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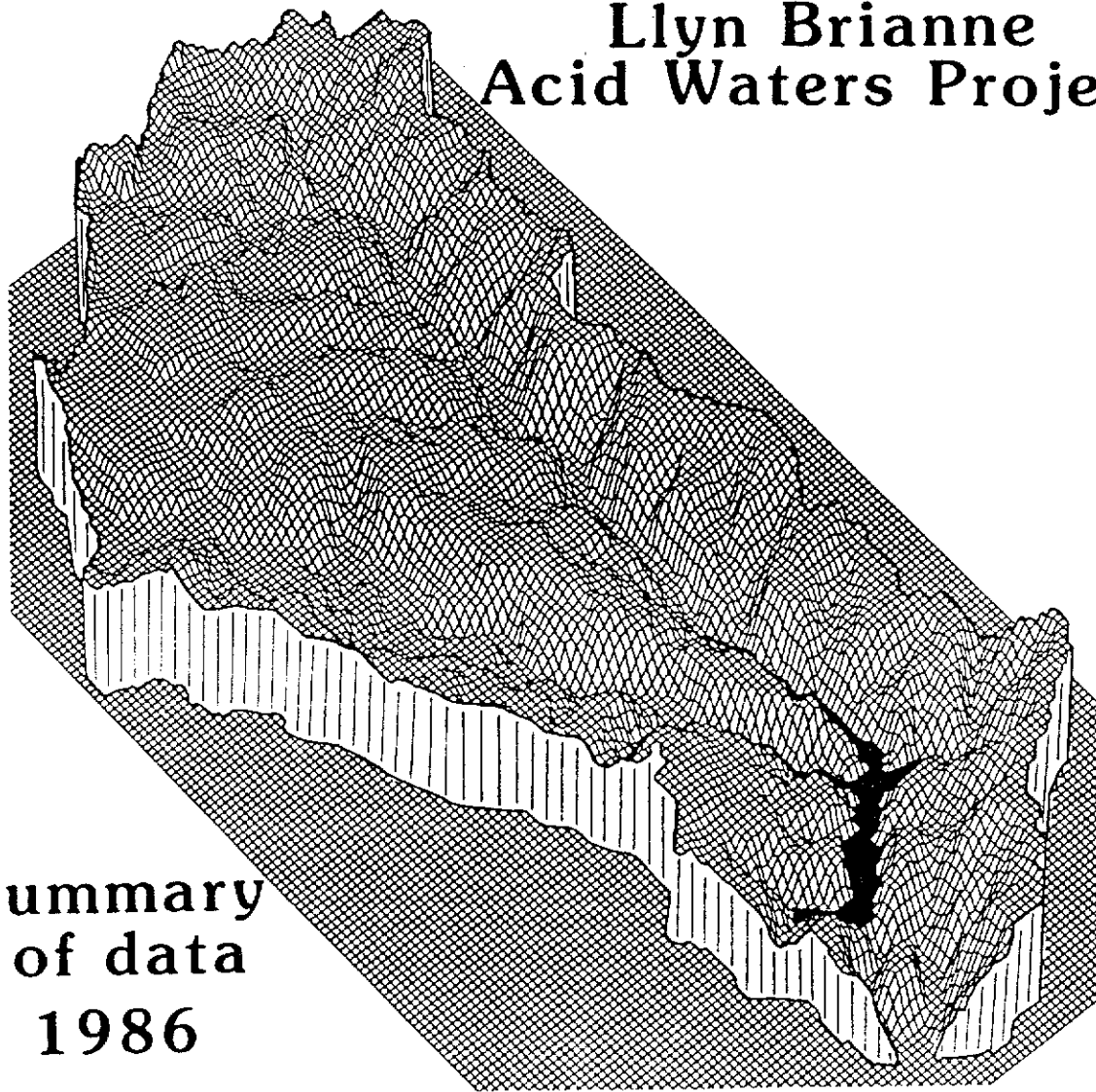
LLYN BRIANNE  
ACID WATERS PROJECT  
SUMMARY OF 1986 DATA

by

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# Llyn Brienne Acid Waters Project



Summary  
of data  
1986

## Introduction

The Llyn Brianne Acid Waters Project is co-ordinated by the Welsh Water Authority and funded by the Department of the Environment and the Welsh Office. Details of the Project, including some preliminary results, are given in a First Technical Summary Report<sup>(1)</sup>.

The current report summarises data collected for the Project during 1986. Data were provided by the organisations participating in the Project and collated at the Institute of Hydrology in a relational database (ORACLE). The volume of data generated by the Project during a given year is large so the report largely comprises graphically formatted data and monthly statistics which indicate the spatial and temporal patterns in hydrochemistry in the Llyn Brianne area during 1986. The main objective of the report is, however, simply to show what data are available for analysis. The report does not present all the data collected for the Project during 1986; rainfall, biological and plot studies data are held by University College Swansea, UWIST (WWA Llanelli) and the Institute of Terrestrial Ecology respectively.

Most of the obviously spurious data were removed or adjusted before the report was produced but no systematic data quality control was undertaken.

There may, therefore, be some erroneous data and so readers are advised to check at source before employing data or information given in this report.

Data are presented in seven Sections, as follows:

Section 1 'Continuous' (15-minute interval) stage, ph, electrical conductivity and temperature at 14 stream sites are presented graphically on a monthly basis.

Section 2 Hourly automatic weather station (AWS) data are plotted on a monthly basis and monthly statistics are tabulated.

Section 3 Spot gaugings of streamflow (by dilution and current meter) are summarised and provisional stage-discharge relations are tabulated.

Section 4 Bulk deposition (wet plus dry) chemistry is tabulated for three sites and rain chemistry (wet only) is tabulated for one site.

Section 5 Stream chemistry was sampled during 52 events during 1986 (as tabulated). Nine sets of 'event' data are presented graphically.

Section 6 1986 spot sample stream chemistry data were appended to the spot sample data for 1984 and 1985 and whole data sets for 10 stream sites are presented graphically.

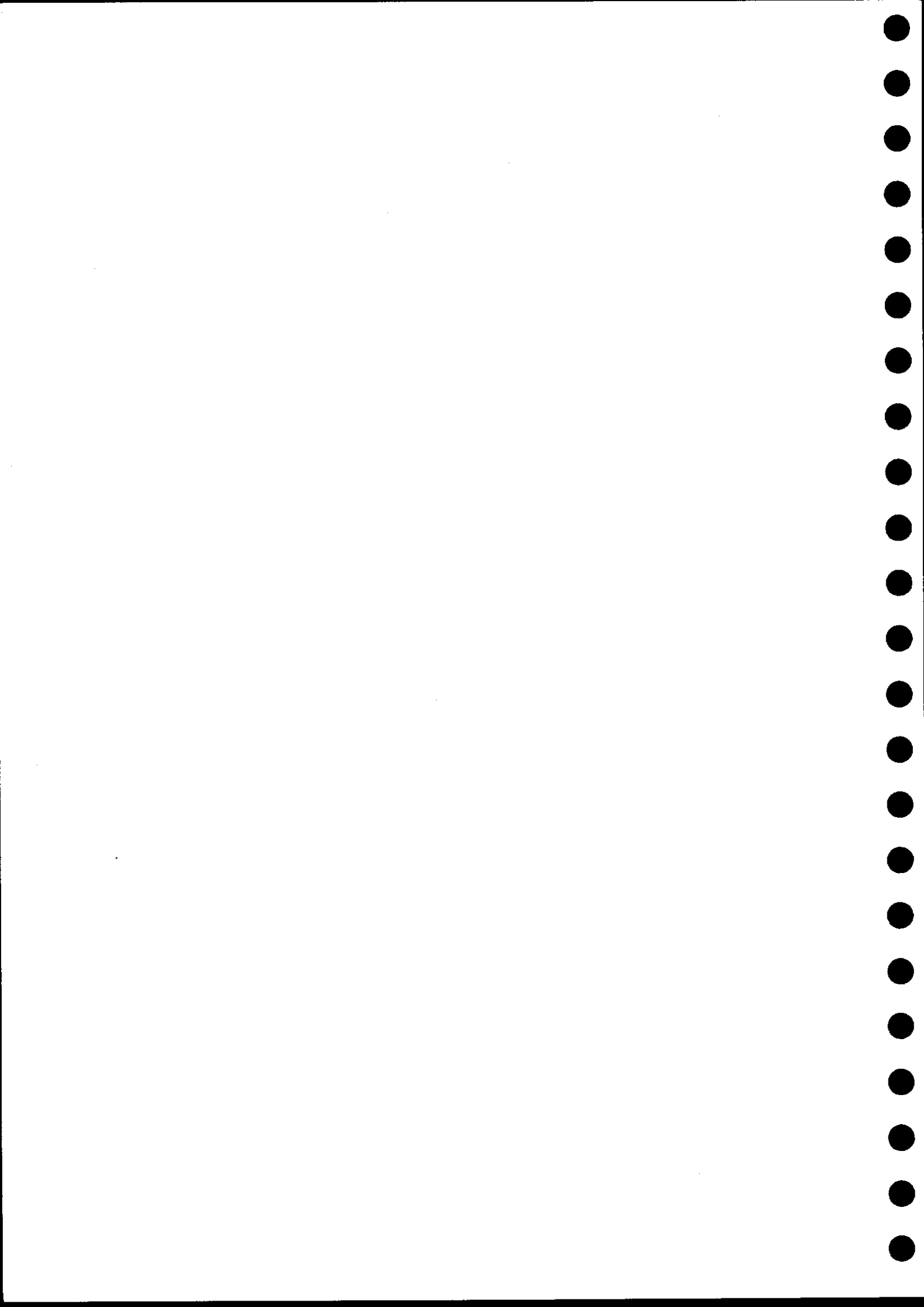
Section 7 The available 'continuous pH and streamflow (Q) data for 1986 are presented in graphical format as broken time series and summarised as pH-duration ( $H^+$  duration) and Q-duration curves respectively.

Reference

- (1) Llyn Brianne Acid Waters Project: First Technical Summary Report, April 1987.

Section 1

'Continuous' (15-minute) stream quality



'Continuous' (15-minute interval) data capture

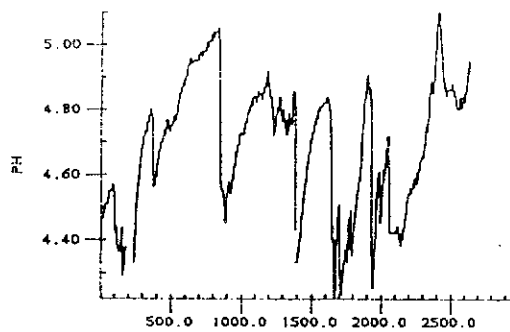
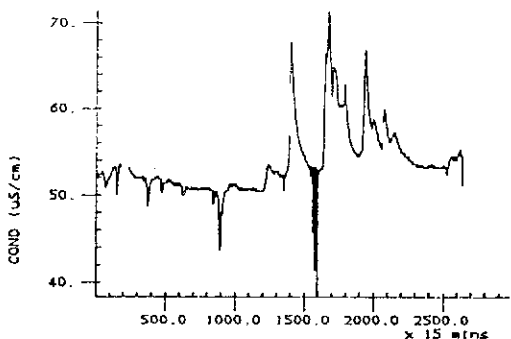
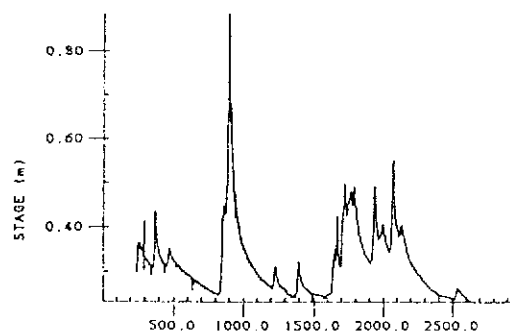
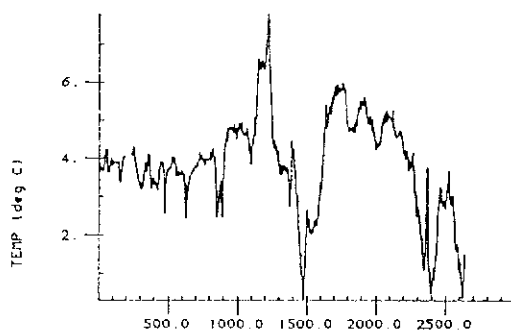
(%)

Period	Conductivity	Temperature	pH	Stage
Jan-Mar	76	72	77	47
Apr-Jan	64	65	63	59
Jul-Sep	73	73	72	56
Oct-Dec	65	66	64	51

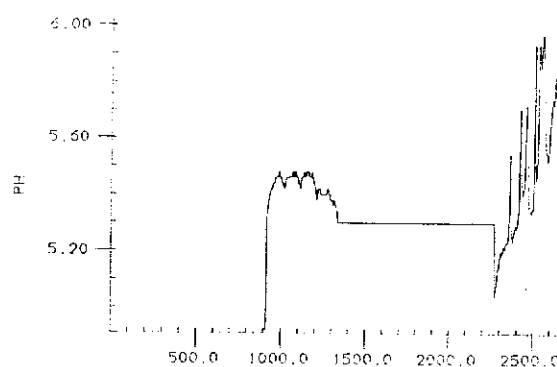
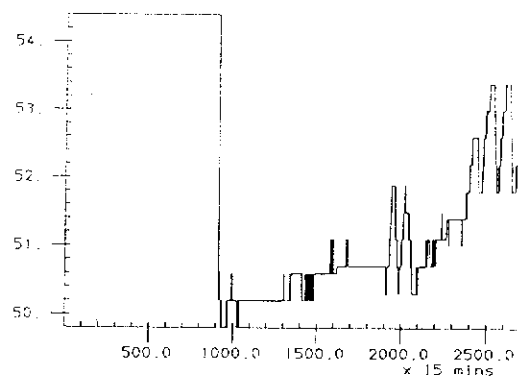
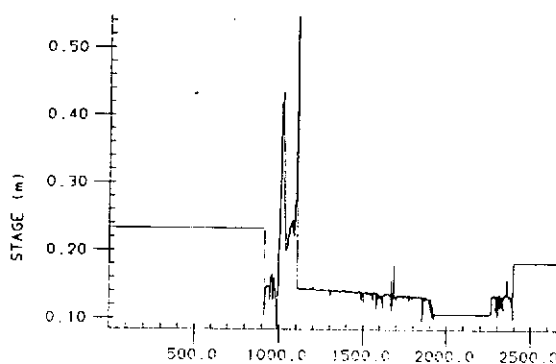
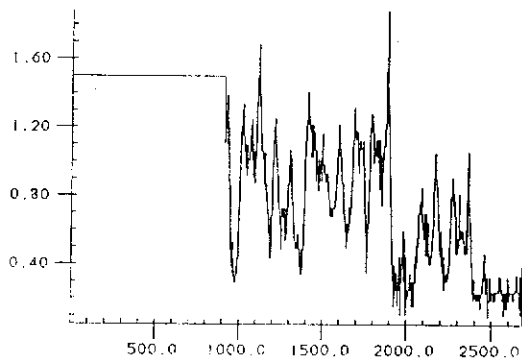




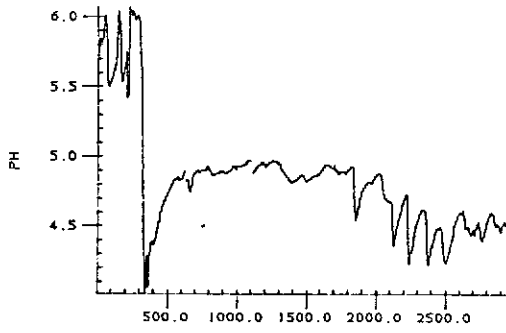
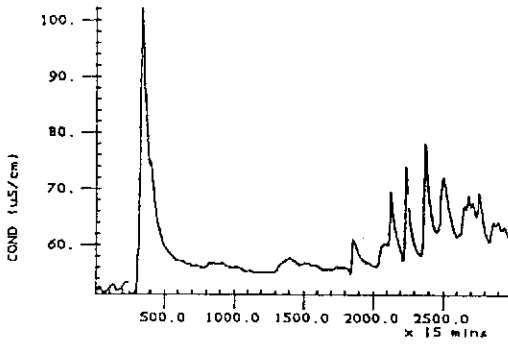
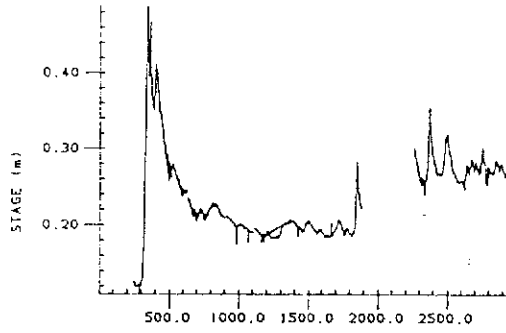
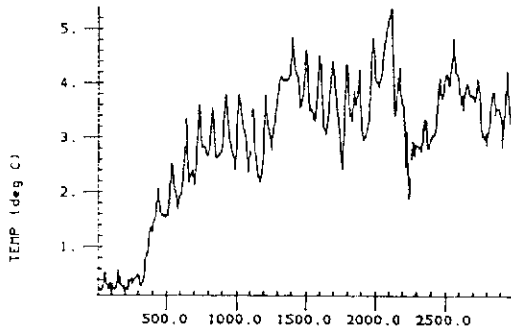
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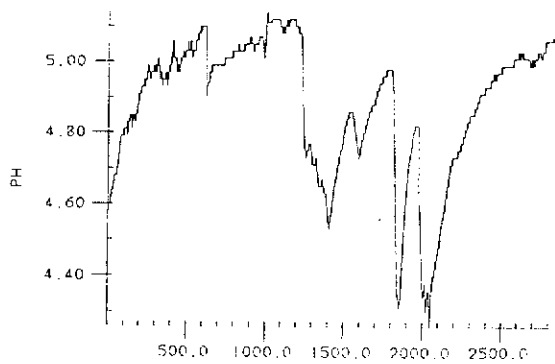
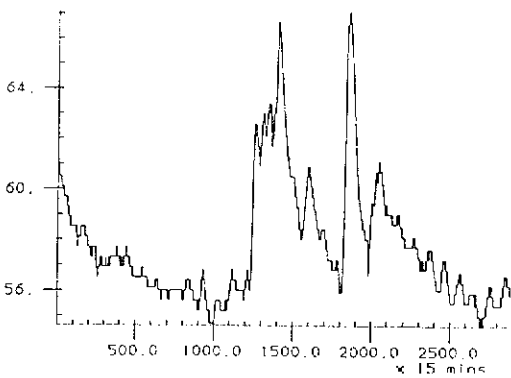
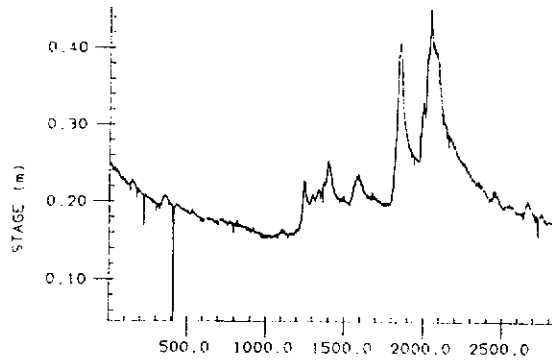
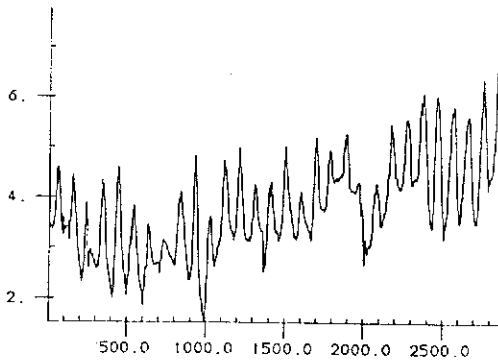
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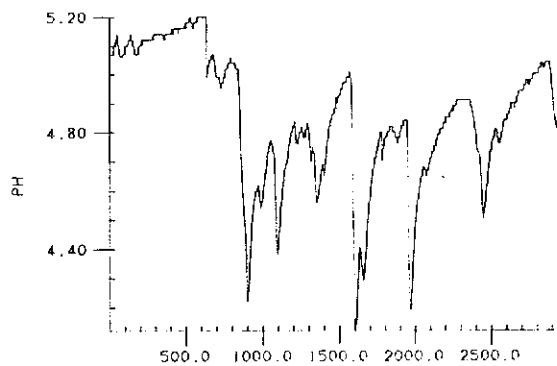
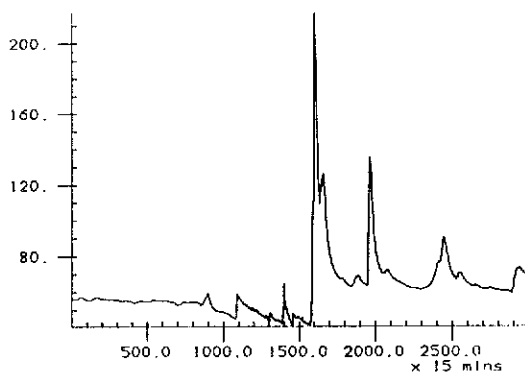
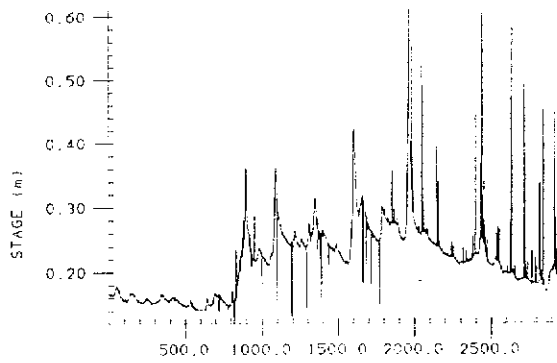
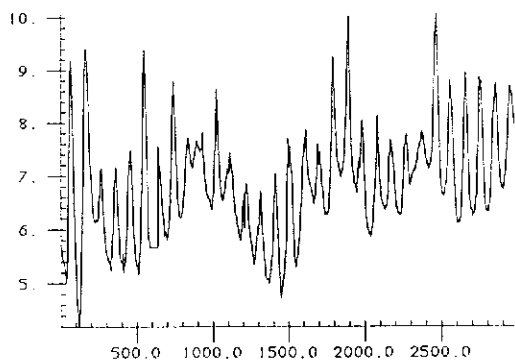
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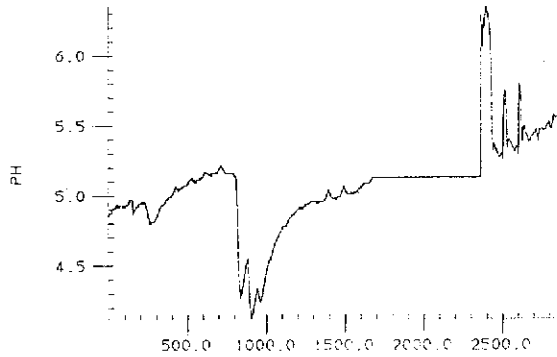
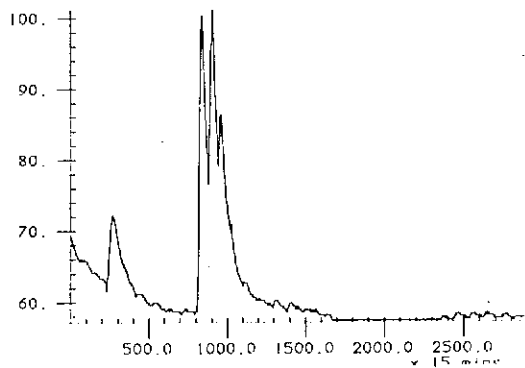
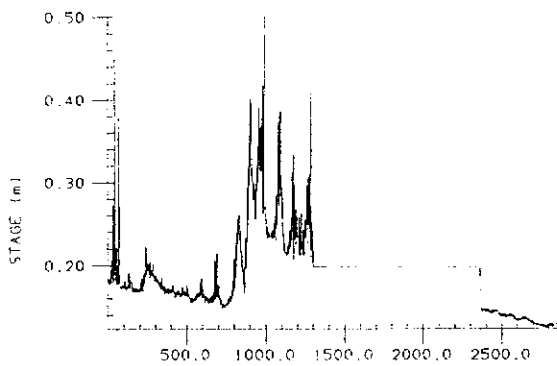
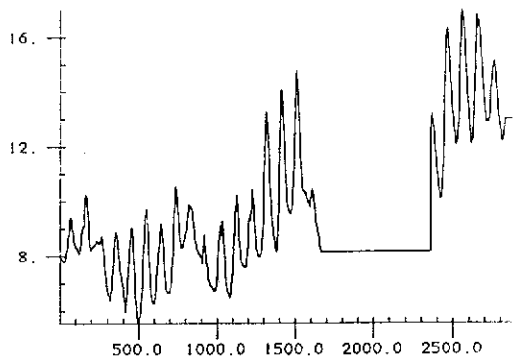
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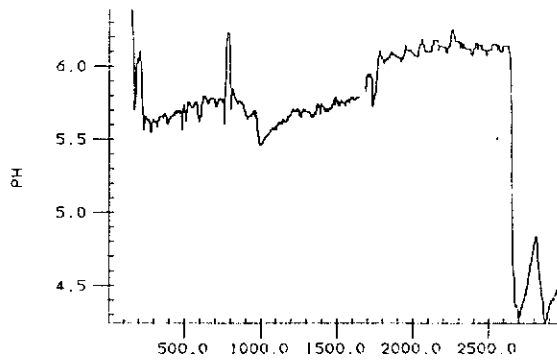
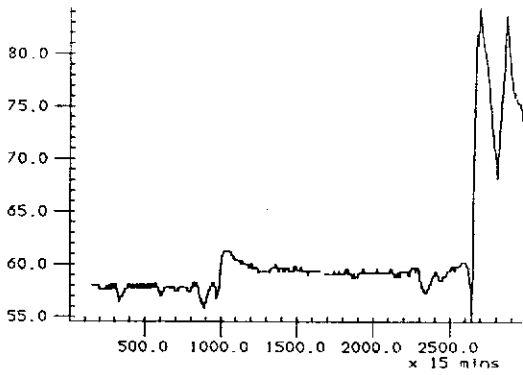
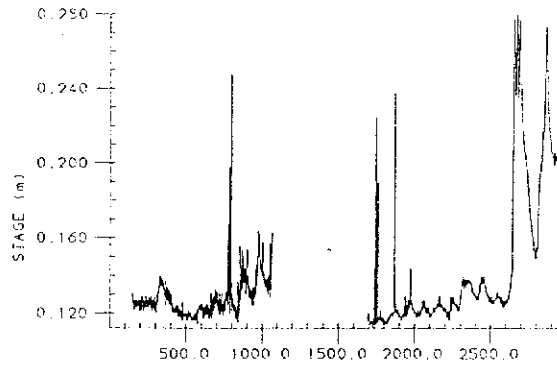
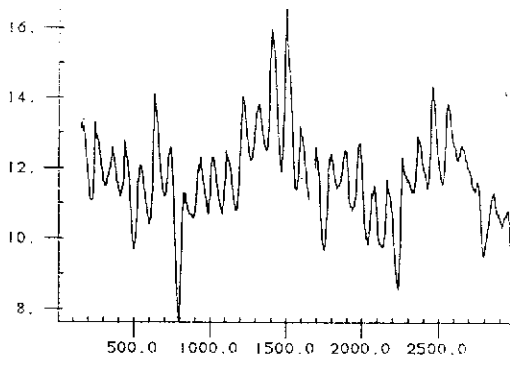
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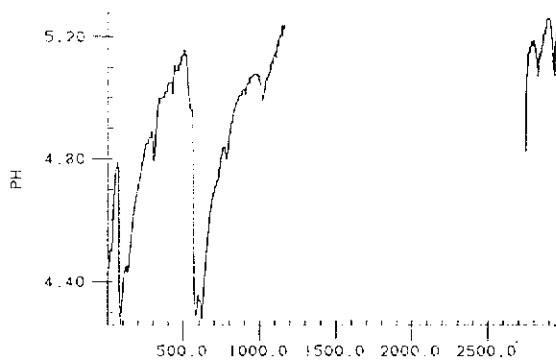
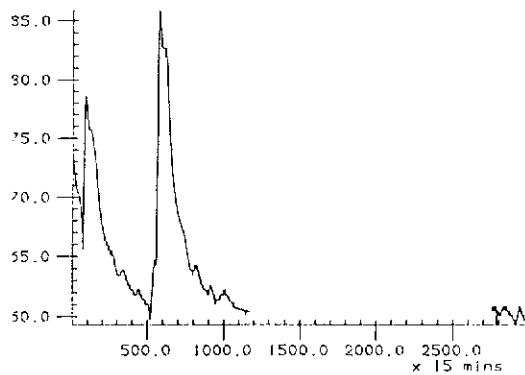
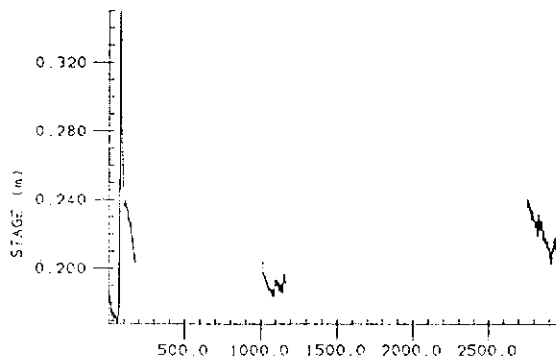
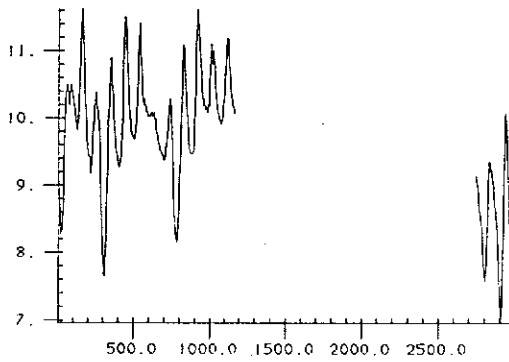
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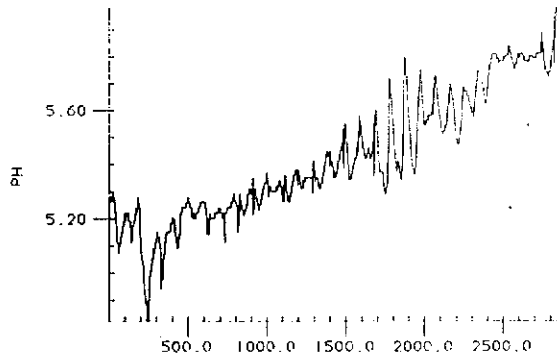
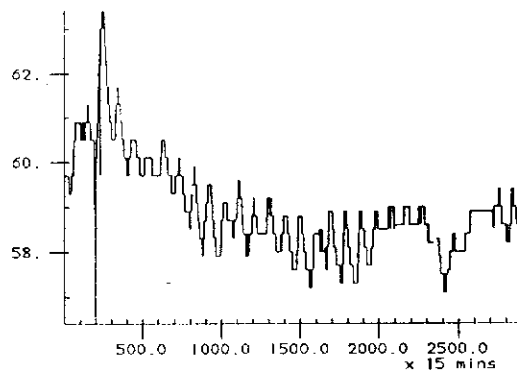
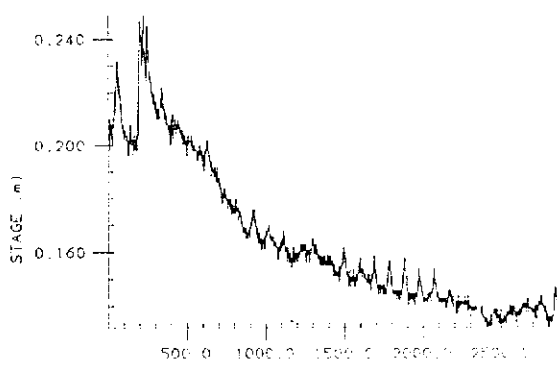
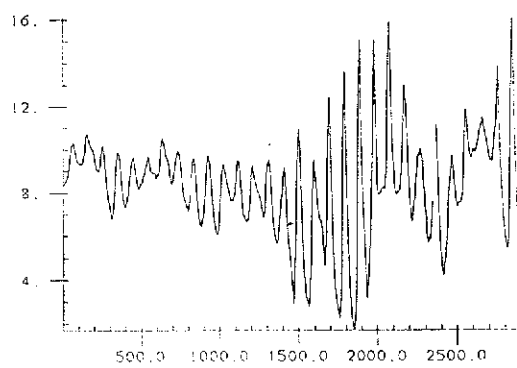
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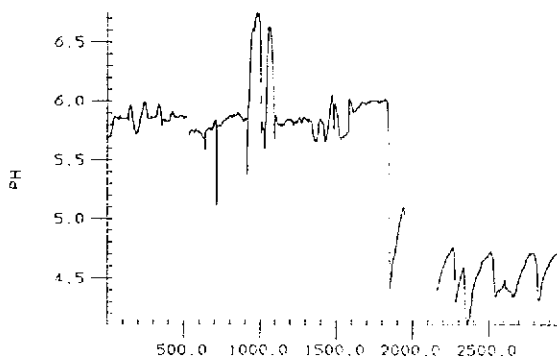
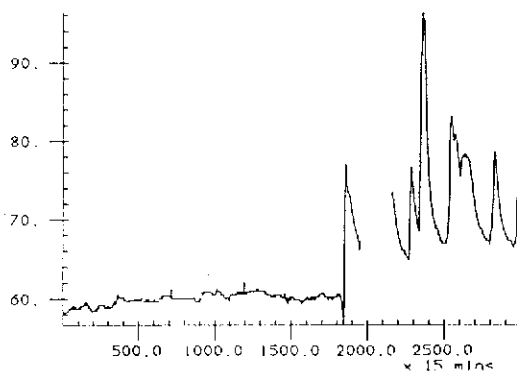
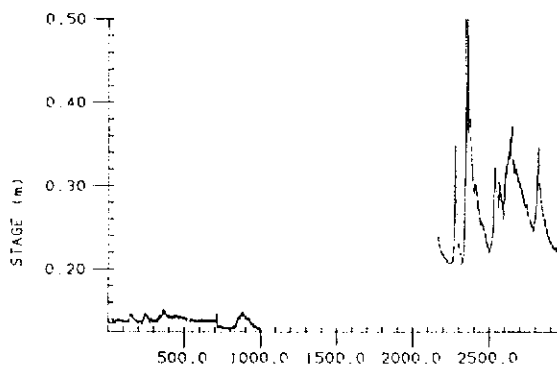
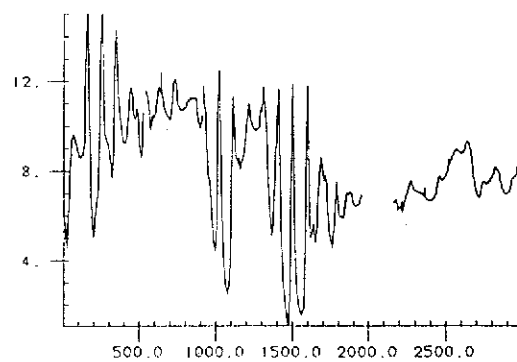
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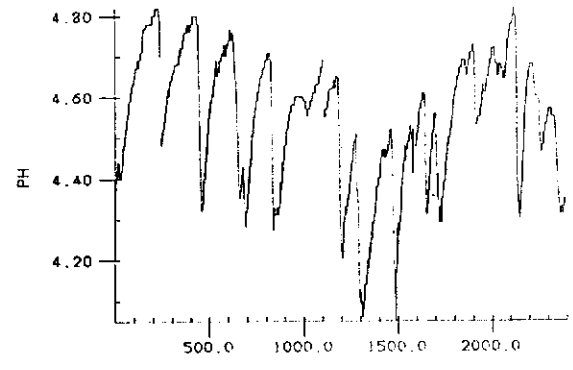
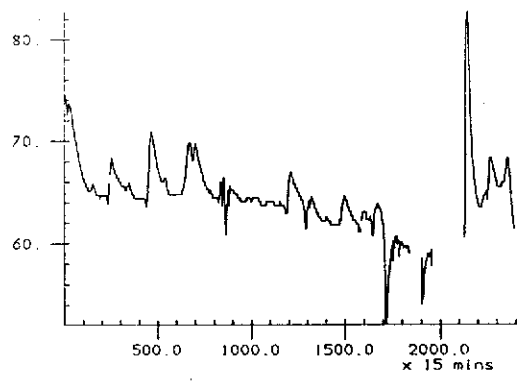
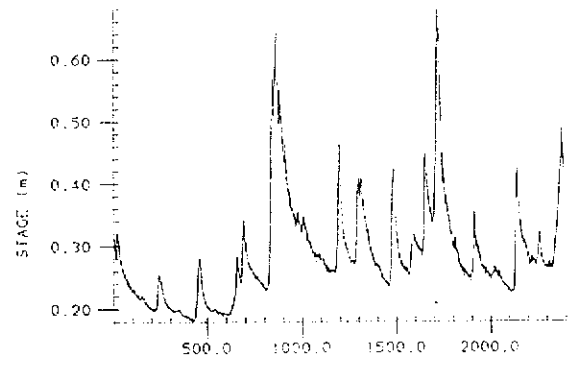
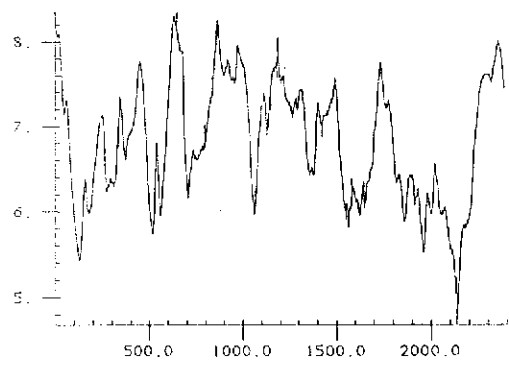
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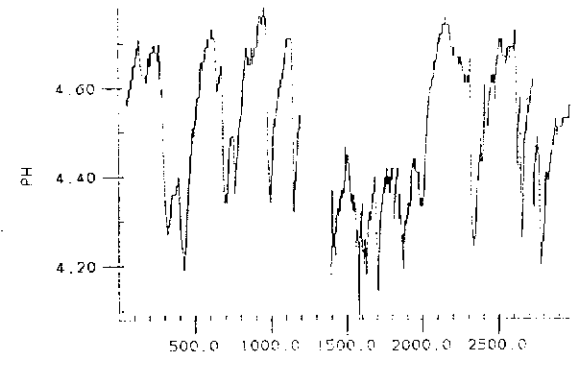
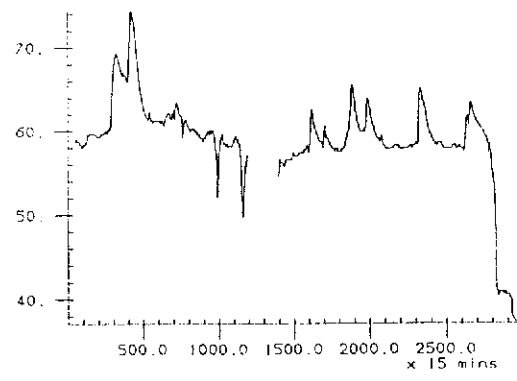
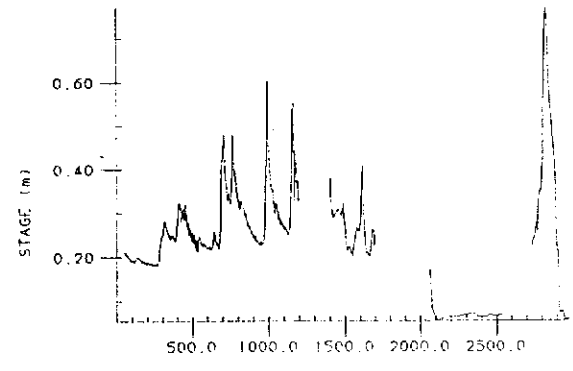
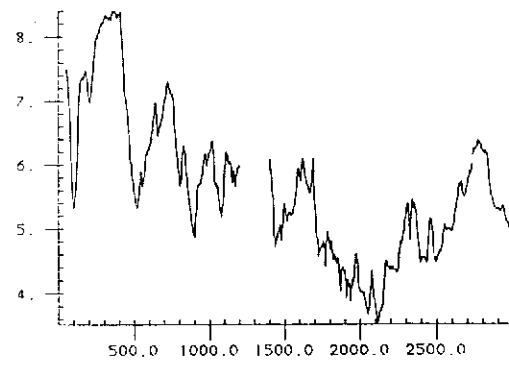
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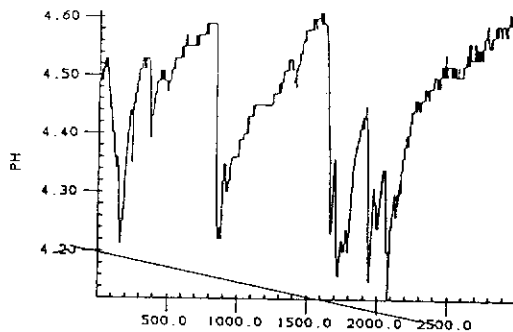
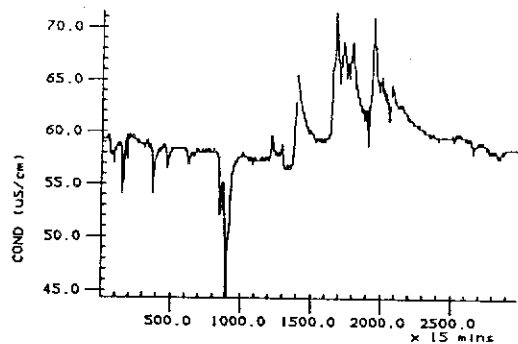
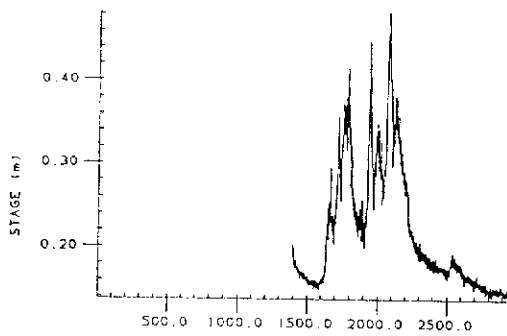
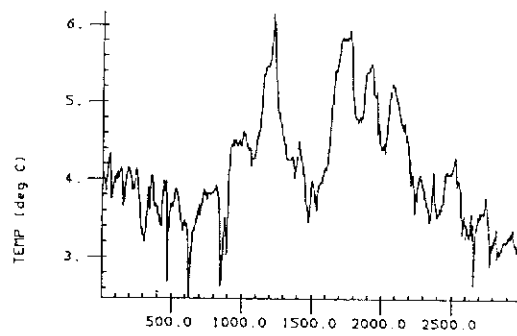
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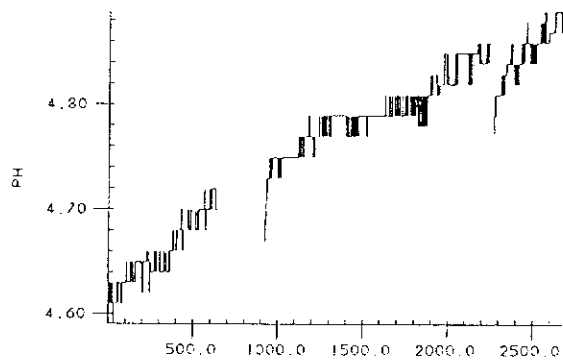
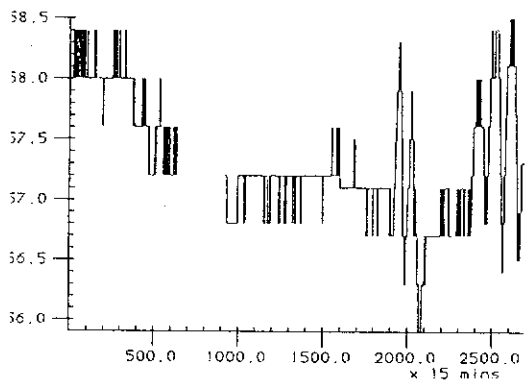
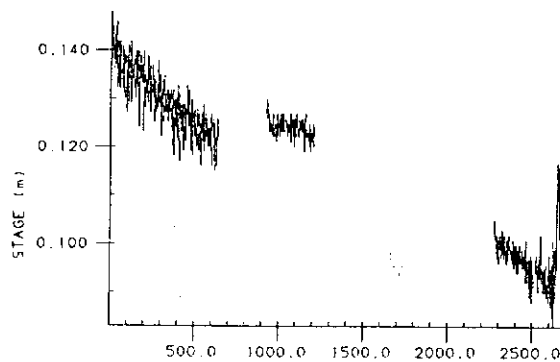
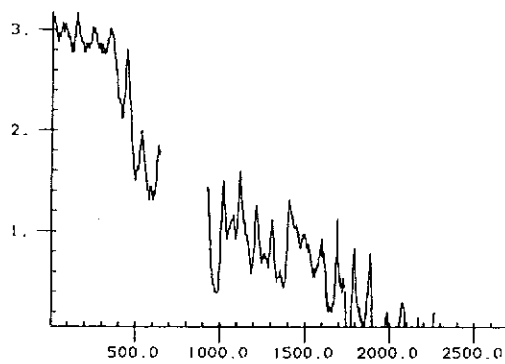
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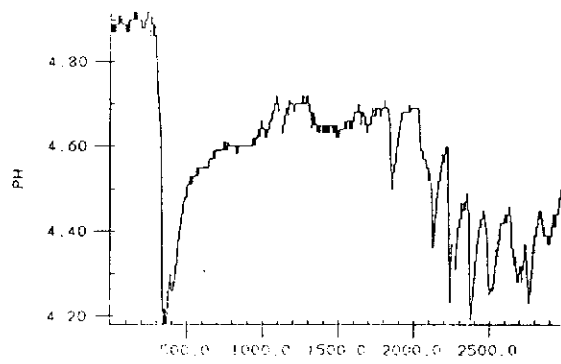
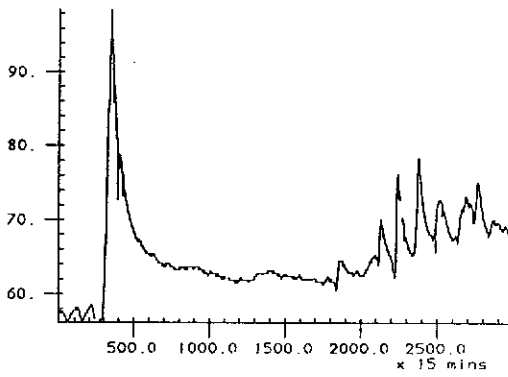
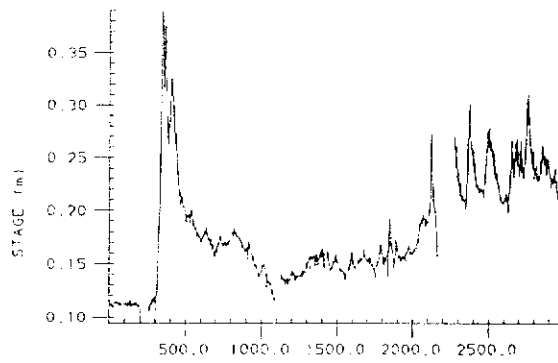
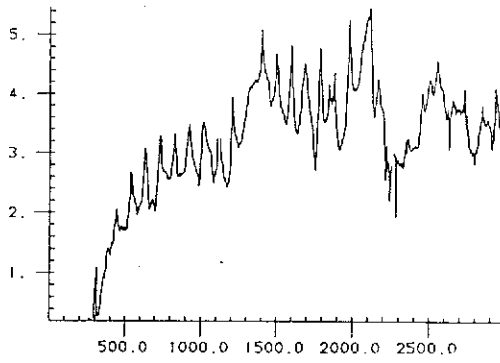
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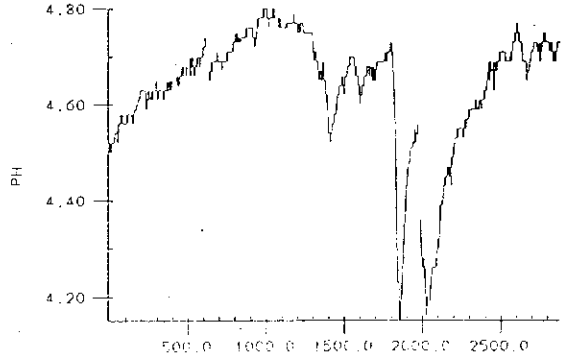
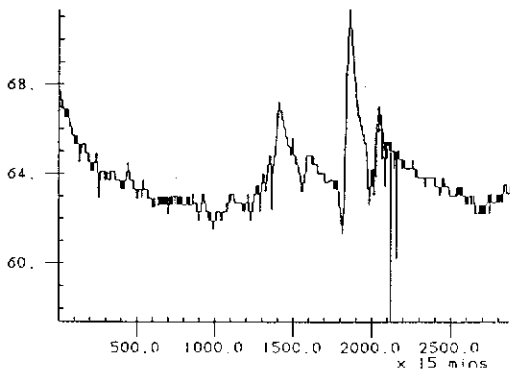
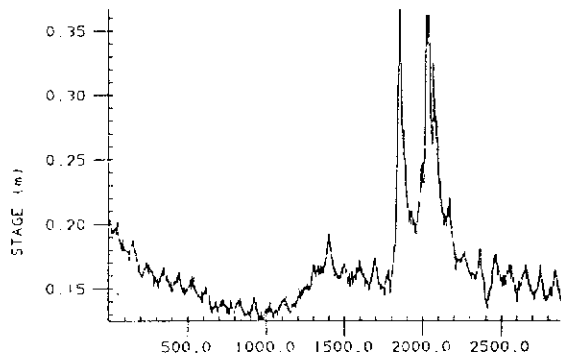
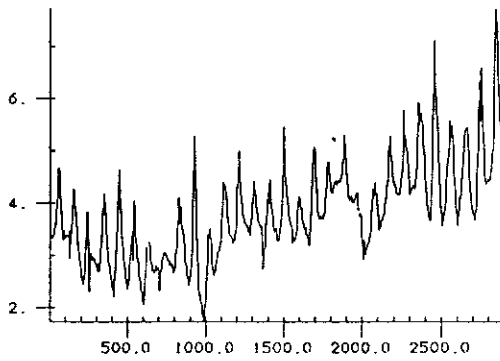
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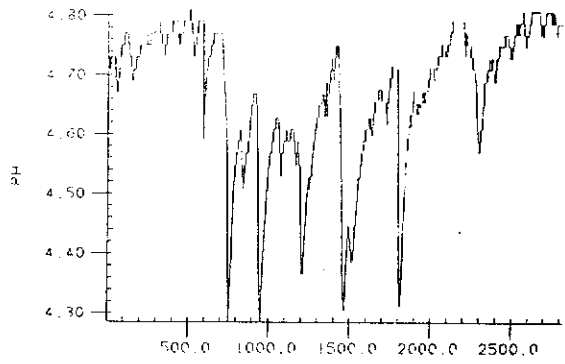
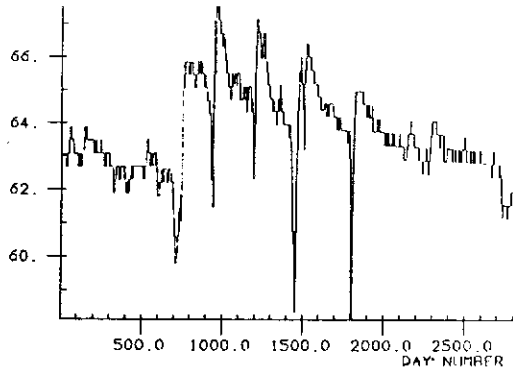
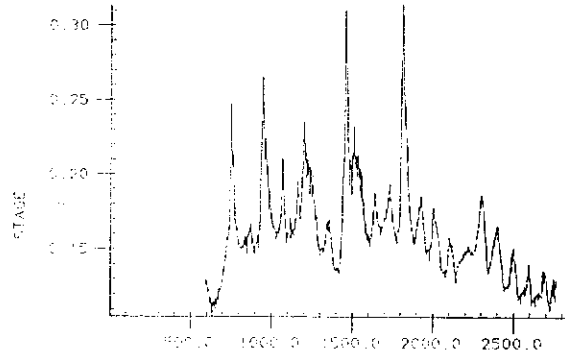
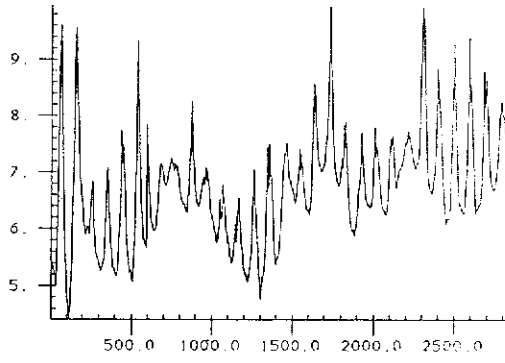


