.2	.5	.456

AVERAGES

18.46 4.98 9.8 - .0005 .005 .11 .041 -17.5 36.5 .207 -.004 -.008 -.002 -.2 -.5 -.009 -.7 -.8 .770

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- REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CH. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST
 ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.
 (5) * FLAGS THE OVERLAPPED EVENT

TABLE 5.19

LOWER MAINLAND ACID RAIN STUDY

EVENT NO. 6

(VALUES ARE EXPRESSED IN MG PER LITRE)

STATION NAME	PERIOD		NO	DY	HR	NO	DY	HR	H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4++	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	NO3-	
	1	2																										
ALTA LAKE	SAMPLE NOT TAKEN FOR THIS EVENT																											
WHISTLER MTN	SAMPLE NOT TAKEN FOR THIS EVENT																											
T-40	2	1	9	2	3	16	16.98	4.77	8.1	- .0005	.002	-.01	-.005	19.8	43.1	.028	.004	.005	.002	-.2	-.2	-.2	.004	-.2	-.2	.775		
CEDAR MTN	2	1	12	2	3	12	14.13	4.85	8.6	- .9000	-.900	.02	-.005	16.2	40.3	.102	-.900	-.900	-.900	-.2	-.2	-.2	-.900	-.2	-.2	.686		
MT. SEYKOUR	SAMPLE NOT TAKEN FOR THIS EVENT																											
T-6	2	1	10	2	3	15	109.65	3.96	-.9	- .9000	-.900	-.90	-.900	128.2	209.4	2.379	-.900	-.900	-.900	-.9	-.9	-.9	-.900	-.9	-.9	10.319		
T-7	2	1	16	2	3	16	7.90	-.90	-.9	- .9000	-.900	-.90	-.900	-.9	-.9	1.029	-.900	-.900	-.900	-.9	-.9	-.9	-.900	-.9	-.9	13.064		
T-2	2	1	99	2	3	99	19.05	4.72	-.9	- .9000	-.900	-.90	-.900	29.6	63.1	4.861	-.900	-.900	-.900	-.9	-.9	-.9	-.900	-.9	-.9	6.554		
VANCOUVER (A)	2	1	99	2	3	99	43.65	4.36	-.9	- .9000	-.900	-.70	-.900	53.4	100.0	.482	-.900	-.900	-.900	-.9	-.9	-.9	-.900	-.9	-.9	3.432		
LADNER	2	1	9	2	3	7	64.57	4.19	39.6	- .9000	-.900	-.90	-.900	74.1	110.3	1.157	-.900	-.900	-.900	-.2	1.0	-.900	1.8	2.9	7.086			
CLOVERDALE	SAMPLE NOT TAKEN FOR THIS EVENT																											
ABBOTSFORD (A)	2	1	11	2	3	10	11.6.95	-.9	- .9000	-.900	-.90	-.900	-15.0	1.5	3.215	-.900	-.900	-.900	-.9	-.9	-.9	-.900	-.9	-.9	4.406			
CHILLIWACK	SAMPLE NOT TAKEN FOR THIS EVENT																											
AGASSIZ CDA	2	1	12	2	3	99	10.96	4.96	-.9	- .9000	-.900	-.90	-.900	17.9	45.3	1.260	-.900	-.900	-.900	-.2	.4	-.900	.6	1.0	4.008			
AVERAGES							34.89	4.46	18.8	- .0005	.002	-.24	-.117	-44.3	76.6	1.613	.004	.005	.002	-.2	-.5	.004	-.7	-1.1	5.592			

- REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST
 ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.
 (5) * FLAGS THE OVERLAPPED EVENT

LOWER MAINLAND ACID RAIN STUDY

THE BOSTONIAN HOTEL, BOSTON, MASS.