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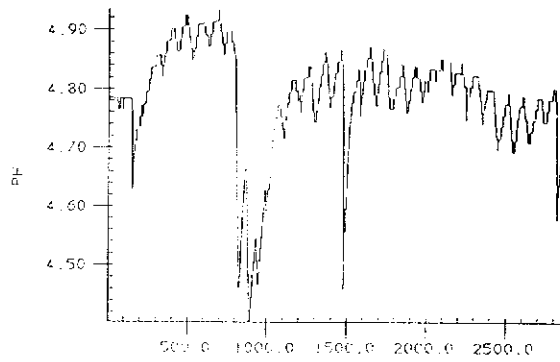
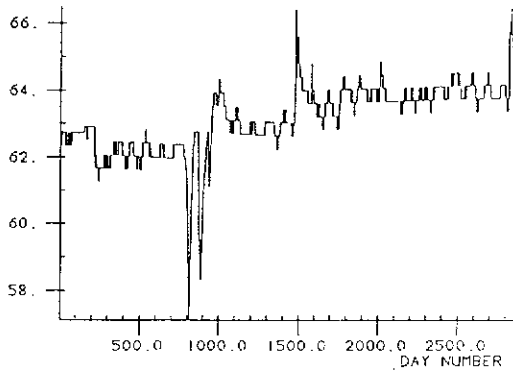
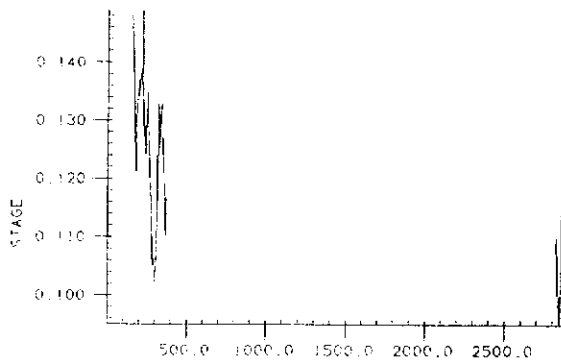
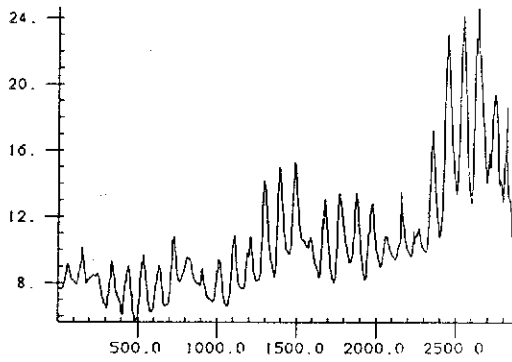




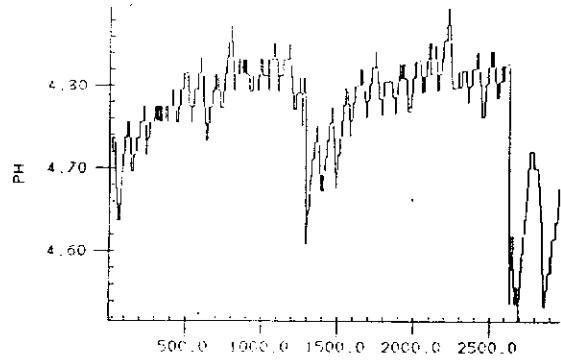
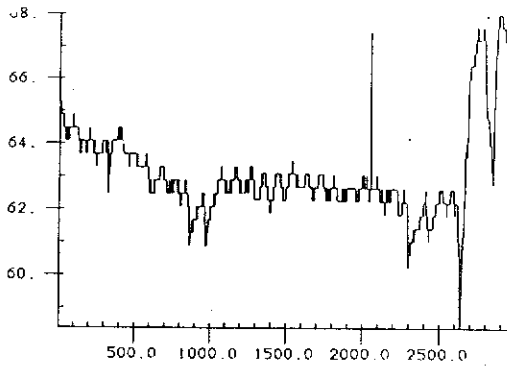
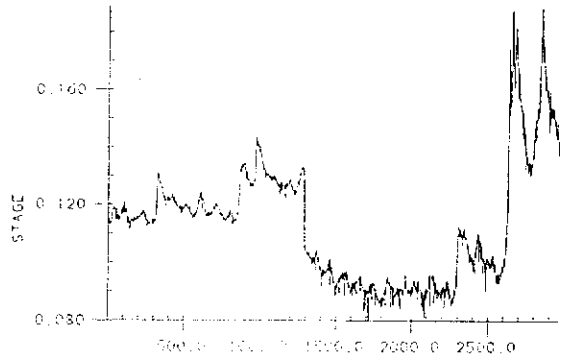
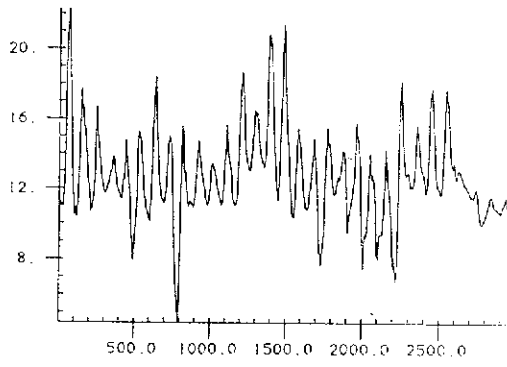
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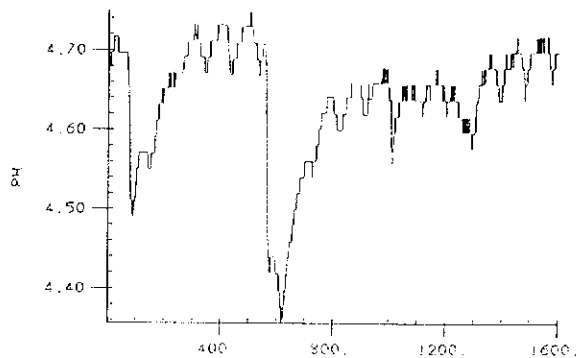
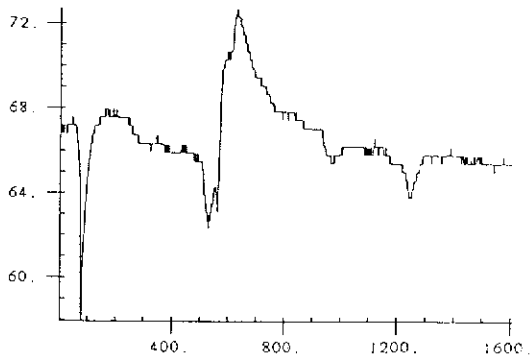
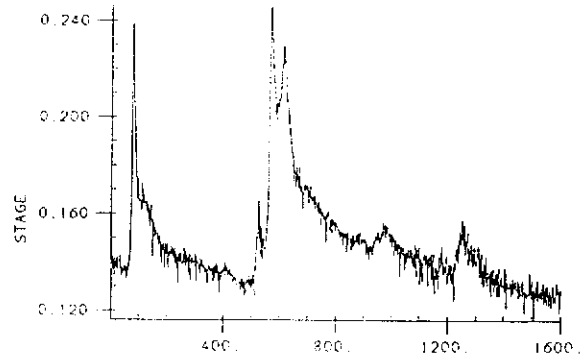
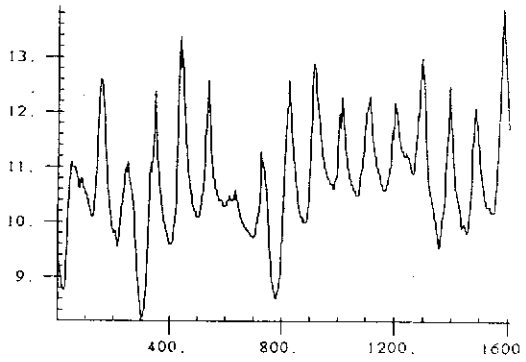
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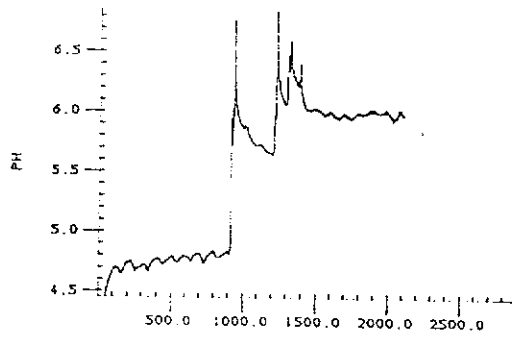
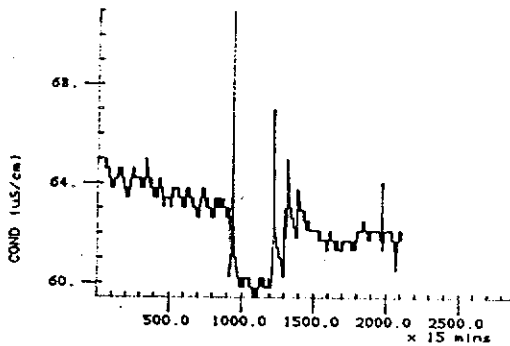
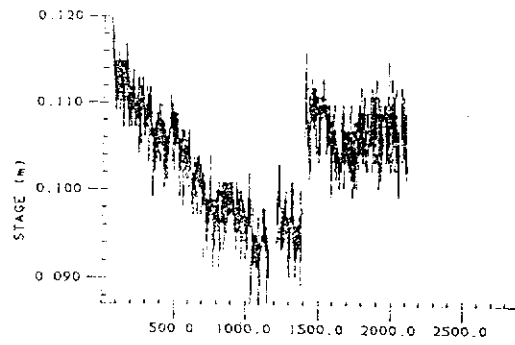
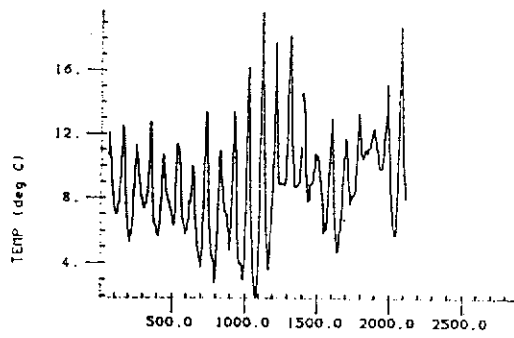
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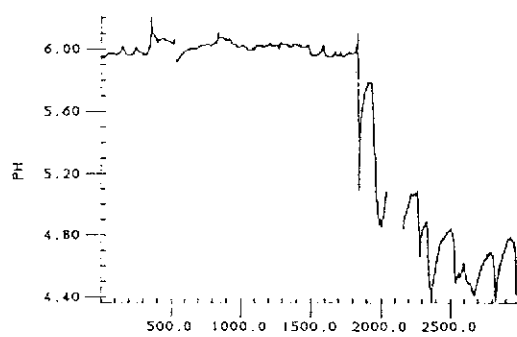
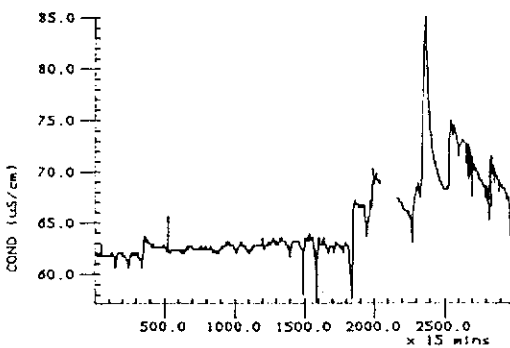
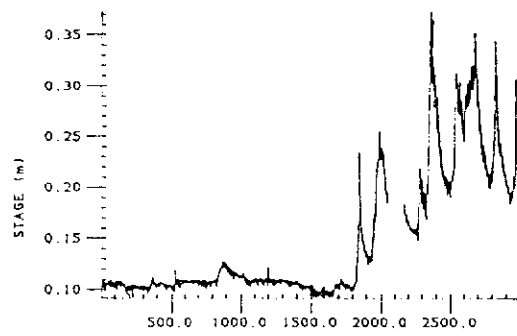
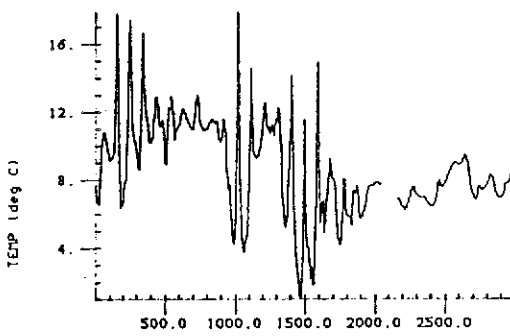
LI2AUG86



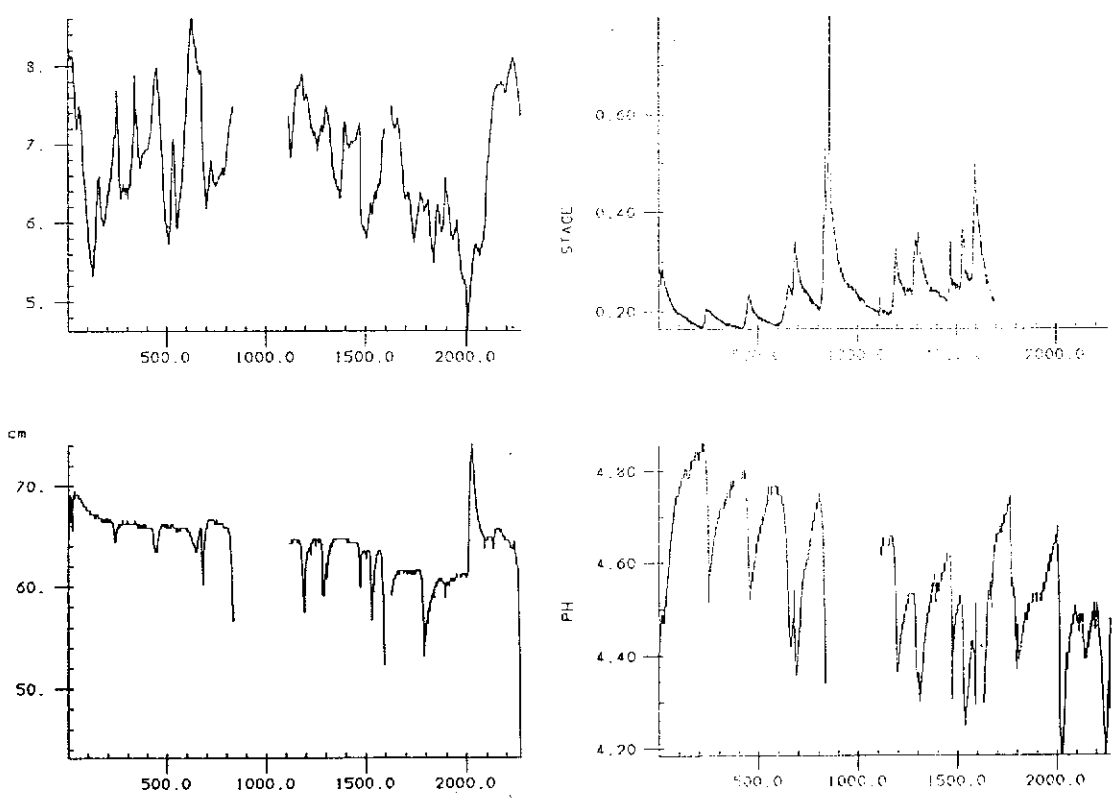
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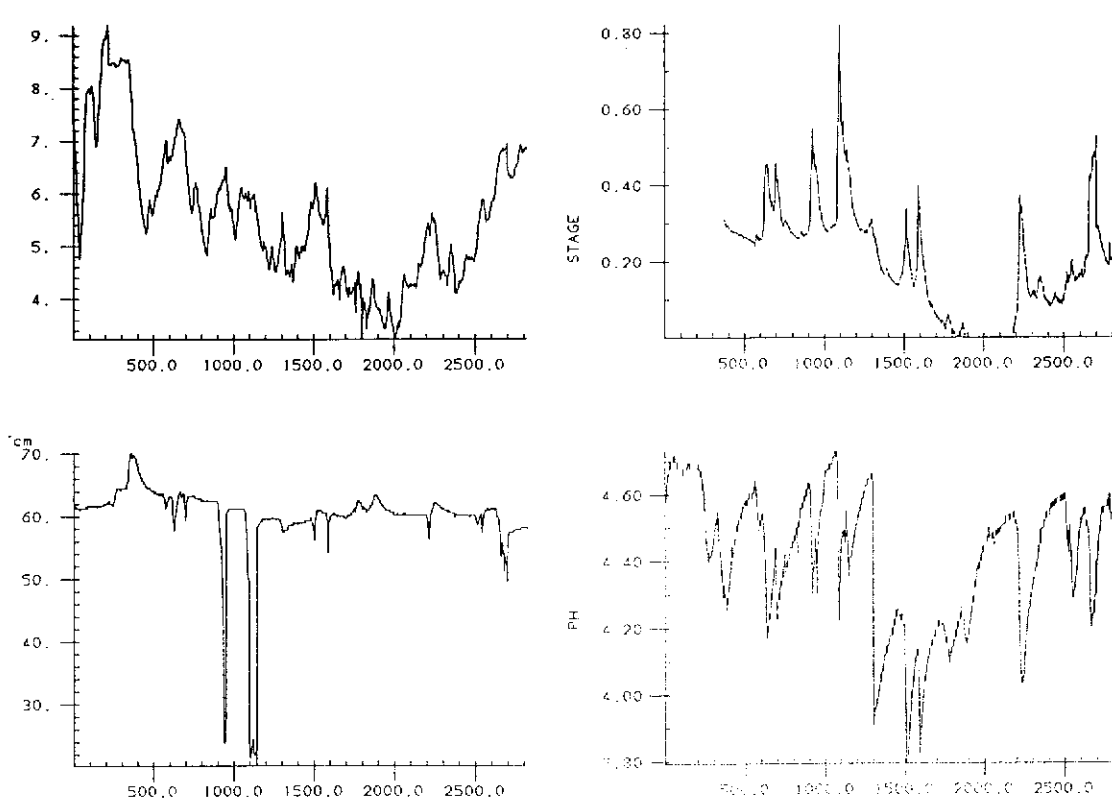
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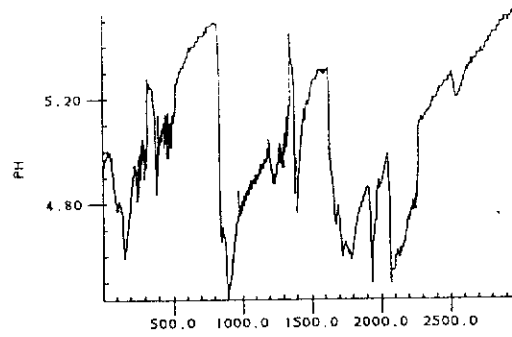
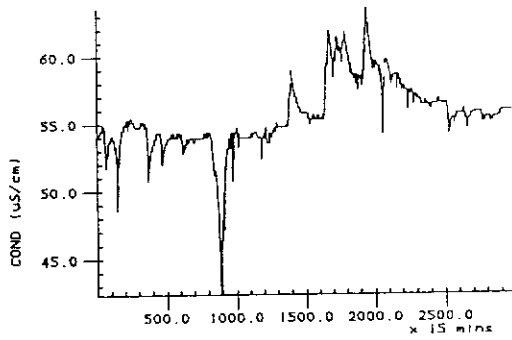
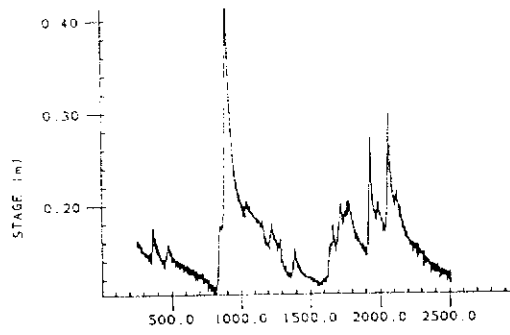
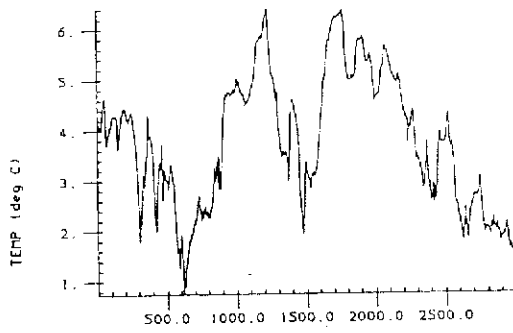
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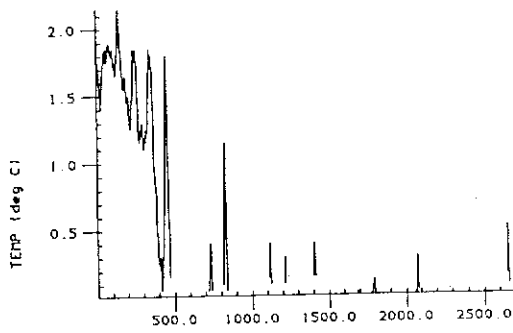
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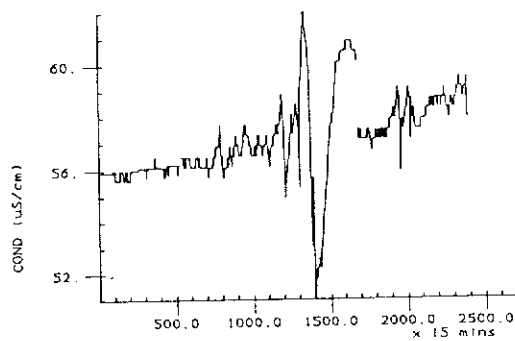
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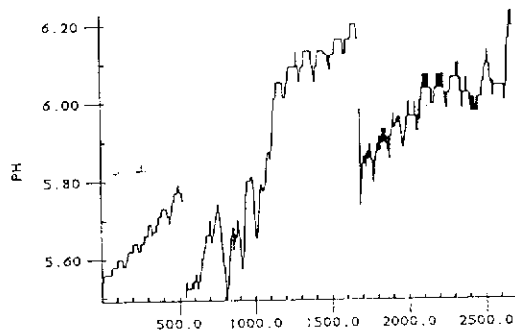
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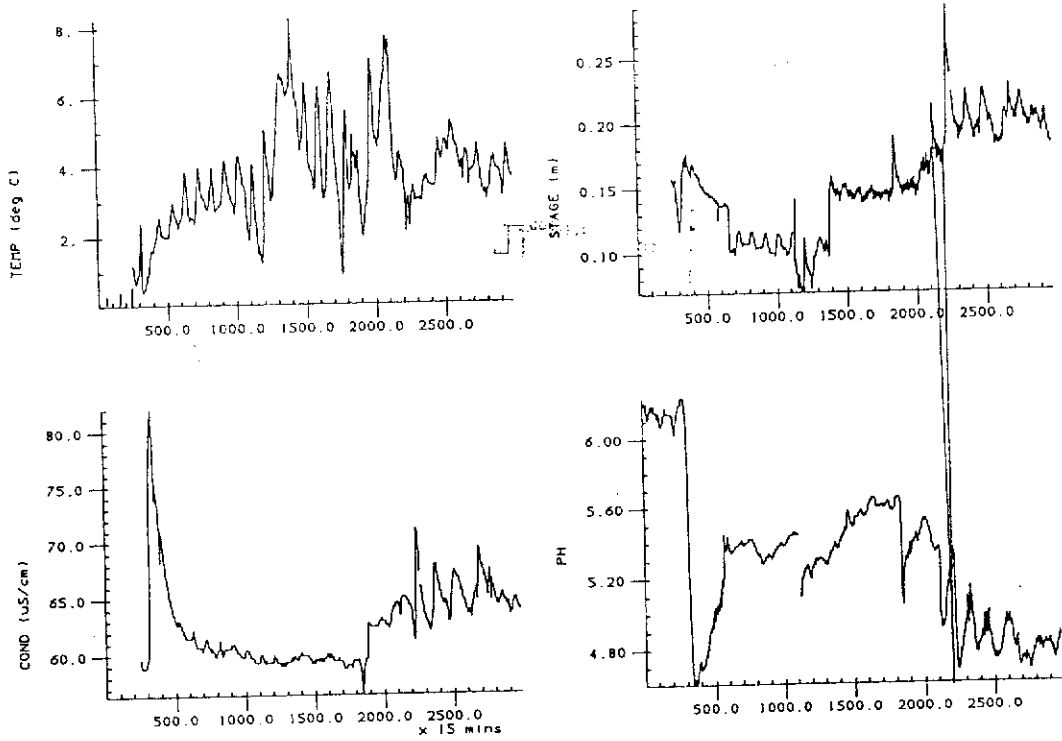
STAGE (m)



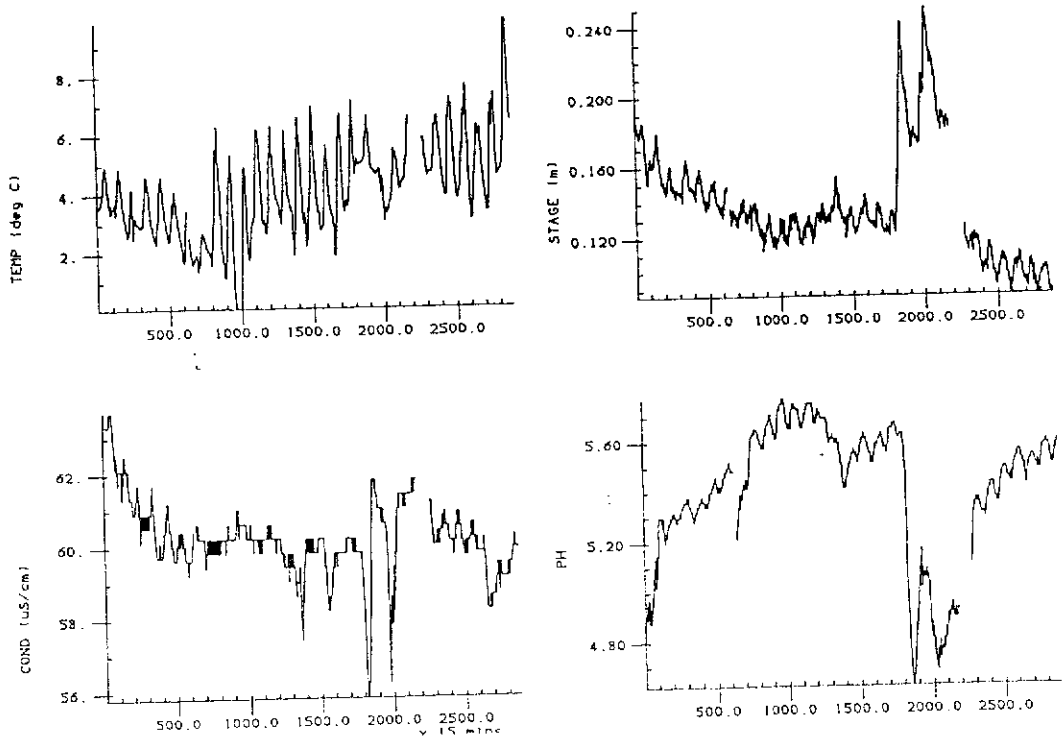
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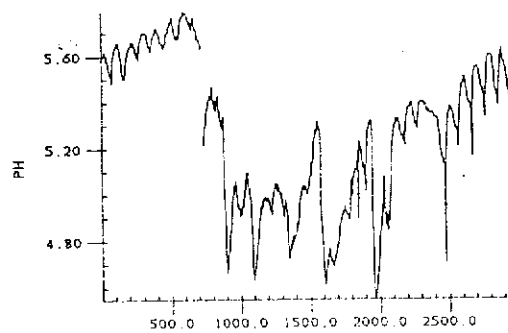
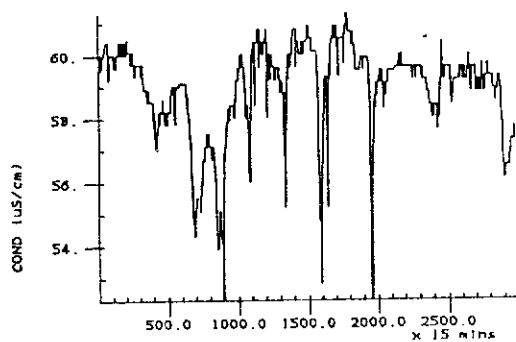
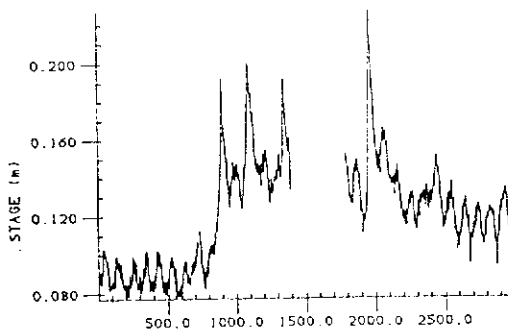
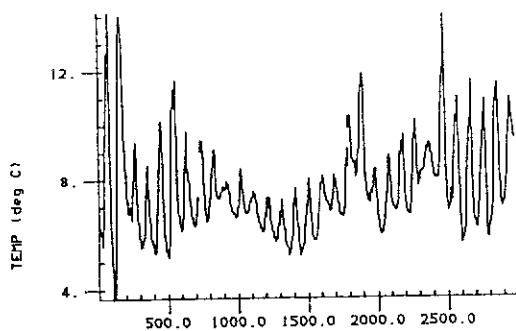
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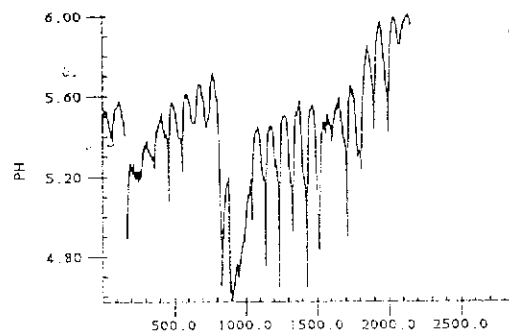
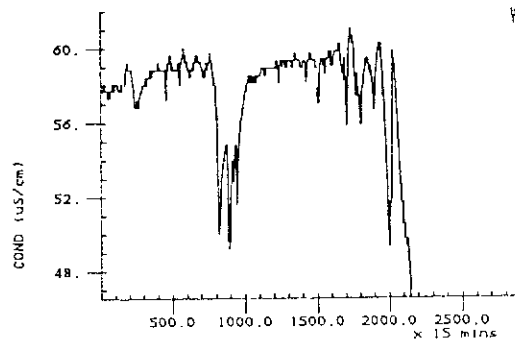
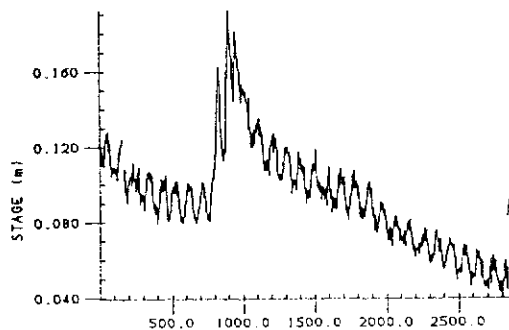
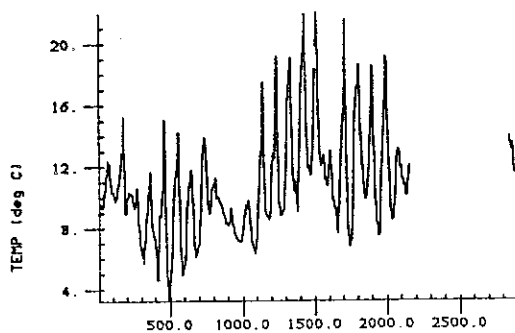
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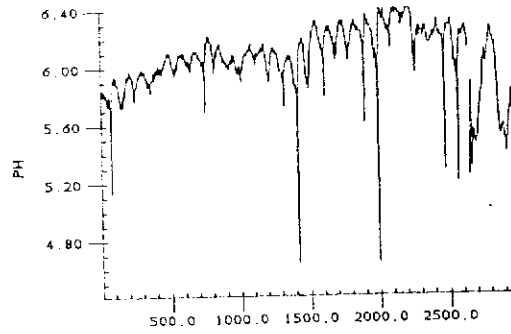
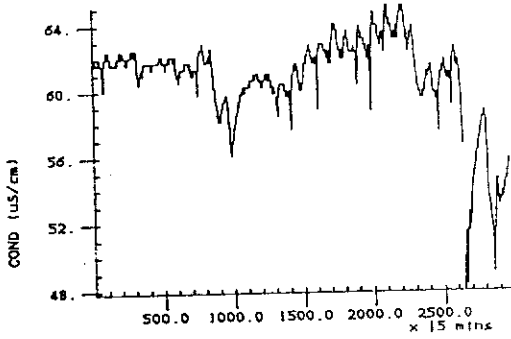
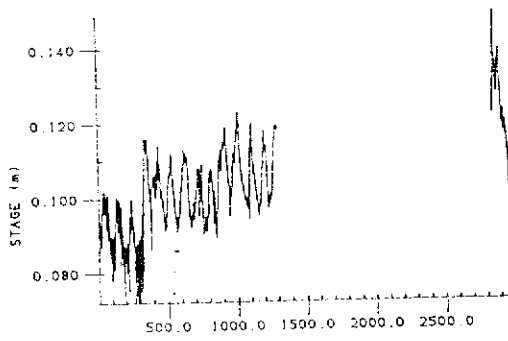
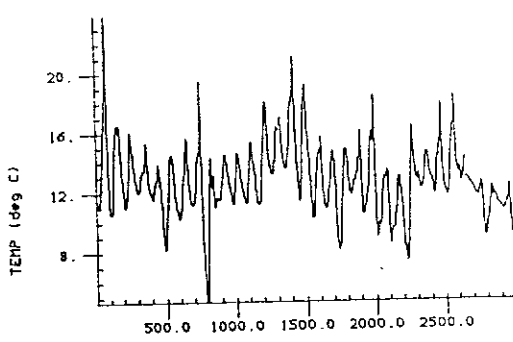
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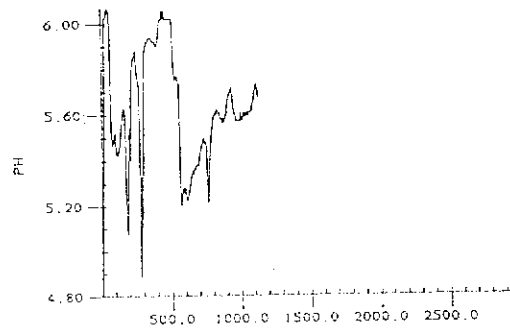
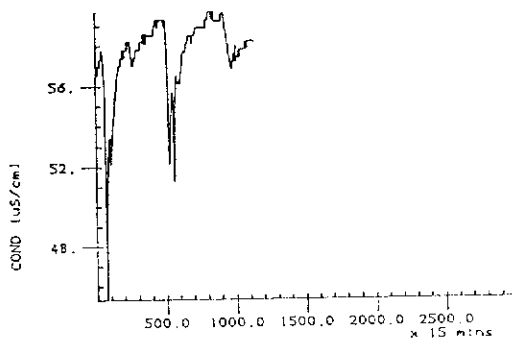
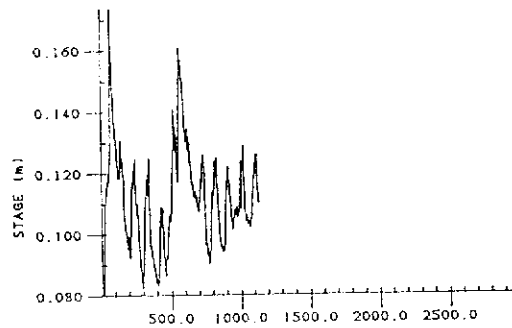
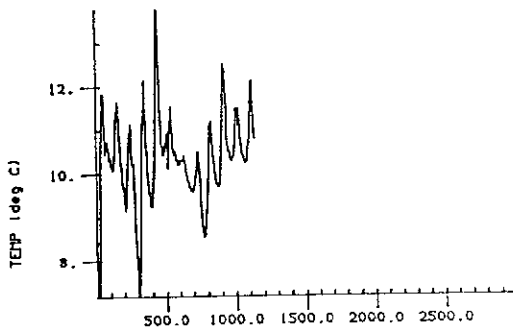
LI3JUN86



LI3JUL86

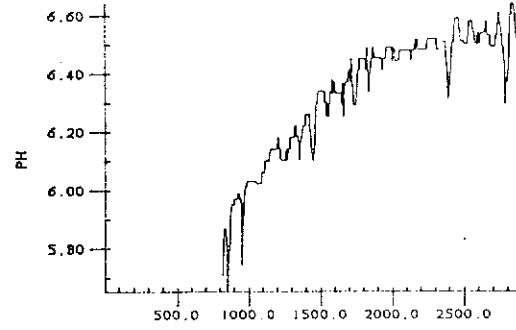
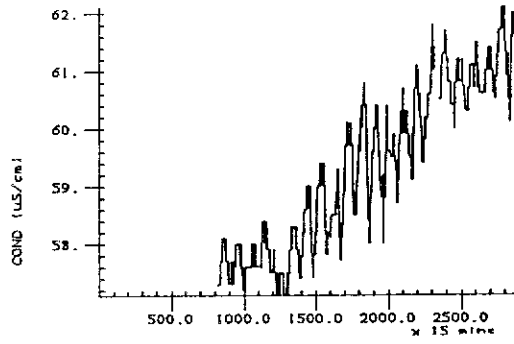
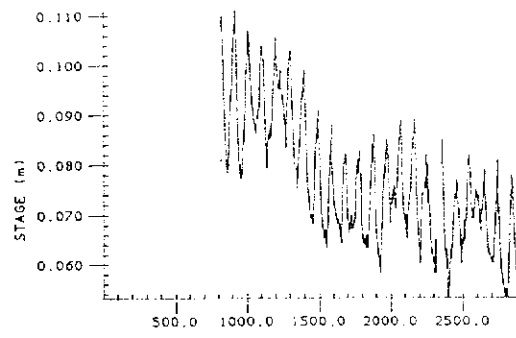
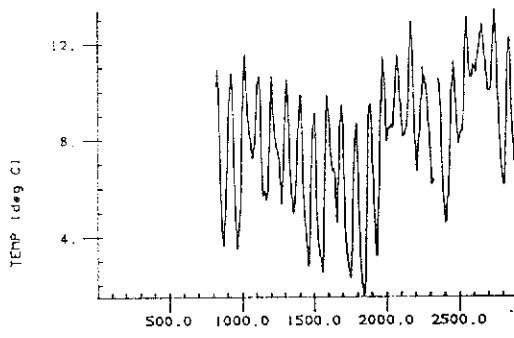


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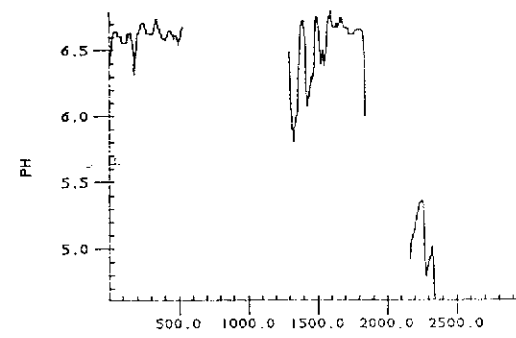
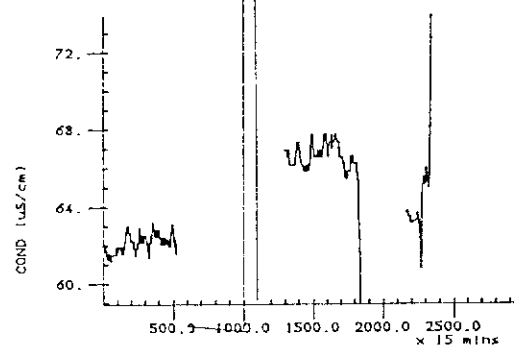
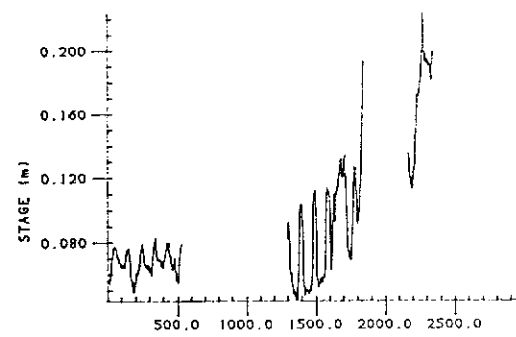
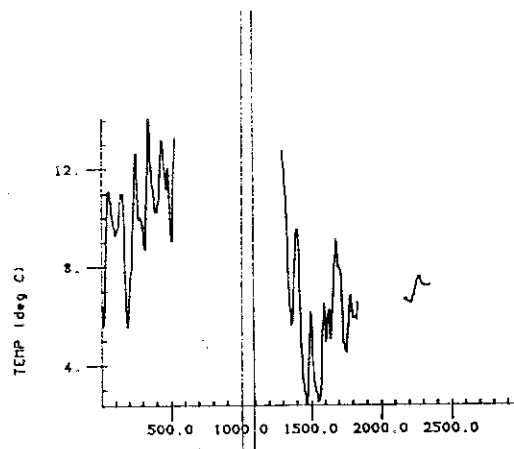




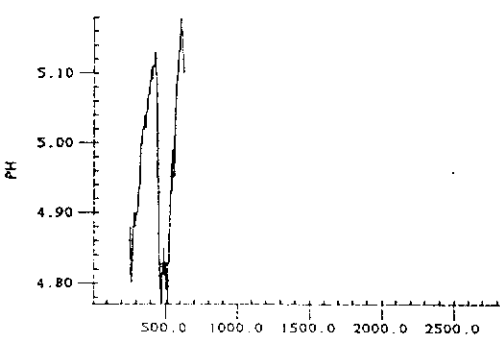
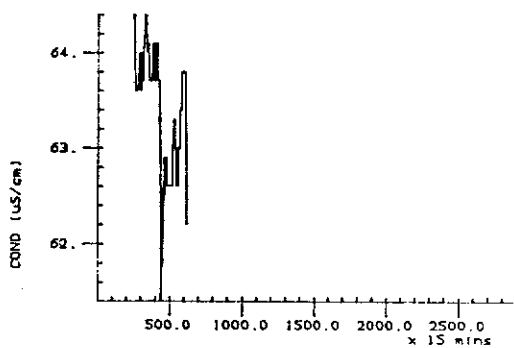
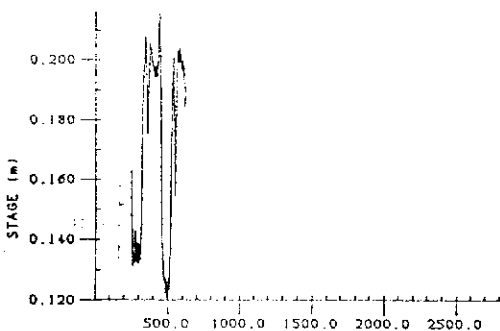
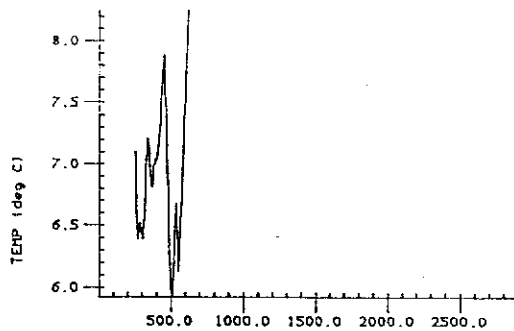
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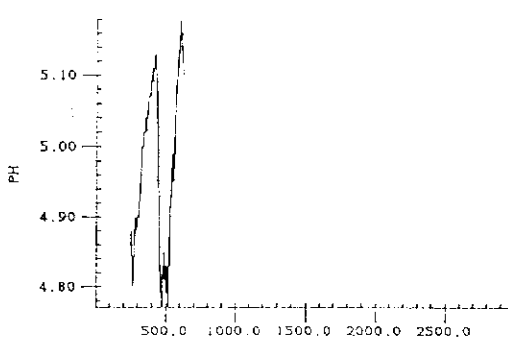
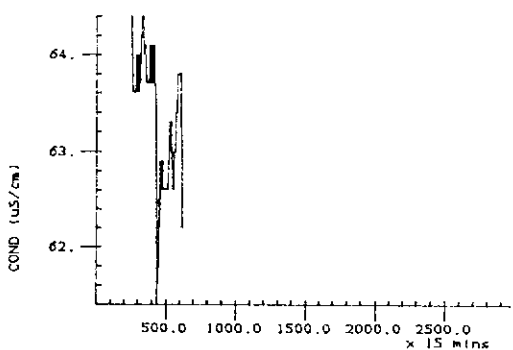
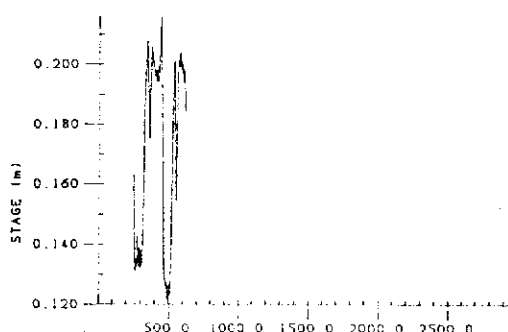
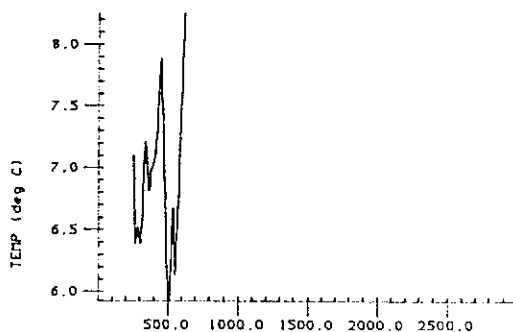
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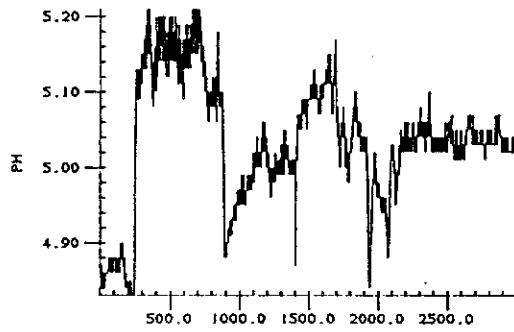
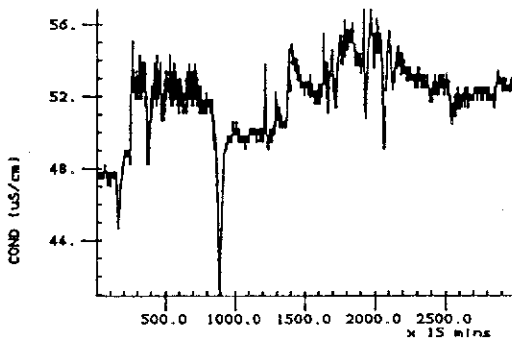
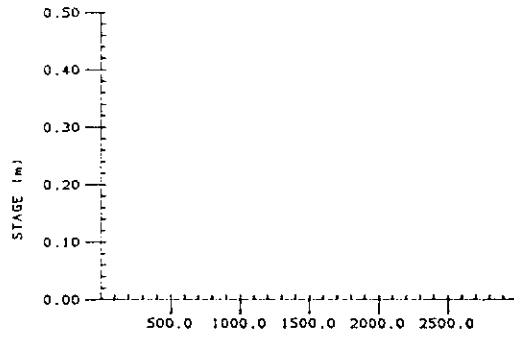
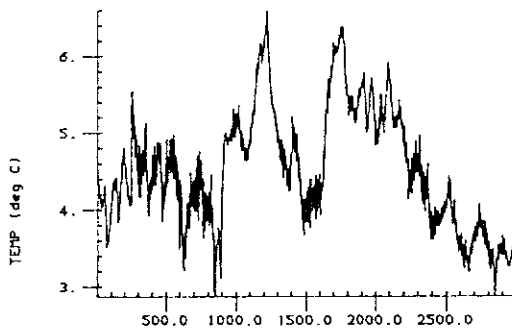
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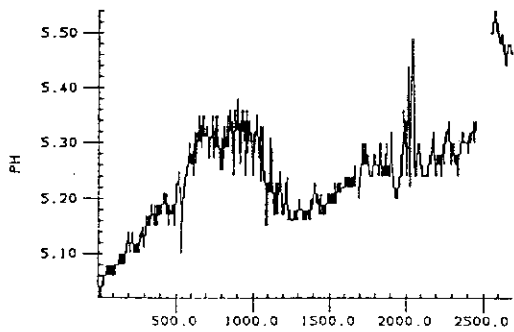
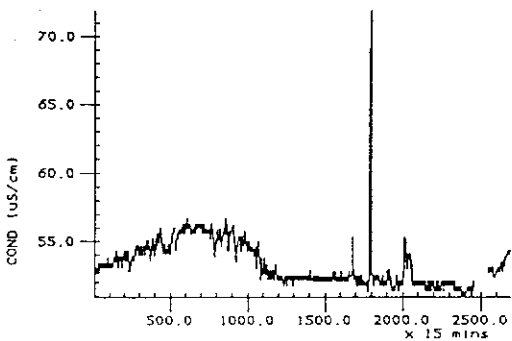
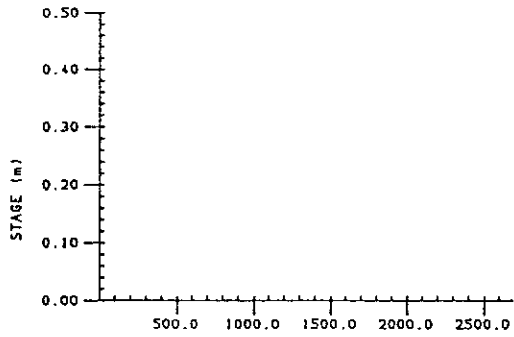
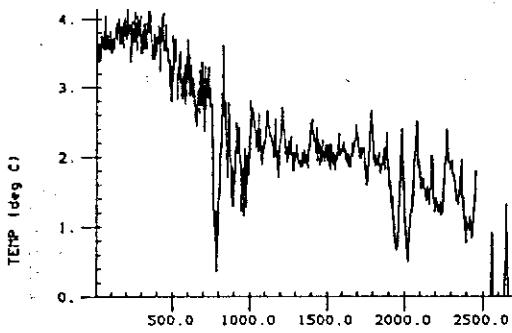
LI3DEC86