EVENT NO. 7

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(VALUES ARE EXPRESSED IN MG PER LITRE)

STATION NAME	PERIOD											NO3-													
	NO	DY	HR	NO	DY	HR	H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4++	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	
ALTA LAKE	2	11	20	2	12	21	14.13	4.85	8.5	- .0005	.006	.03	- .005	16.4	40.1	.021	.001	.001	- .001	.2	.5	.002	.6	.2	.598
WHISTLER MTN	2	11	14	2	12	9	5.75	5.24	3.0	- .0005	.001	.01	- .005	-15.0	28.6	.003	.004	- .001	- .001	.2	.2	- .001	- .2	- .2	.204
T-40	2	11	99	2	12	10	19.95	4.70	9.3	- .0005	.006	.02	.012	21.0	48.9	.059	.016	.003	.005	.2	.2	.014	.2	.7	.624
*GROUSE MTN	2	11	99	2	15	99	11.22	4.95	6.6	- .0005	.002	.02	- .005	-15.0	36.5	.063	.003	.002	- .001	.2	.2	.001	.2	.4	.350
MT. SEYKOUR	SAMPLE NOT TAKEN FOR THIS EVENT																								
T-6	2	11	99	2	12	9	2.00	5.70	28.3	- .9000	.900	2.40	.140	-15.0	40.7	.203	- .900	- .900	- .900	.2	2.1	- .900	2.5	3.5	1.794
T-7	2	11	99	2	12	99	30.20	4.52	15.3	- .0005	.003	.09	.024	32.3	64.3	.123	.009	.004	.001	.2	.3	.005	.4	1.2	1.085
T-2	2	11	99	2	12	13	4.47	5.35	25.6	- .9000	.900	.71	.110	-15.0	40.8	1.929	- .900	- .900	- .900	.2	.8	- .900	1.4	4.6	1.639
VANCOUVER (A)	2	11	9	2	12	9	10.96	4.96	20.0	- .9000	.900	.62	.190	15.6	48.2	.399	- .900	- .900	- .900	.2	1.2	- .900	2.2	2.1	1.727
LADNER	2	11	7	2	12	16	9.77	5.01	18.2	- .9000	.900	.69	.130	16.1	51.2	.386	- .900	- .900	- .900	.2	1.0	- .900	2.0	1.5	1.298
CLOVERDALE	SAMPLE NOT TAKEN FOR THIS EVENT																								
ABBOTSFORD (A)	2	3	10	2	12	16	.22	6.66	20.2	- .9000	.900	.90	- .900	-15.0	2.9	2.019	- .900	- .900	- .900	.9	.9	- .900	.9	.9	2.259
*CHILLIWACK	2	11	11	2	15	9	2.09	5.68	2.6	- .0005	.001	.01	.006	-15.0	28.7	.185	.005	- .001	- .001	.2	.2	- .001	- .2	- .2	.190
AGASSIZ CDA	2	11	9	2	12	16	.81	6.89	6.2	- .9000	.900	.04	.026	-15.0	34.0	.566	- .900	- .900	- .900	.2	.2	- .900	.2	.5	.620

AVERAGES

9.30 5.03 13.7 -.0005 -.003 -.42 -.059 -17.2 38.7 .496 .006 -.002 -.002 -.2 -.6 -.004 -.9 -.1.4 1.032

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REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
(2) MISSING DATA ARE DESIGNATED AS -.9
(3) 99 INDICATES TIME UNKNOWN
(4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST
ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.
(5) * FLAGS THE OVERLAPPED EVENT

TABLE 5.21

LOWER MAINLAND ACID RAIN STUDY

EVENT NO. 8

(VALUES ARE EXPRESSED IN MG PER LITRE)