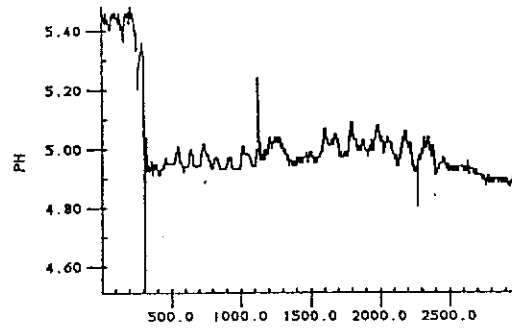
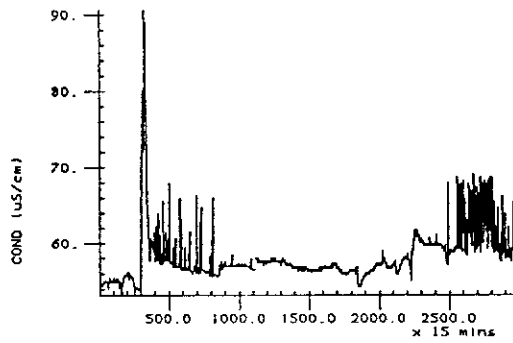
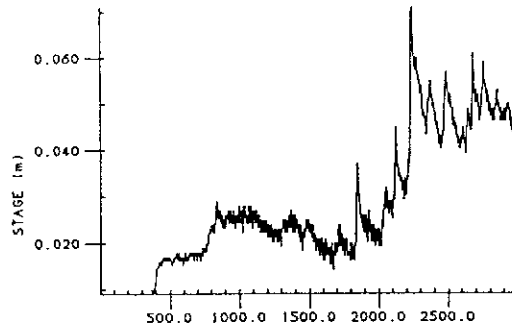
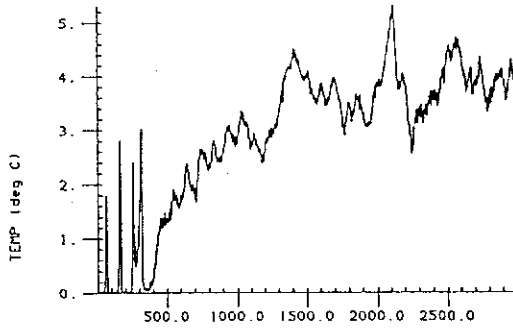
LI4 JAN86



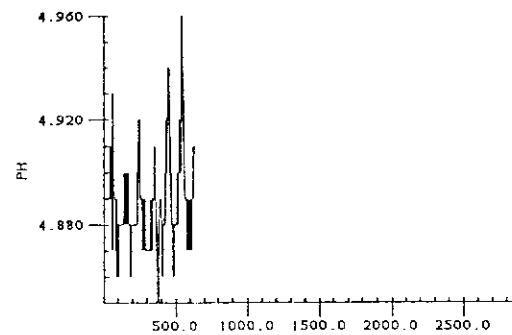
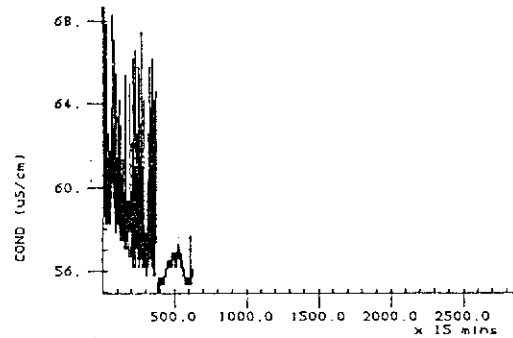
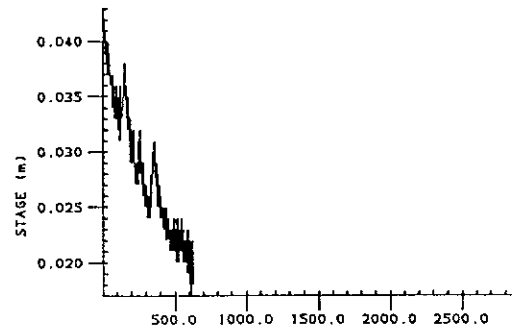
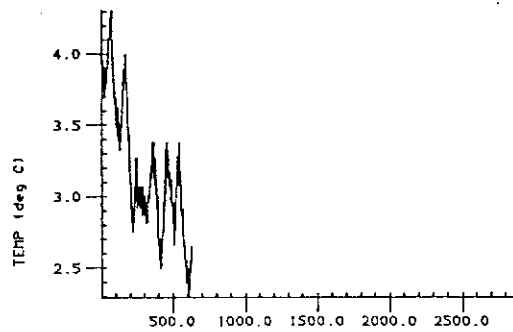
LI4 FEB86



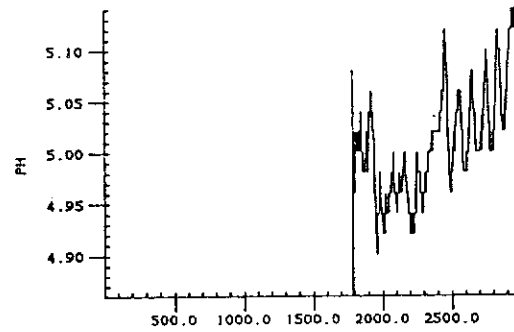
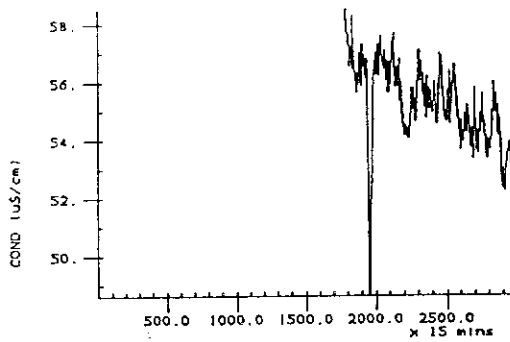
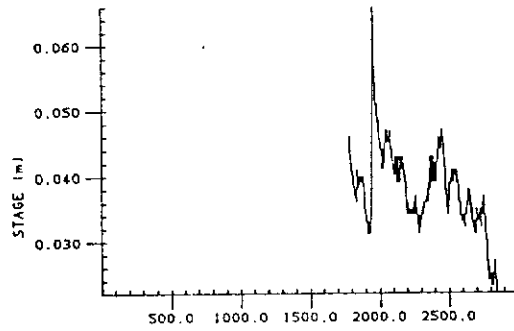
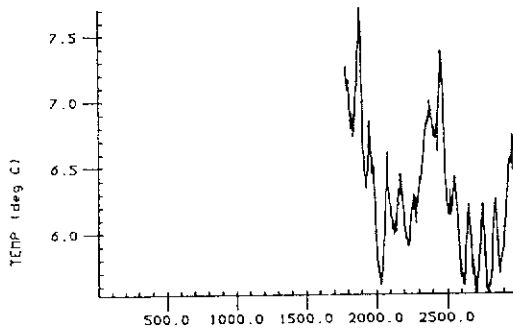
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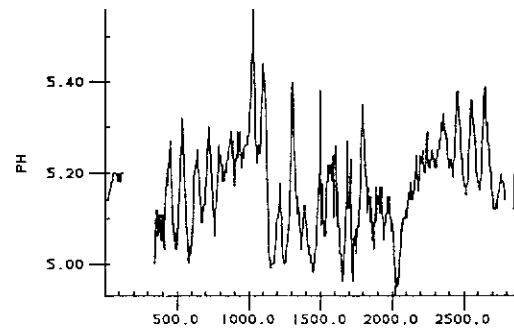
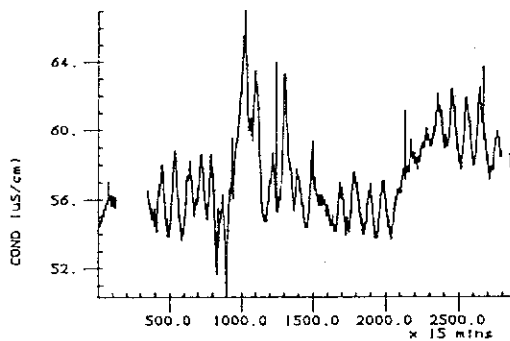
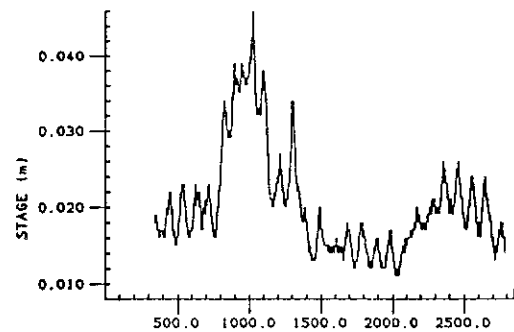
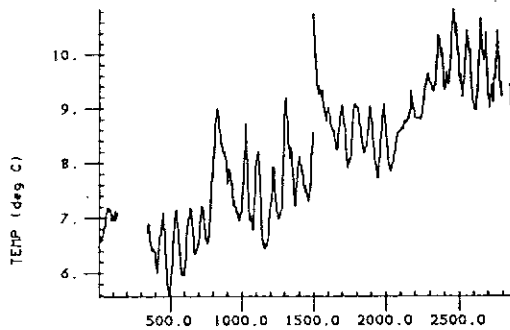
LI4 APR86



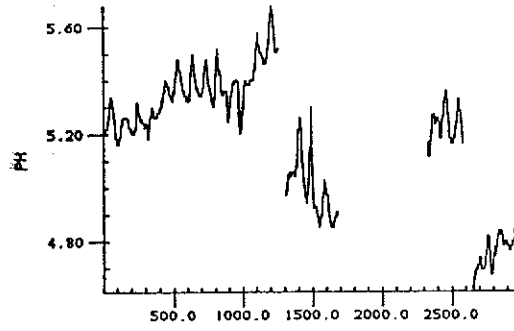
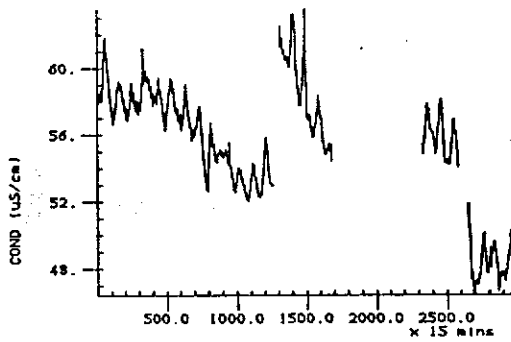
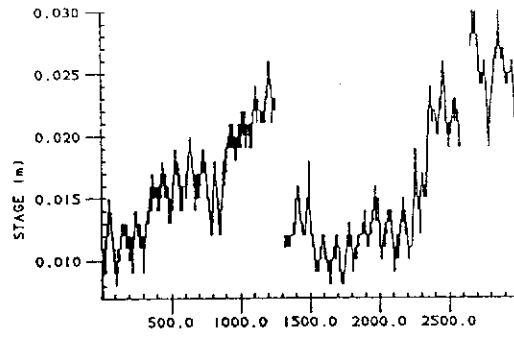
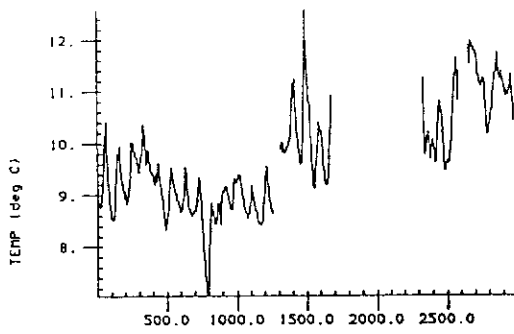
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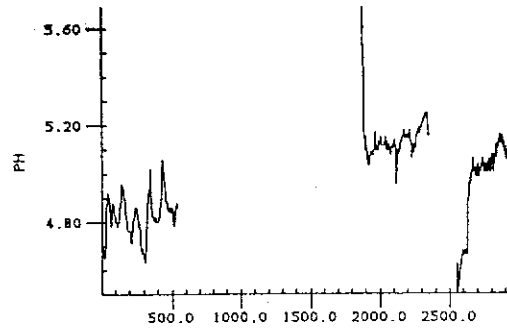
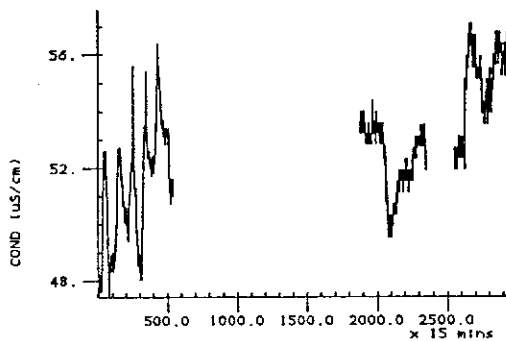
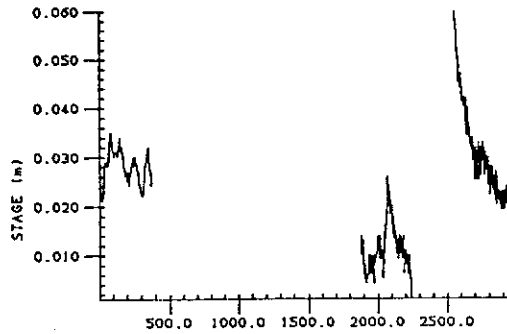
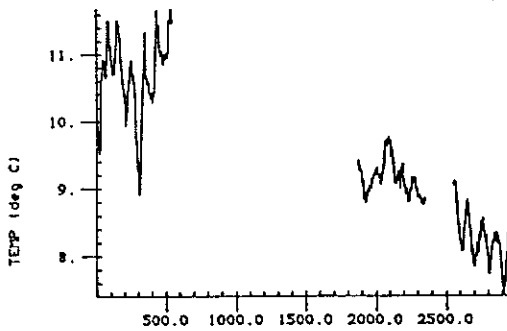
LI4 JUN86



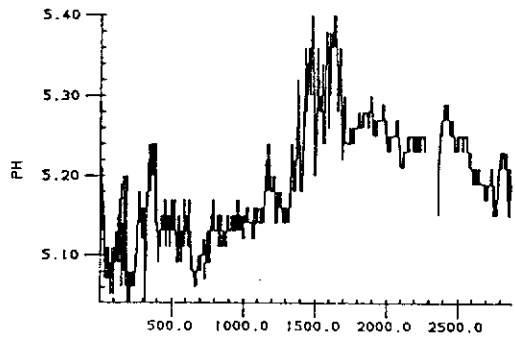
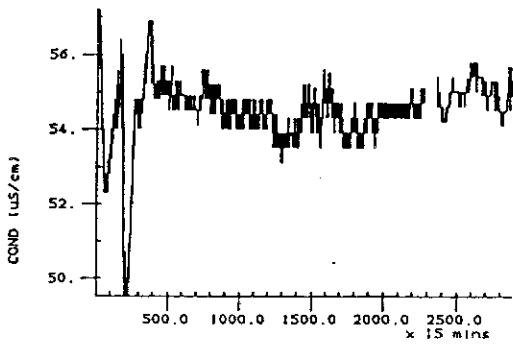
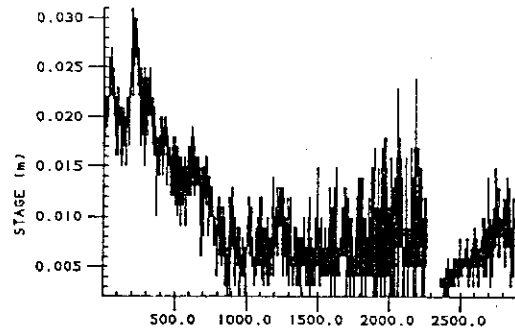
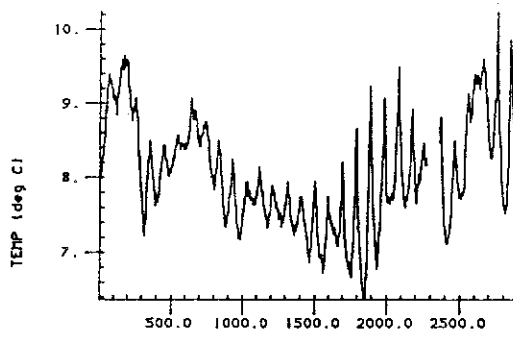
LI4 JUL86



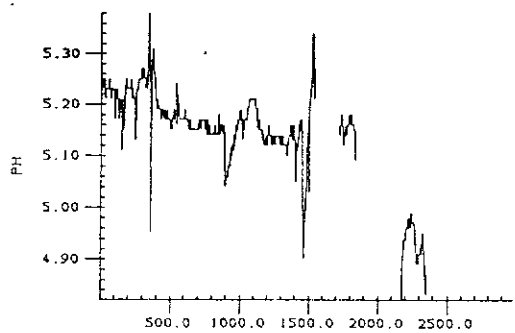
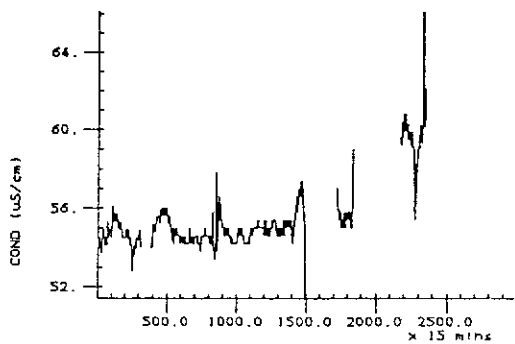
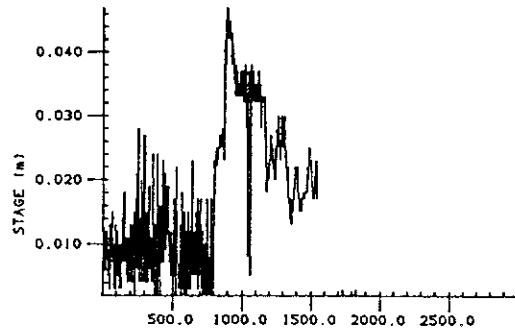
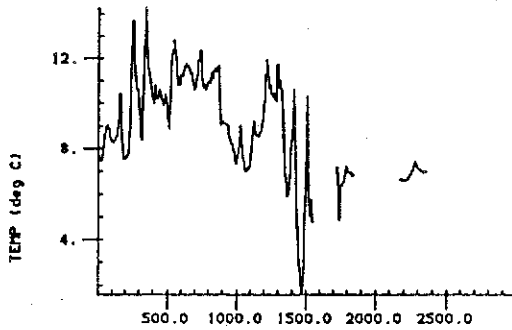
LI4 AUG86



LI4 SEP86



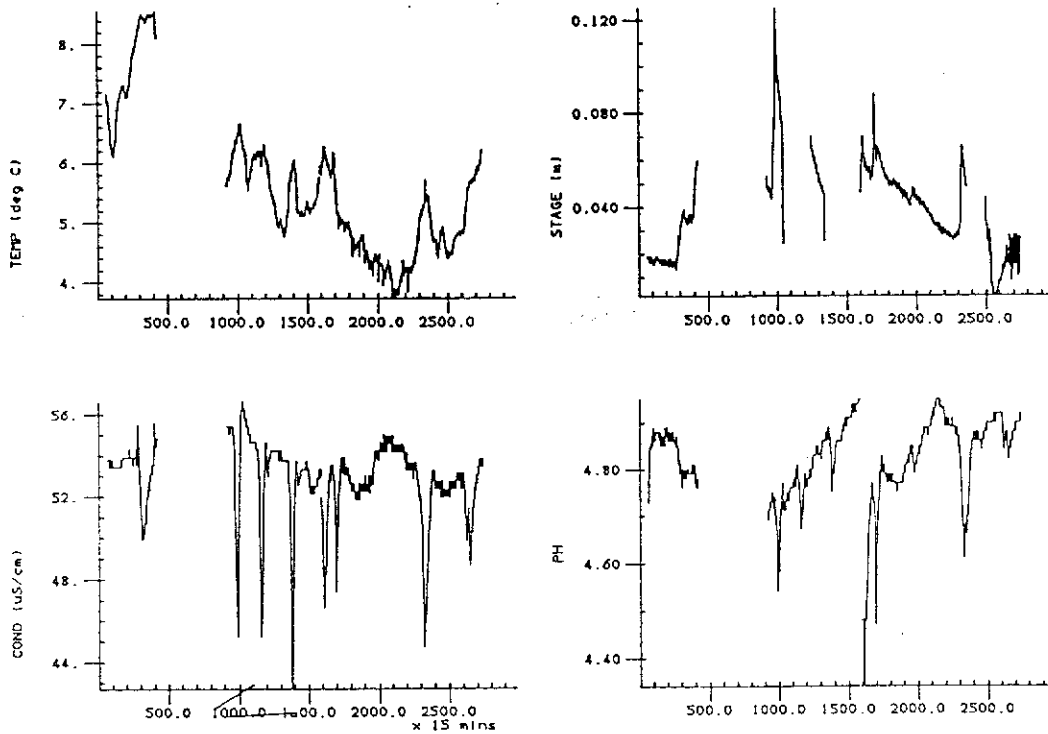
LI4 OCT86



LI4 NOV 86

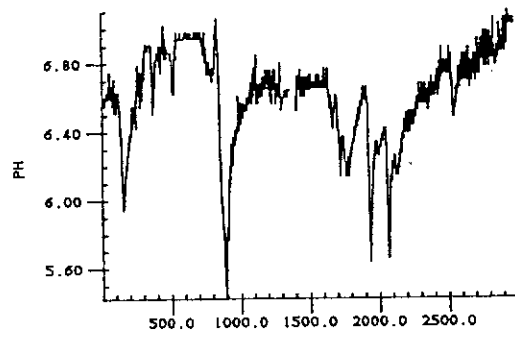
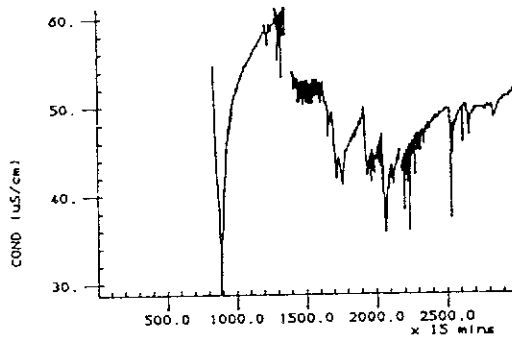
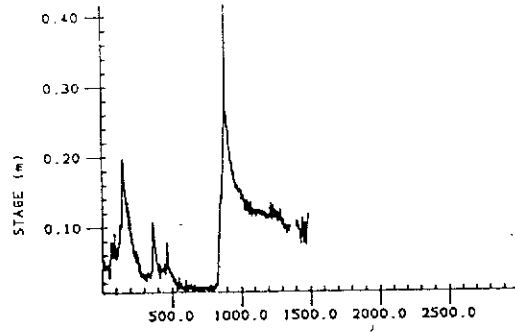
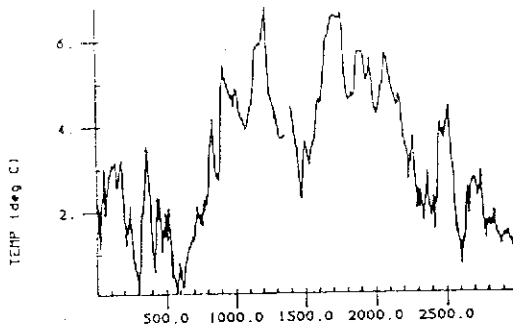
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LI4 DEC 86

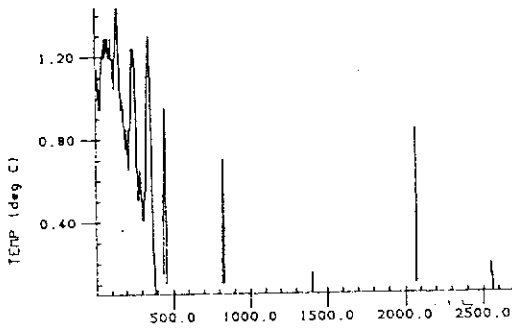




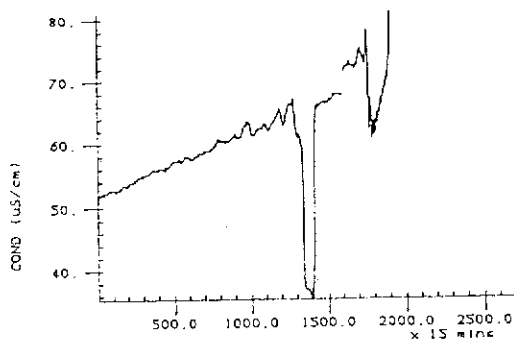
LI6JAN86



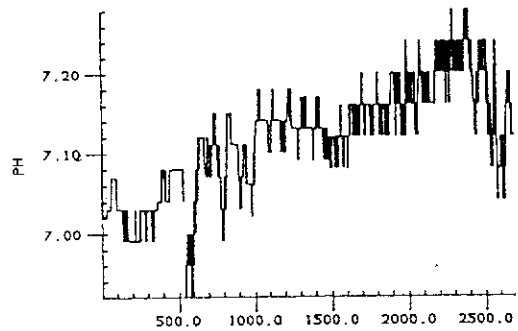
LI6FEB86



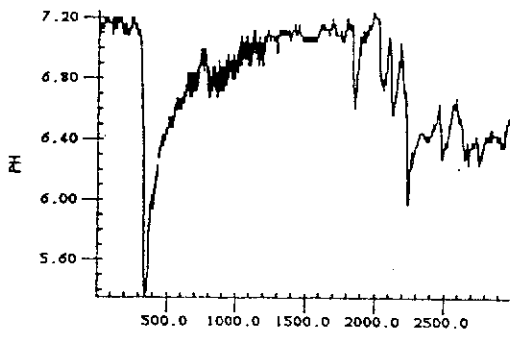
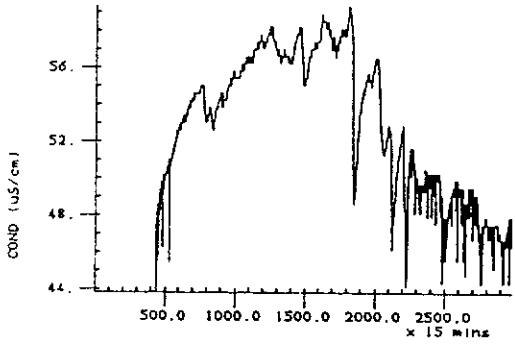
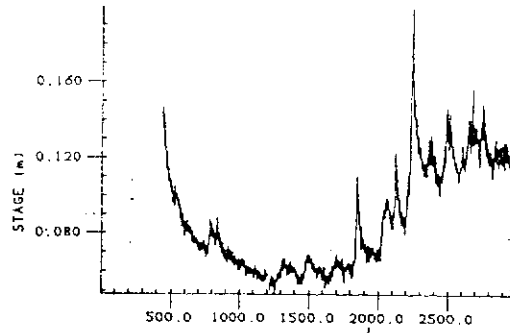
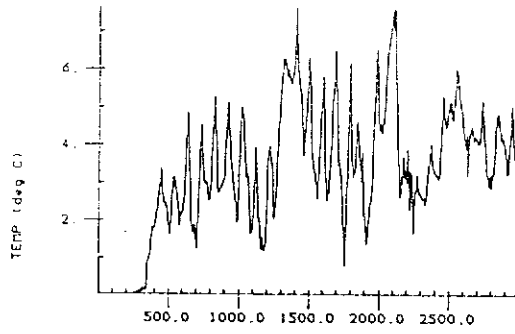
STAGE (m)



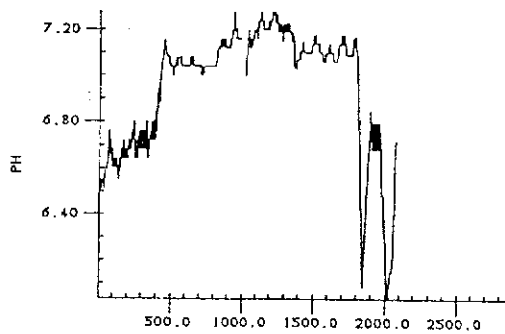
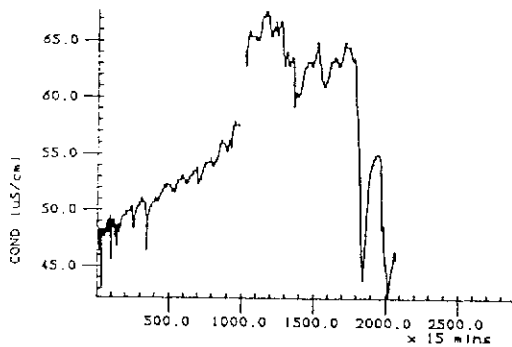
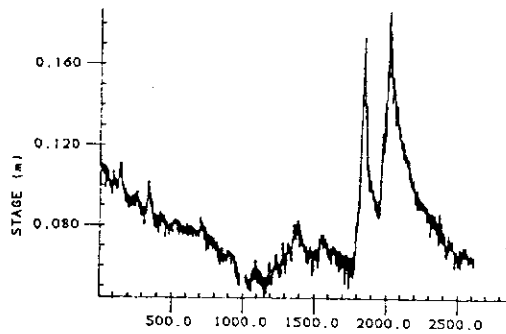
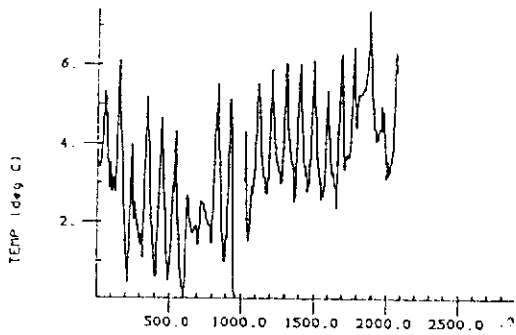
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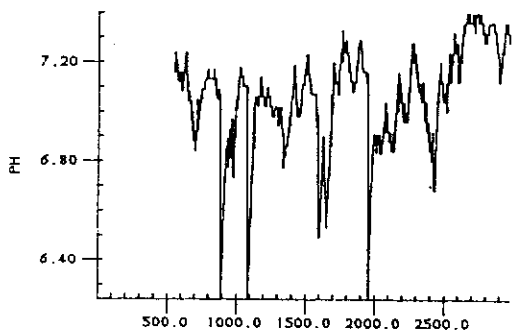
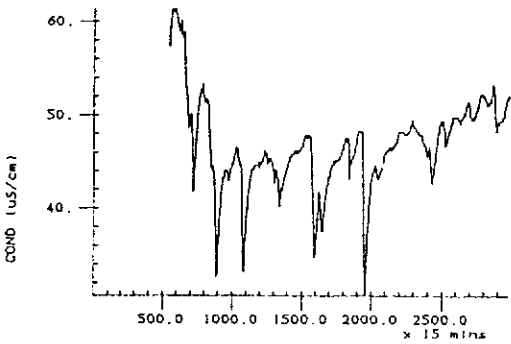
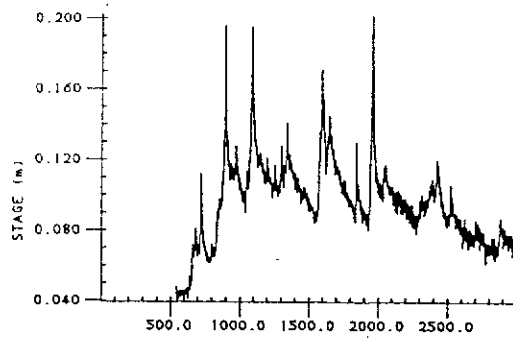
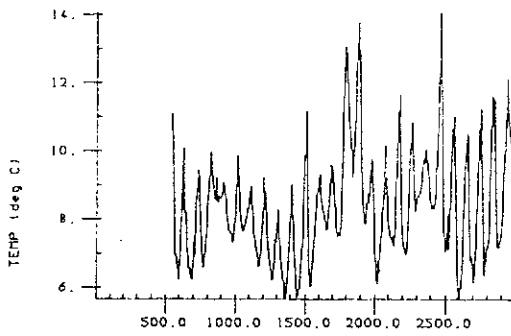
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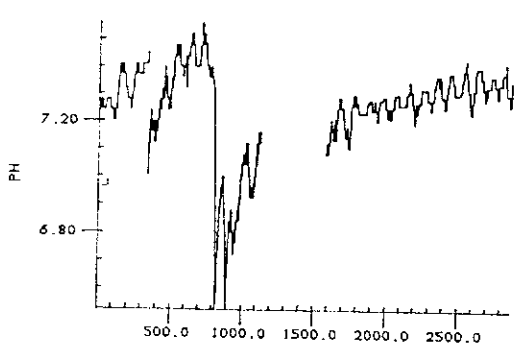
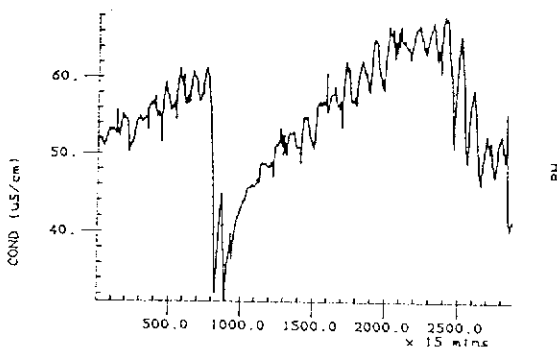
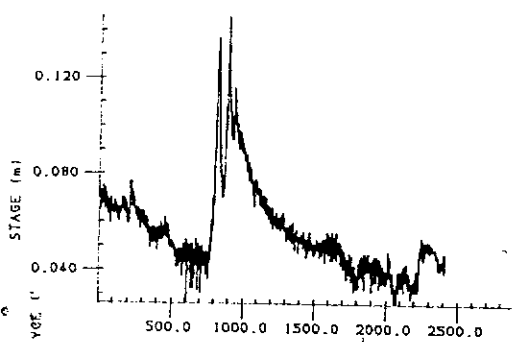
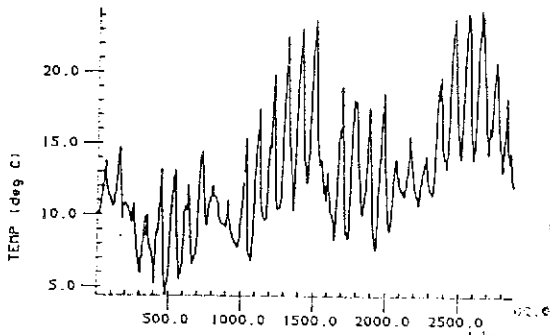
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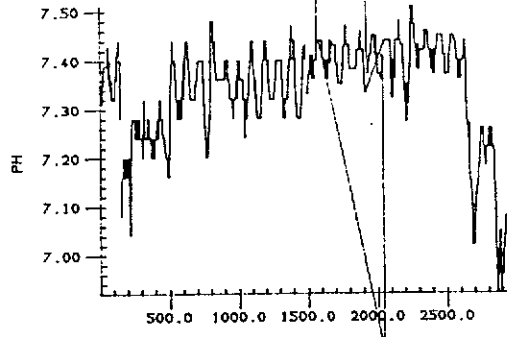
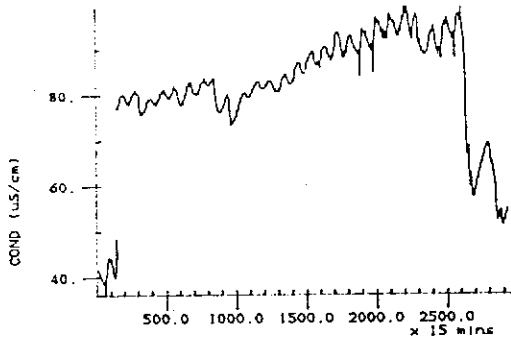
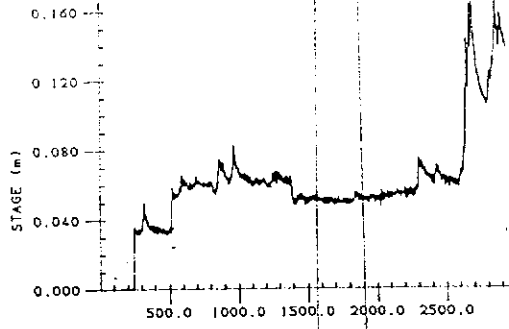
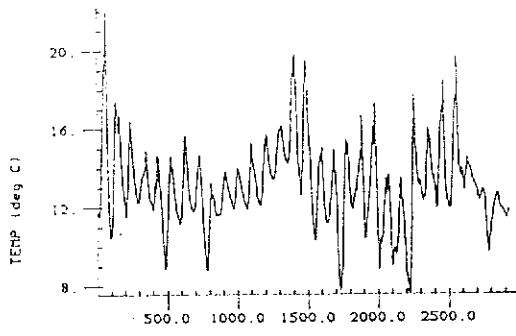
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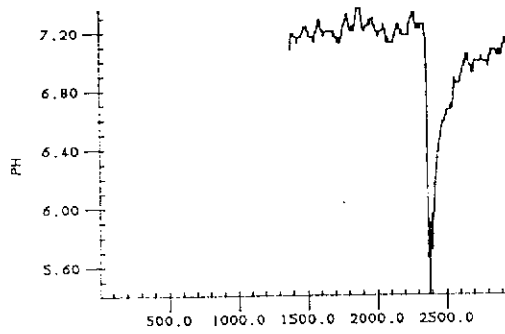
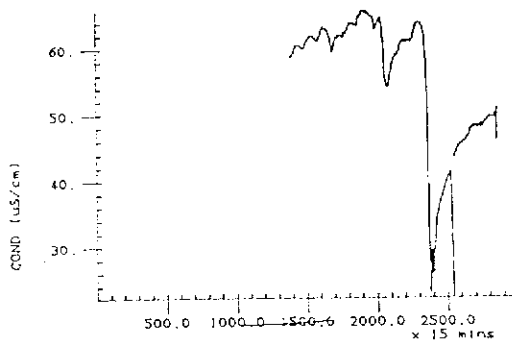
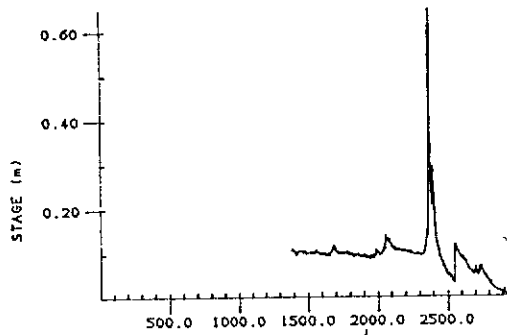
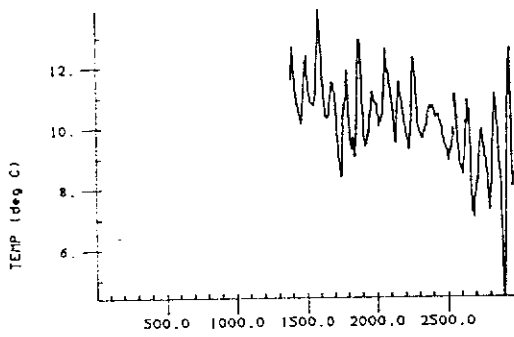
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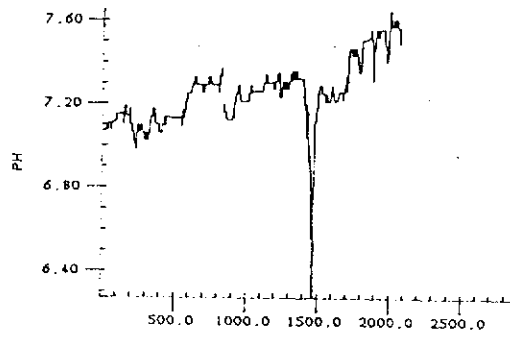
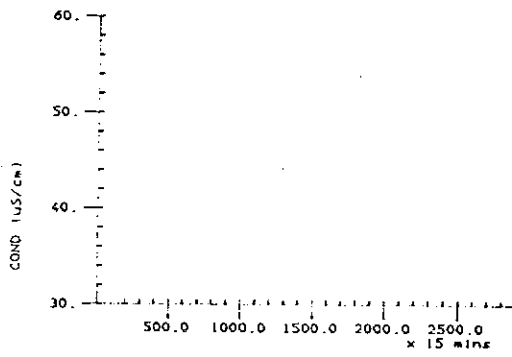
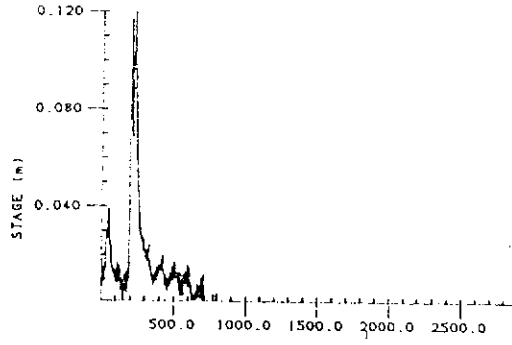
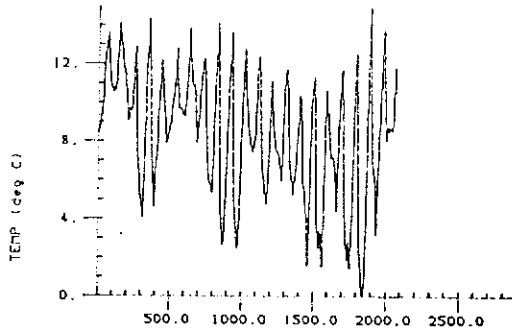
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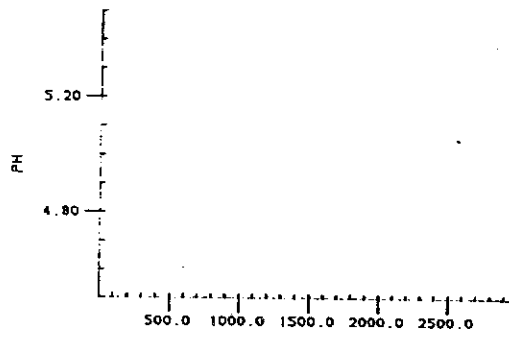
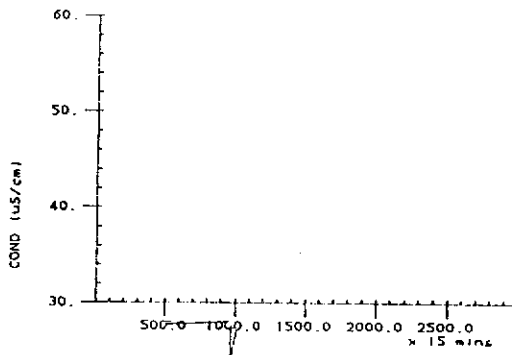
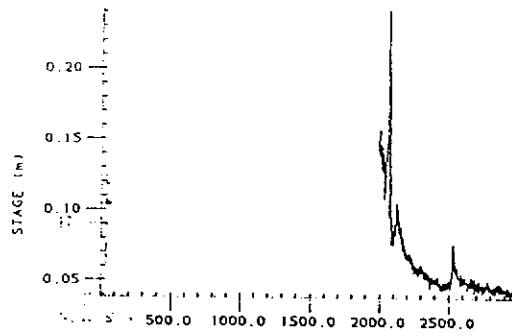
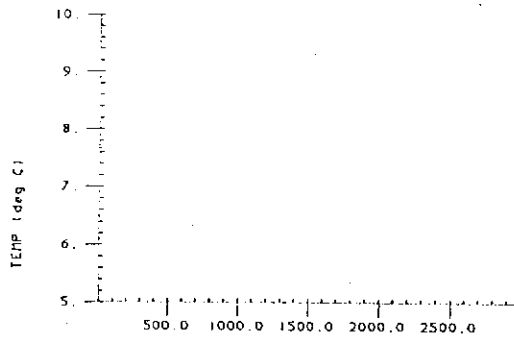


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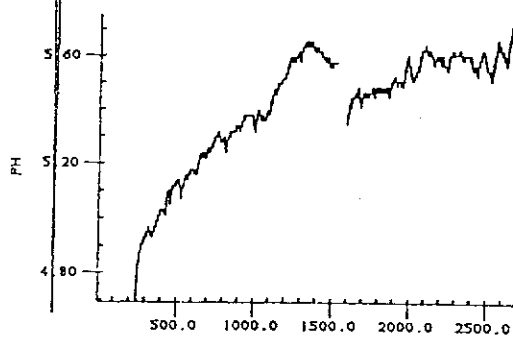
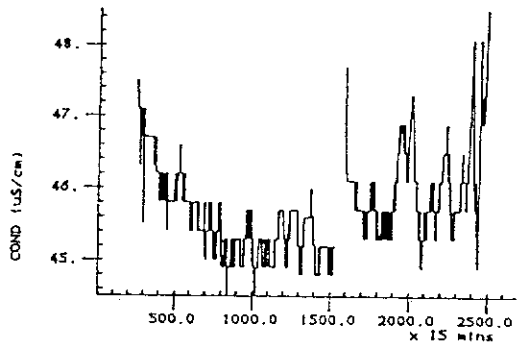
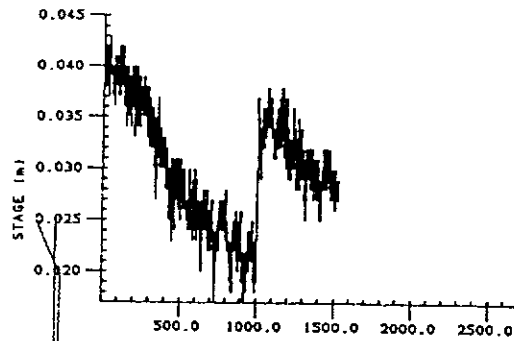
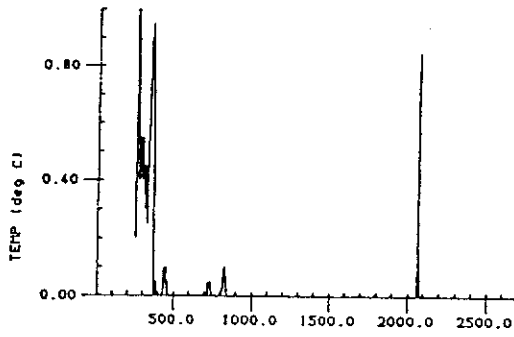




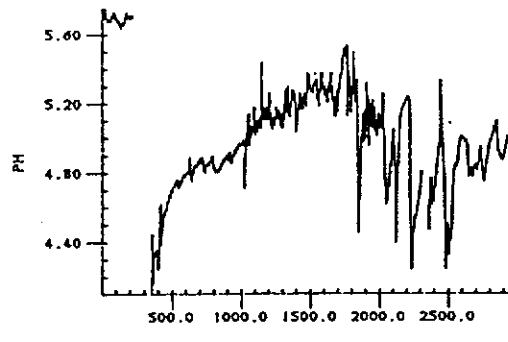
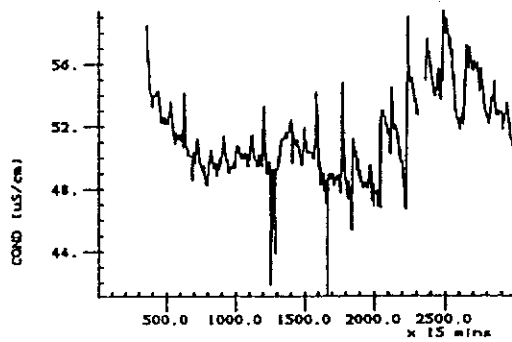
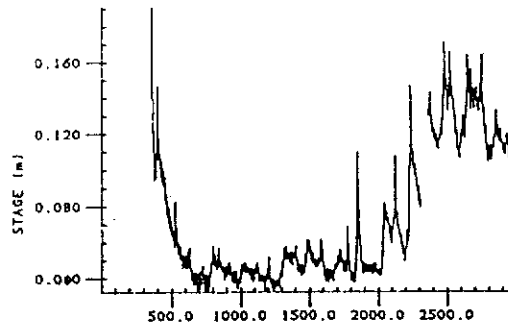
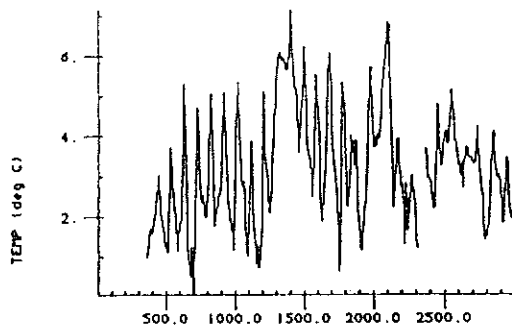
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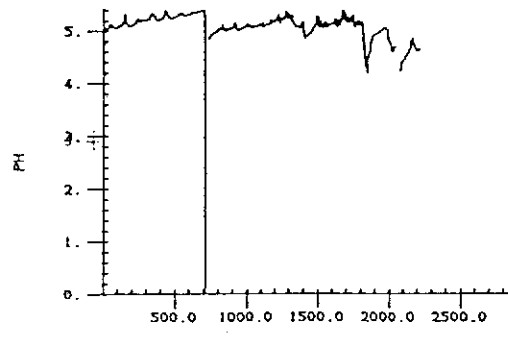
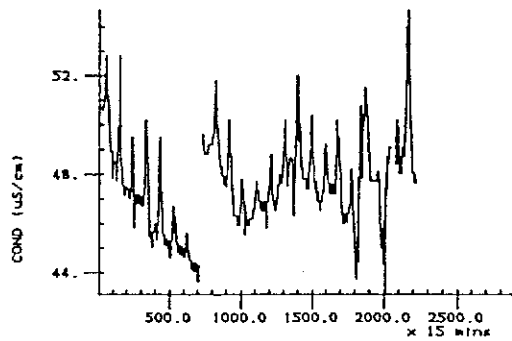
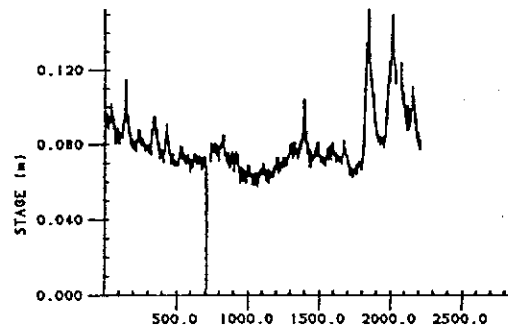
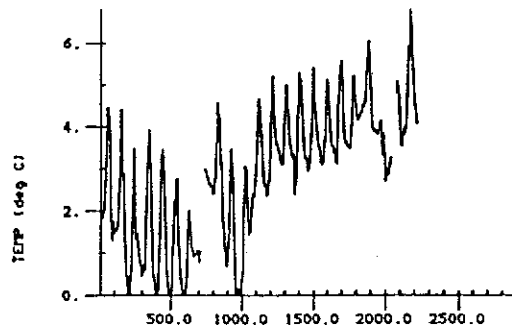
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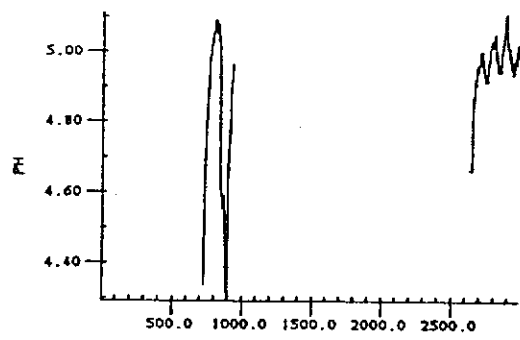
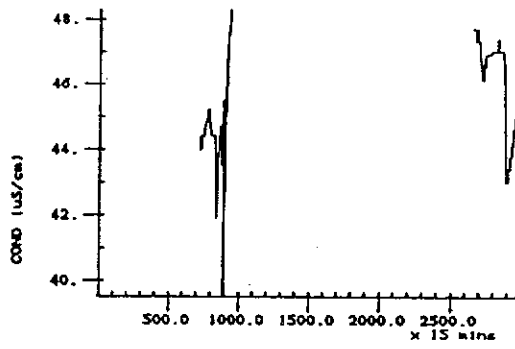
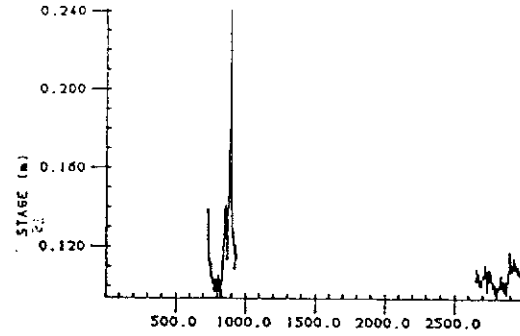
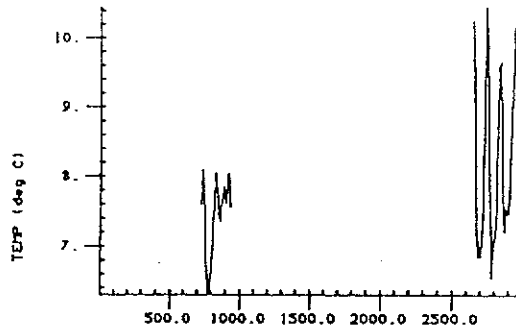


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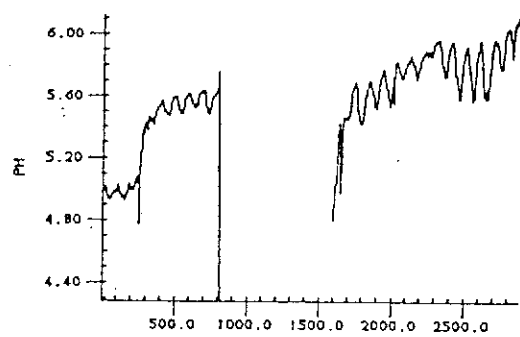
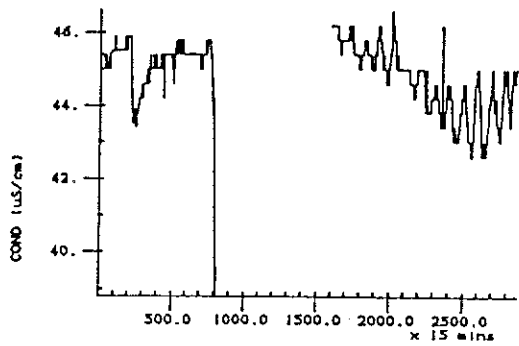
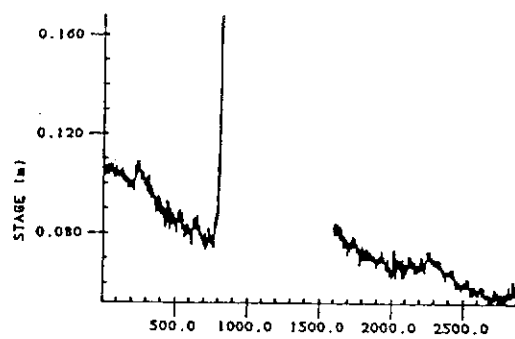
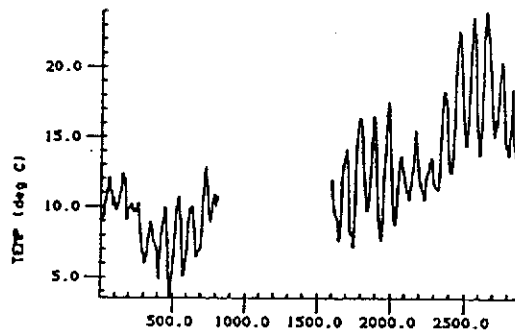




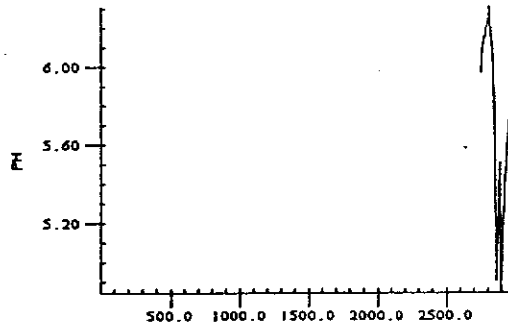
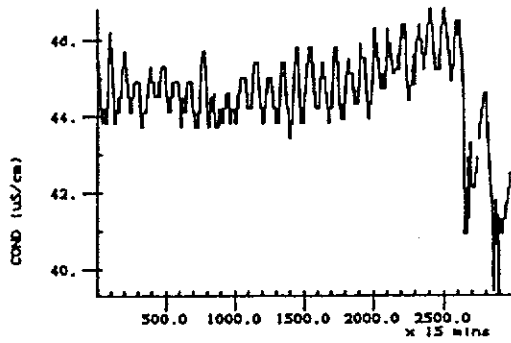
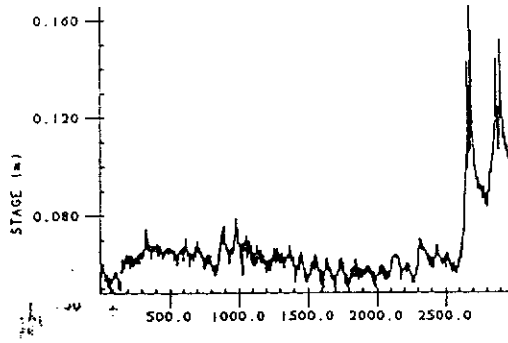
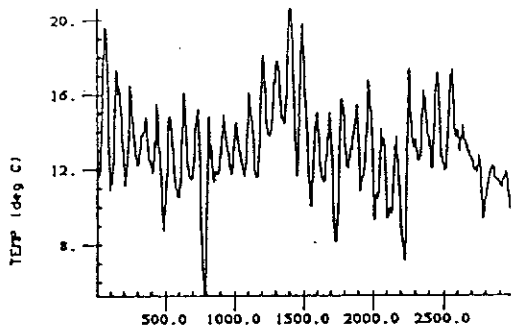
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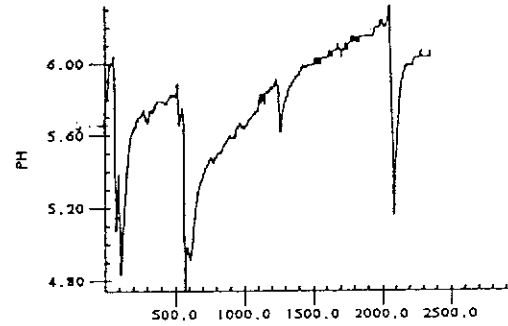
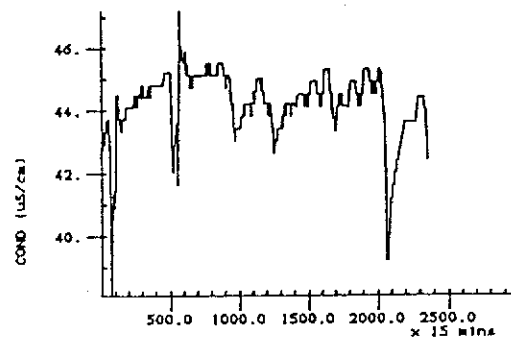
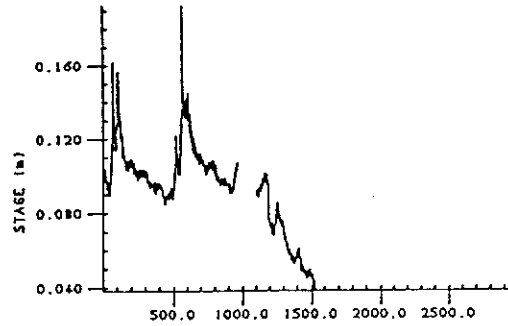
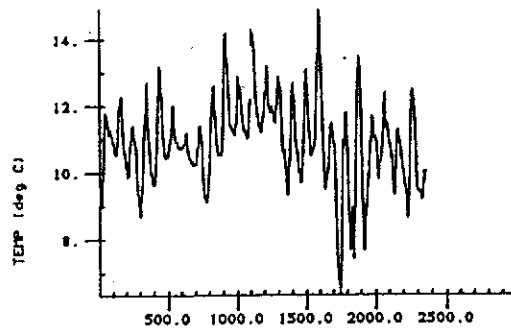
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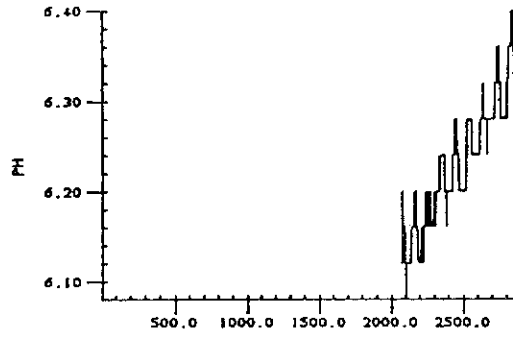
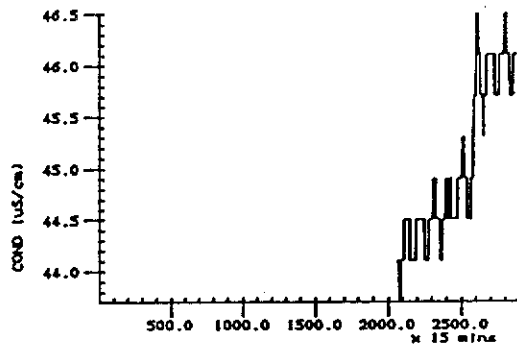
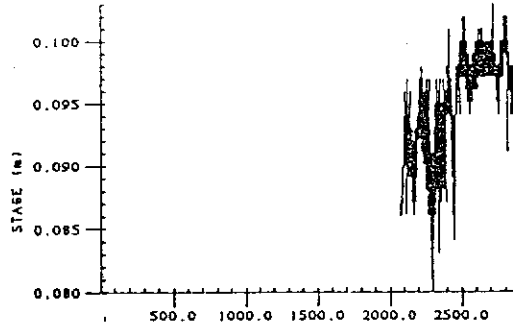
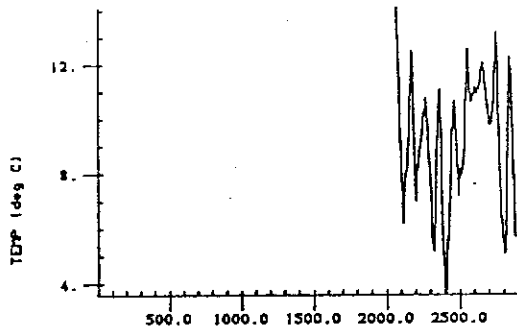
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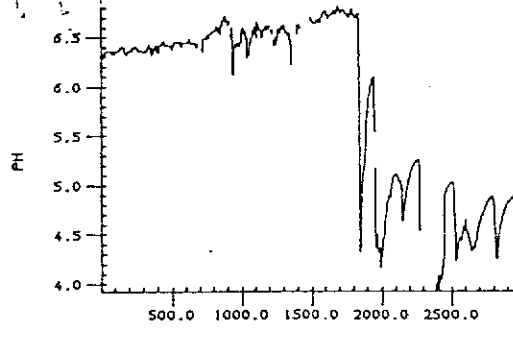
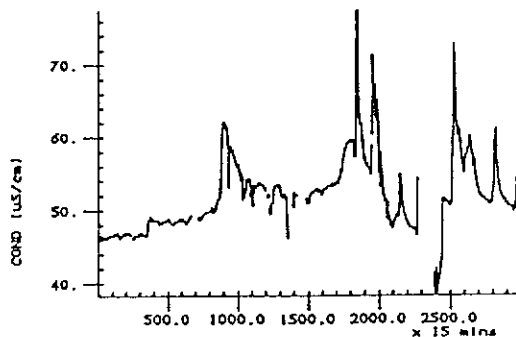
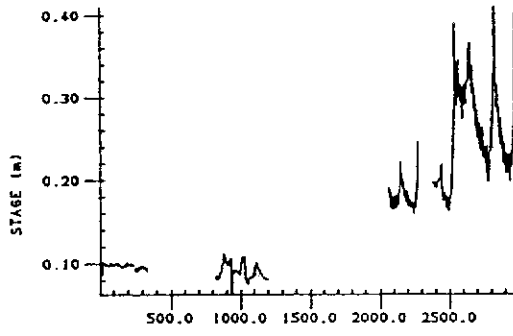
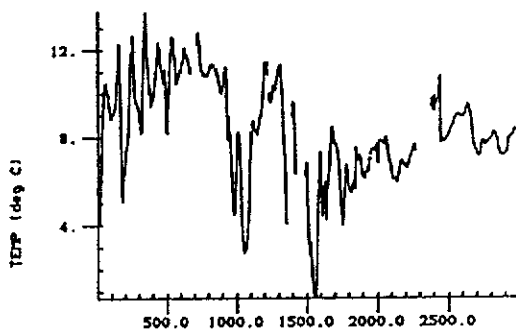
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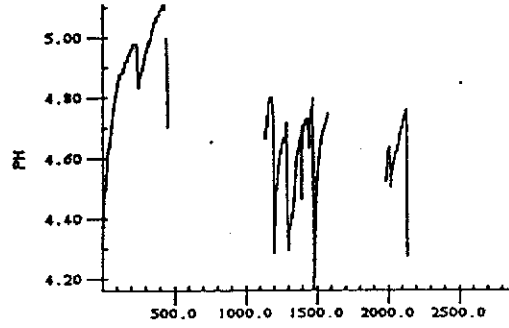
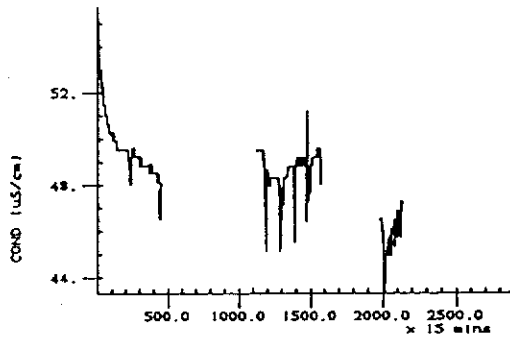
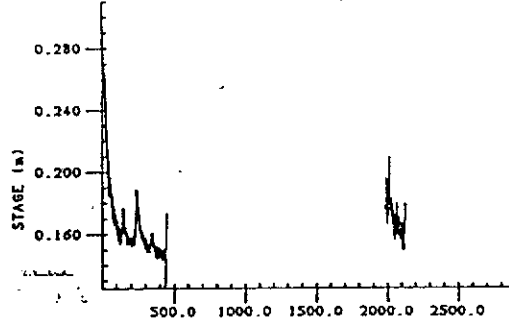
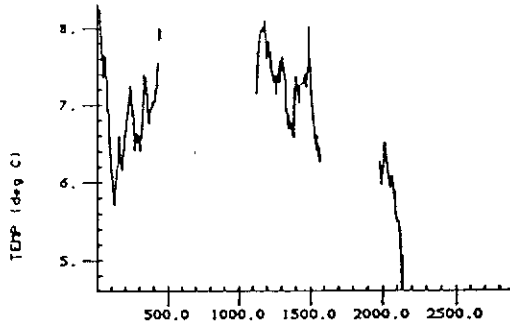
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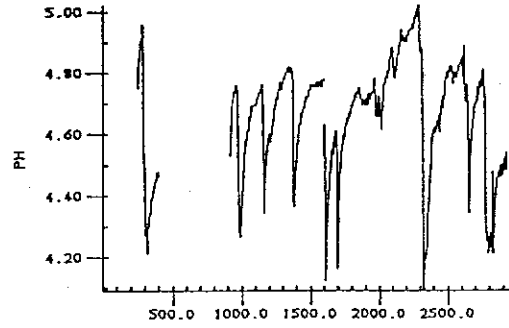
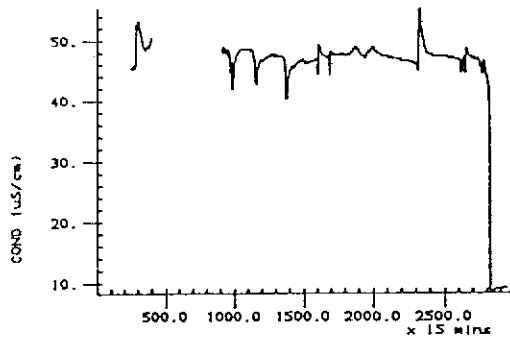
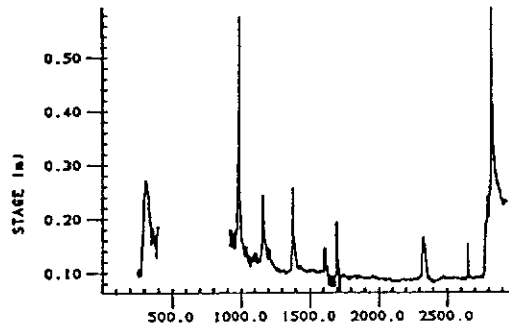
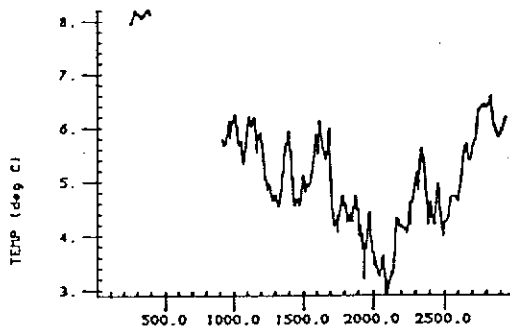
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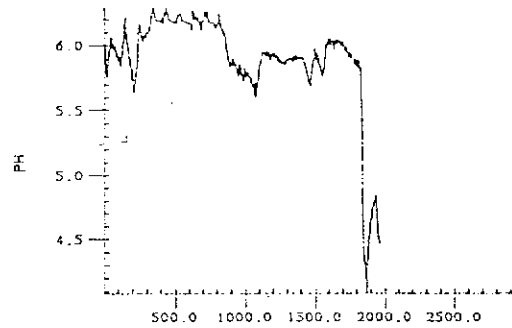
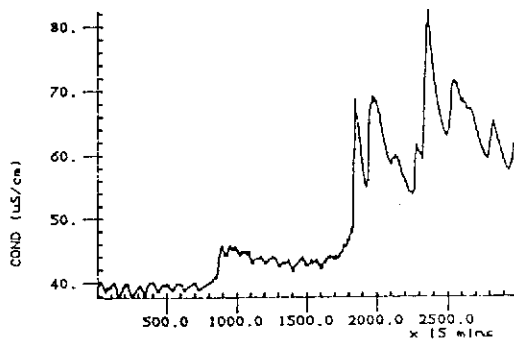
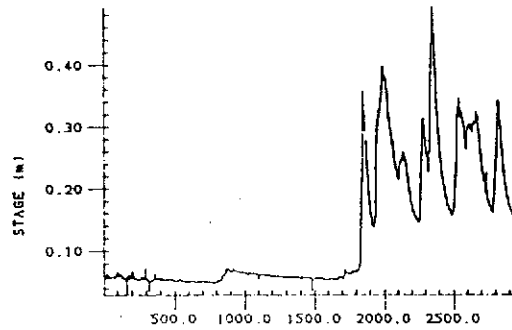
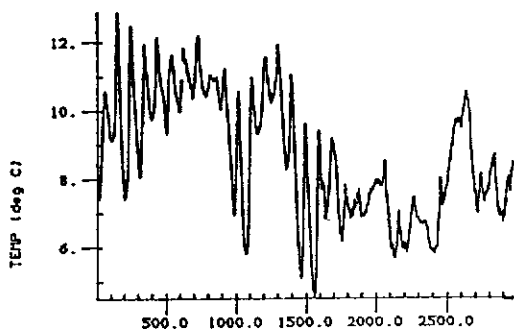
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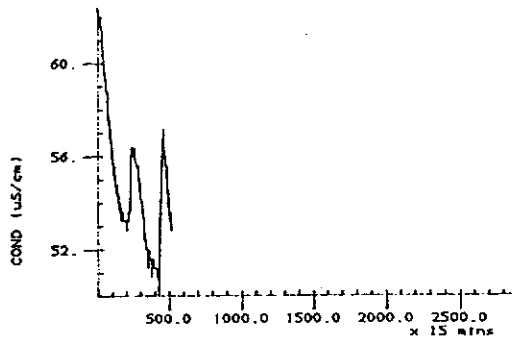
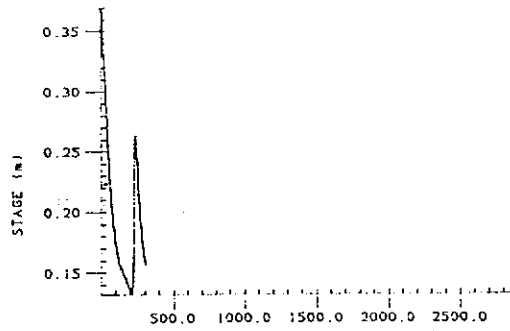
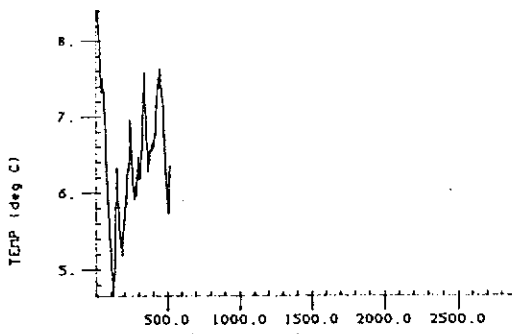
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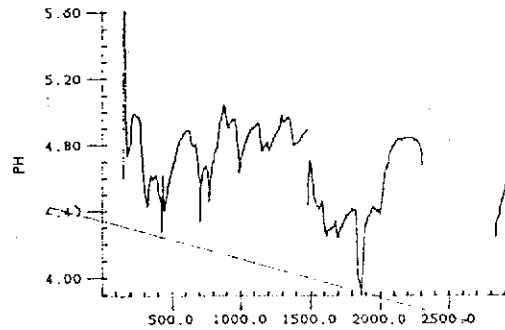
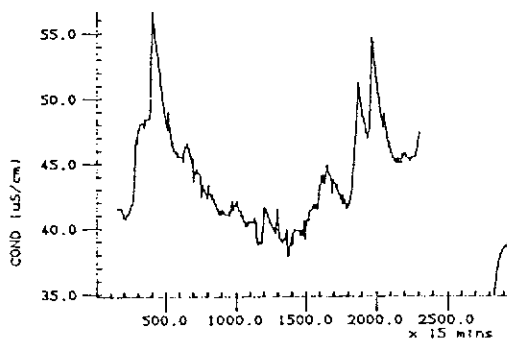
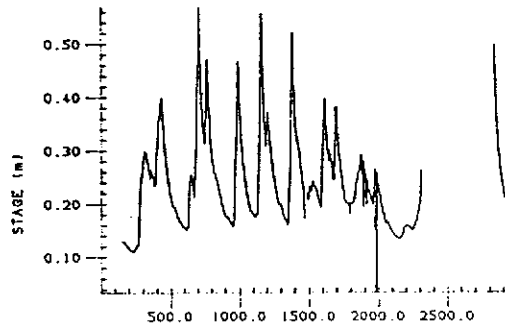
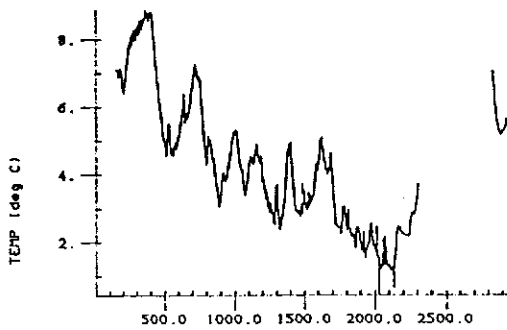
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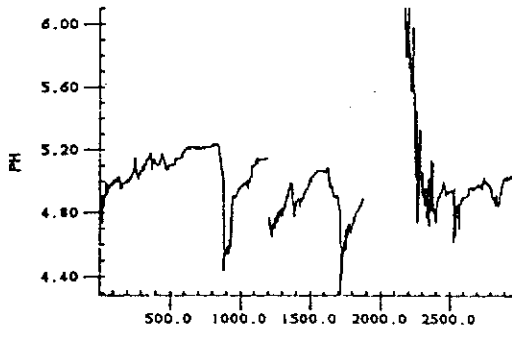
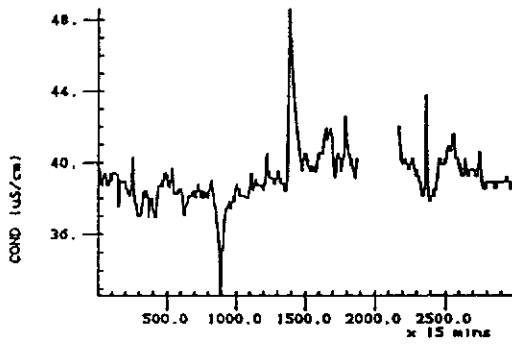
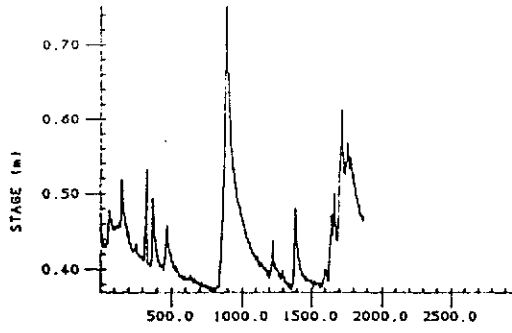
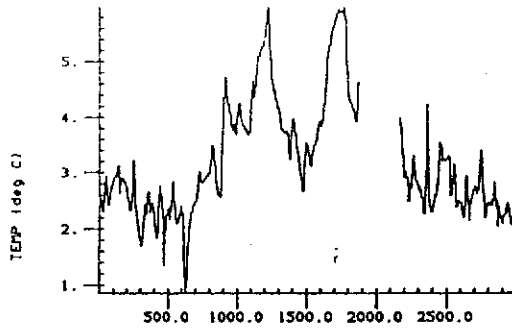
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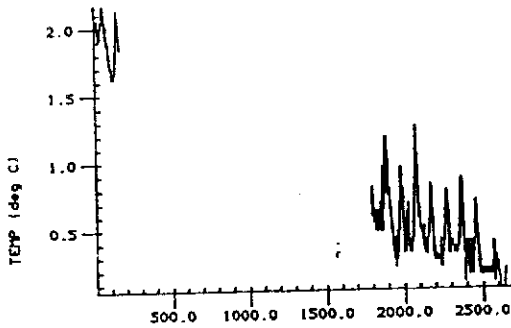
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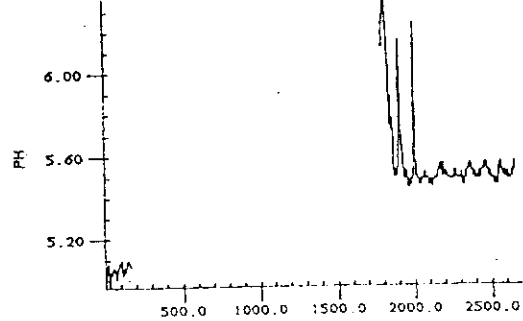
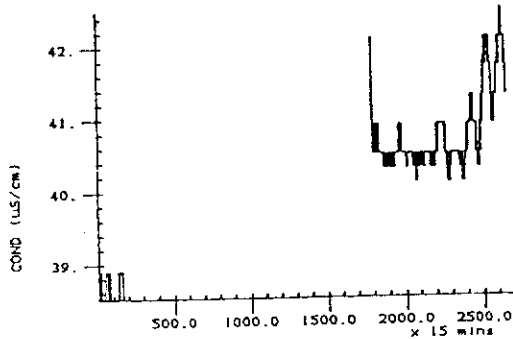
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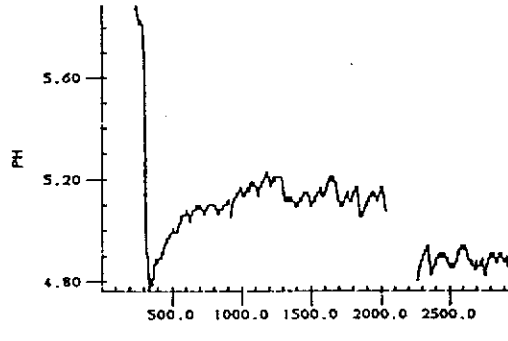
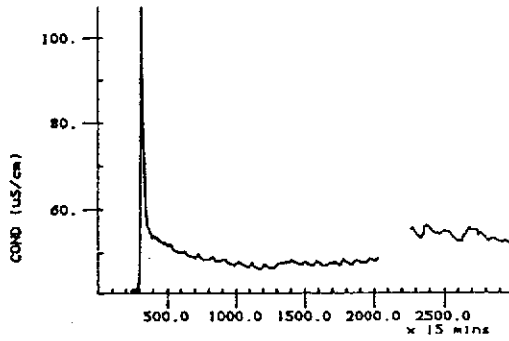
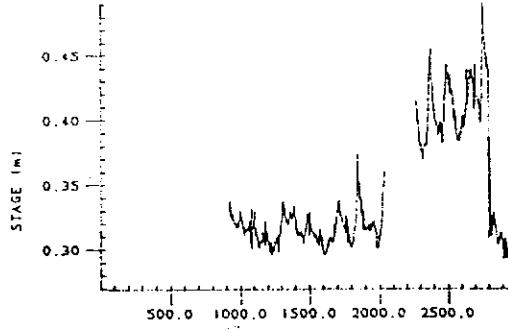
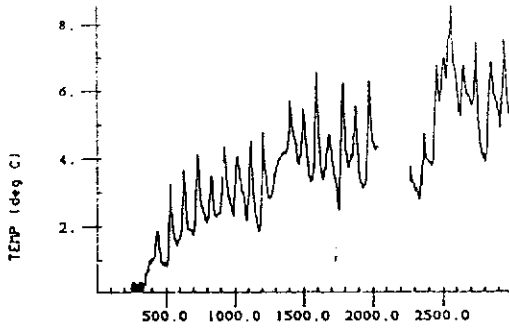
CI3FEB86



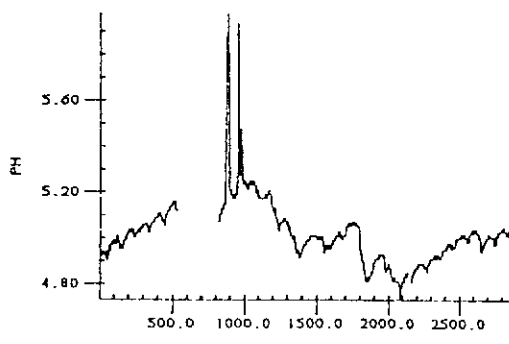
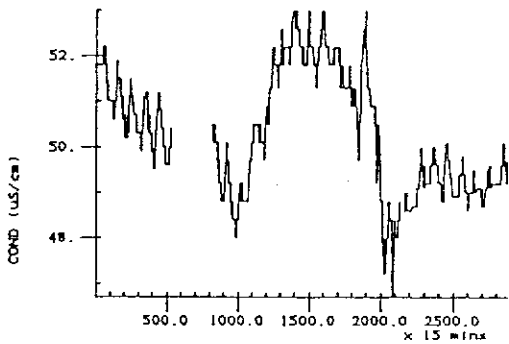
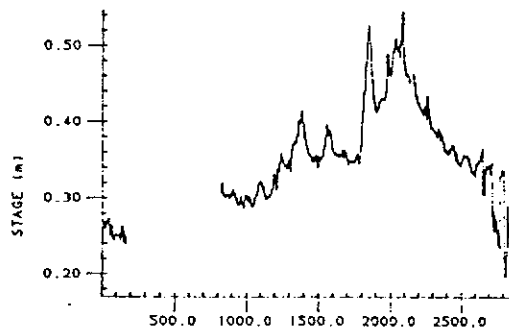
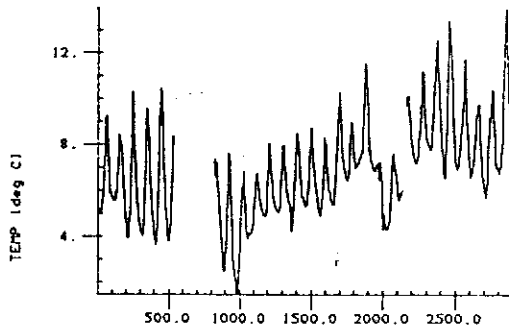
STAGE (m)



CI3MAR86

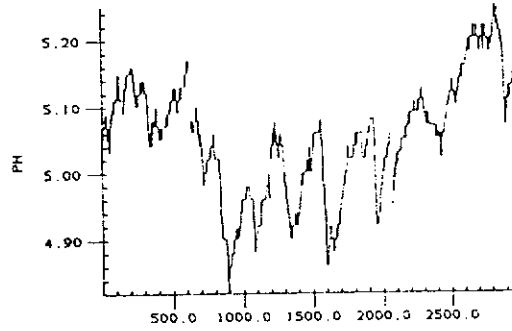
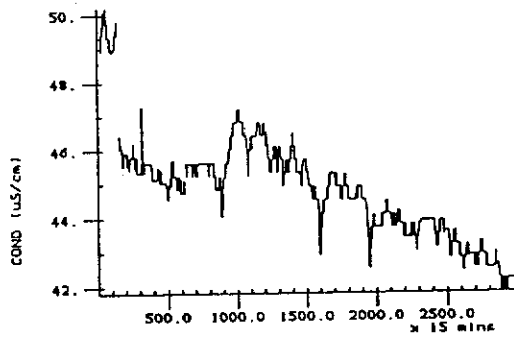
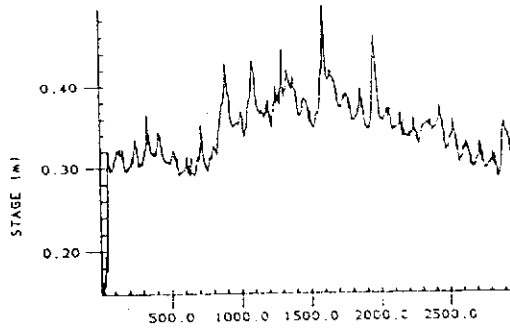
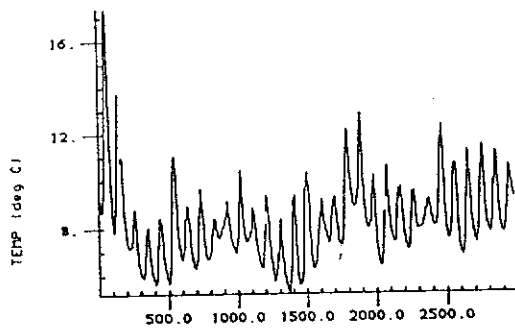


CI3APR86

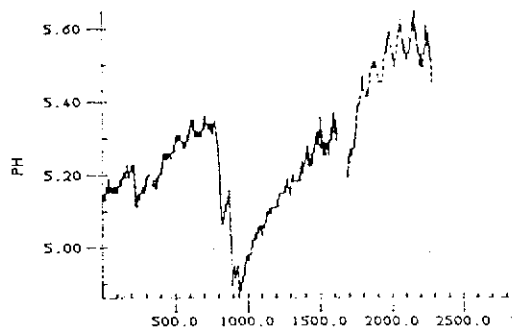
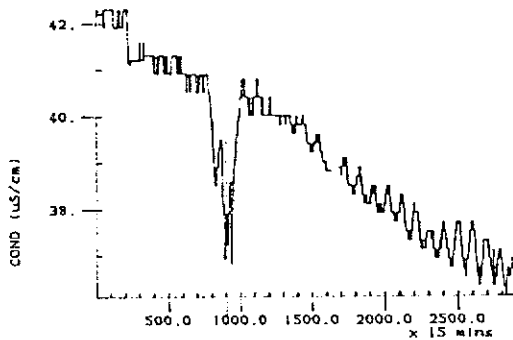
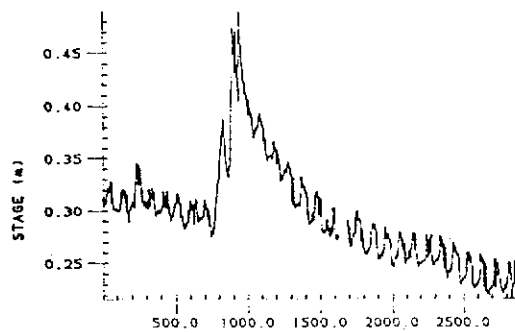
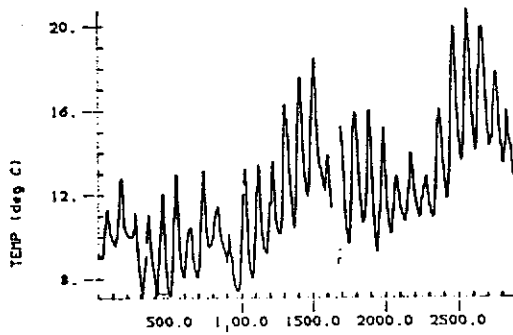




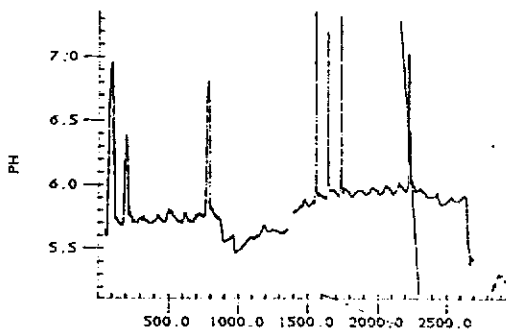
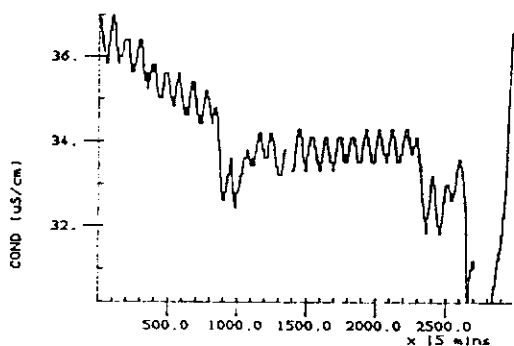
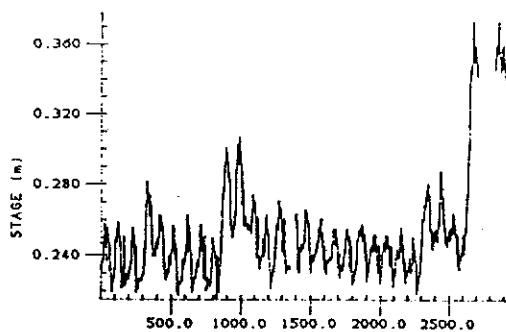
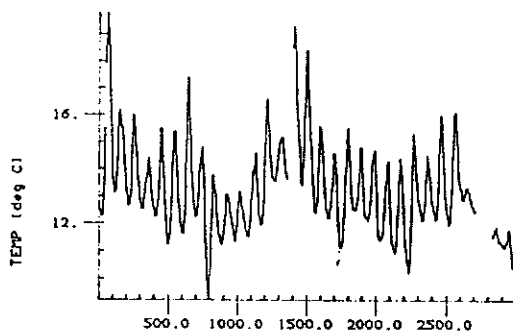
C13MAY86



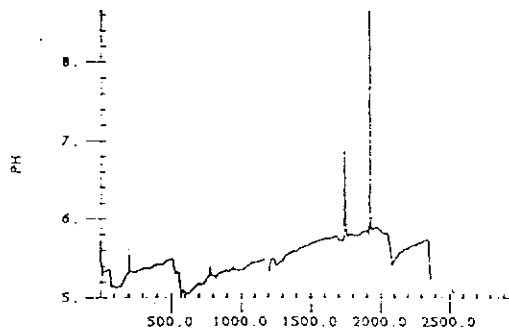
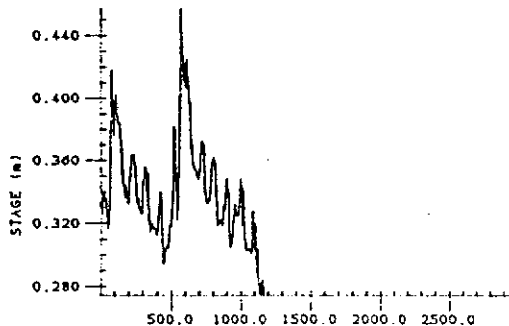
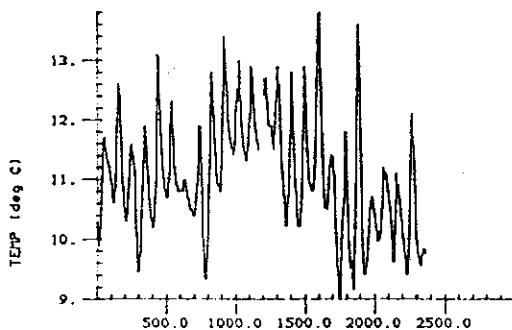
C13JUN86



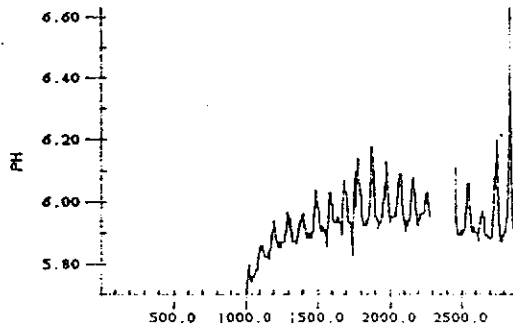
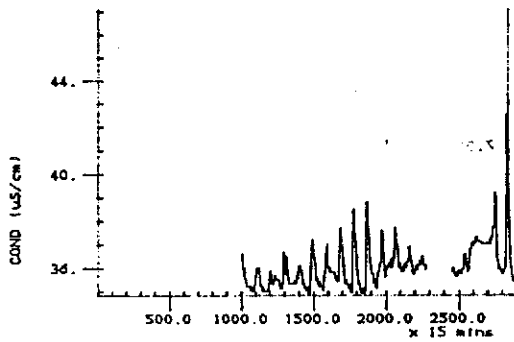
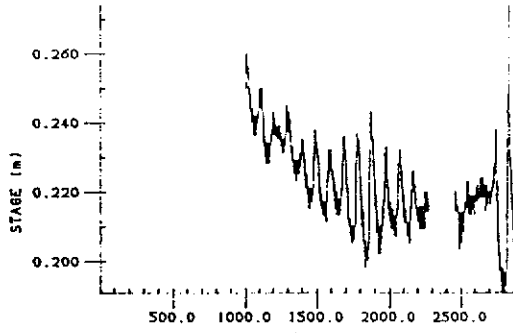
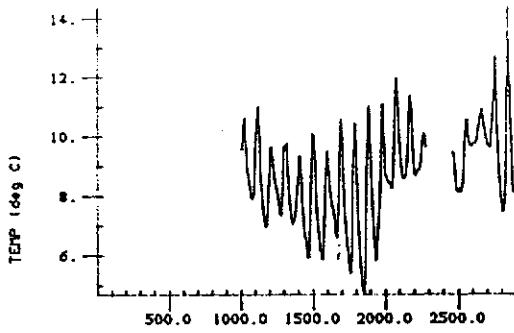
CI3JUL86



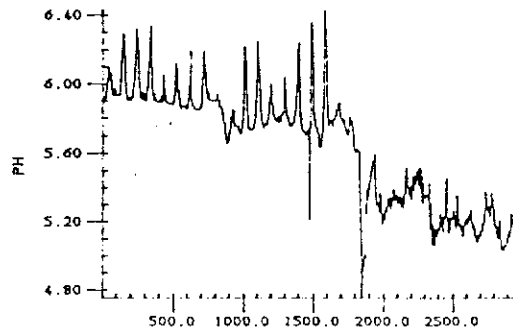
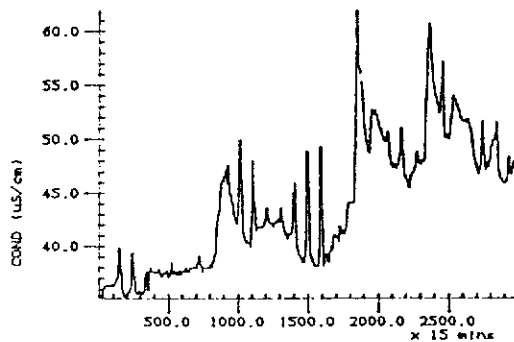
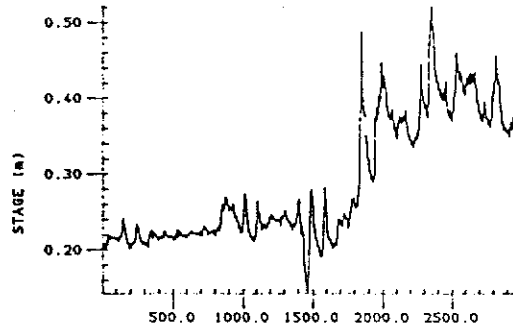
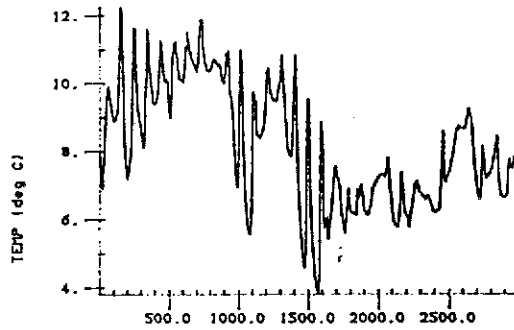
CI3AUG86