STATION NAME	PERIOD												NO3-												
	NO	DY	HR	NO	DY	HR	H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4++	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	
ALTA LAKE	2	12	21	2	13	17	8.51	5.07	4.4	- .0005	.003	.02	- .005	-15.0	35.8	.014	.002	.001	- .001	.2	.2	.001	- .2	- .2	.403
WHISTLER MTH	2	12	14	2	14	14	3.09	5.51	2.2	- .0005	.002	-.01	- .005	-15.0	23.3	- .003	.001	.002	- .001	.2	.2	.001	- .2	- .2	.146
T-40	2	12	10	2	12	17	13.49	4.87	6.6	- .0005	.001	-.01	- .005	-15.0	42.1	.035	.003	.003	- .001	.2	.2	.001	- .2	- .6	.230
T-40	2	12	17	2	15	9	15.85	4.80	7.6	- .0005	.003	.01	- .005	-15.0	46.6	.042	.003	.003	- .001	.2	.2	.001	- .2	- .6	.270
*GROUSE MTN	2	11	99	2	15	99	11.22	4.95	6.6	- .0005	.002	.02	- .005	-15.0	36.5	.063	.003	.002	- .001	.2	.2	.001	- .2	- .8	.350
HT. SEYHOUR	2	12	99	2	13	99	19.50	4.71	11.3	- .0005	.003	-.03	- .014	22.2	52.2	.136	.005	.006	- .001	.2	.2	.002	- .3	- .8	.748
HT. SEYHOUR	2	13	99	2	14	99	7.41	5.13	3.3	- .0005	.002	-.01	- .005	-15.0	35.2	.005	.002	.001	- .001	.2	.2	.001	- .2	- .9	.093
HT. SEYHOUR	2	14	99	2	15	99	12.88	4.89	11.7	- .9000	-.900	.06	- .005	17.9	53.4	.086	-.900	-.900	- .900	.2	.2	.900	- .6	- .9	.930
T-6	2	12	9	2	15	10	27.54	4.56	14.7	- .0009	.007	.16	.031	29.4	60.3	.058	.070	.004	.001	.2	.2	.016	- .5	1.3	.509
T-7	2	12	99	2	15	99	19.95	4.70	9.2	- .0005	.001	.01	.007	-15.0	54.2	.062	.003	.002	- .001	.2	.2	.001	- .2	- .6	.447
T-2	2	12	13	2	15	99	14.13	4.85	9.2	- .0005	.003	.04	.016	16.9	47.1	.283	.007	.008	.001	.2	.2	.001	- .2	1.8	.554
VANCOUVER (A)	2	12	9	2	13	9	17.38	4.76	12.7	- .0005	.002	.02	.068	20.0	46.7	.120	.008	.010	- .001	.6	.6	.005	1.0	.740	
VANCOUVER (A)	2	13	9	2	14	9	16.68	4.78	7.4	- .0005	.003	-.01	- .005	18.7	44.9	.044	.008	.007	- .001	.2	.2	.004	- .2	.4	.363
VANCOUVER (A)	2	14	9	2	15	8	10.96	4.96	7.6	- .0005	.003	-.03	.015	15.2	39.8	.058	.005	.007	- .001	.2	.2	.004	- .2	.4	.363
LADNER	2	12	16	2	13	9	15.49	4.81	12.7	- .0005	.002	.04	.085	19.6	48.6	.080	.001	.003	- .001	.2	.2	.001	1.4	.562	
LADNER	2	13	9	2	13	17	17.38	4.76	8.6	- .0005	.001	.01	- .005	20.0	51.6	.068	.002	.002	- .001	.2	.2	.001	- .2	.8	.372
LADNER	2	13	17	2	14	10	16.98	4.77	8.2	- .0005	.001	.01	.005	21.3	45.2	.044	.002	.002	- .001	.2	.2	.001	- .2	.4	.580
LADNER	2	14	10	2	15	10	11.75	4.93	6.5	- .0005	.002	-.01	.013	15.6	42.5	.073	.004	.006	- .001	.2	.2	.003	- .2	.4	.310
CLOVERDALE	2	12	15	2	15	21	10.00	5.00	6.3	- .0005	.002	.04	.010	-15.0	38.7	.166	.003	.002	- .001	.2	.2	.001	- .2	.5	.469
ABBOTSFORD (A)	2	12	16	2	13	11	1.58	5.80	2.5	- .0005	.004	.05	.005	-15.0	27.9	.213	.002	.001	- .001	.2	.2	.001	- .2	.2	.195
ABBOTSFORD (A)	2	13	11	2	14	22	1.45	5.84	3.1	- .0005	.003	-.03	- .005	-15.0	30.4	.296	.005	.002	.004	.2	.2	.006	- .2	.2	.213
ABBOTSFORD (A)	2	14	23	2	15	21	.35	6.45	8.8	- .9000	-.900	.08	.022	-15.0	6.7	.759	-.900	-.900	- .900	.2	.2	.900	.5	.6	.407
*CHILLIWACK	2	11	11	2	15	9	2.09	5.68	2.6	- .0005	.001	.01	.006	-15.0	28.7	.185	.005	-.001	- .001	.2	.2	.001	- .2	- .2	.190
AGASSIZ CDA	2	12	16	2	15	12	4.07	5.39	2.5	- .0005	.001	-.01	- .005	-15.0	35.5	.095	.003	.003	- .001	.2	.2	.003	- .2	- .2	.173