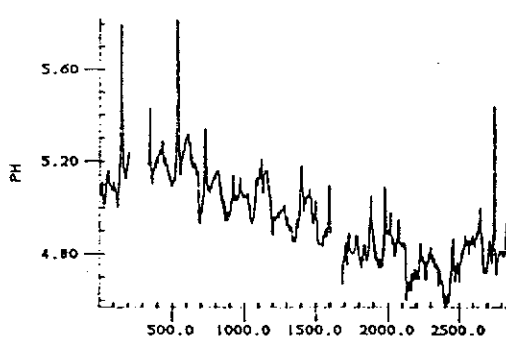
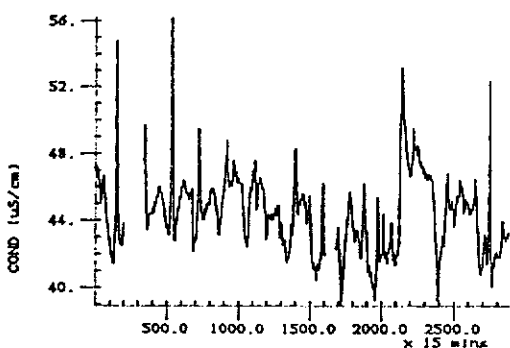
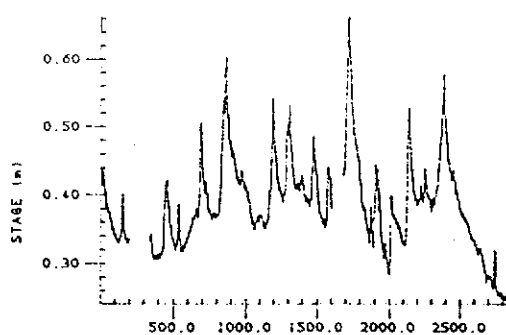
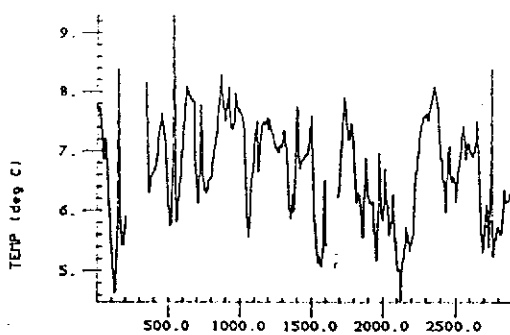
CI3SEP86



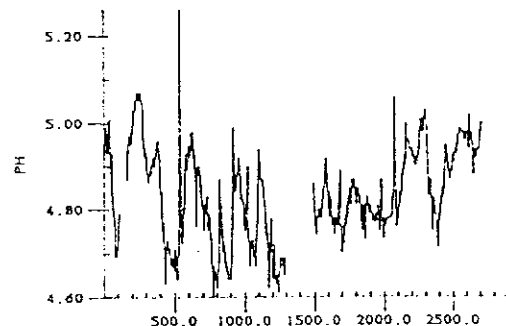
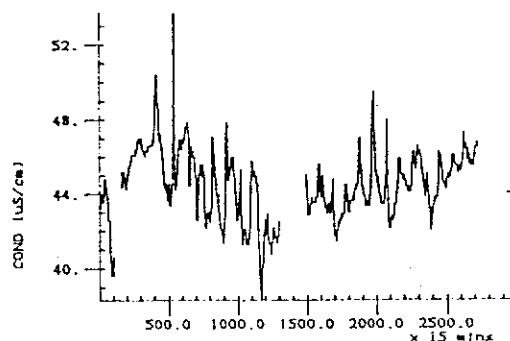
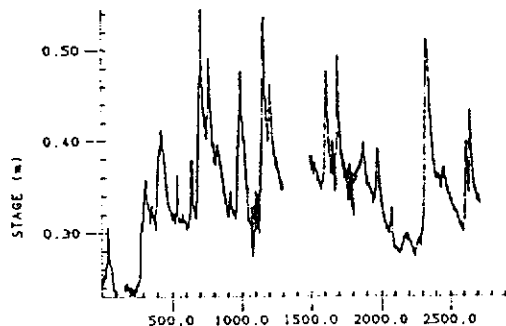
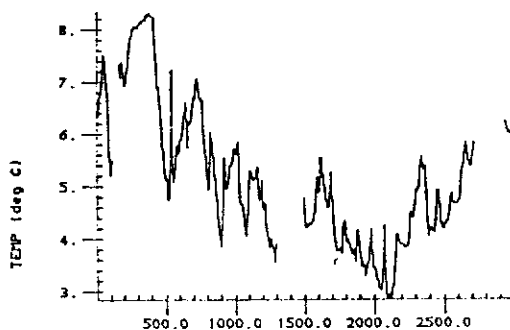
CI3OCT86



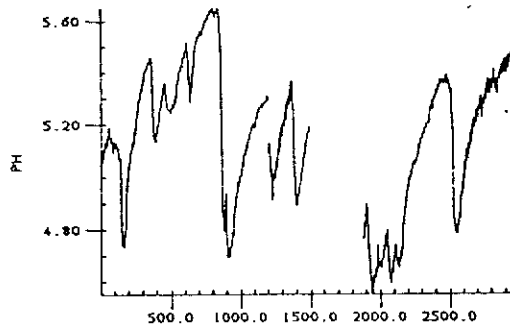
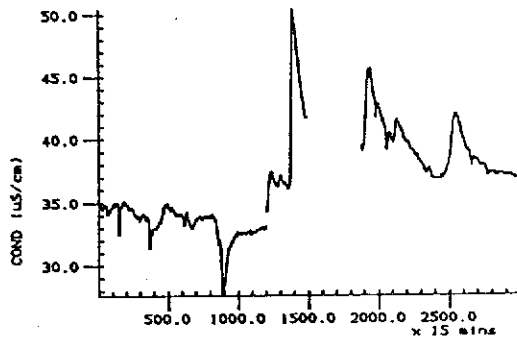
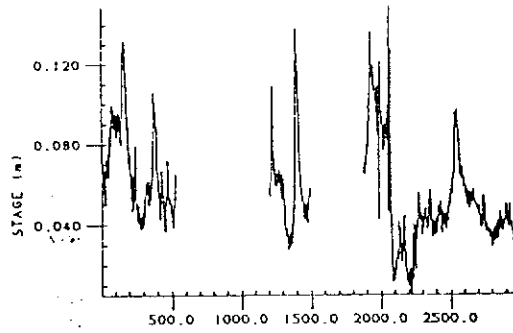
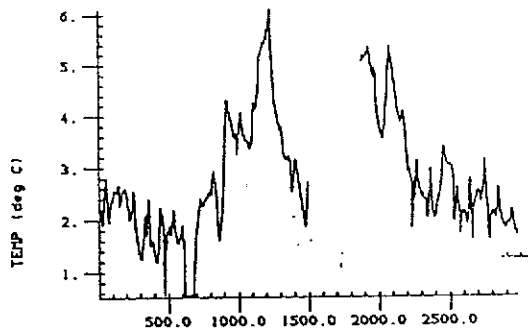
CI3NOV86



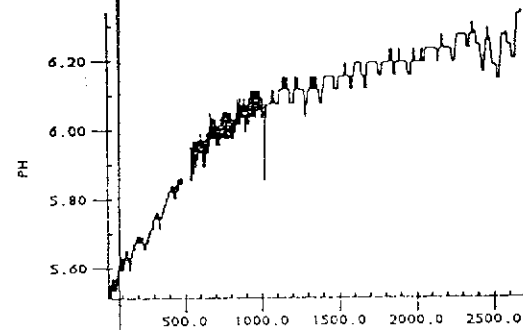
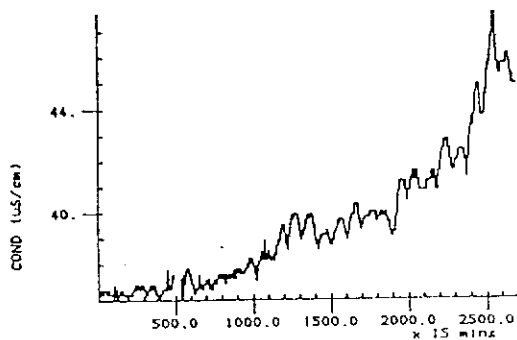
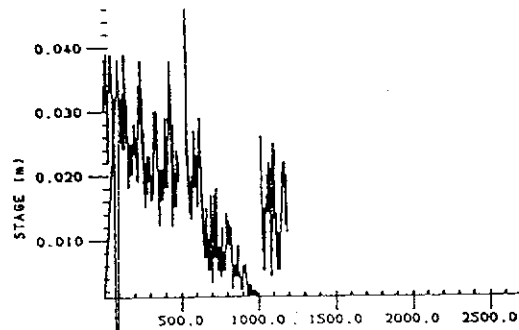
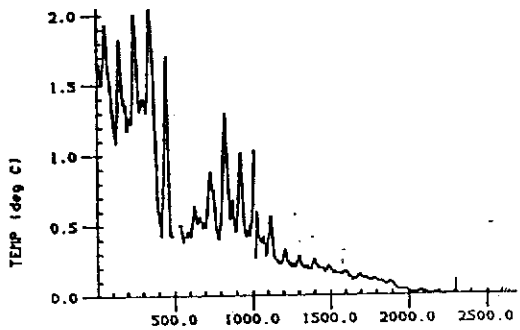
CI3DEC86



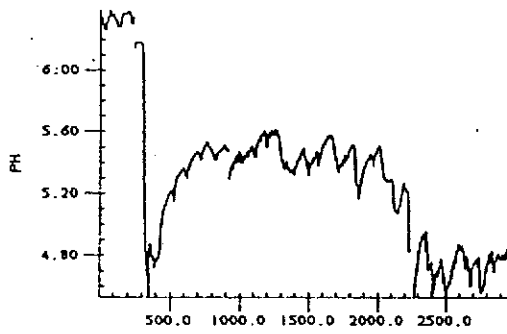
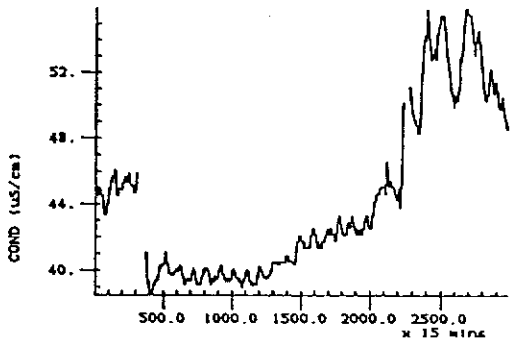
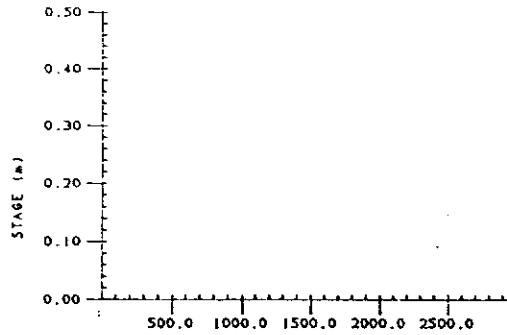
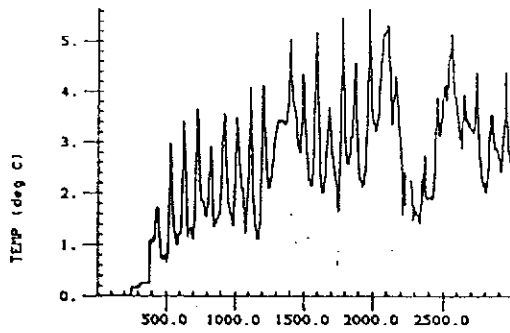
CI4JAN86



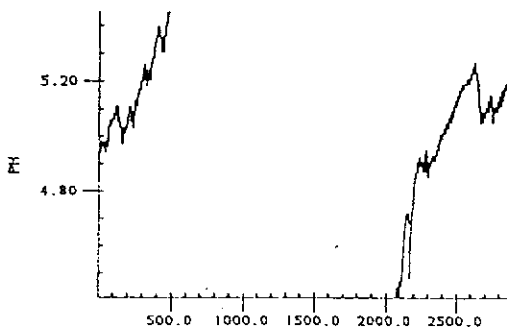
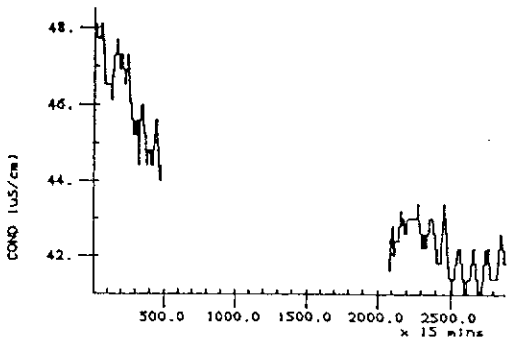
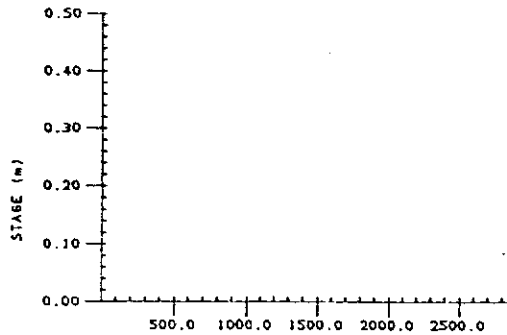
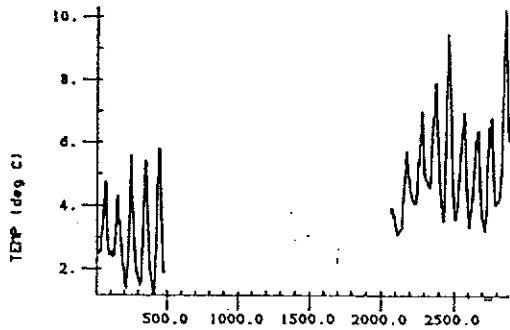
CI4FEB86



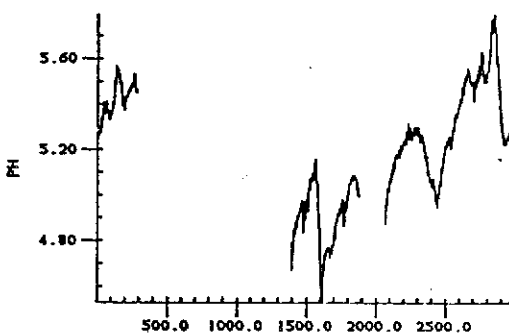
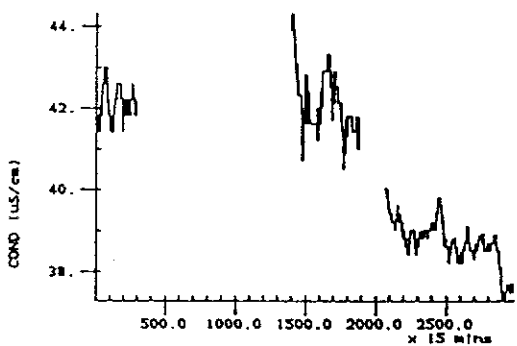
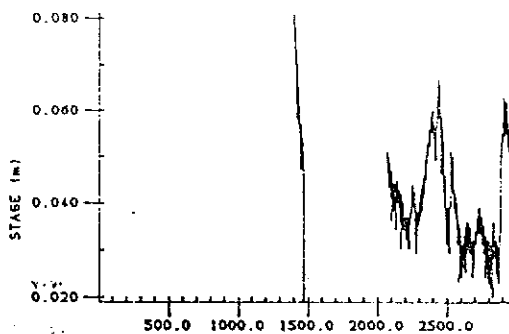
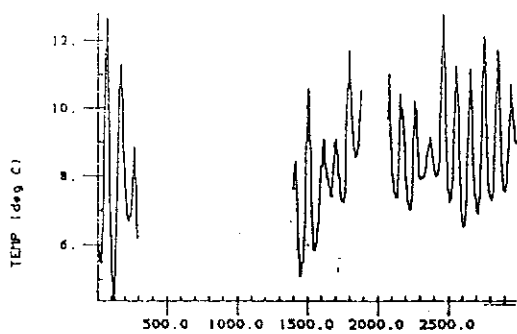
CI4MAR86



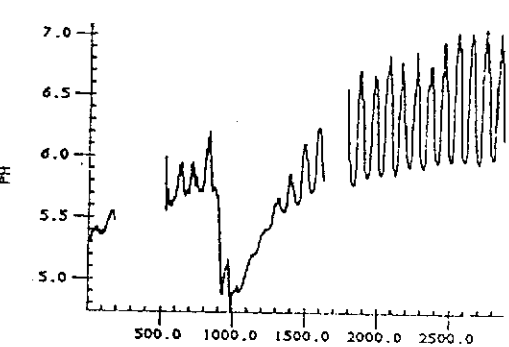
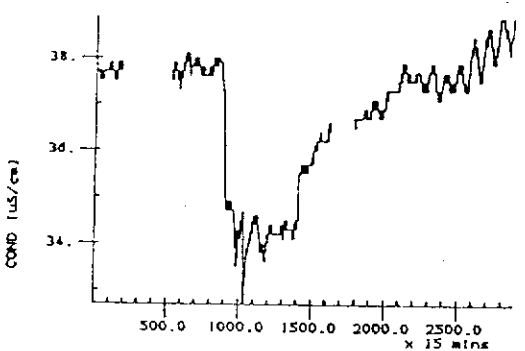
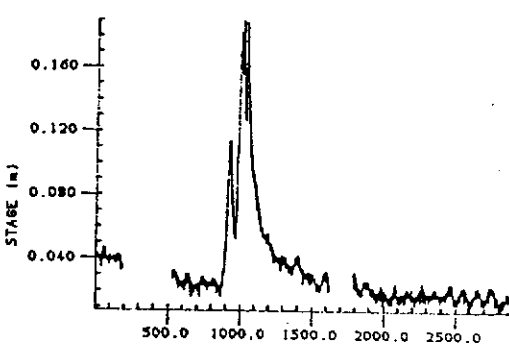
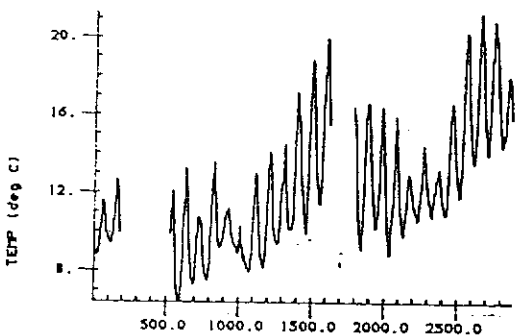
CI4APR86



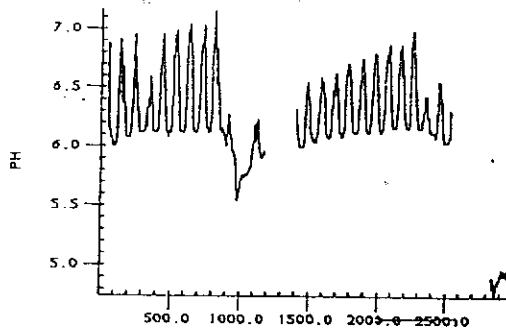
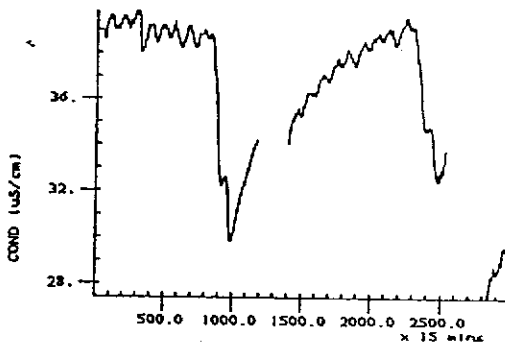
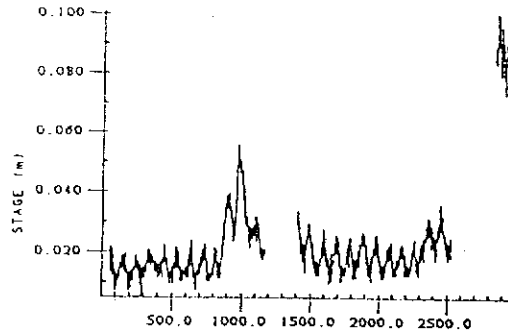
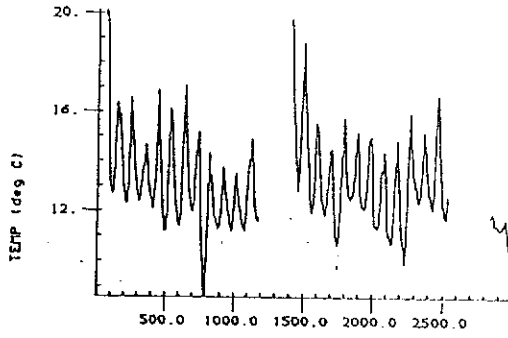
CI4MAY86



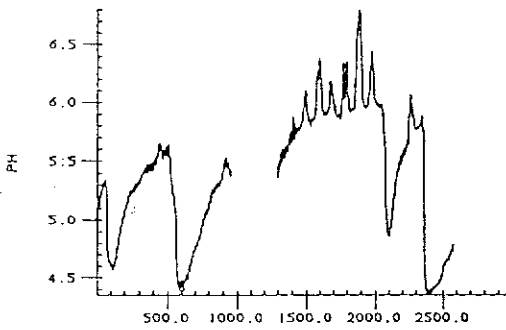
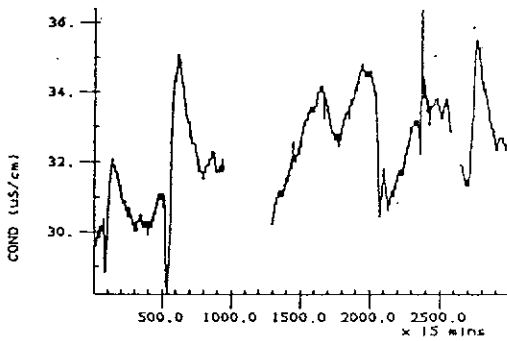
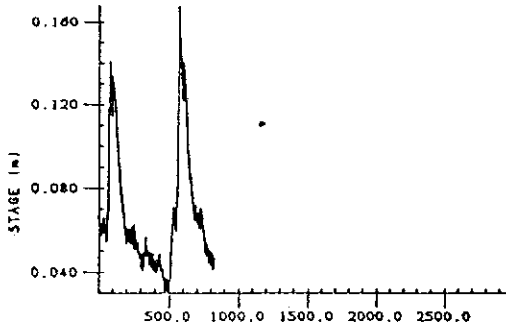
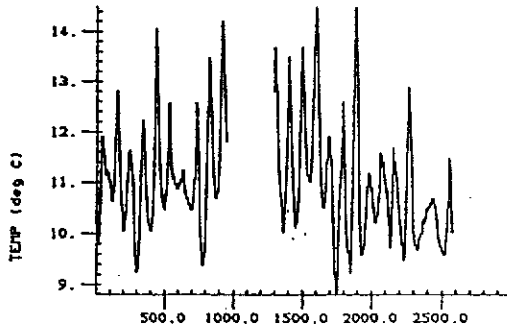
CI4JUN86



CI4JUL86

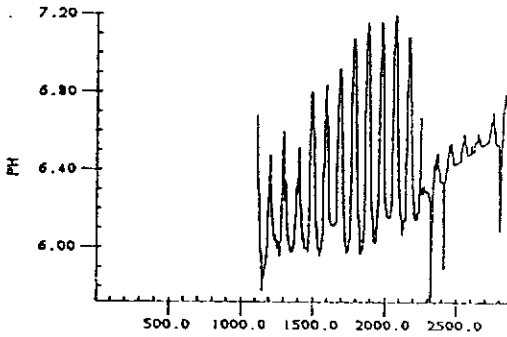
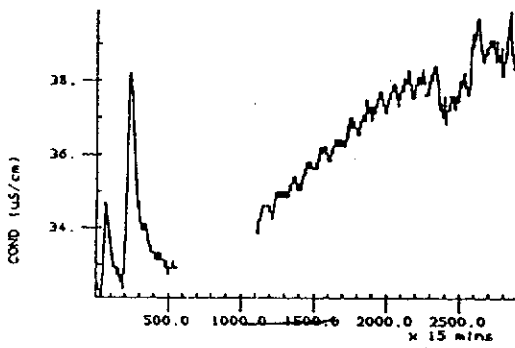
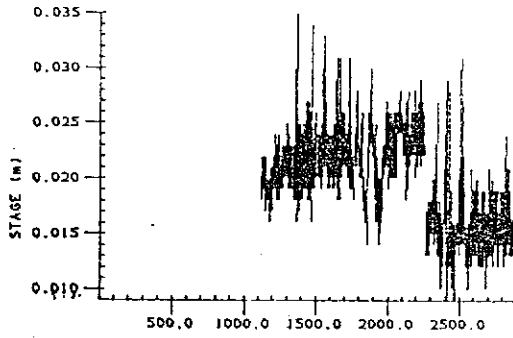
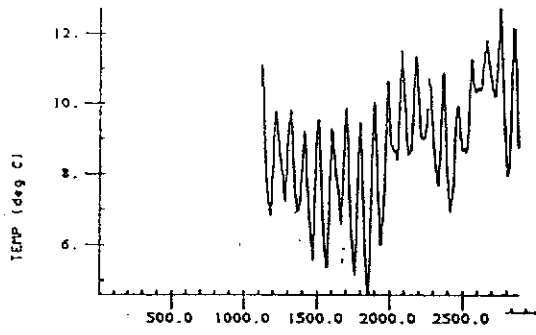


CI4AUG86

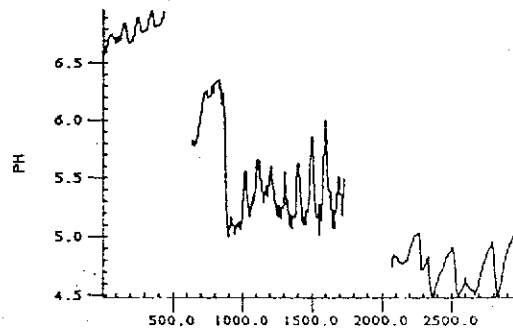
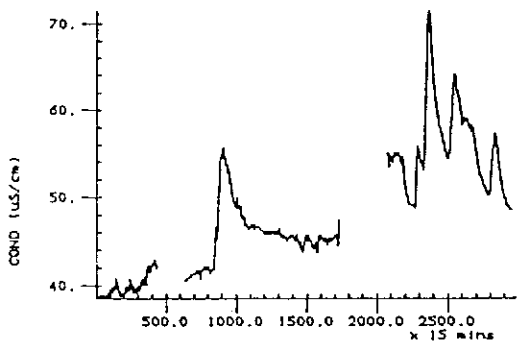
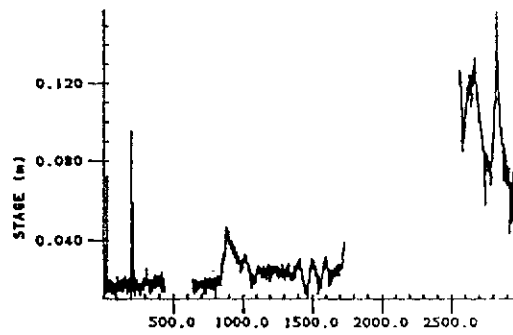
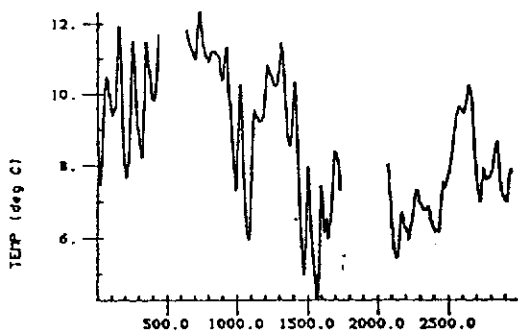




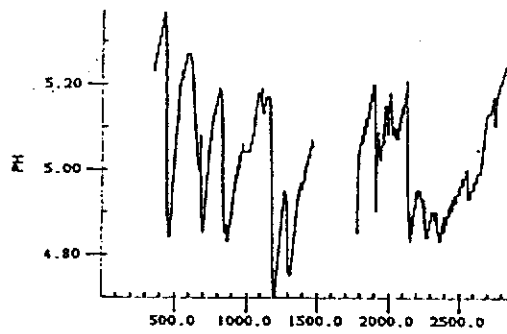
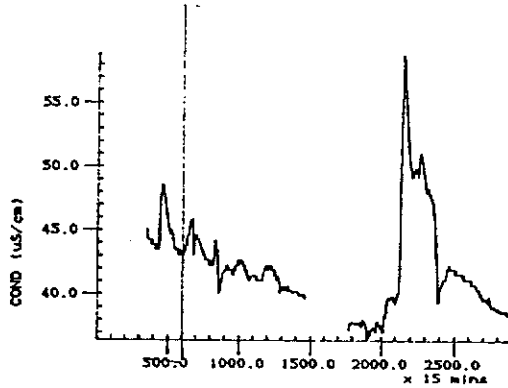
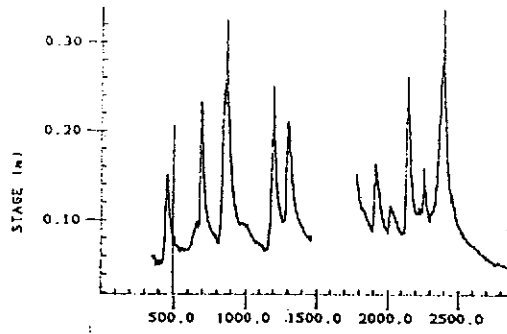
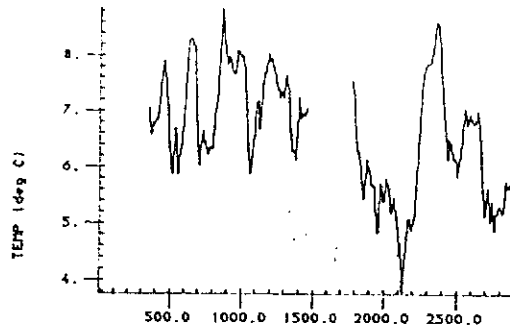
CI4SEP86



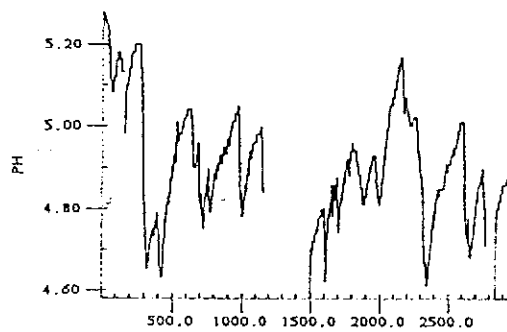
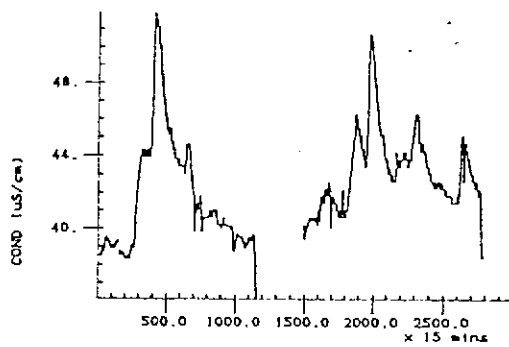
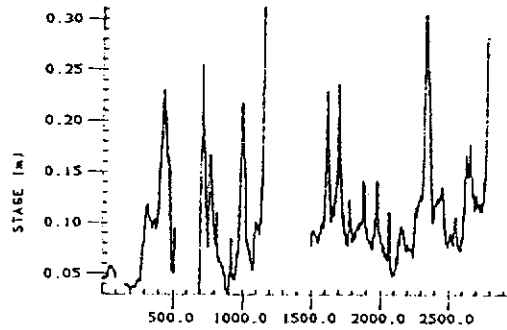
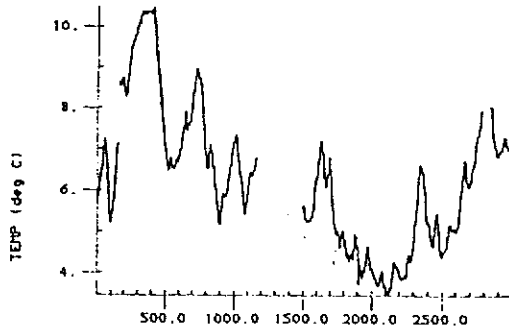
CI4OCT86



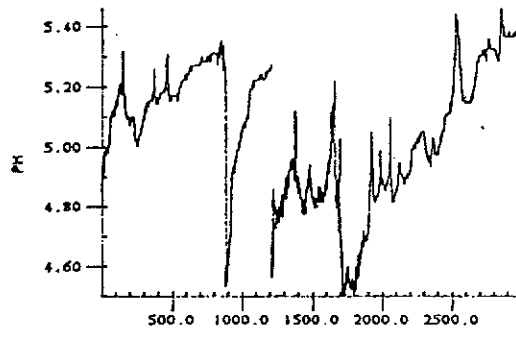
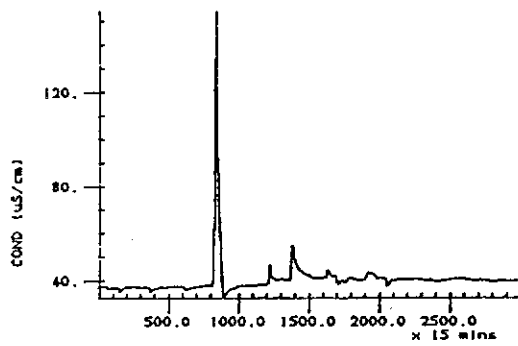
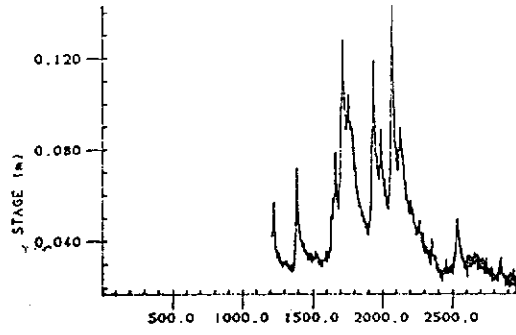
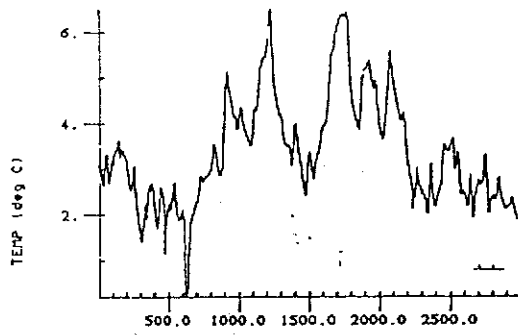
CI4NOV86



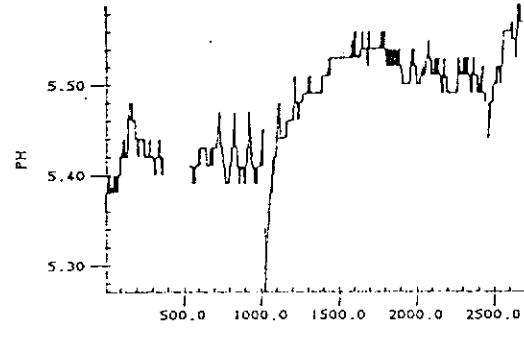
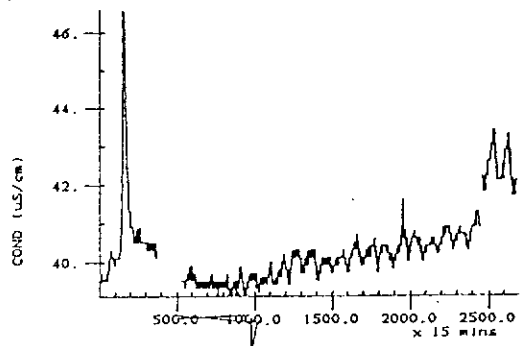
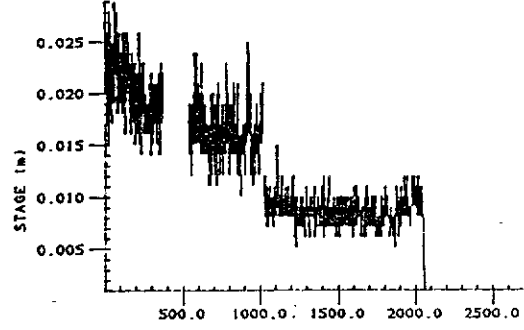
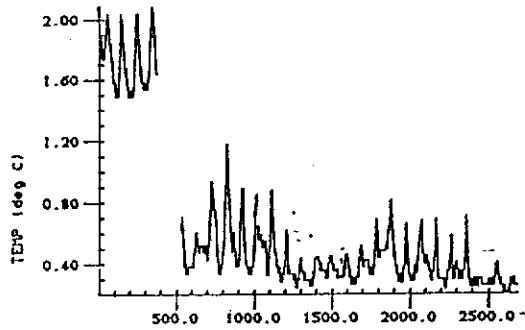
CI4DEC86



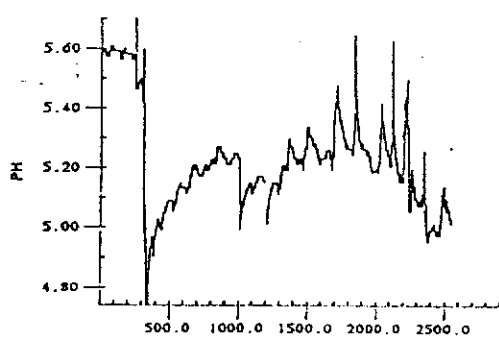
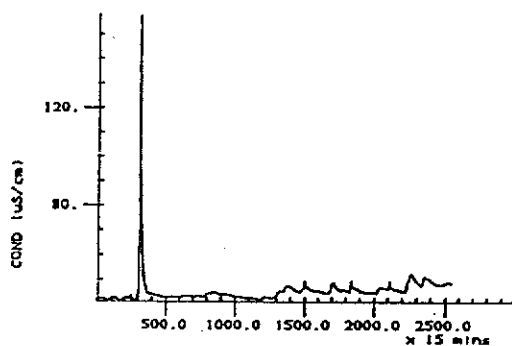
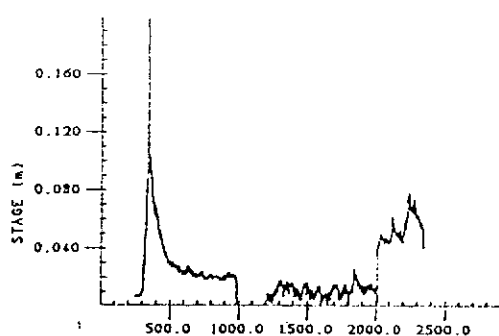
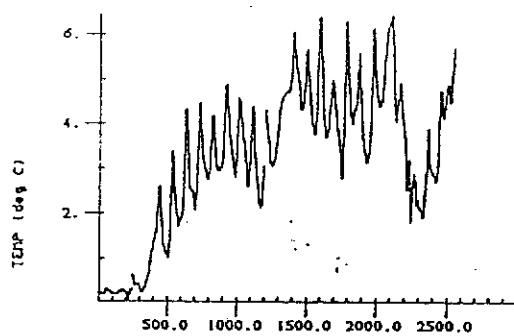
CI5JAN86