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AVERAGES 11.65 4.93 7.3 - .0005 .002 -.03 -.015 -17.3 40.6 -.124 .007 -.003 -.001 -.2 -.3 -.003 -.3 -.5 .401

REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM, S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST
 ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.
 (5) * FLAGS THE OVERLAPPED EVENT

TABLE 5.22

LOWER MAINLAND ACID RAIN STUDY

EVENT NO. 9

(VALUES ARE EXPRESSED IN MG PER LITRE)

STATION NAME	PERIOD											NO3-													
	MO	DY	HR	MO	DY	HR	H+	PH	COND	CD++	CU++	CA++	Mg++	S.ACID	T.ACID	NH4++	FE+3	PB++	MN++	K+	Na+	ZN++	CL-	SO4--	
ALTA LAKE																									
WHISTLER KTN	2	16	16	2	17	14	.15	6.82	5.6	- .0005	.003	1.30	.015	-15.0	20.4	-.003	.001	-.001	-.001	-.2	-.2	.005	-.2	-.2	.186
T-48	2	16	16	2	17	9	16.60	4.78	8.7	- .0005	.002	-.01	.009	19.8	45.5	.051	.002	.003	.003	-.2	-.2	.005	.2	.5	.474
GROUSE KTN																									
MT. SEYKOUR																									
T-6	2	16	16	2	17	11	29.51	4.53	21.8	- .9000	-.900	-.90	-.900	38.0	74.8	.117	-.900	-.900	-.900	-.9	-.9	-.900	-.9	2.0	.638
T-7	2	16	16	2	17	9	19.95	4.70	14.4	- .9000	-.900	.09	.018	25.2	60.8	.077	-.900	-.900	-.900	-.2	-.4	-.900	.6	1.0	.562
T-2	2	16	99	2	17	99	2.45	5.61	-.9	- .9000	-.900	-.90	-.900	-15.0	36.0	-.900	-.900	-.900	-.900	-.9	-.9	-.900	-.9	-.9	-.900
VANCOUVER (A)	2	16	8	2	17	10	3.09	5.51	10.3	- .9000	-.900	-.90	-.900	-15.0	32.6	.190	-.900	-.900	-.900	-.9	-.9	-.900	-.9	-.9	.598
LADNER	2	16	17	2	17	17	10.47	4.98	-.9	- .9000	-.900	-.90	-.900	-.9	-.9	.306	-.900	-.900	-.900	-.9	-.9	-.900	-.9	-.9	.633
CLOVERDALE	2	16	17	2	17	11	8.32	5.08	8.3	- .9000	-.900	-.90	-.900	-15.0	39.8	.315	-.900	-.900	-.900	-.2	.3	-.900	.5	.7	.319
ABBOTSFORD (A)																									
CHILLIWACK	2	16	16	2	17	9	10.80	5.00	6.9	- .0005	.003	.01	-.005	-15.0	37.2	.225	.002	.002	-.001	-.2	-.2	-.001	-.2	.7	.421
AGASSIZ CDA	2	16	16	2	17	10	5.01	5.30	5.3	- .0005	.002	.01	-.005	-15.0	36.1	.289	.003	.001	-.001	-.2	-.2	-.001	-.2	.5	.372

AVERAGES	10.56	4.98	18.2	- .0005	.002	-.28	-.010	-19.2	42.6	-.175	.002	-.002	-.002	-.2	-.3	-.003	-.3	-.8	.458
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- REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST
 ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.
 (5) * FLAGS THE OVERLAPPED EVENT

TABLE 5.23

LOWER MAINLAND ACID RAIN STUDY

EVENT NO. 10

(VALUES ARE EXPRESSED IN MG PER LITRE)