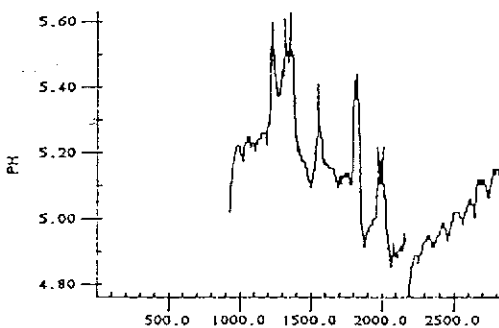
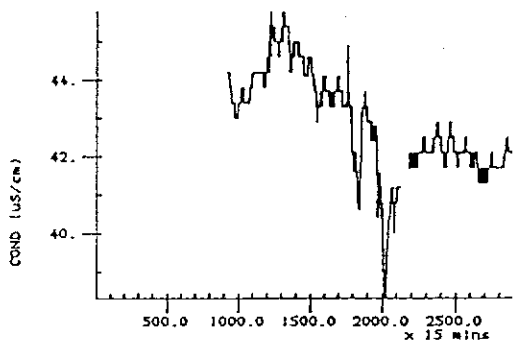
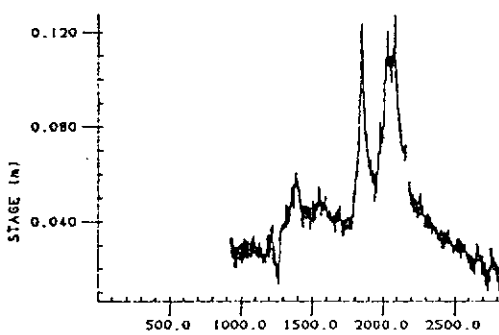
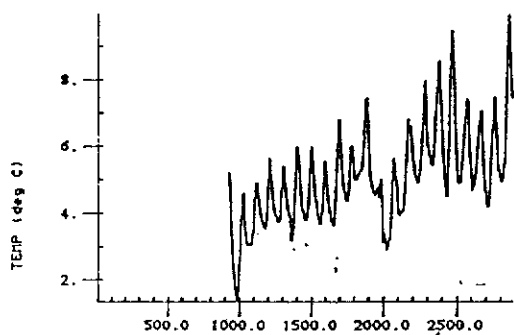
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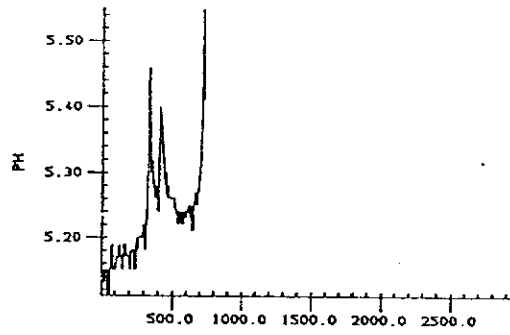
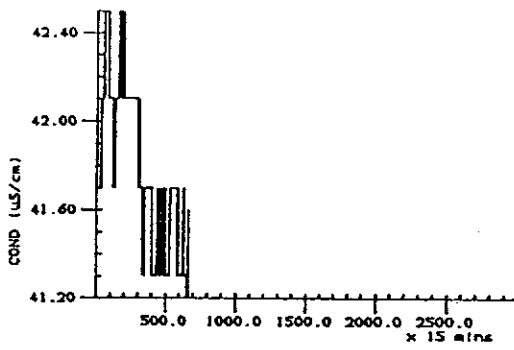
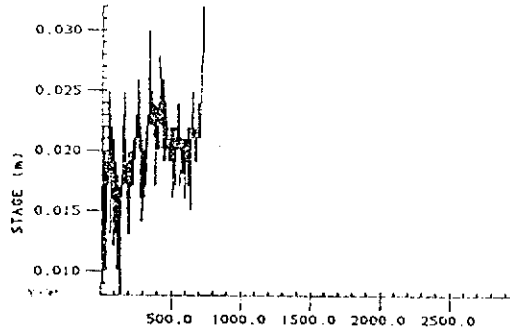
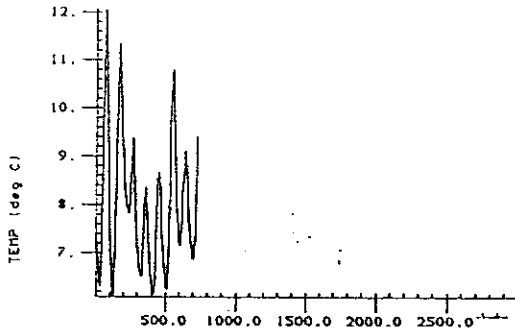
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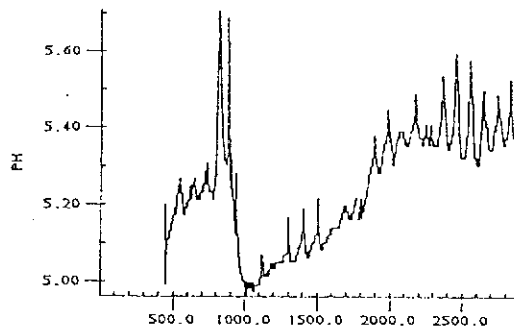
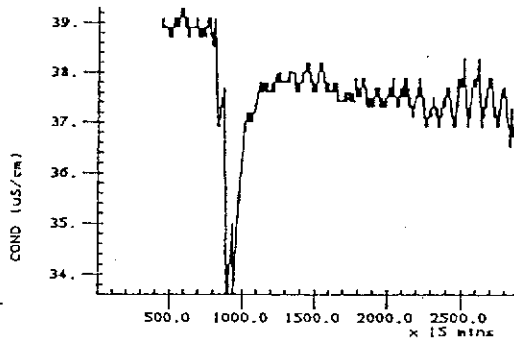
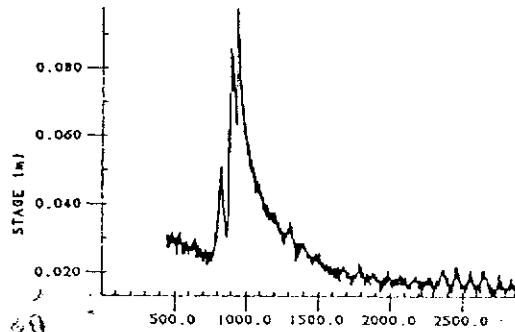
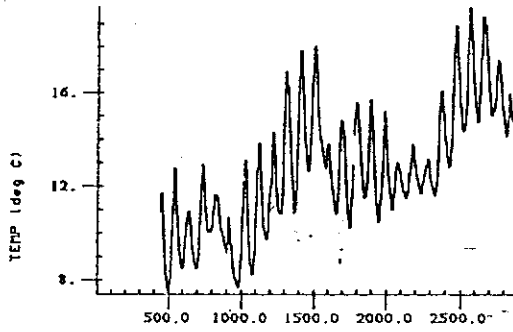
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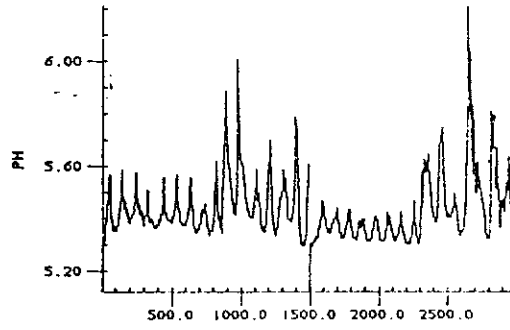
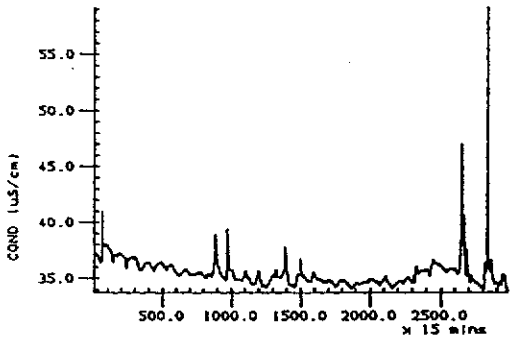
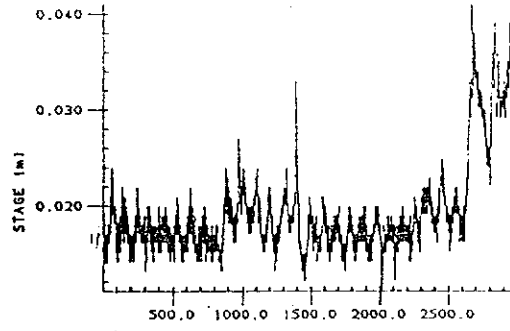
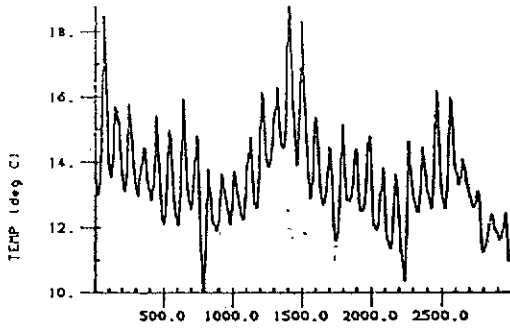
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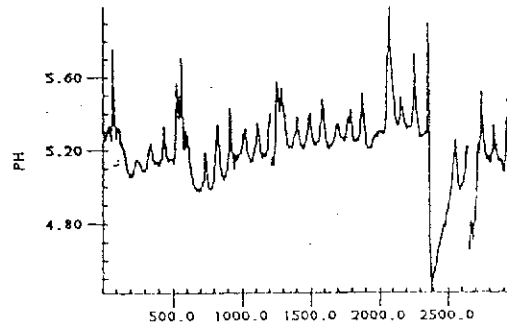
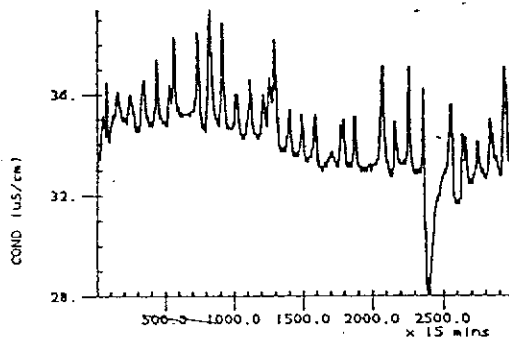
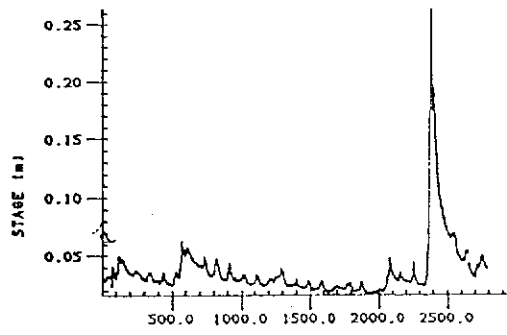
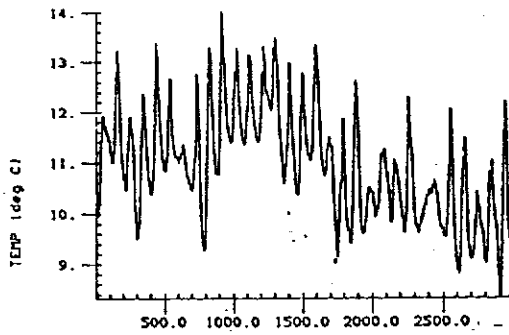
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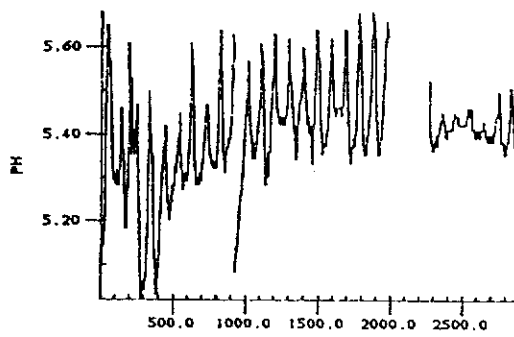
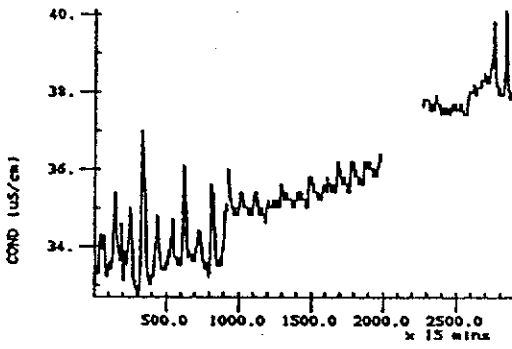
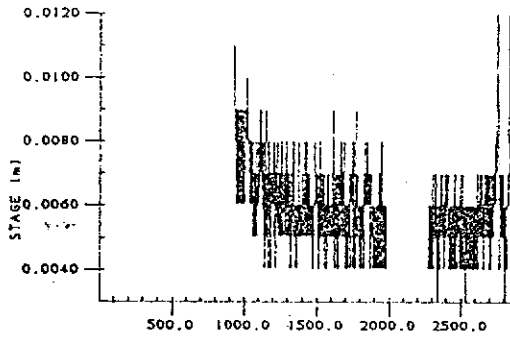
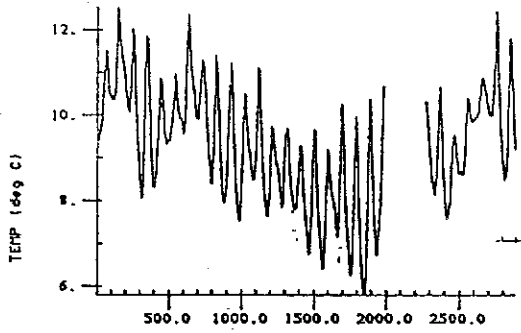
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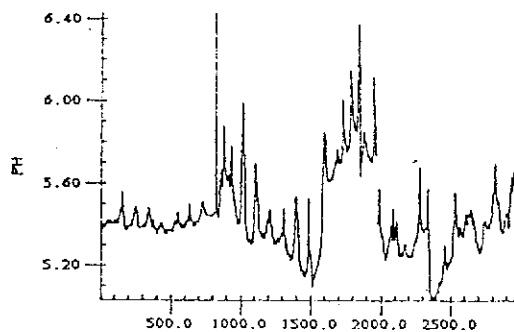
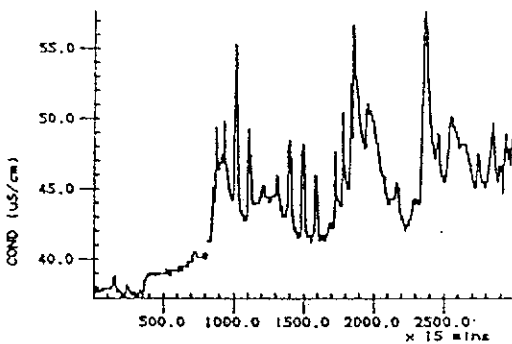
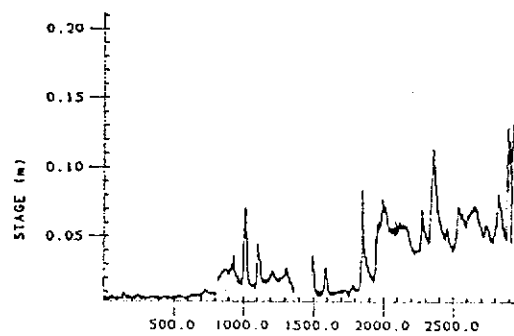
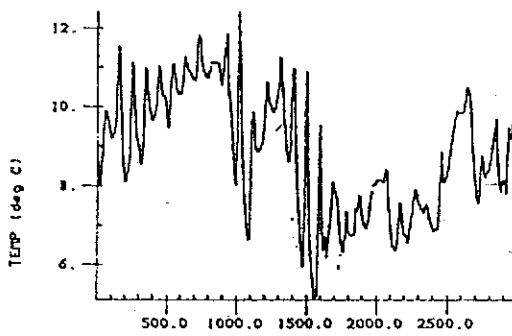
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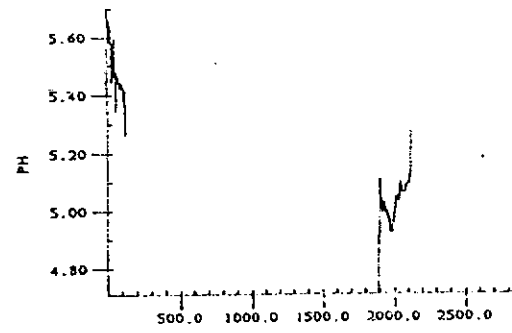
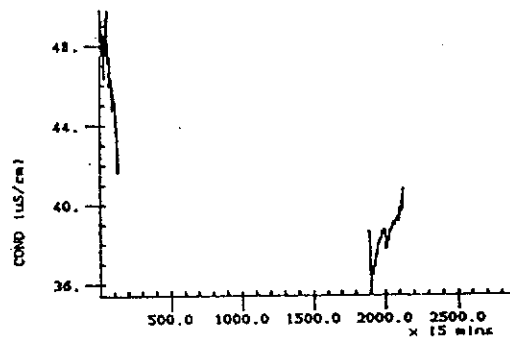
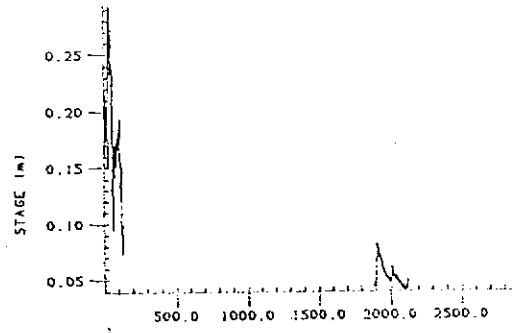
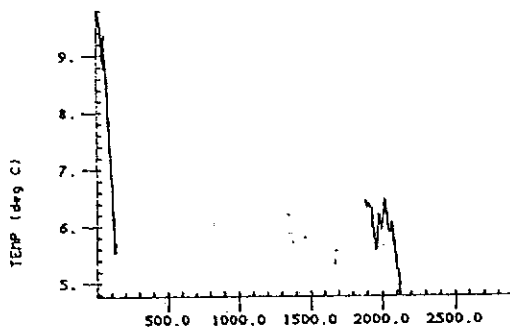
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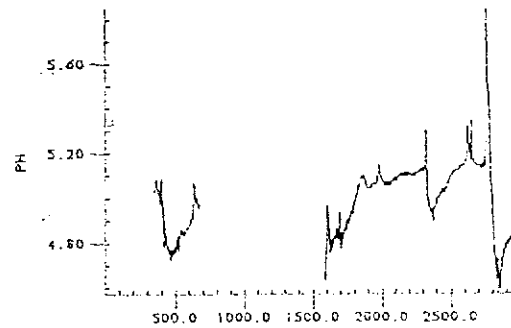
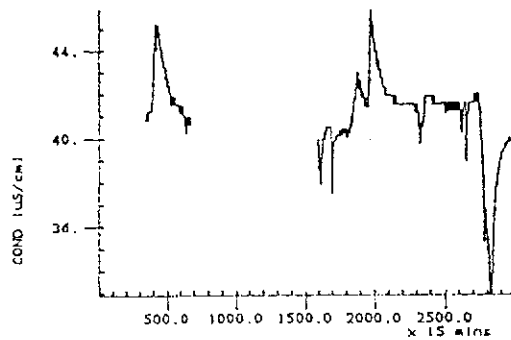
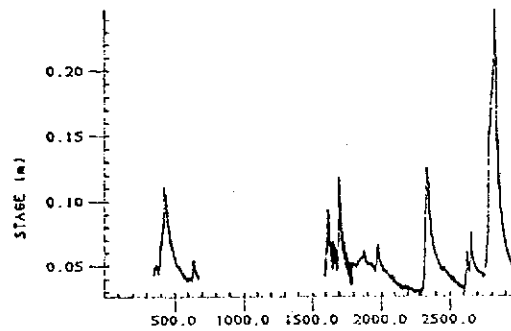
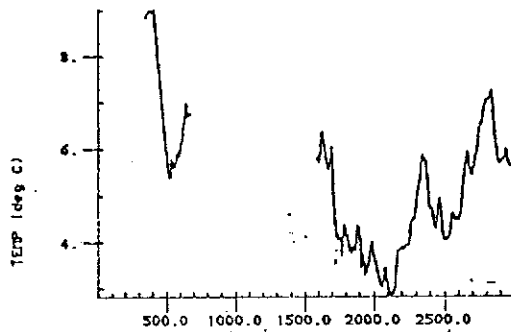
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CI5NOV86

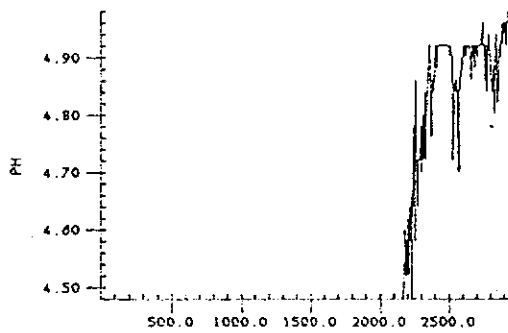
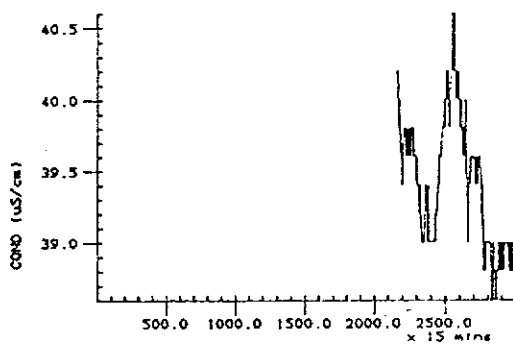
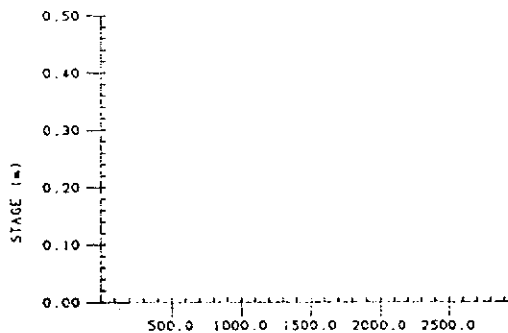
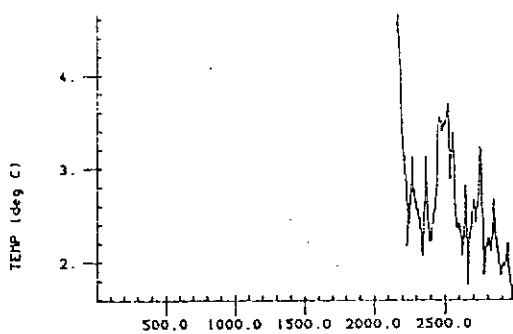


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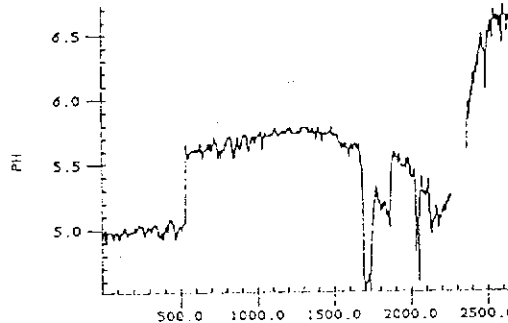
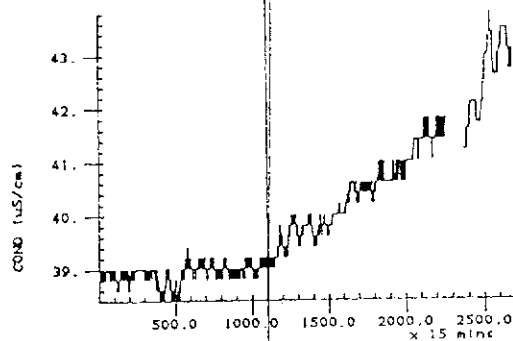
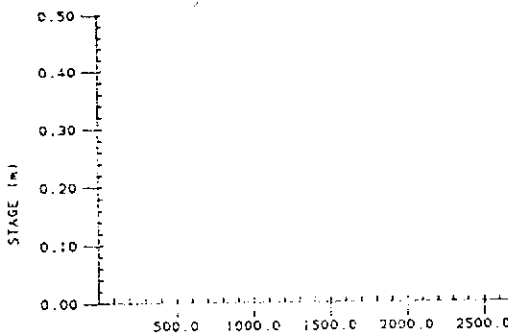
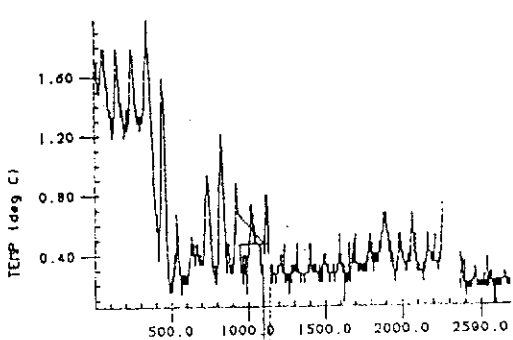




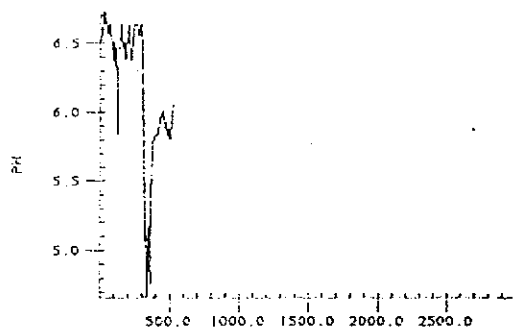
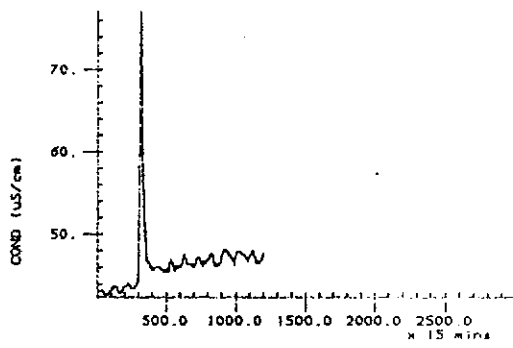
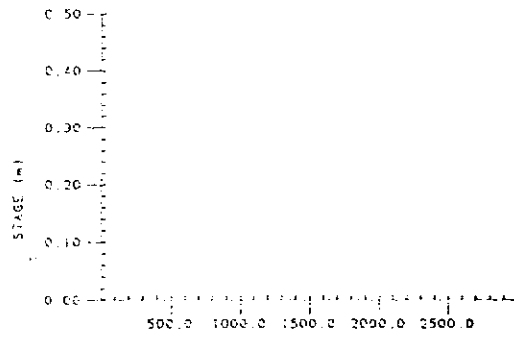
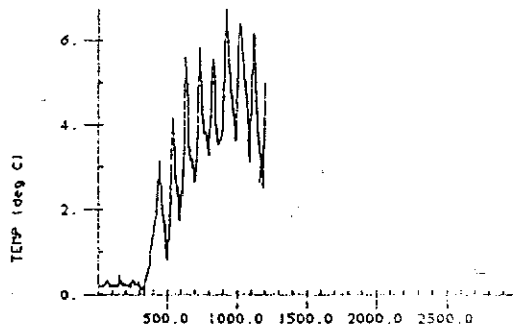
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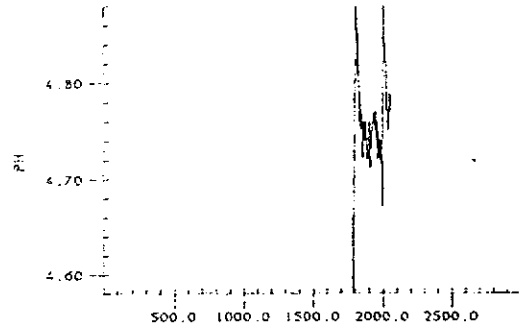
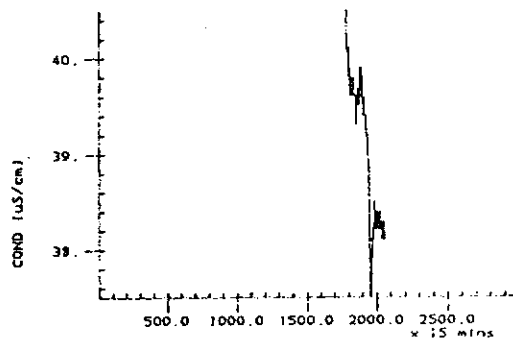
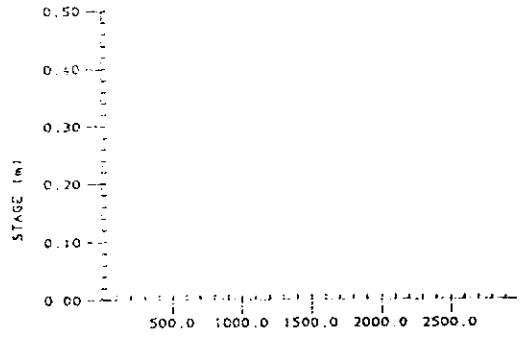
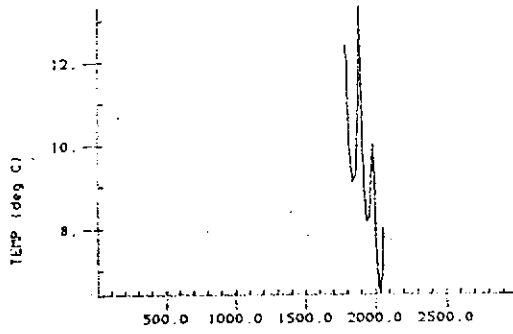
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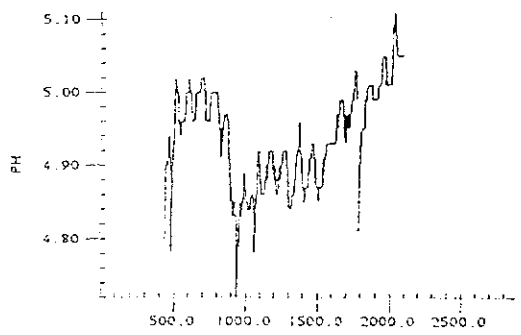
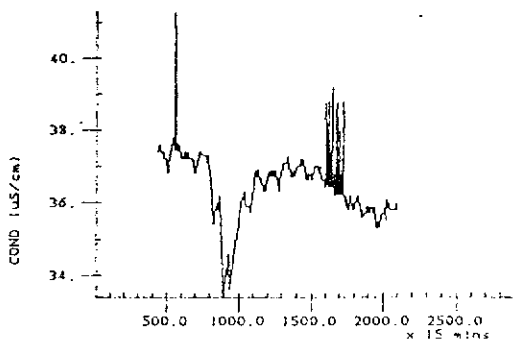
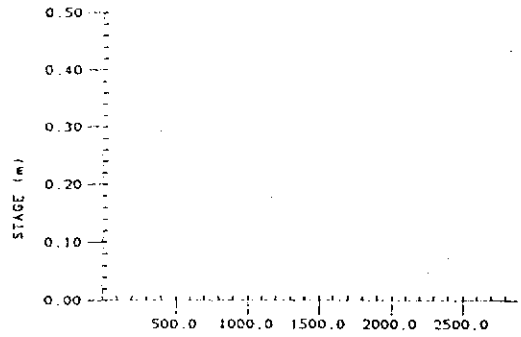
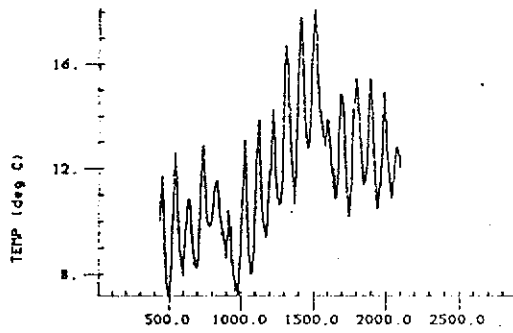
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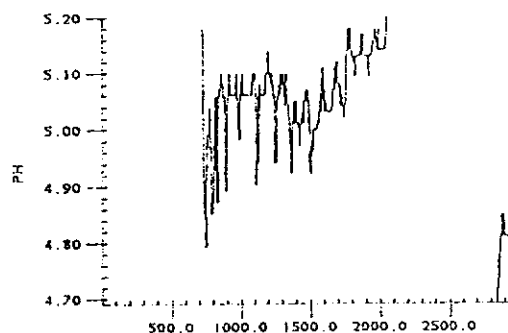
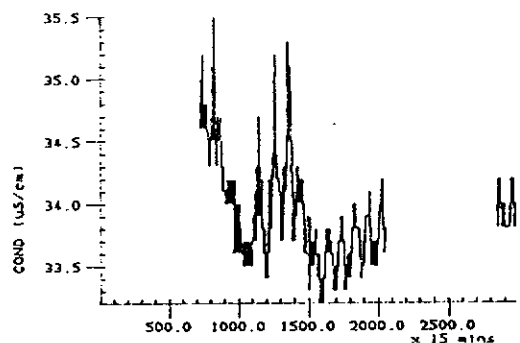
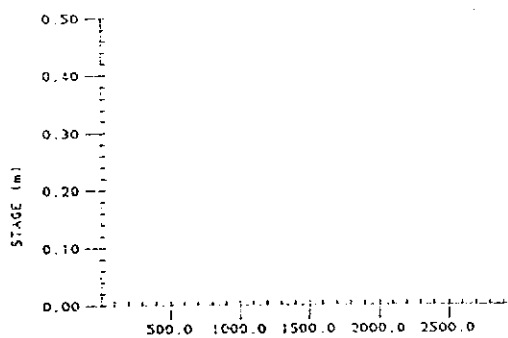
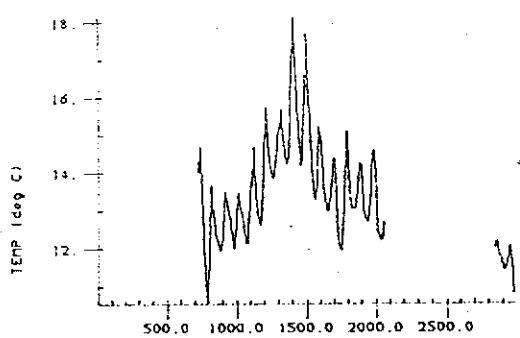
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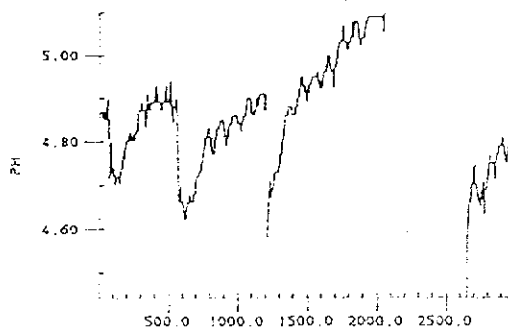
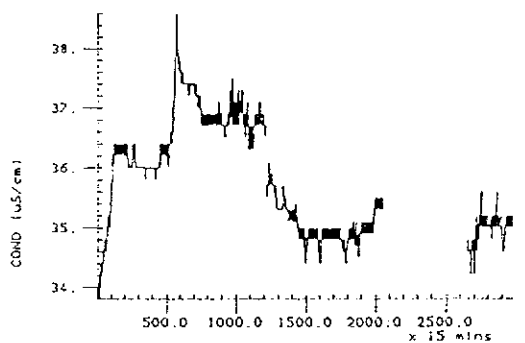
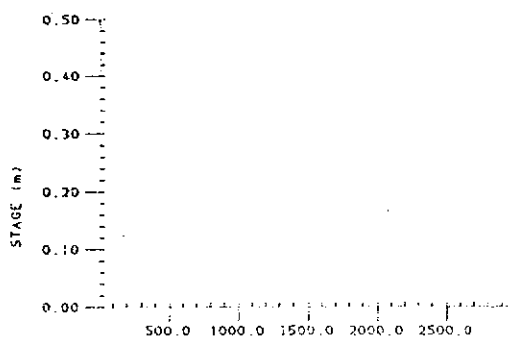
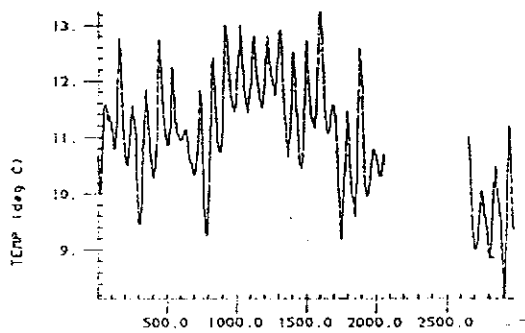
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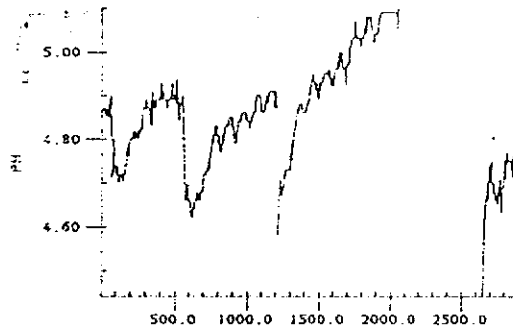
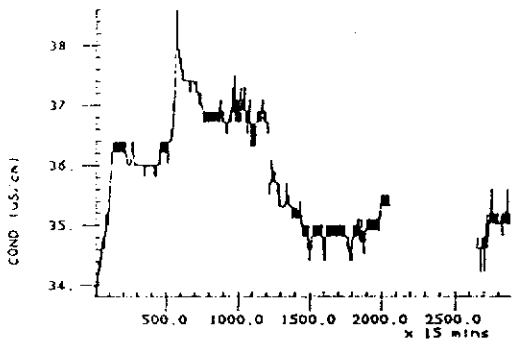
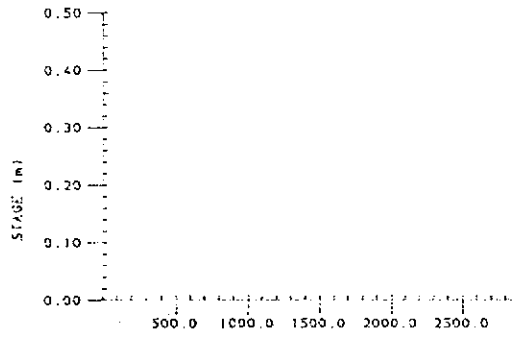
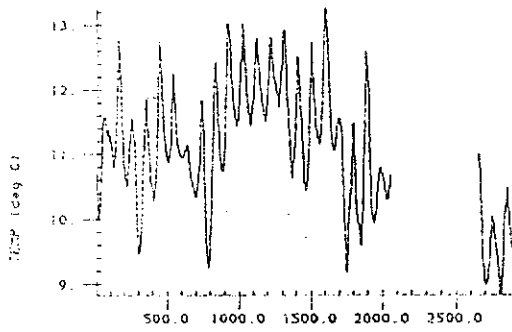
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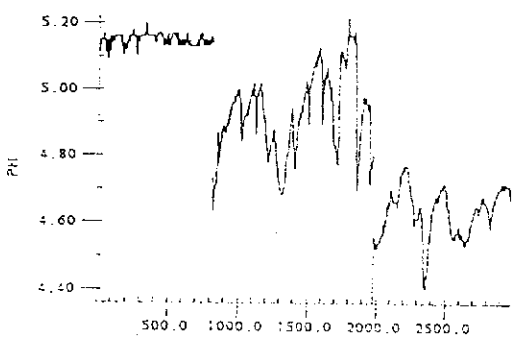
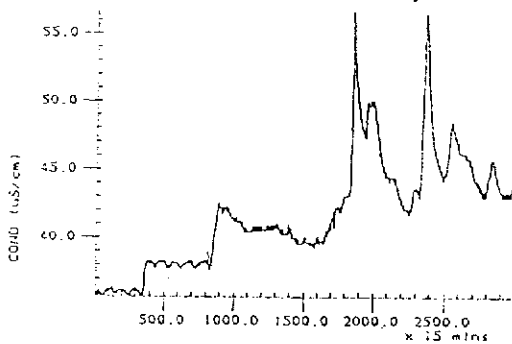
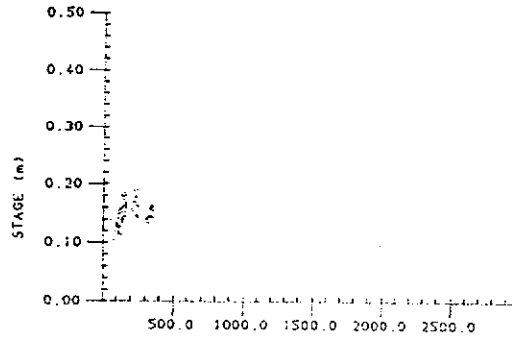
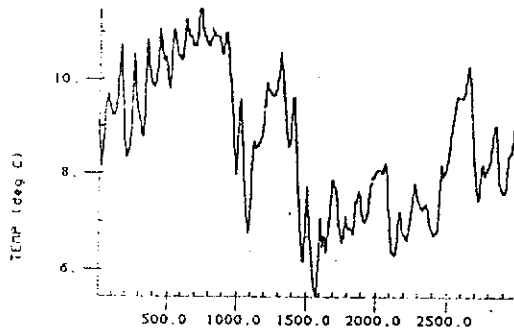
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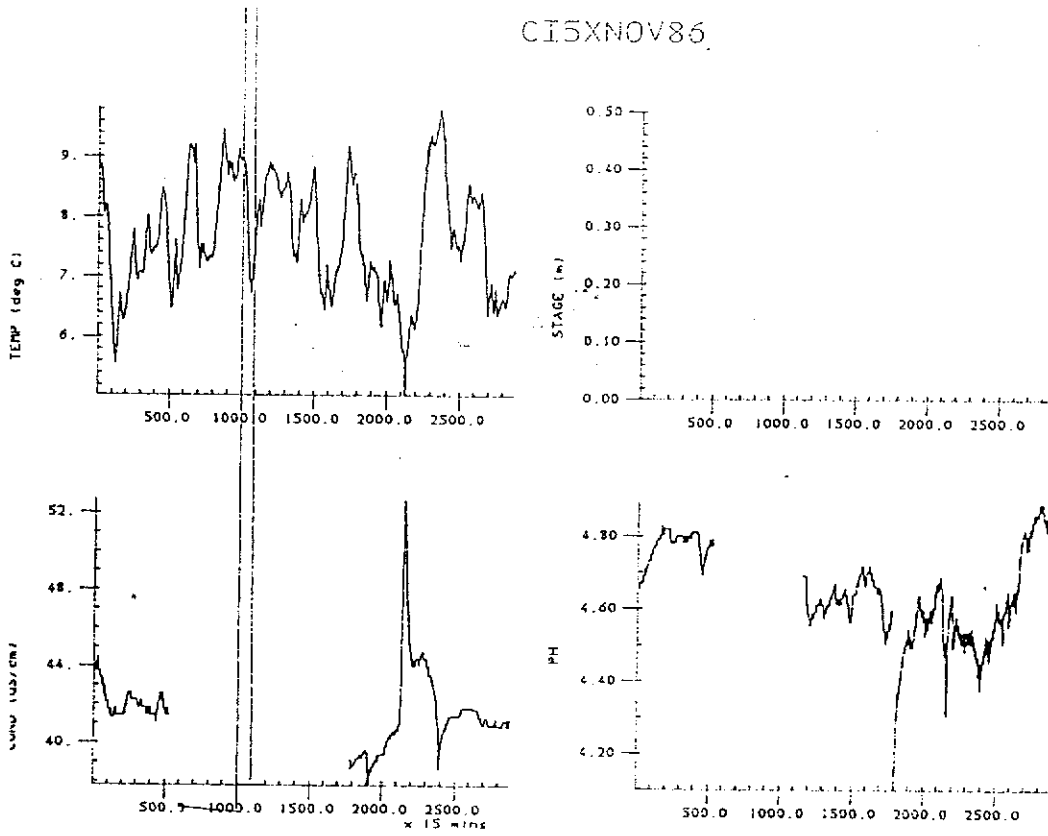
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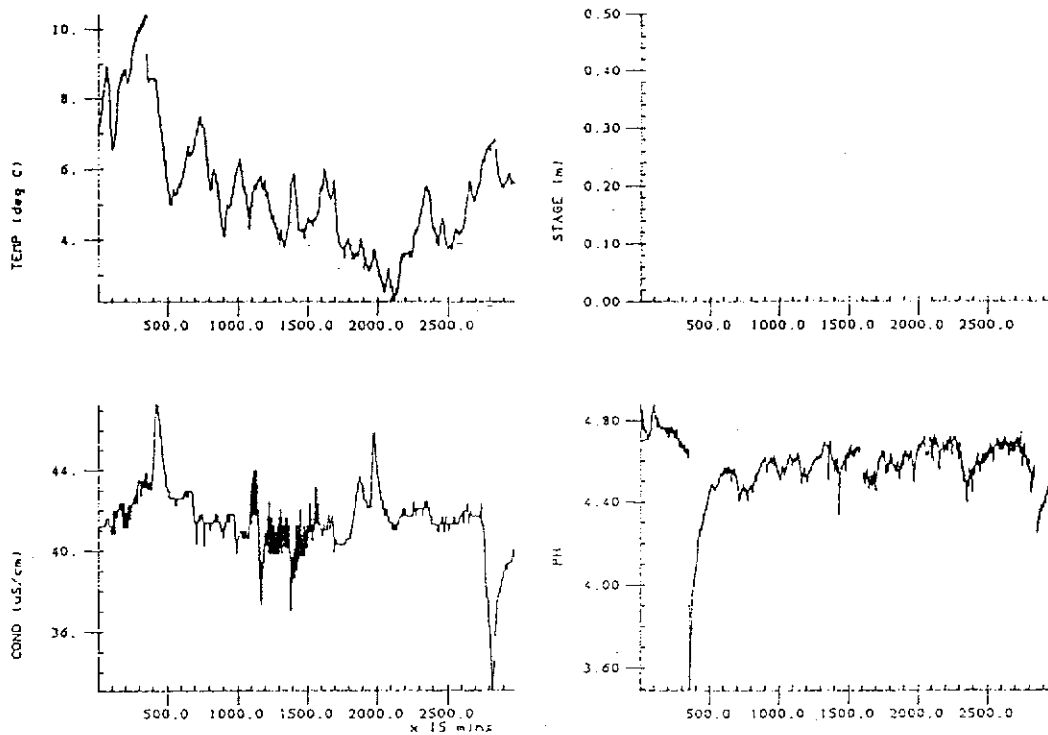
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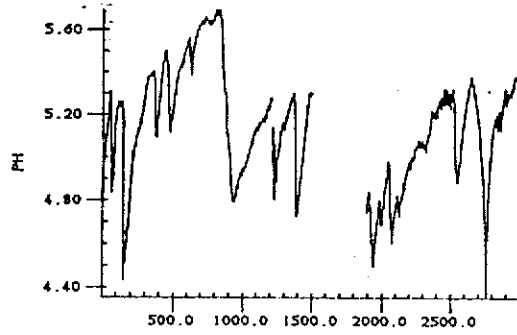
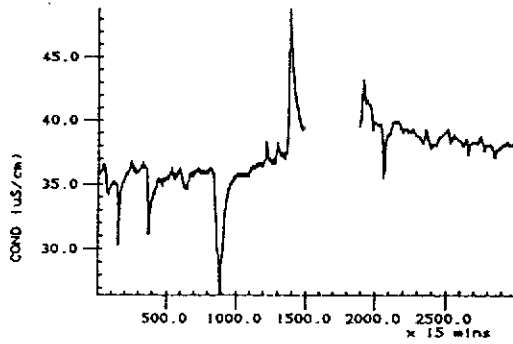
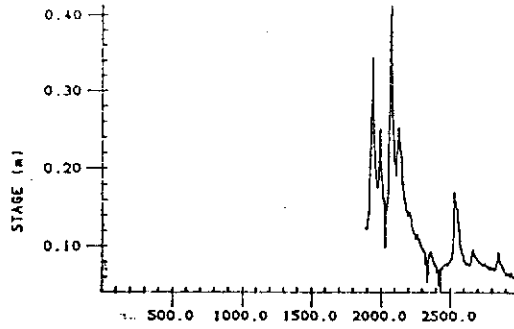
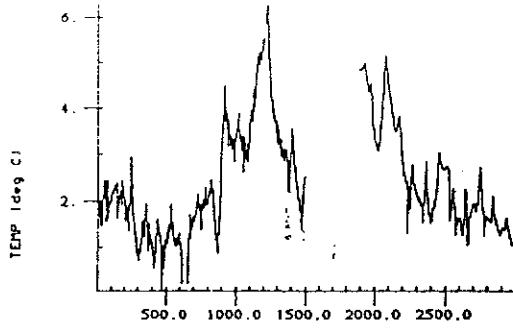
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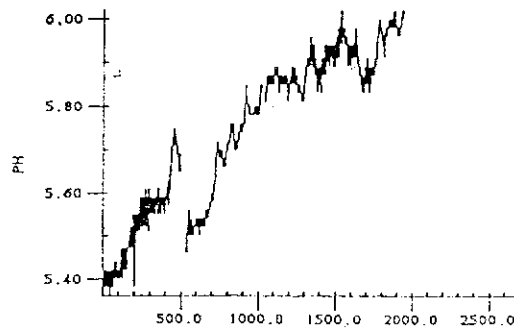
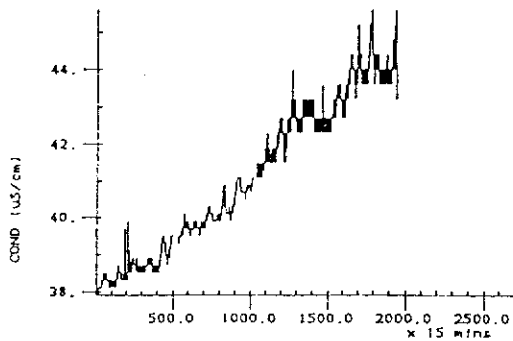
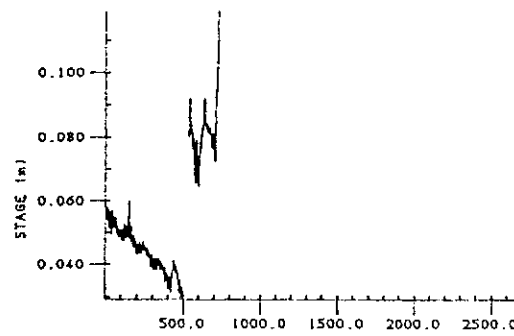
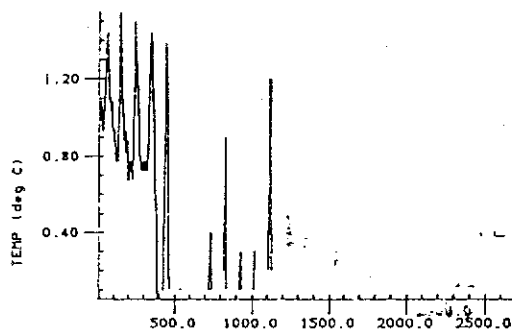
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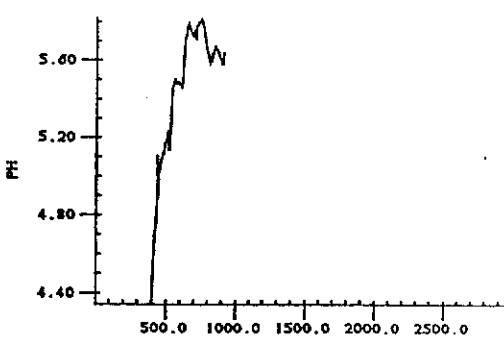
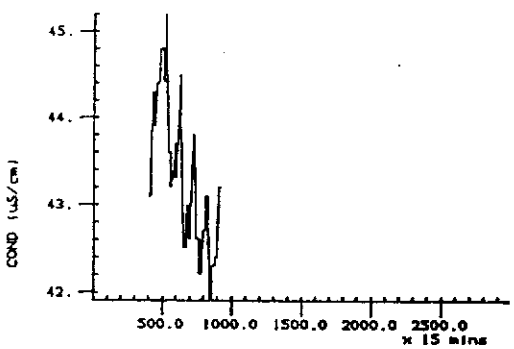
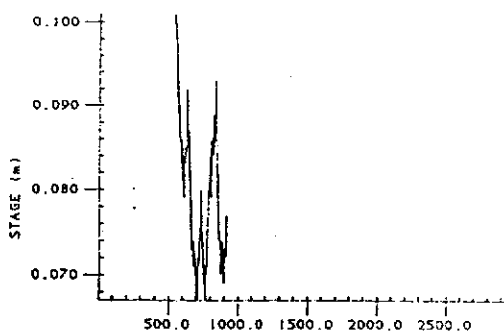
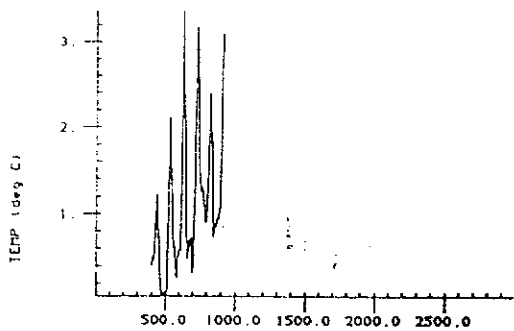
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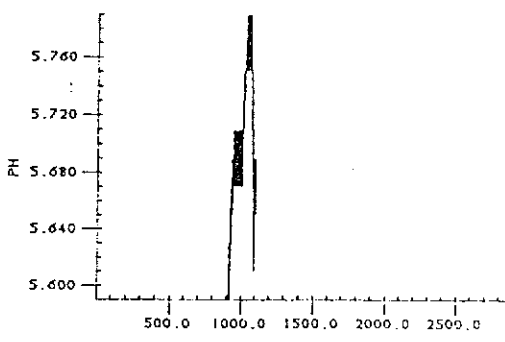
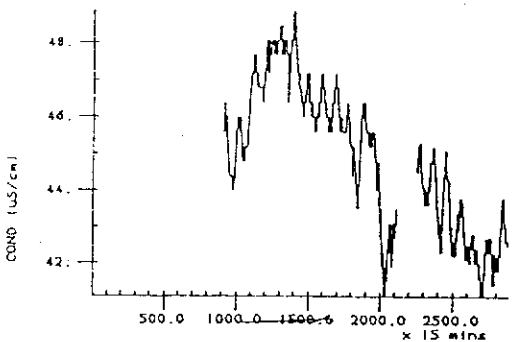
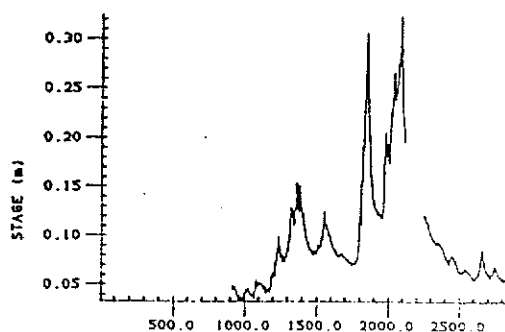
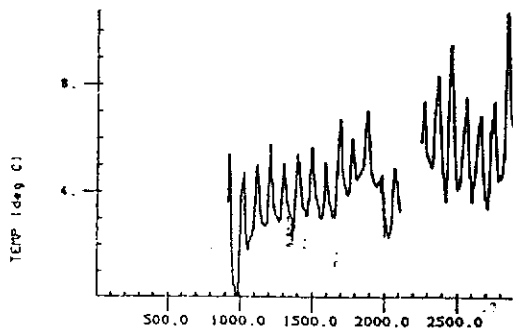
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CI6MAR86

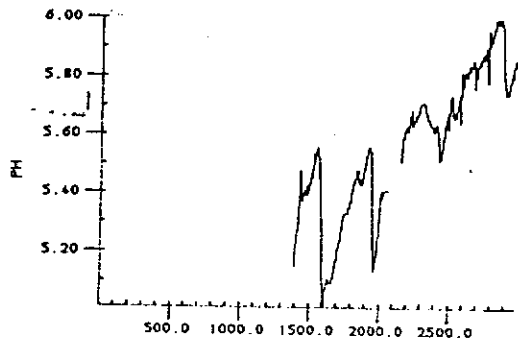
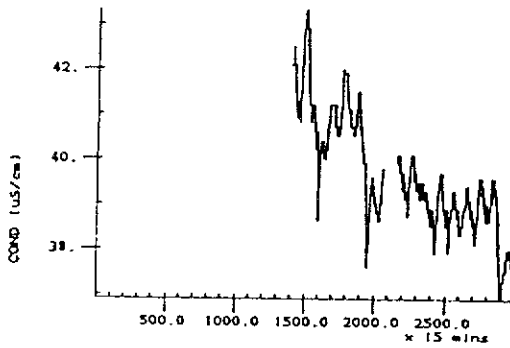
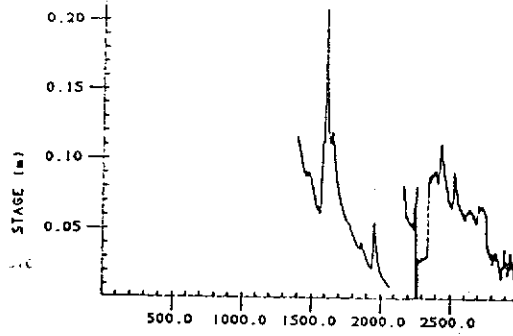
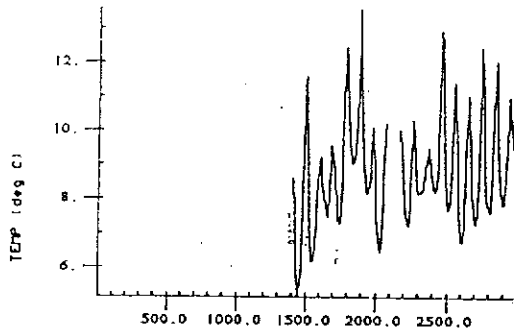


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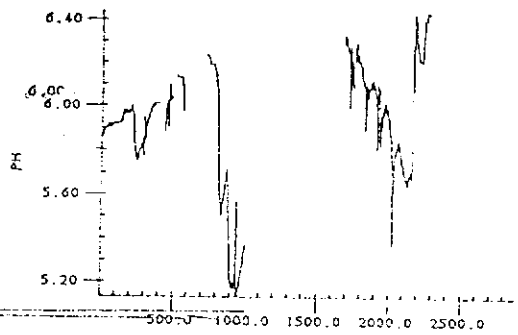
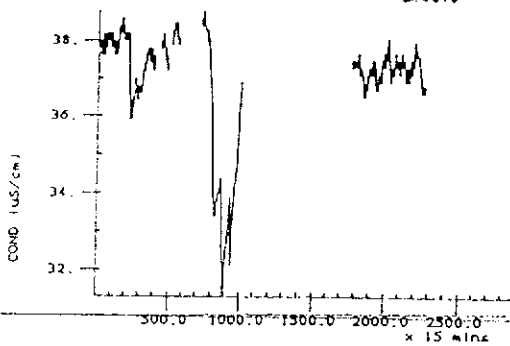
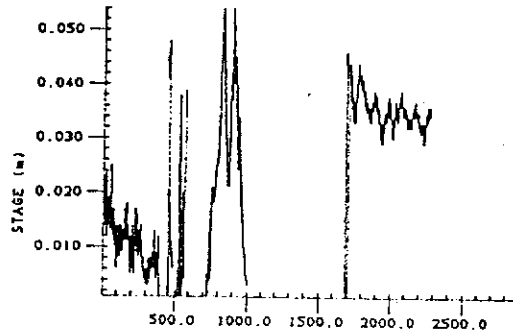
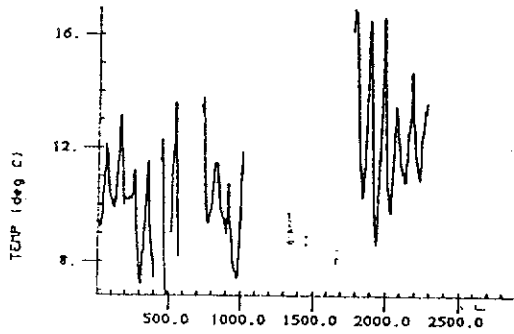




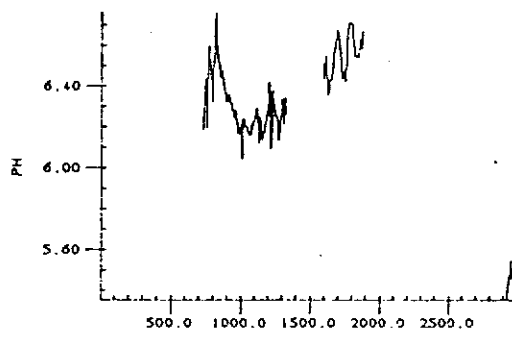
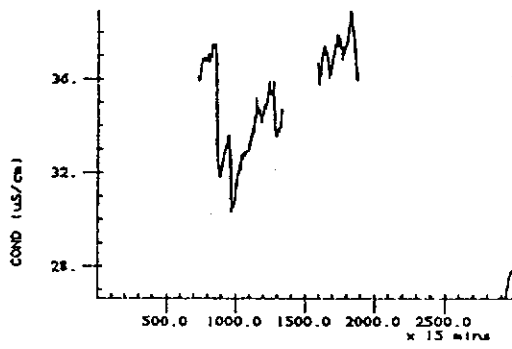
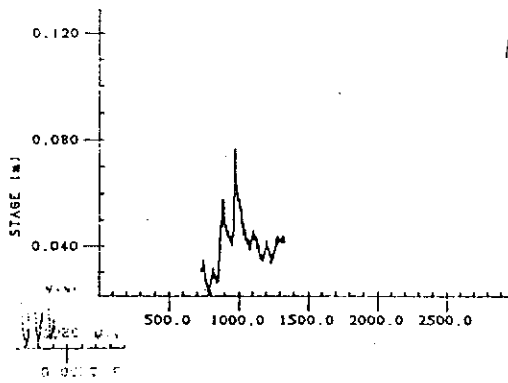
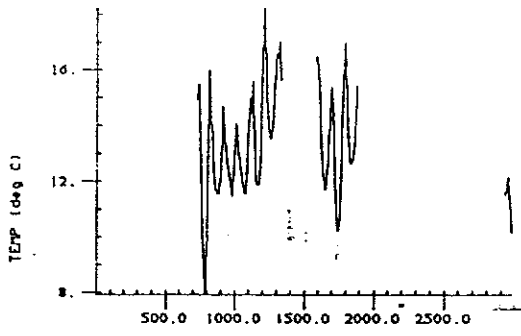
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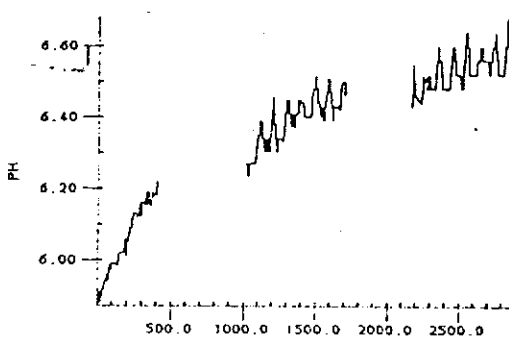
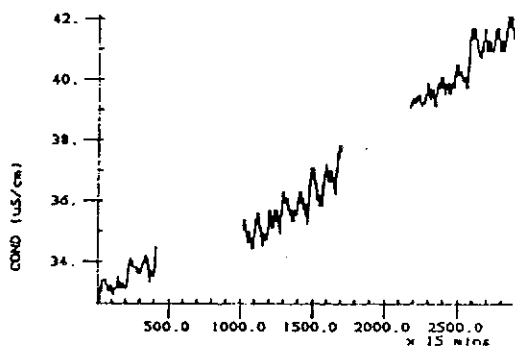
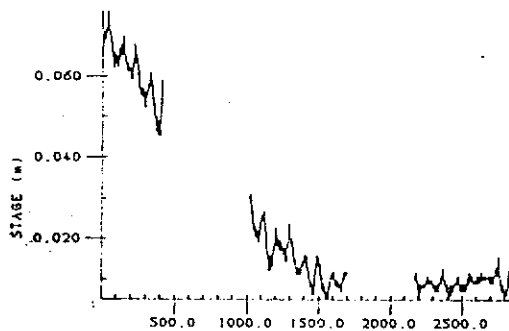
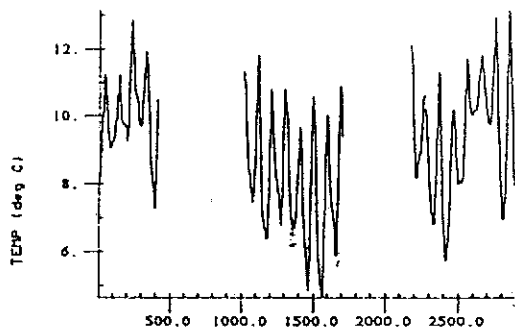
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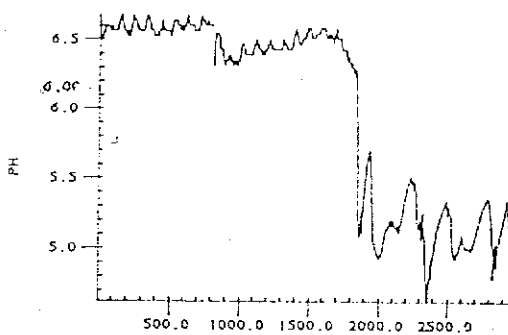
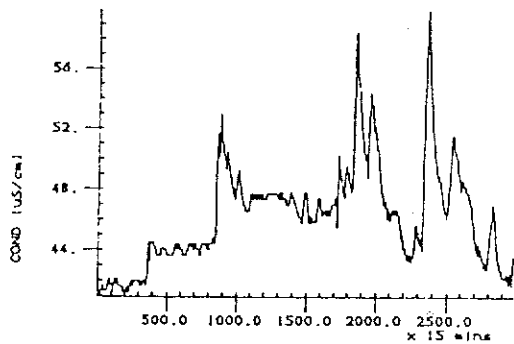
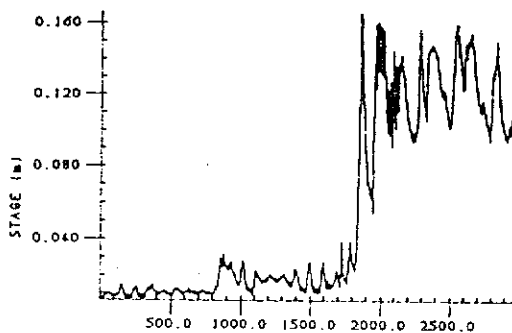
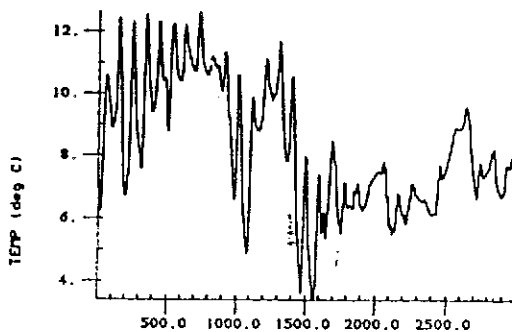
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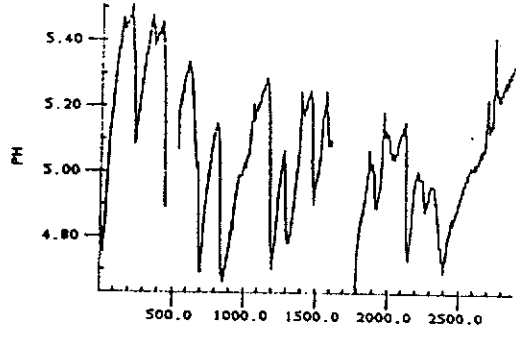
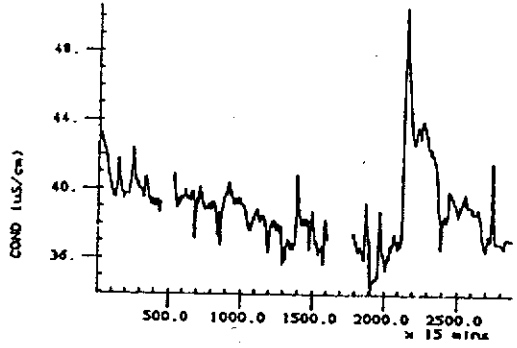
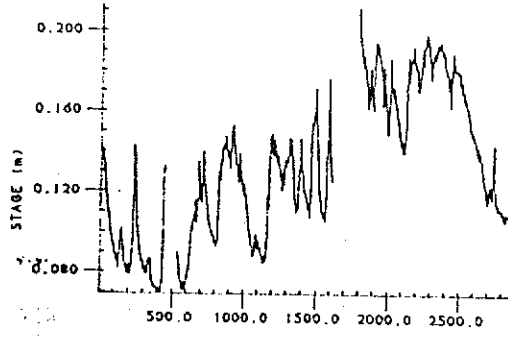
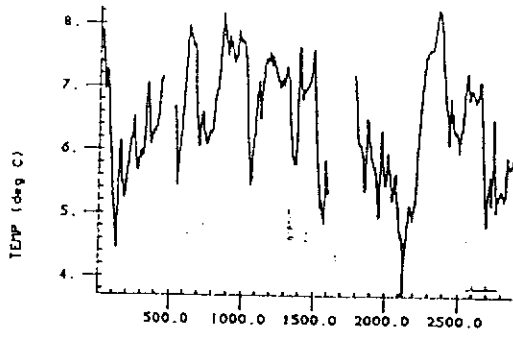
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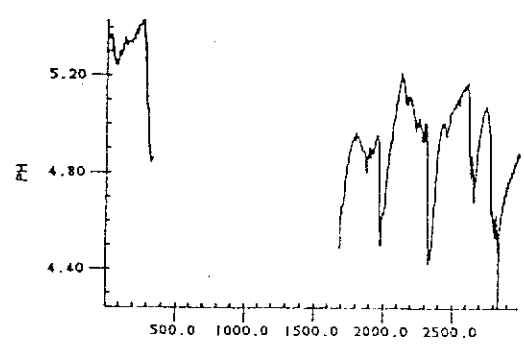
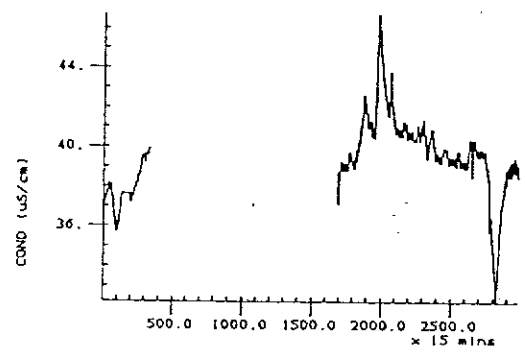
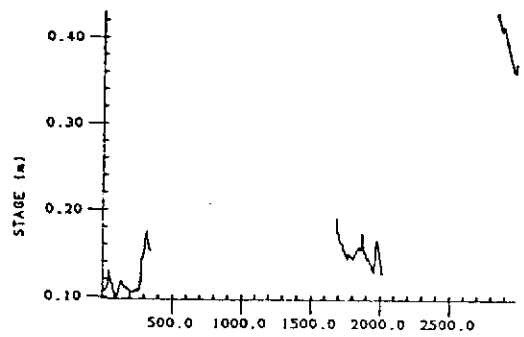
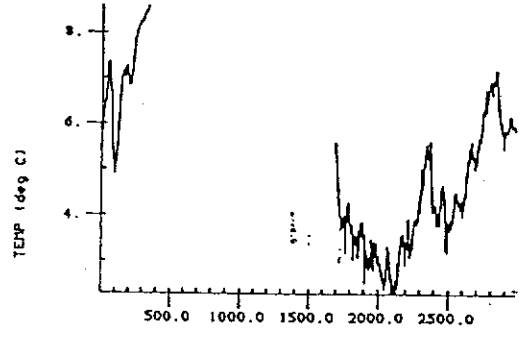
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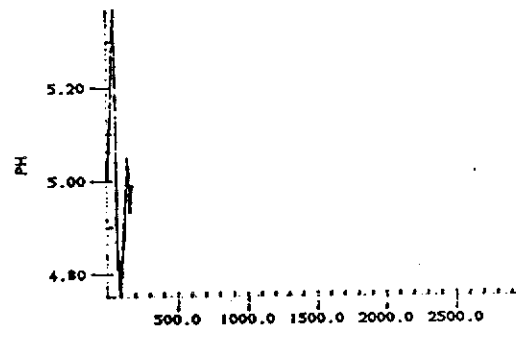
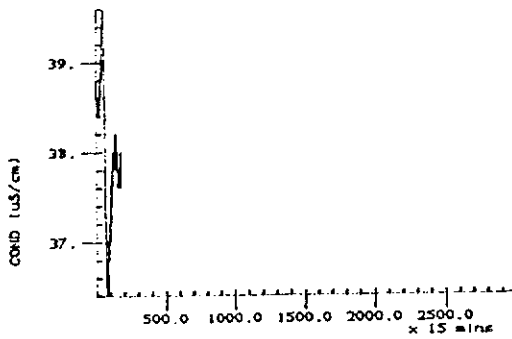
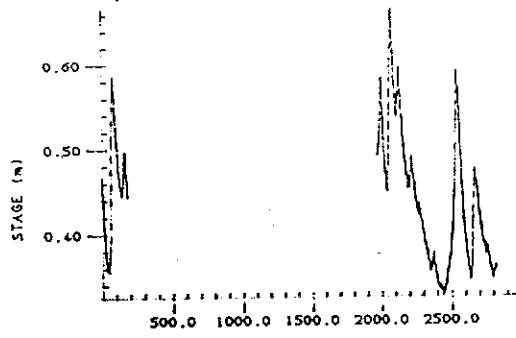
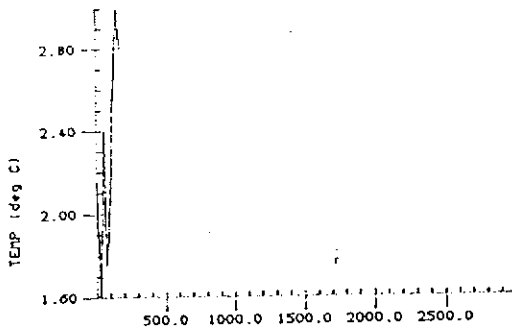
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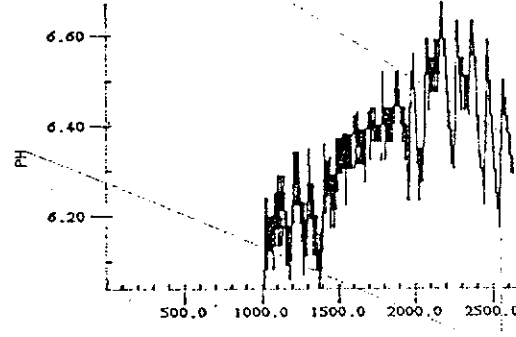
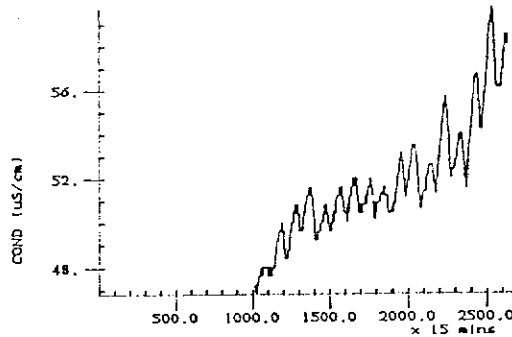
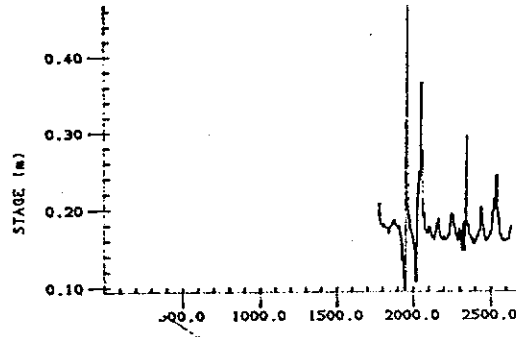
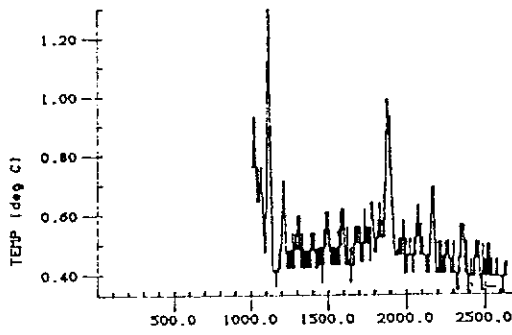
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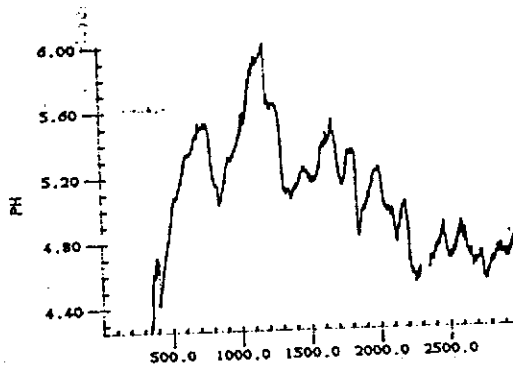
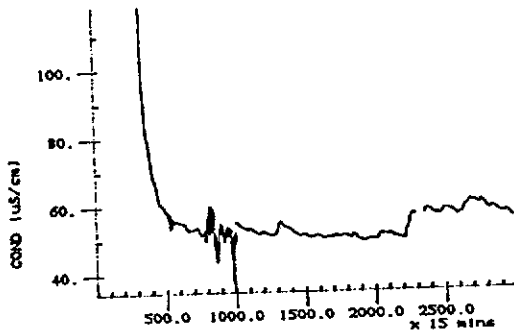
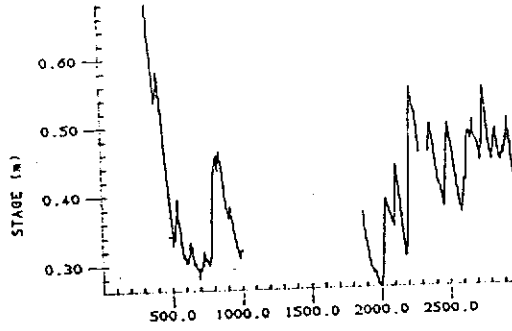
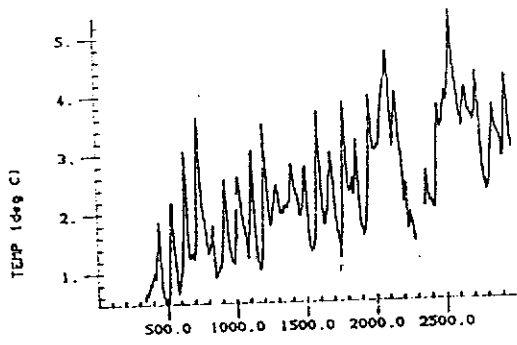
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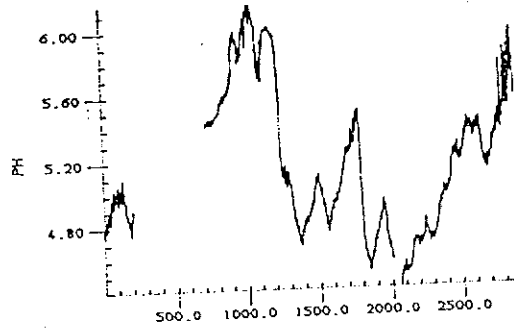
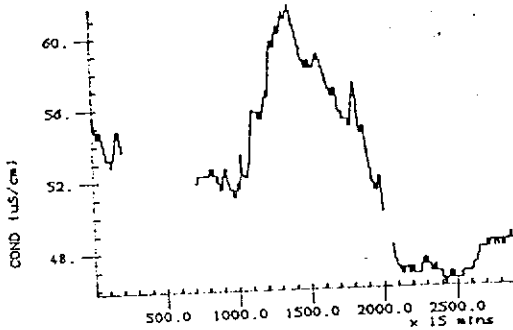
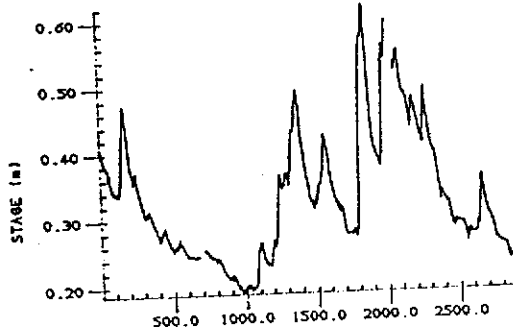
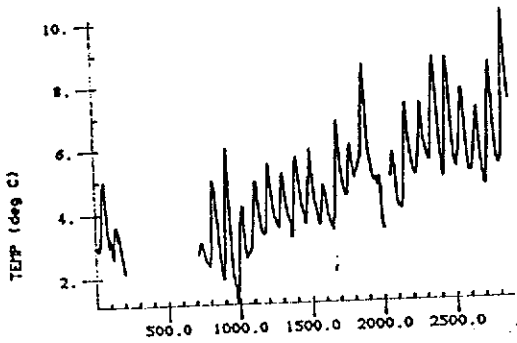
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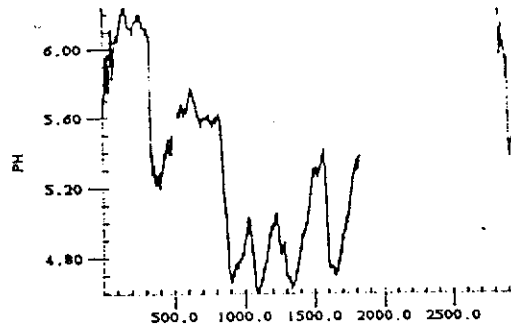
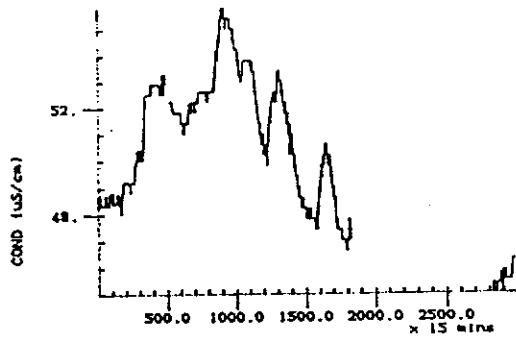
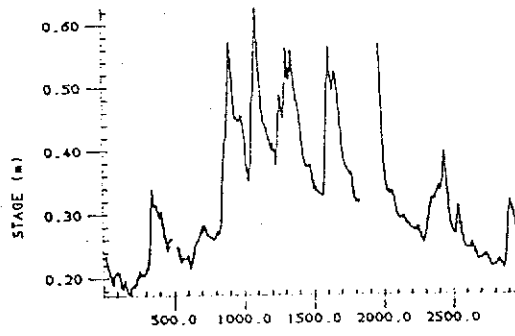
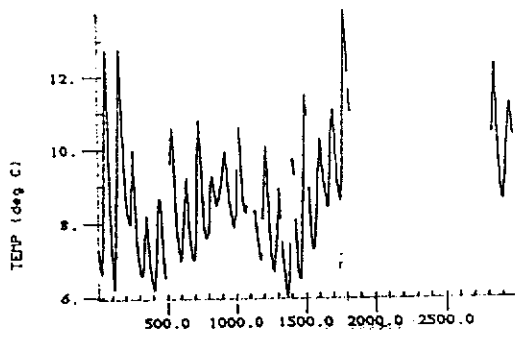
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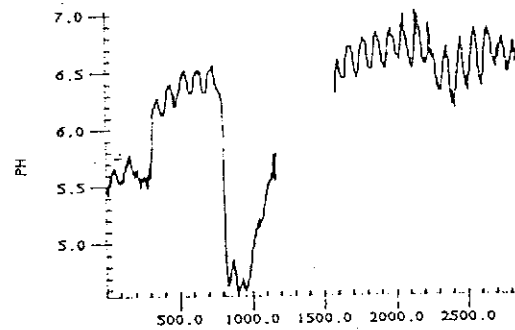
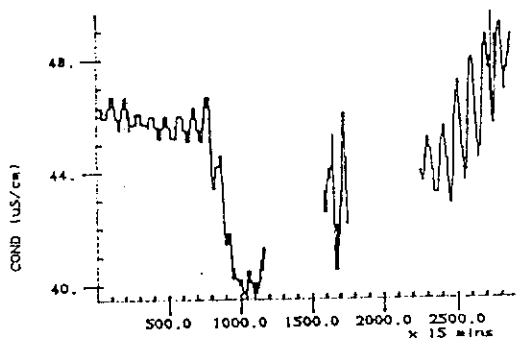
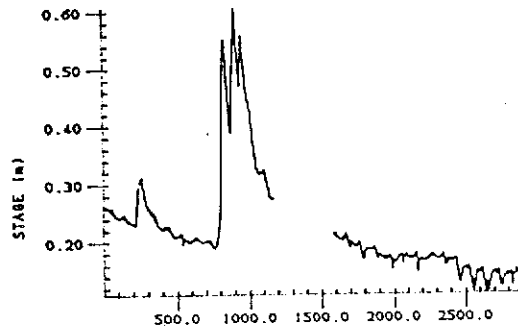
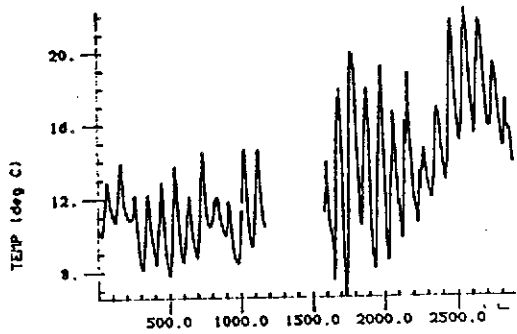
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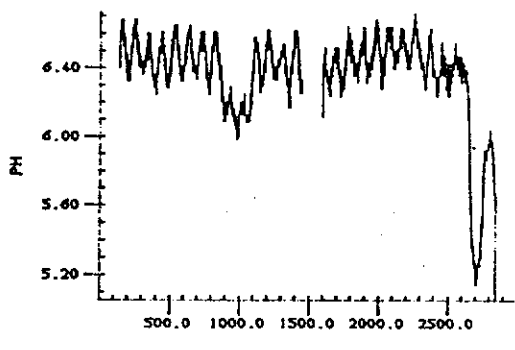
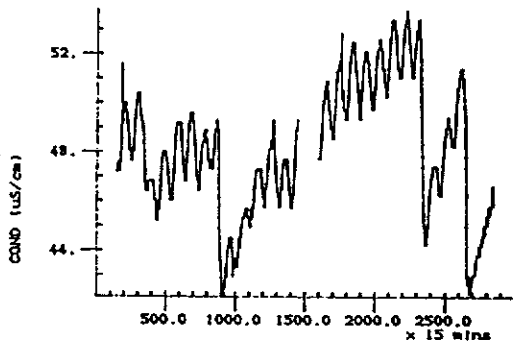
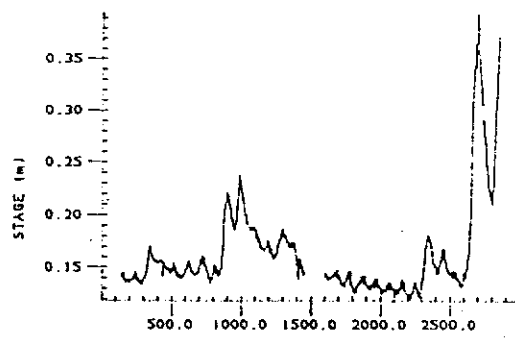
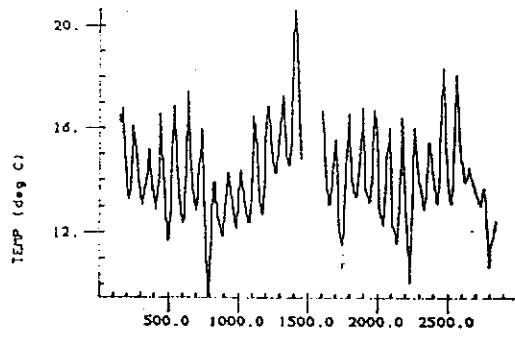
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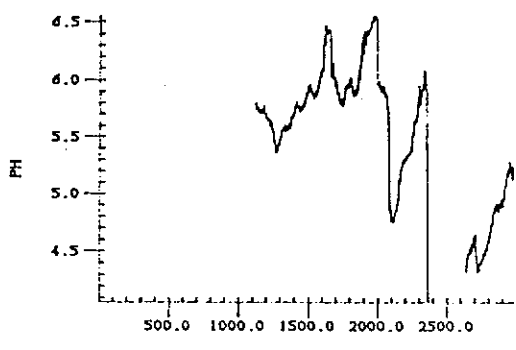
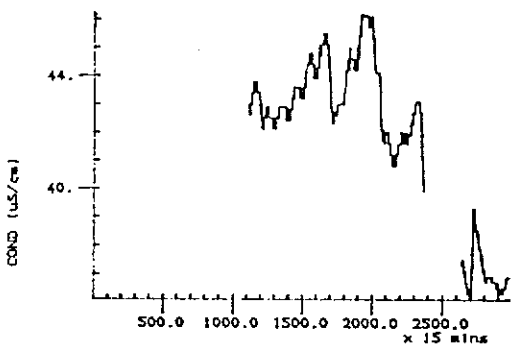
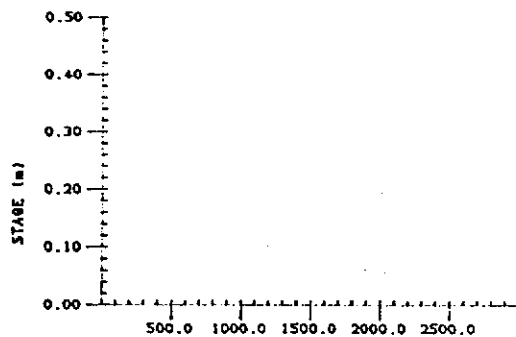
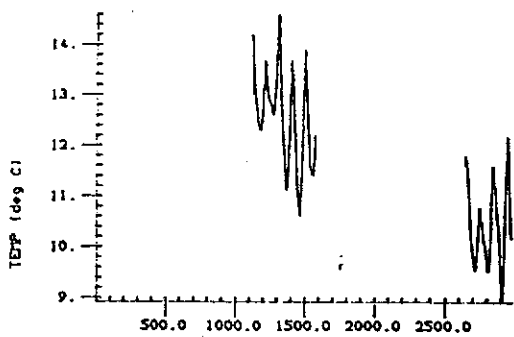
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UC4JUL86

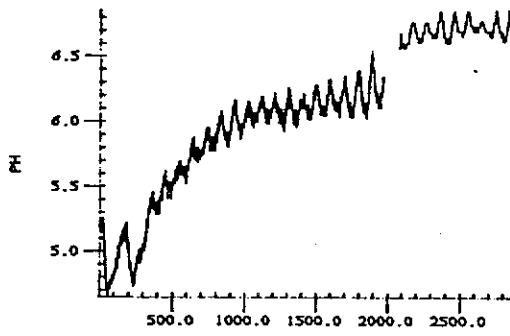
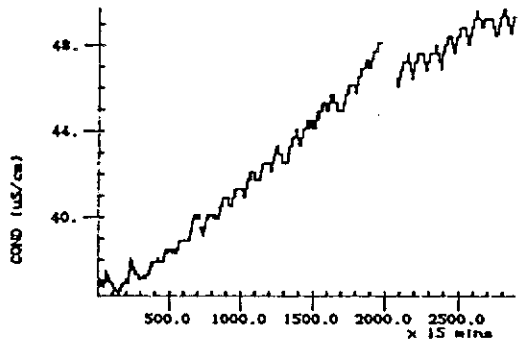
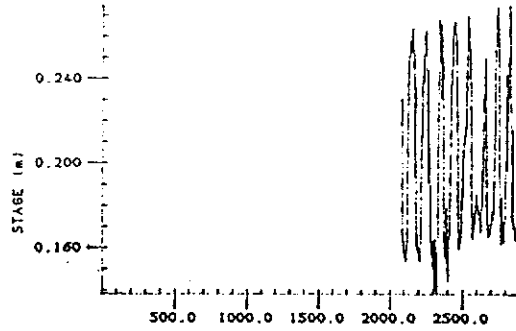
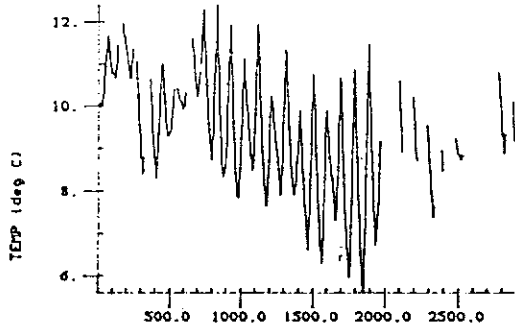


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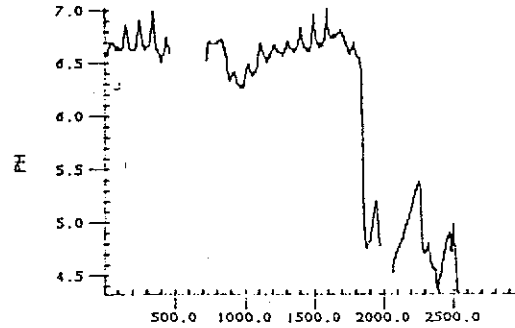
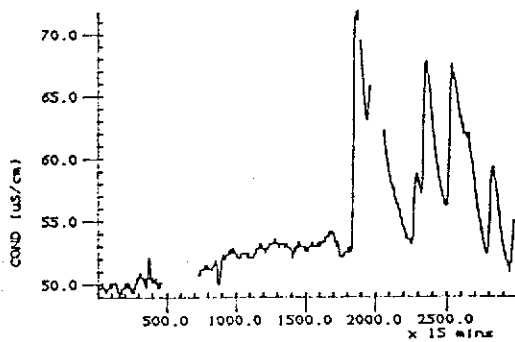
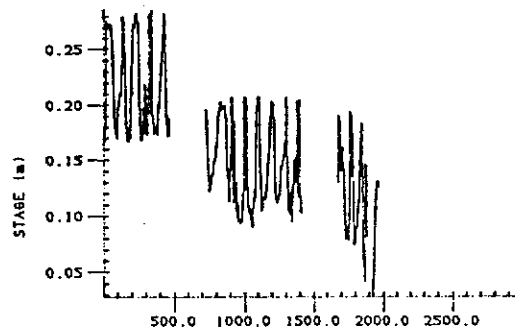
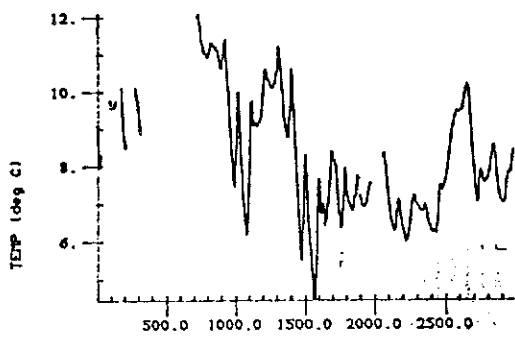




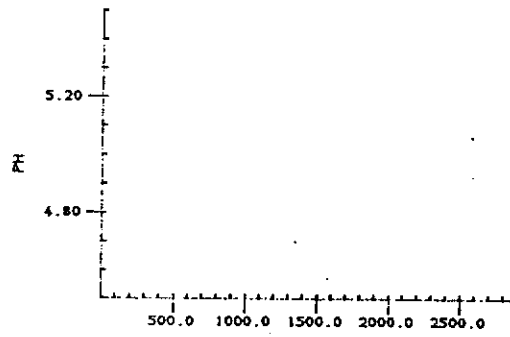
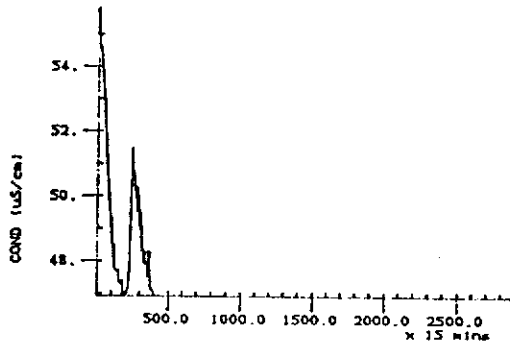
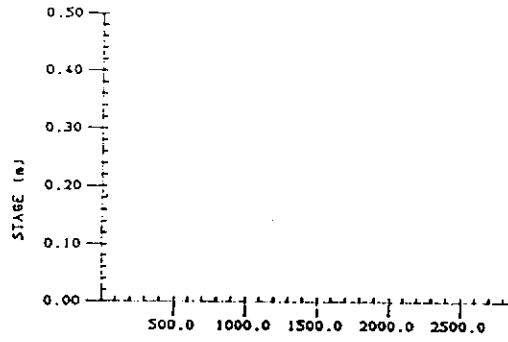
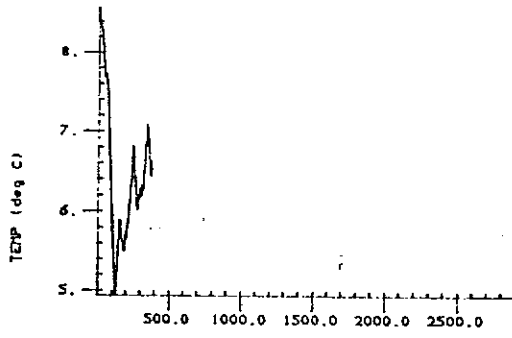
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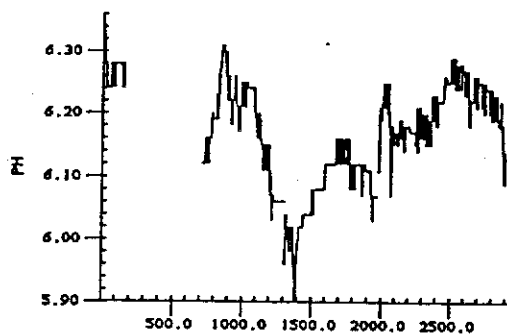
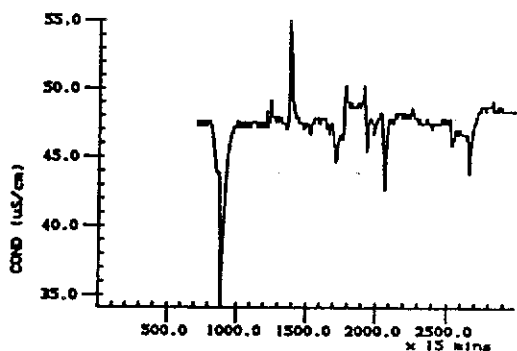
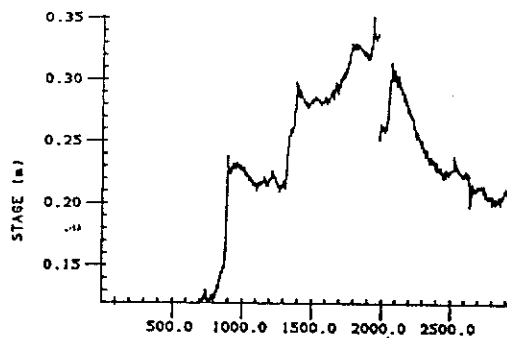
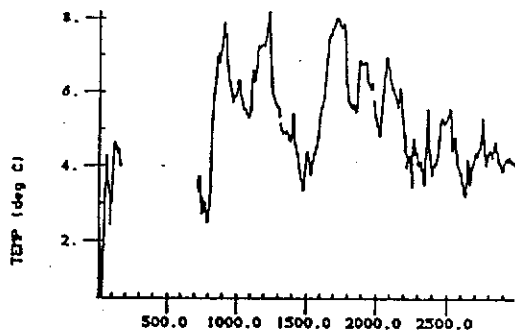
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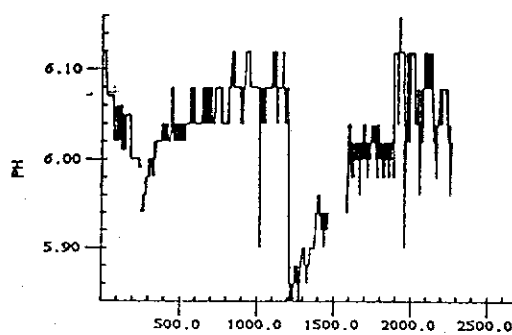
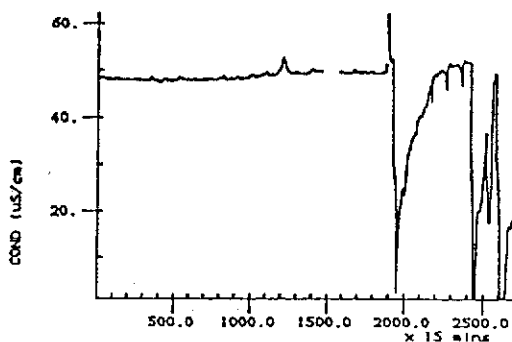
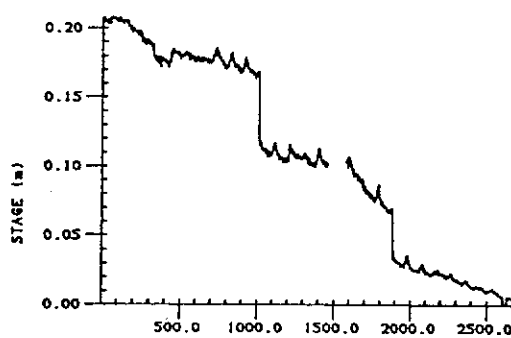
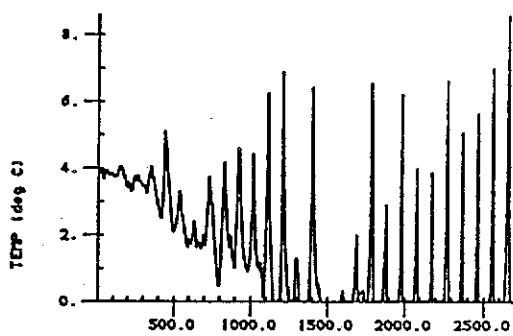
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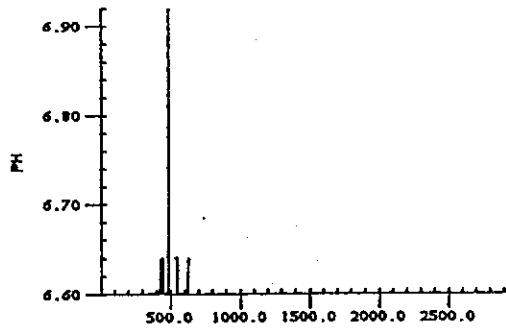
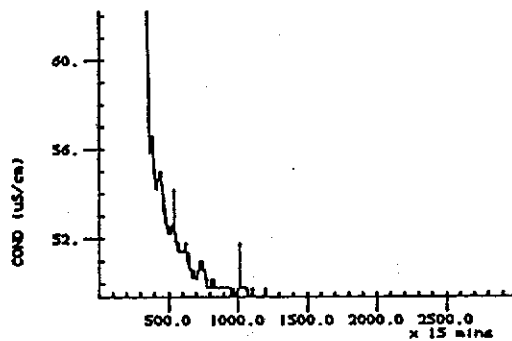
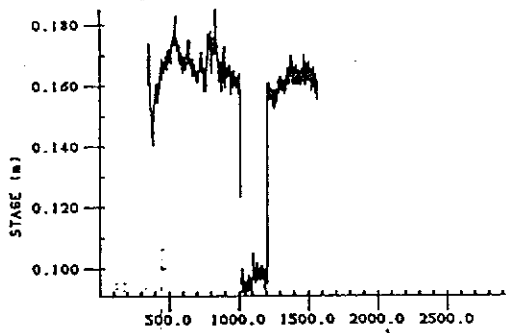
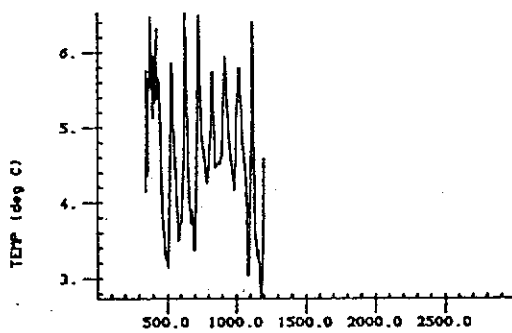
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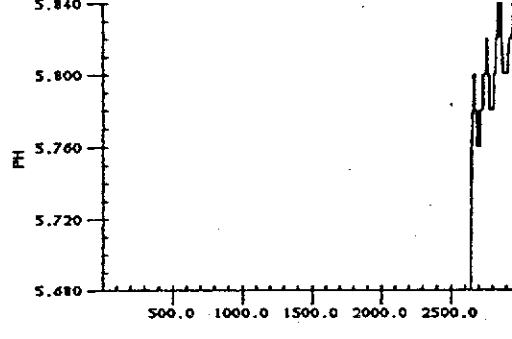
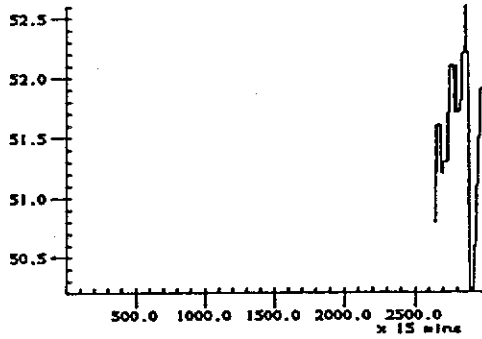
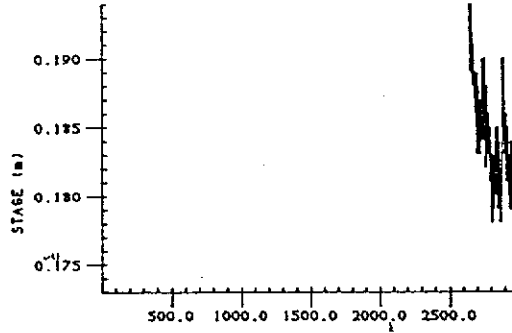
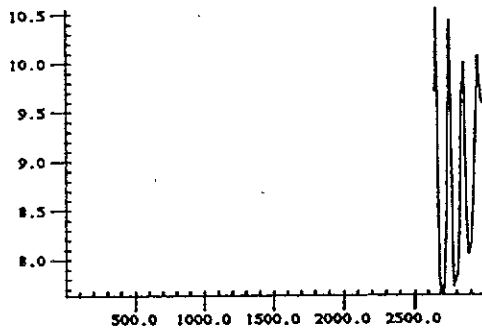
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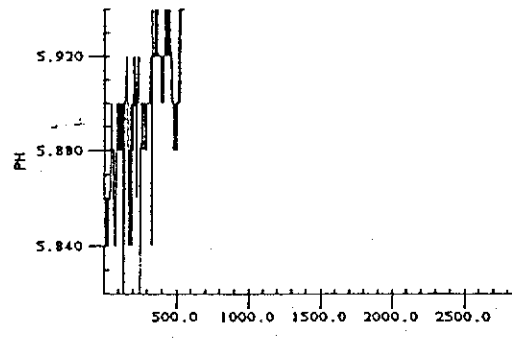
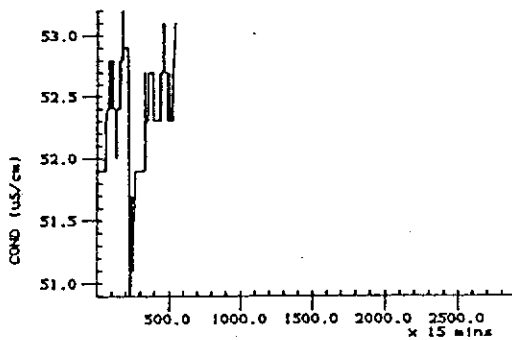
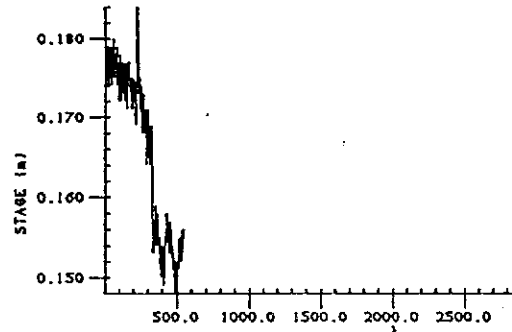
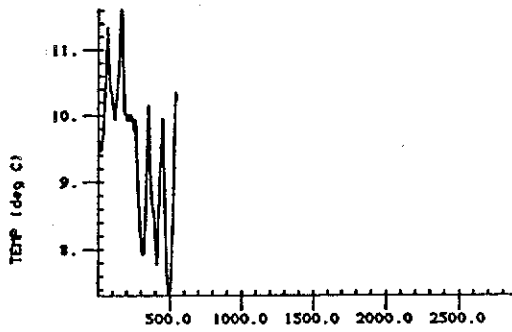
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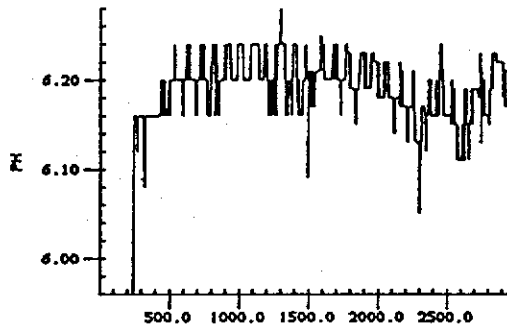
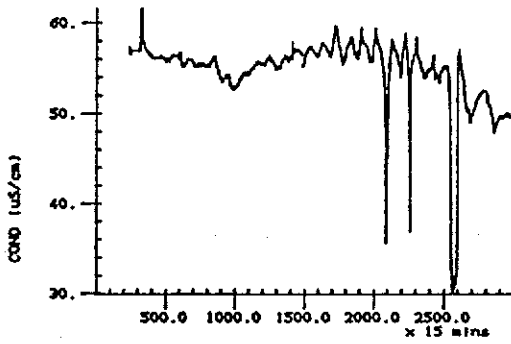
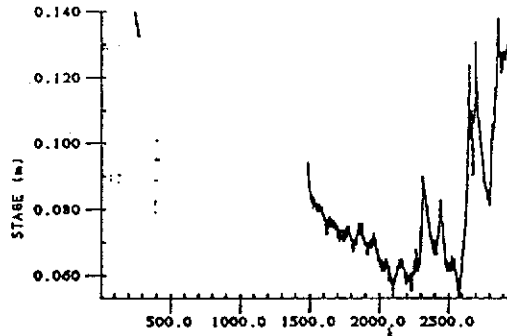
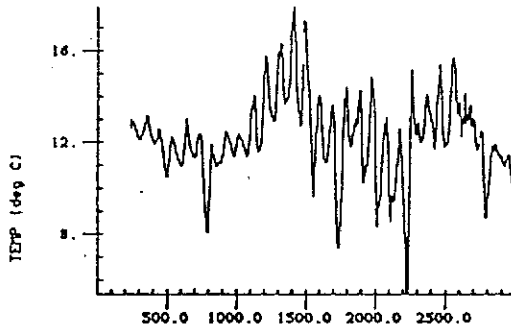
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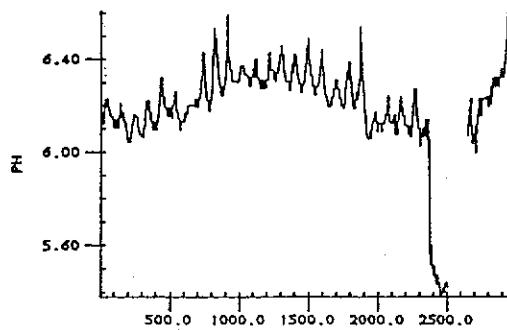
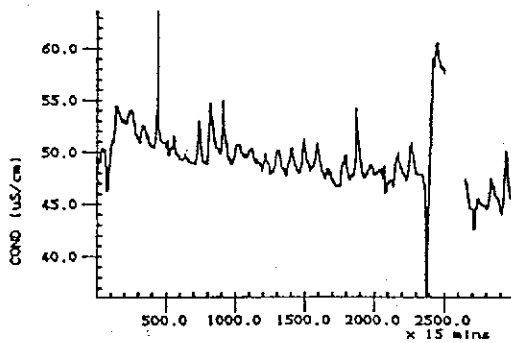
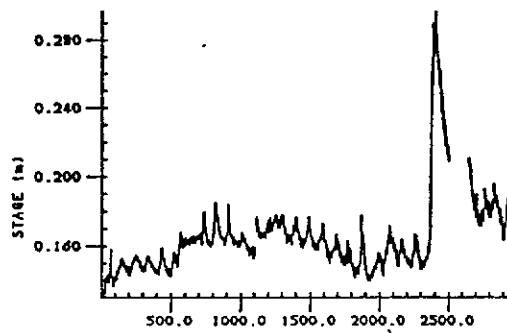
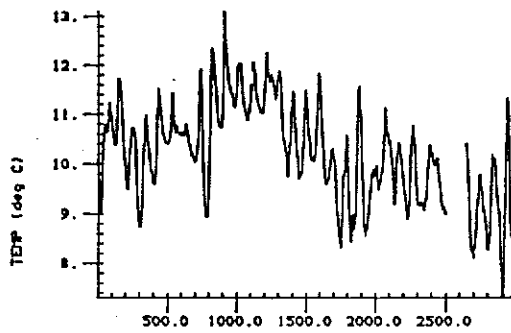
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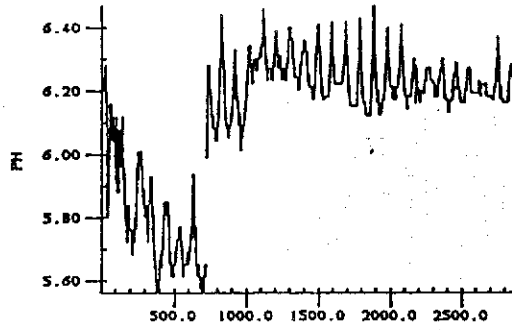
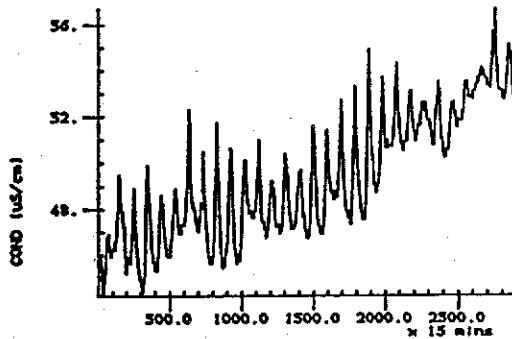
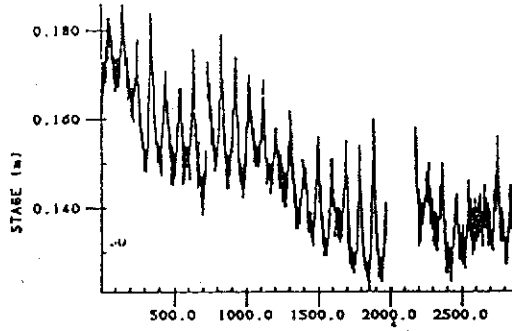
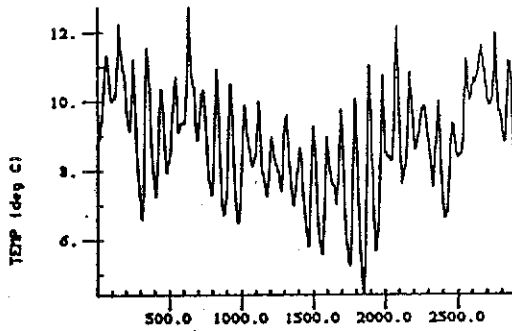
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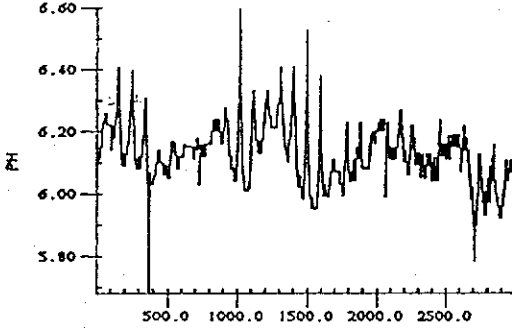
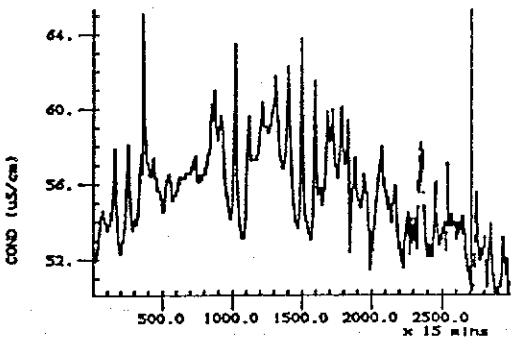
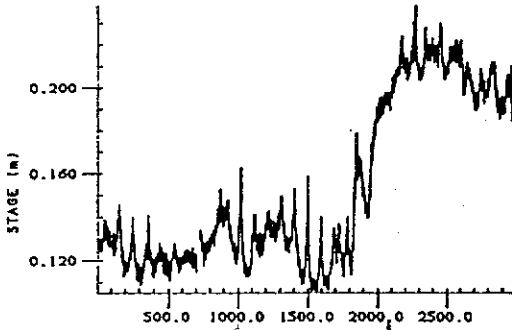
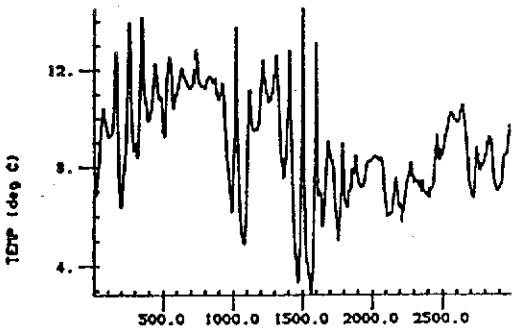
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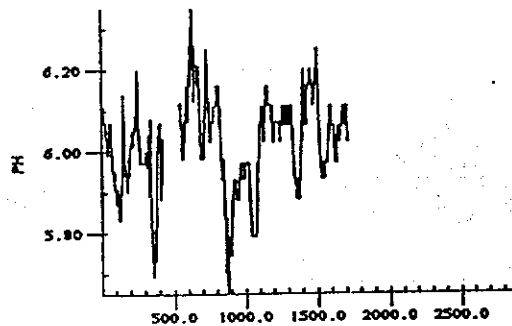
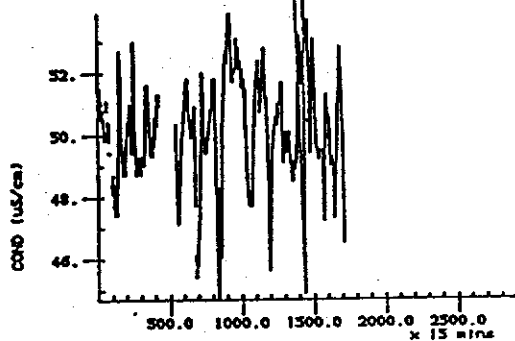
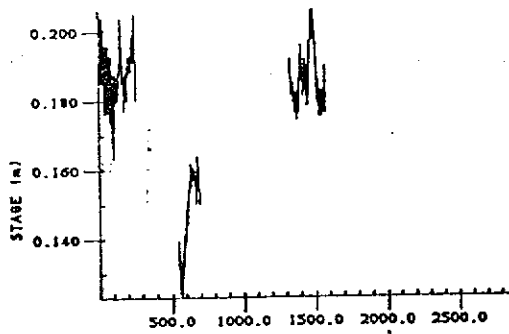
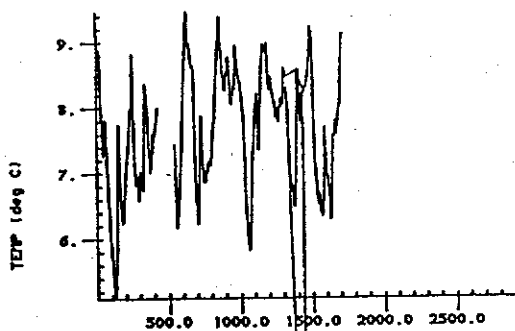
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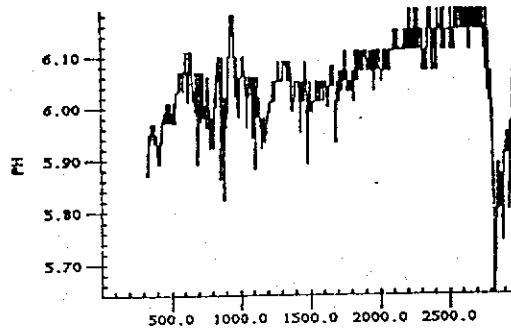
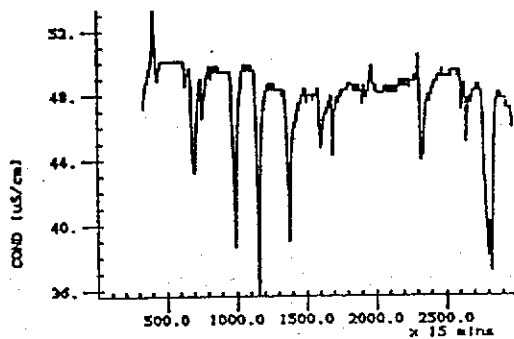
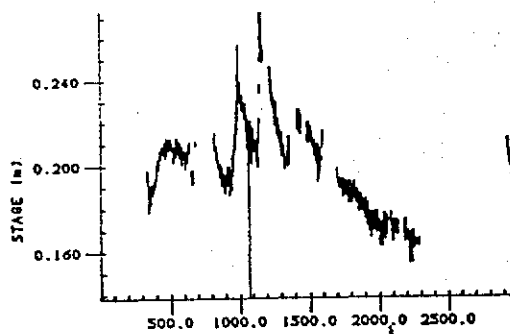
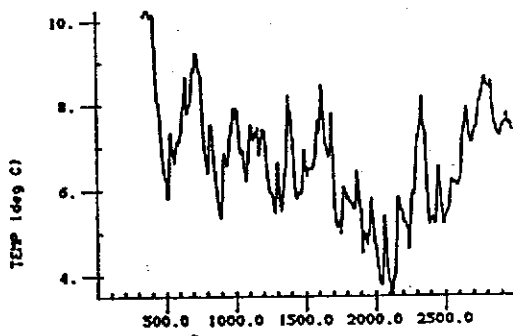
GI1OCT86