STATION NAME	PERIOD		NO	DY	HR	NO	DY	HR	H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4++	FE+3	PB++	KN++	K+	NA+	ZN++	CL-	SO4--	NO3-
	2	23	14	2	26	8	7.94	5.10	6.3	- .0005	.003	.02	- .005	-15.0	30.5	.018	- .001	.004	- .001	- .2	.4	.801	.6	-.2	.394		
ALTA LAKE	2	23	14	2	26	8	7.94	5.10	6.3	- .0005	.003	.02	- .005	-15.0	30.5	.018	- .001	.004	- .001	- .2	.4	.801	.6	-.2	.394		
WHISTLER MTN							SAMPLE NOT TAKEN FOR THIS EVENT																				
T-40	2	23	15	2	25	99	14.45	4.84	8.0	- .0005	.002	.02	.007	17.7	43.8	.044	.004	.003	- .001	- .2	.2	.001	-.2	.3	.496		
GROUSE MTN	2	23	99	2	24	99	17.78	4.75	12.9	- .0005	.005	.08	.022	19.6	46.4	.145	.004	.011	- .001	- .2	.2	.006	-.5	.2	.802		
MT. SEYHOUR	2	24	12	2	25	12	15.85	4.80	10.9	- .0005	.004	.07	.015	19.0	49.9	.127	.004	.004	- .001	- .2	.2	.006	-.3	.5	.540		
T-6	2	23	16	2	24	13	51.29	4.29	38.0	- .9000	-.900	.42	.110	58.7	100.6	.202	-.900	-.900	-.900	-.2	1.3	-.900	2.2	2.4	2.050		
T-6	2	24	13	2	25	11	18.62	4.73	17.1	- .9000	-.900	.39	.033	22.5	53.2	.135	-.900	-.900	-.900	-.2	.7	-.900	.8	1.6	.797		
T-7							SAMPLE NOT TAKEN FOR THIS EVENT																				
T-2	2	23	99	2	25	99	19.05	4.72	20.5	- .0005	.009	.38	.061	24.7	61.7	.601	.100	.030	.006	-.2	.5	.012	.9	2.1	1.253		
VANCOUVER (A)	2	22	9	2	25	9	4.52	5.34	18.5	- .9000	-.900	1.30	.130	-15.0	37.6	.347	-.900	-.900	-.900	-.2	1.1	-.900	2.1	1.8	1.461		
LADNER	2	23	16	2	26	7	14.45	4.84	19.8	- .9000	-.900	.29	.110	18.6	30.2	.472	-.900	-.900	-.900	-.2	1.9	-.900	1.9	1.4	1.404		
CLOVERDALE	2	23	14	2	26	10	1.95	5.71	9.7	- .9000	-.900	-.90	-.900	-15.0	36.1	.633	-.900	-.900	-.900	-.2	-.900	-.6	.8	.8	1.107		
ABBOTSFORD (A)	2	23	14	2	25	16	.91	6.84	9.1	- .0005	.004	.29	.033	-15.0	36.9	.782	.029	.018	.004	-.2	-.2	.008	.5	.7	.996		
CHILLIWACK	2	23	14	2	25	17	1.32	5.88	5.9	- .0005	.002	.02	.011	-15.0	28.5	.579	.002	.002	-.001	-.2	-.2	-.001	.2	.3	.815		
AGASSIZ CDA	2	23	14	2	25	16	5.25	5.28	6.0	- .9000	-.900	.02	.005	-15.0	33.5	.376	-.900	-.900	-.900	-.2	-.2	-.900	-.2	.3	1.661		

AVERAGES	13.34	4.87	14.1	- .0005	.004	.28	- .045	-20.8	46.8	.343	- .021	.010	- .002	- .2	-.5	.005	-.8	-1.0	1.060
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REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
 (2) MISSING DATA ARE DESIGNATED AS -.9
 (3) 99 INDICATES TIME UNKNOWN
 (4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
 AS IN THE CASE OF AVERAGES, MINUS SIGNS INDICATE THAT AT LEAST ONE VALUE USED IN THE CALCULATION IS BELOW ITS DETECTABLE LIMIT.
 (5) * FLAGS THE OVERLAPPED EVENT

TABLE 5.24

LOWER MAINLAND ACID RAIN STUDY

EVENT NO. 11

EVENT NO. 11

(VALUES ARE EXPRESSED IN MG PER LITRE)

STATION NAME	PERIOD										COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4++	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	NO3-
	HO	DY	HR	MO	DY	HR	H+	PH																			
ALTA LAKE	2	26	9	3	1	9	9.33	5.03	8.8	- .0005	.001	.07	-.005	-15.0	34.3	.026	.001	.001	-.001	.2	.7	-.001	1.1	-.2	.363		
WHISTLER MTH	2	26	16	3	1	14	3.80	5.42	2.5	- .0005	.003	.05	-.007	-15.0	29.8	.006	.001	-.001	-.001	.2	.2	-.002	-.2	-.2	.155		
T-40	2	26	16	3	1	9	11.22	4.95	6.8	- .0005	.001	.05	.014	15.1	38.5	.046	.001	.003	-.001	.2	.2	-.001	.2	.2	.474		
GROUSE MTH	2	26	16	3	1	9	10.47	4.98	7.2	- .0005	.004	.05	.011	-15.0	36.5	.058	.002	.003	-.001	.2	.2	-.006	.3	.3	.354		
MT. SEYMORE	SAMPLE NOT TAKEN FOR THIS EVENT																										
T-6	2	26	16	3	1	8	12.02	4.92	10.9	- .0005	.004	.27	.014	16.3	44.7	.073	.020	.004	.005	.2	.5	.012	.5	.9	.593		
T-7	2	26	16	3	1	99	14.13	4.85	7.5	- .0005	.002	.04	.005	16.0	43.0	.049	.003	.002	-.001	.2	.2	-.002	.2	.4	.496		
T-2	2	26	14	3	1	11	15.14	4.82	12.5	- .0005	.002	.14	.022	18.4	48.0	.373	.001	-.001	.003	.2	.2	-.001	.4	1.2	.846		
VANCOUVER (A)	2	27	9	3	1	9	4.07	5.39	6.1	- .0005	.002	.22	.038	-15.0	32.1	.148	.012	.007	.002	.2	.2	.004	.6	.5	.350		
LADNER	2	26	16	3	1	7	12.88	4.89	9.4	- .0005	.001	.07	.031	17.6	44.4	.154	.003	.008	-.001	.2	.2	-.002	.4	.5	.762		
CLOVERDALE	2	26	20	3	1	10	8.32	5.88	6.9	- .0000	.700	.90	-.900	-15.0	37.9	.210	-.900	-.900	-.900	.2	.2	-.2	.2	.4	.762		
ABBOTSFORD (A)	2	26	16	2	27	10	11.48	4.94	8.1	- .0000	.900	.90	-.900	-15.0	40.2	.283	-.900	-.900	-.900	.2	.2	-.2	.2	.5	.868		
ABBOTSFORD (A)	2	27	10	3	1	11	.69	6.16	4.1	- .0005	.002	.14	.240	-15.0	28.2	.424	.002	.001	-.001	.2	.2	-.001	.2	.2	.217		
CHILLIWACK	2	26	9	2	27	8	.28	6.56	6.6	- .0005	.004	.02	.006	-15.0	26.1	.862	.006	-.001	-.001	.2	.2	.001	.2	.3	.478		
CHILLIWACK	2	28	22	3	1	10	1.48	5.83	2.2	- .0005	.003	.01	-.005	-15.0	26.2	.152	.001	-.001	-.001	.2	.2	-.001	.2	.2	.155		
AGASSIZ CDA	2	26	16	3	1	8	2.75	5.56	3.5	- .0000	.900	.90	-.900	-15.0	32.2	.158	-.900	-.900	-.900	.2	.2	-.001	.2	.2	.182		

AVERAGES 7.87 5.10 6.9 -.0005 .002 .09 -.033 -15.6 36.1 .201 .004 -.003 -.002 -.2 -.3 -.003 -.3 -.6 .479

REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM. S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
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(4) MINUS SIGNS INDICATE THAT VALUES ARE BELOW DETECTABLE LIMITS.
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(5) * FLAGS THE OVERLAPPED EVENT

TABLE 5.25

LOWER MAINLAND ACID RAIN STUDY

EVENT NO. 12

(VALUES ARE EXPRESSED IN MG PER LITRE)

STATION NAME	PERIOD		NO	DY	HR	NO	DY	HR	H+	PH	COND	CD++	CU++	CA++	MG++	S.ACID	T.ACID	NH4++	FE+3	PB++	MN++	K+	NA+	ZN++	CL-	SO4--	NO3-	
	3	12																										
ALTA LAKE																												
WHISTLER MTN																												
T-40																												
GROUSE MTN	3	12	8	3	12	12	6.92	5.16	9.0	- .0005	.005	.18	.050	-15.0	35.1	.076	.002	.001	- .001	.2	.4	.002	.9	.6	.266			
MT. SEYHOUR	3	12	99	3	13	99	7.94	5.10	18.4	- .0005	.004	.52	.180	-15.0	46.4	.159	.007	.018	.003	.2	1.3	.007	2.4	1.7	.771			
T-6	3	11	99	3	12	99	7.41	5.13	11.9	- .0005	.005	.63	.041	-15.0	42.9	.084	.080	.010	.002	.2	.6	.017	.9	1.5	.536			
T-7	3	11	99	3	12	99	20.42	4.69	14.9	- .0005	.005	.32	.047	24.5	61.6	.060	.023	.011	.004	.2	.2	.008	.6	1.2	1.218			
T-2	3	11	99	3	12	99	7.41	5.13	21.5	- .0005	.004	.69	.180	-15.0	50.1	.579	.033	.030	.007	.2	1.4	.011	2.3	2.6	1.218			
VANCOUVER (A)	3	5	9	3	13	9	10.23	4.99	19.6	- .9000	.900	.50	.210	-15.0	44.1	.103	.900	.900	.006	.2	1.7	.900	2.9	1.4	.842			
LADNER	3	11	99	3	12	99	5.25	5.28	21.4	- .9000	.900	-.90	-.900	-15.0	29.4	.104	.900	.900	.900	.2	2.2	.900	4.0	1.5	.824			
CLOVERDALE	3	11	17	3	12	14	3.55	5.45	10.1	- .9000	.900	.24	.079	-15.0	35.7	.195	.900	.900	.900	.2	.9	.900	1.3	.9	.496			
ABBOTSFORD (A)	3	11	13	3	12	13	3.09	5.51	11.9	- .9000	.900	.19	.073	-15.0	39.3	6.173	.900	.900	.900	.2	.9	.900	1.3	1.5	.651			
CHILLIWACK	3	11	17	3	12	23	12.88	4.89	12.5	- .0005	.003	.14	.057	16.3	44.7	.242	.009	.005	.004	.2	.5	.001	.8	.9	.864			
AGASSIZ CDA	3	11	15	3	13	13	1.10	5.96	16.0	- .9000	.900	.35	.150	-15.0	32.8	.874	.900	.900	.005	.2	1.2	.900	2.0	1.8	1.019			

AVERAGES	7.84	5.11	15.2	- .0005	.004	.38	.107	-16.0	42.0	.786	.026	.013	- .004	.2	1.0	- .008	1.8	1.4	.791
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- REMARKS : (1) CONDUCTANCE IS EXPRESSED IN US/CM, S.ACID & T.ACID ARE EXPRESSED IN MICRO EQUIVALENTS.
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 (5) * FLAGS THE OVERLAPPED EVENT

TABLE 5.26

6.0 Analytical Methods

All analytical services are performed by the Water Quality Laboratory, Environment Canada.

A complete description of methods used will be found in Appendix B.

7.0 Acknowledgements

- Environmental Laboratory, B.C. Ministry of Environment.
P. Kluckner & D. Sandberg.
- for providing technical information on sample handling and collector design.
- Greater Vancouver Regional District. B. Mills,
A. Percival and staff
- for operation of samplers at G.V.R.D. locations.
- Water Quality Branch, Environment Canada. F. Mah,
and staff.
- for laboratory services.
- Atmospheric Environment Service, Environment Canada,
Scientific Services Division. S. Nikleva, and T. Gigliotti.
- project co-ordination and sample gathering.
- All volunteer operators.
- for operation of samplers.

Also, during the later stages of the project, thanks are extended to Linda Chan for computer programming and Lori Nicholson for manuscript typing.

APPENDIX A

SITE DESCRIPTIONS

<u>Sampling Location</u>	<u>Site Classification</u>
Alta Lake	Rural. Located near Highway 99 at the weather station. (657 m ASL)
Whistler Mtn.	Alpine. Public ski area (1902 m ASL)
Seymour Falls	Rural. Watershed area. (244 m ASL)
Grouse Mtn.	Alpine. Public ski area (1128 m ASL)
Mt. Seymour	Alpine. Located near parking lot of public ski area. (991 m ASL)
Beach Yard (T6)	Industrial
Anmore (T7)	Residential/Industrial. Oil refinery and other heavy industry is located in the Port Moody area.
GVRD (T2)	Residential/Light Industrial
Vancouver Int'l (A)	Airport/Light Industrial
Ladner	Rural/Residential. Local agriculture
Cloverdale	Rural/Residential. Local agriculture
Abbotsford (A)	Airport/Agricultural
Chilliwack	Rural/Agricultural
Agassiz	Agricultural