GI1NOV86



GI1DEC86





Section 2

Automatic Weather Station



YYMM	Year and Month	
SAMPLE	Sample size	n
PMISS	Percentage missing	100 . (1 - n/N)
AVG	Average	$\bar{x}$
MIN	Minimum	
MAX	Maximum	
STDDEV	Standard deviation	s
STDERR	Standard error of the mean	$\frac{1}{2} (s^2/n)$

VAR	Variance	$s^2 = \frac{\sum_{1}^n x^2 - n \bar{x}^2}{n - 1} \quad *$
-----	----------	--

MED	Median
LQT	Lower quartile
UQT	Upper quartile

\* except wind direction, when

$$s^2 = -2 \ln (1 - S)$$

where  $S = \frac{\sum_{1}^n \{1 - \cos (x - \bar{x})\}}{n}$



## Automatic weather station at Trawsnant

Y Y M M	S A M P L E	P M I S S	A V G	M I N	M A X	S T D D E V	S T D E R R	V A R	M E D	L Q T	U Q T
Solar radiation (W.m )											
8601	595	20.03	19.34	.00	346.60	42.93	1.76	1.84E+03	0.00	0.00	19.00
8602	550	18.15	73.44	.00	561.10	131.37	5.60	1.73E+04	0.00	0.00	80.30
8603	563	24.33	78.41	.00	589.80	130.13	5.48	1.69E+04	1.30	0.00	108.40
8604	423	41.25	119.30	.00	685.70	156.60	7.61	2.45E+04	36.40	0.00	210.60
8605	744	.00	146.36	.00	831.20	194.99	7.15	3.80E+04	53.60	0.00	241.60
8606	251	65.14	150.22	.00	694.30	180.75	11.41	3.27E+04	68.10	0.00	251.90
8607	682	8.33	137.43	.00	790.10	173.77	6.65	3.02E+04	59.20	0.00	235.10
8608	744	.00	116.88	.00	807.10	164.36	6.03	2.70E+04	31.20	0.00	187.80
8609	719	.14	122.06	.00	683.50	176.58	6.59	3.12E+04	10.40	0.00	199.50
8610	744	.00	55.33	.00	510.30	104.56	3.83	1.09E+04	0.00	0.00	58.80
8611	719	.14	29.67	.00	355.20	62.41	2.33	3.89E+03	0.00	0.00	23.10
8612	728	2.15	16.09	.00	260.50	36.85	1.37	1.36E+03	0.00	0.00	11.90
Net radiation (W.m )											
8601	595	20.03	.62	-87.80	143.50	27.44	1.12	7.53E+02	-1.00	-11.30	6.10
8602	550	18.15	3.90	-71.00	204.50	54.81	2.34	3.00E+03	-5.10	-31.50	11.20
8603	563	24.33	30.16	-59.00	348.10	77.79	3.28	6.05E+03	-3.10	-12.20	53.70
8604	423	41.25	60.42	-56.30	409.30	95.64	4.65	9.15E+03	11.80	-6.30	113.30
8605	744	.00	75.05	-69.50	451.20	114.41	4.19	1.31E+04	24.00	-6.10	135.80
8606	251	65.14	83.28	-54.60	406.30	113.57	7.17	1.29E+04	34.20	-6.10	150.60
8607	682	8.33	78.63	-55.10	517.40	112.63	4.31	1.27E+04	30.10	-5.10	141.60
8608	744	.00	63.87	-49.00	503.80	107.66	3.95	1.16E+04	10.20	-8.70	110.50
8609	719	.14	65.40	-58.00	442.80	119.70	4.46	1.43E+04	0.00	-13.80	124.00
8610	744	.00	28.46	-55.10	357.10	74.93	2.75	5.61E+03	0.00	-10.00	33.30
8611	719	.14	7.11	-61.50	247.60	45.03	-1.68	2.03E+03	-6.10	-12.30	7.10
8612	728	2.15	-3.80	-59.30	146.00	26.95	1.00	7.26E+02	-6.10	-16.30	0.00
Wet bulb depression ( C )											
8601	595	20.03	.51	.00	1.80	.41	.02	1.68E-01	0.39	0.18	0.74
8602	550	18.15	.06	.00	.74	.10	.00	1.08E-02	0.00	0.00	0.11
8603	563	24.33	.61	.00	3.62	.72	.03	5.19E-01	0.35	0.06	0.94
8604	423	41.25	.82	.00	4.99	.97	.05	9.41E-01	0.40	0.18	1.05
8605	744	.00	1.35	.00	7.41	1.46	.05	2.13E+00	0.75	0.31	2.02
8606	251	65.14	1.04	.04	4.20	1.06	.07	1.12E+00	0.67	0.15	1.53
8607	682	8.33	1.01	.02	4.81	1.00	.04	9.97E-01	0.56	0.23	1.65
8608	744	.00	.94	.00	4.76	.91	.03	8.36E-01	0.60	0.29	1.29
8609	719	.14	1.03	.00	5.24	1.15	.04	1.33E+00	0.55	0.17	1.54
8610	744	.00	.71	.00	5.27	.89	.03	7.92E-01	0.41	0.10	0.90
8611	719	.14	.57	.00	2.69	.50	.02	2.54E-01	0.46	0.18	0.84
8612	728	2.15	.51	.00	1.95	.38	.01	1.41E-01	0.48	0.19	0.77
Air temperature ( C )											
8601	595	20.03	2.59	-3.28	9.63	2.63	.11	6.89E+00	2.20	0.94	3.60
8602	550	18.15	-3.34	-11.11	1.93	2.64	.11	6.97E+00	-3.83	-4.98	-1.56
8603	563	24.33	2.82	-9.43	8.85	3.23	.14	1.04E+01	2.98	1.04	5.25
8604	423	41.25	4.02	-1.57	12.00	2.50	.12	6.27E+00	3.50	2.21	5.63
8605	744	.00	8.05	1.91	16.50	2.65	.10	7.01E+00	7.78	6.12	9.41
8606	251	65.14	8.82	2.27	13.63	2.46	.16	6.06E+00	9.10	6.75	10.73
8607	0	100.00									
8608	0	100.00									
8609	0	100.00									
8610	421	43.41	6.03	-3.05	12.30	3.02	.15	9.11E+00	5.80	4.00	7.66
8611	719	.14	4.63	-3.47	10.65	2.85	.11	8.13E+00	4.52	2.54	6.88
8612	728	2.15	3.04	-4.15	9.54	3.42	.13	1.22E+01	2.52	0.43	5.81

Automatic weather station at Trawsnant  
(continued)

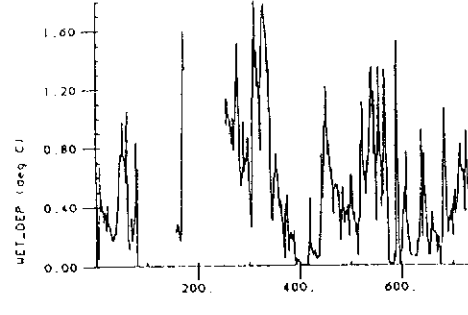
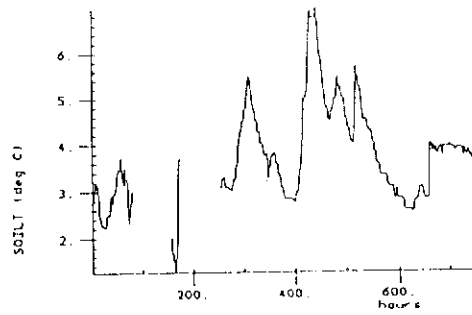
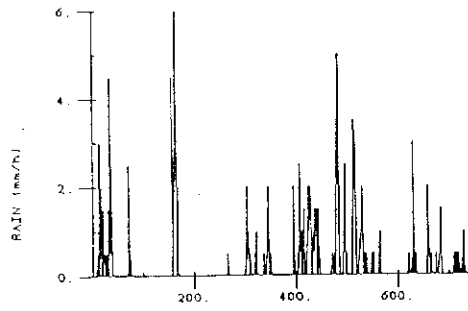
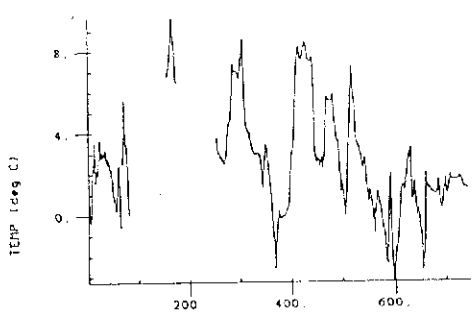
YYMM	SAMPLE	PMISS	AVG	MIN	MAX	STDDEV	STDERR	VAR	MED	LQT	UQT
Wind speed (m.s )											
8601	595	20.03	5.75	.00	14.88	3.89	.16	1.52E+01	6.06	2.41	3.69
8602	550	18.15	7.84	.00	15.21	4.18	.18	1.75E+01	9.01	4.96	11.15
8603	563	24.33	5.25	.00	16.17	3.33	.14	1.11E+01	5.21	2.90	7.40
8604	423	41.25	3.30	.00	8.85	2.26	.11	5.12E+00	3.12	1.40	4.82
8605	744	.00	5.98	.00	20.47	2.76	.10	7.60E+00	5.75	4.03	7.81
8606	251	65.14	4.18	.16	12.14	2.40	.15	5.75E+00	3.81	2.47	5.26
8607	682	8.33	3.18	.05	8.36	1.76	.07	3.11E+00	3.10	1.81	4.36
8608	744	.00	3.35	.00	12.52	2.49	.09	6.21E+00	2.88	1.48	4.69
8609	719	.14	2.50	.00	10.22	1.70	.06	2.88E+00	2.19	1.10	3.64
8610	744	.00	4.05	.00	13.07	2.70	.10	7.27E+00	3.75	1.81	5.73
8611	719	.14	5.24	.00	13.37	3.11	.12	9.70E+00	5.12	2.66	7.54
8612	728	2.15	5.66	.00	13.45	3.46	.13	1.20E+01	6.00	2.66	8.36

Wind direction (degrees)											
8601	595	20.03	217.589	79.70	72.40	1.52	0.06	0.23E+01	205.00	174.80	254.80
8602	550	18.15	65.721	192.50	122.50	0.47	0.02	0.22E+00	67.15	53.95	77.50
8603	563	24.33	186.713	319.00	283.10	0.95	0.04	0.90E+00	188.40	163.10	207.75
8604	423	41.25	220.814	106.10	97.20	1.41	0.07	0.20E+01	217.50	189.75	287.10
8605	744	0.00	185.971	32.10	345.90	0.61	0.02	0.37E+00	191.40	183.62	195.90
8606	251	65.14	276.805	90.00	30.20	1.07	0.07	0.11E+01	292.30	220.50	315.00
8607	682	8.33	241.302	160.60	135.00	0.92	0.04	0.84E+00	234.70	199.80	278.27
8608	744	0.00	209.816	146.80	142.20	2.33	0.09	0.54E+01	193.40	111.15	282.32
8609	719	0.14	335.141	179.70	161.90	1.95	0.07	0.38E+01	337.30	238.10	44.30
8610	744	0.00	189.403	324.90	313.00	1.04	0.04	0.11E+01	196.00	186.00	201.90
8611	719	0.14	196.725	102.20	89.80	0.70	0.03	0.49E+00	192.70	187.80	202.30
8612	728	2.15	206.794	103.10	82.10	0.89	0.03	0.80E+00	198.00	187.50	234.02

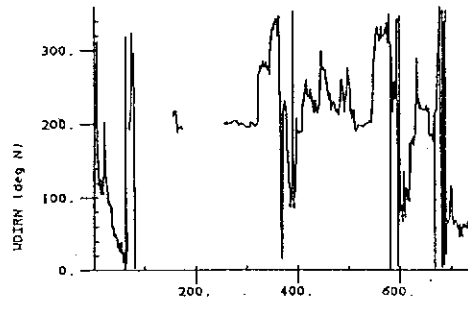
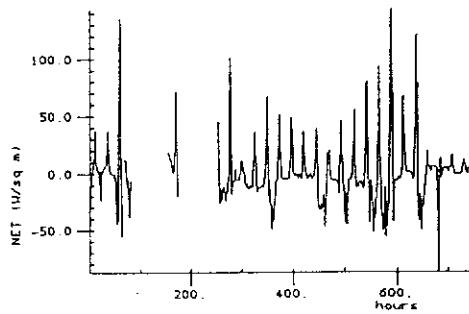
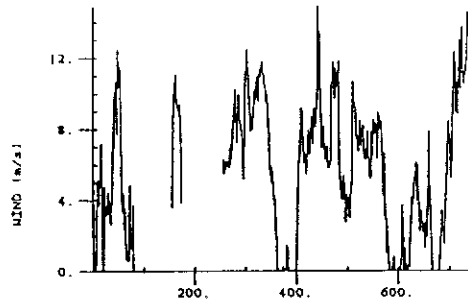
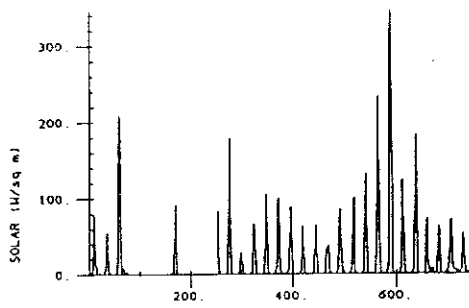
Rain (mm.hr )											
8601	595	20.03	.36	.00	6.00	.83	.03	6.84E-01	0.00	0.00	0.50
8602	550	18.15	.00	.00	.50	.02	.00	4.54E-04	0.00	0.00	0.00
8603	563	24.33	.23	.00	7.00	.75	.03	5.65E-01	0.00	0.00	0.00
8604	423	41.25	.25	.00	3.50	.60	.03	3.57E-01	0.00	0.00	0.00
8605	744	.00	.27	.00	5.00	.65	.02	4.27E-01	0.00	0.00	0.00
8606	251	65.14	.22	.00	5.00	.70	.04	4.86E-01	0.00	0.00	0.00
8607	682	8.33	.14	.00	5.00	.47	.02	2.17E-01	0.00	0.00	0.00
8608	744	.00	.27	.00	13.00	1.08	.04	1.17E+00	0.00	0.00	0.00
8609	719	.14	.04	.00	3.50	.23	.01	5.26E-02	0.00	0.00	0.00
8610	744	.00	.27	.00	5.00	.66	.02	4.36E-01	0.00	0.00	0.00
8611	719	.14	.50	.00	8.00	1.22	.05	1.49E+00	0.00	0.00	0.50
8612	728	2.15	.45	.00	7.50	.98	.04	9.70E-01	0.00	0.00	0.50

Soil temperature ( C ) (at approx. 10cm)											
8601	595	20.03	3.75	1.25	6.98	1.05	.04	1.11E+00	3.70	2.96	4.33
8602	550	18.15	1.84	.53	4.15	1.12	.05	1.25E+00	1.32	1.07	1.82
8603	563	24.33	2.19	.25	6.00	1.75	.07	3.07E+00	1.48	0.49	4.00
8604	423	41.25	5.05	3.02	7.25	.93	.05	8.64E-01	5.00	4.33	5.75
8605	744	.00	7.94	6.00	10.57	.89	.03	7.95E-01	8.02	7.29	3.50
8606	251	65.14	9.48	8.00	10.77	.65	.04	4.25E-01	9.50	9.00	10.02
8607	682	8.33	13.23	10.73	16.12	.85	.03	7.19E-01	13.14	12.75	13.59
8608	744	.00	11.57	9.15	13.50	.85	.03	7.18E-01	11.54	11.00	12.05
8609	719	.14	9.66	6.64	11.75	1.07	.04	1.15E+00	9.73	9.00	10.50
8610	744	.00	9.06	6.31	11.68	1.50	.06	2.26E+00	9.18	7.78	10.50
8611	719	.14	7.01	5.00	8.85	.95	.04	9.00E-01	7.04	6.25	7.75
8612	728	2.15	5.31	2.25	9.29	1.68	.06	2.83E+00	5.25	4.00	6.34

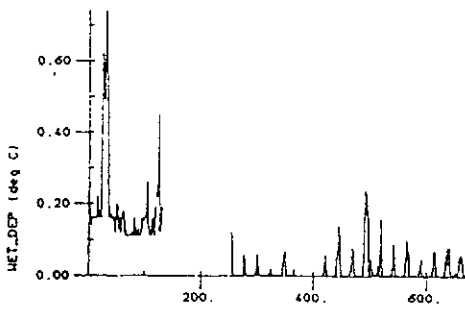
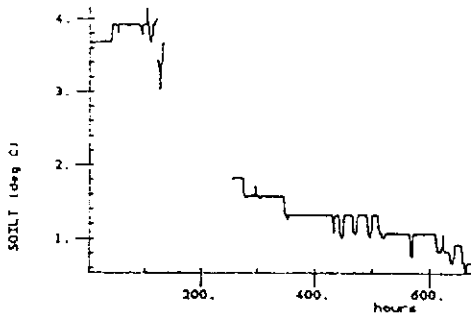
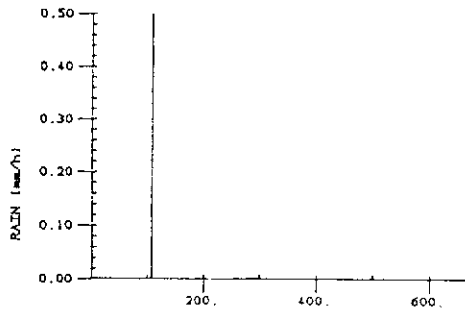
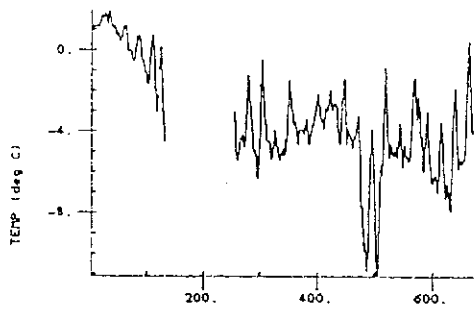
AWS JAN86



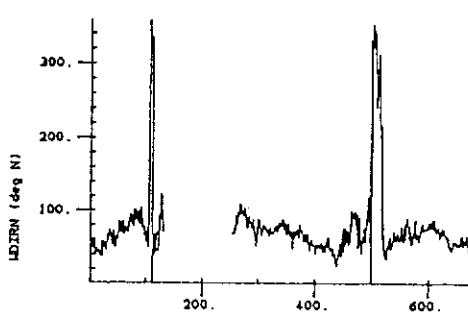
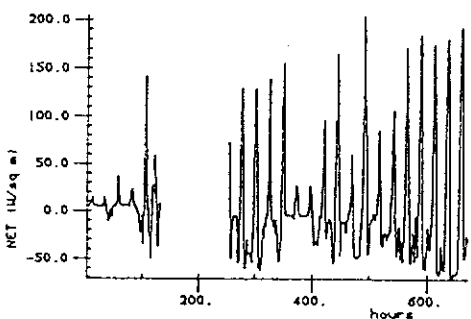
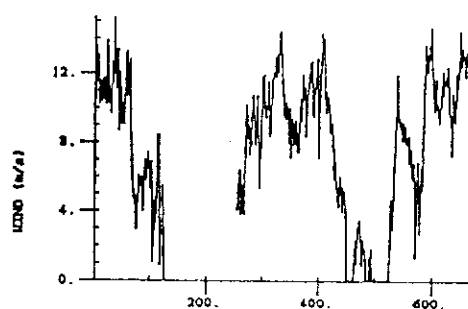
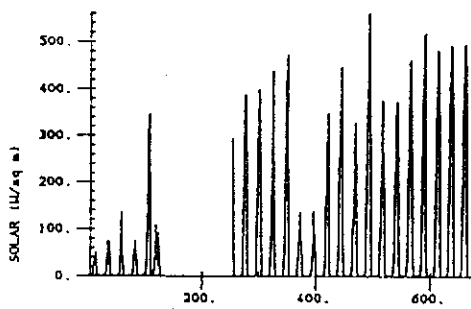
AWS JAN86



AWS FEB86

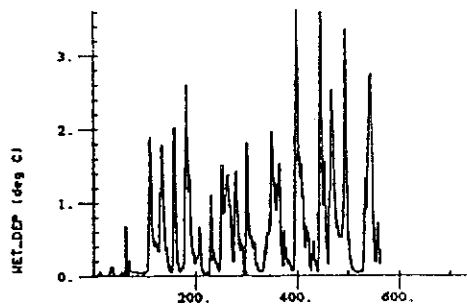
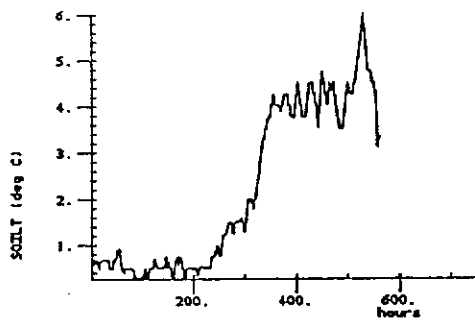
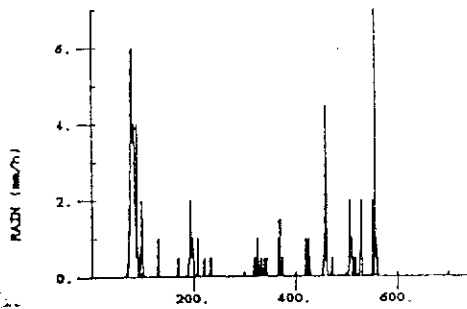
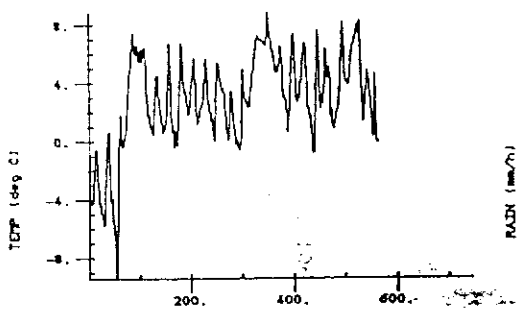


AWS FEB86

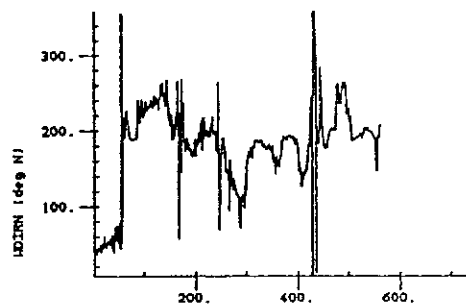
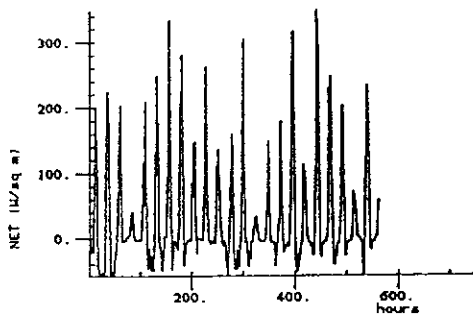
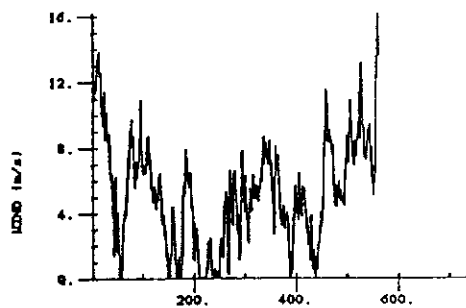
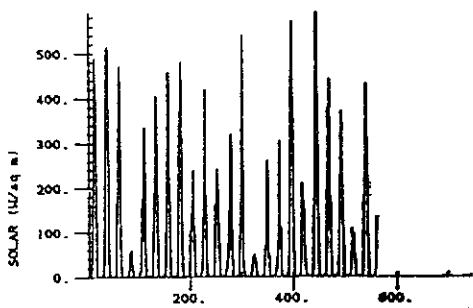




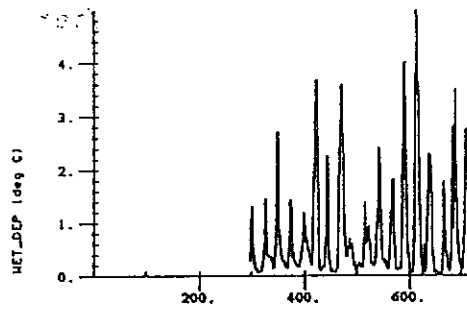
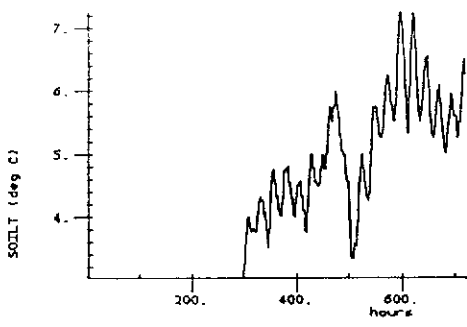
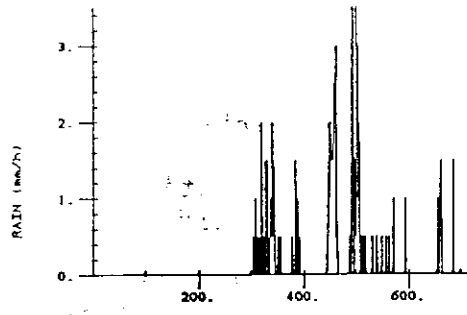
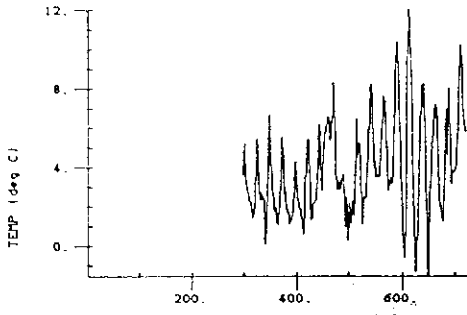
AWS MAR86



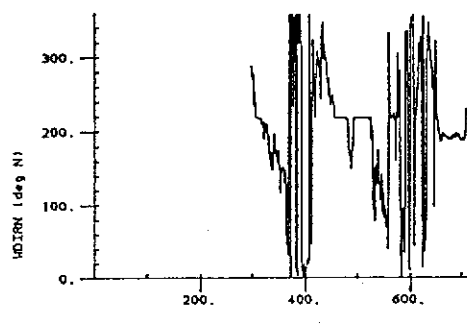
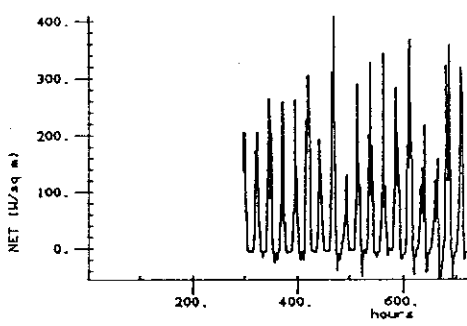
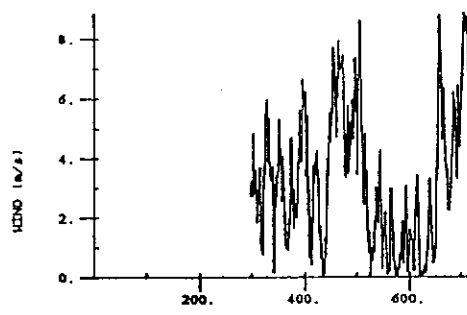
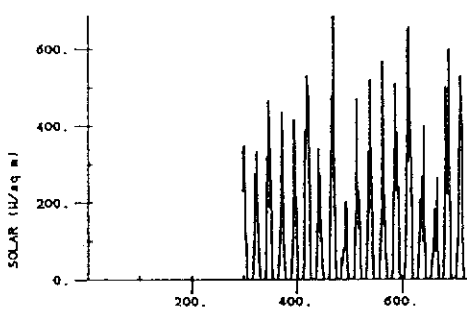
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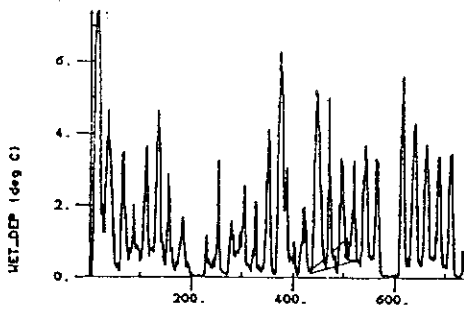
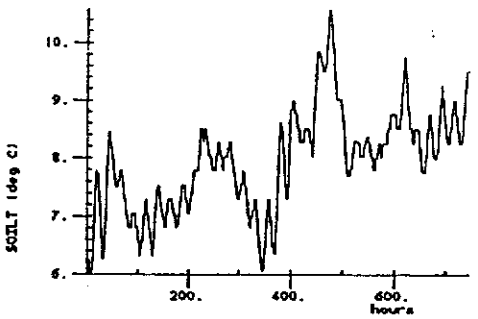
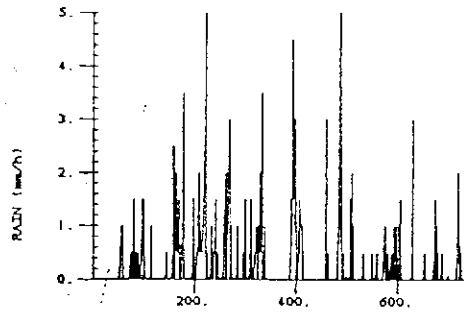
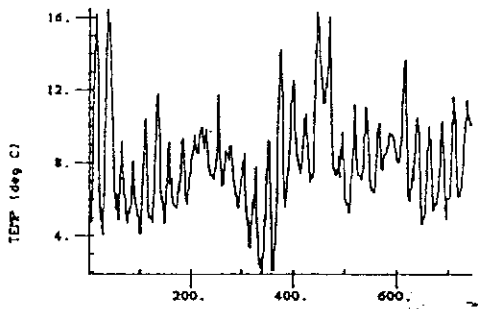
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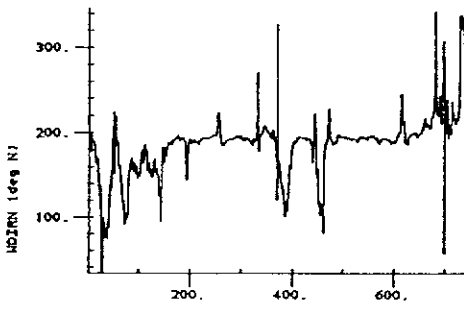
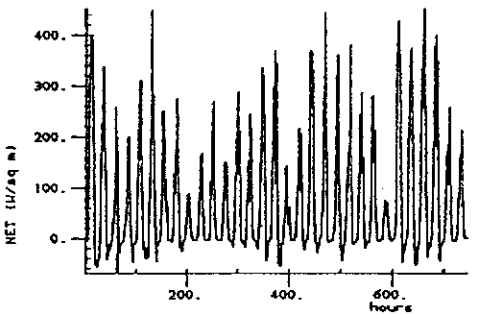
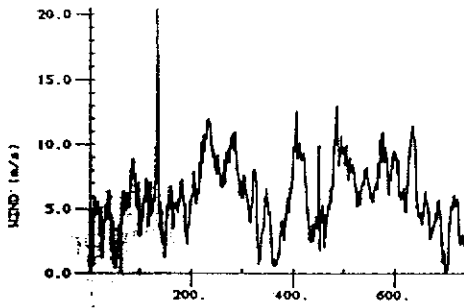
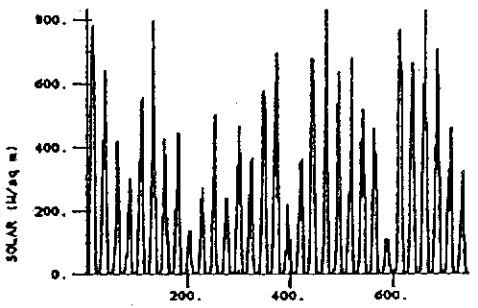
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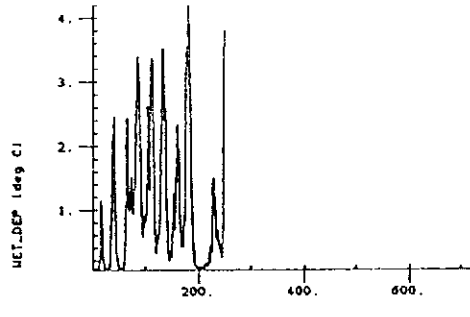
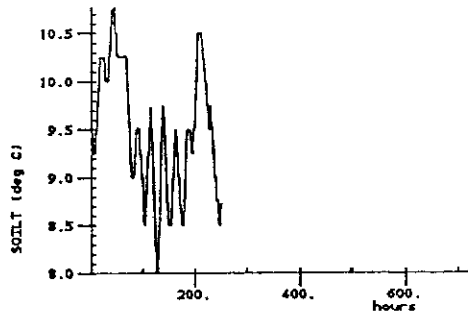
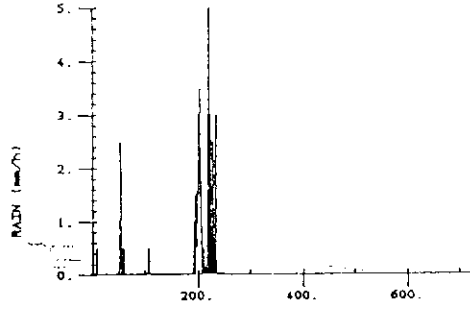
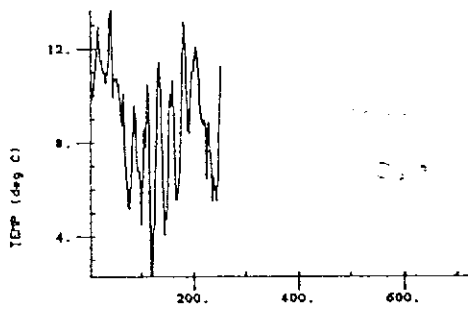
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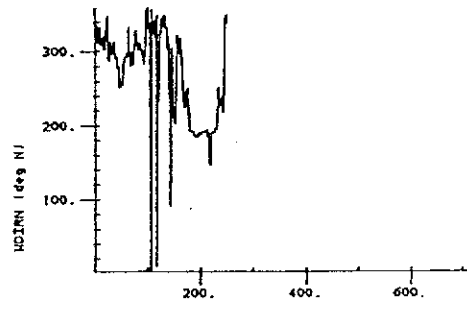
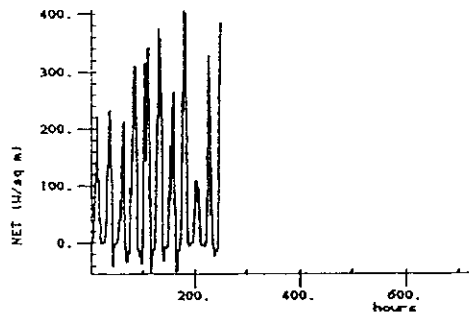
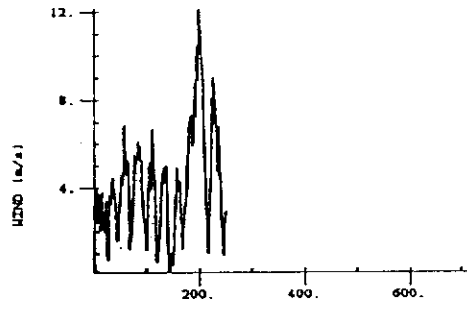
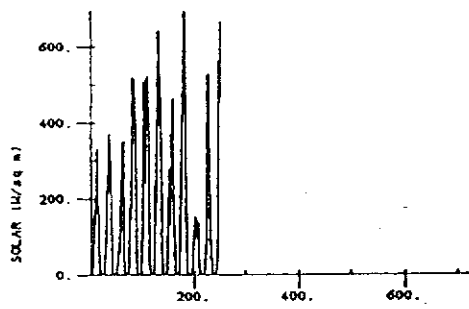
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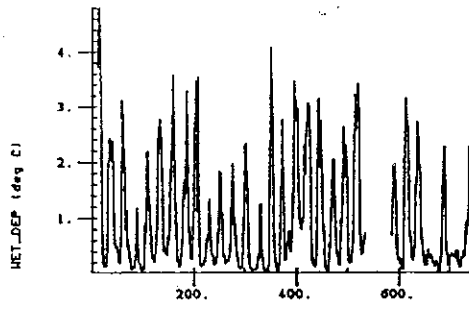
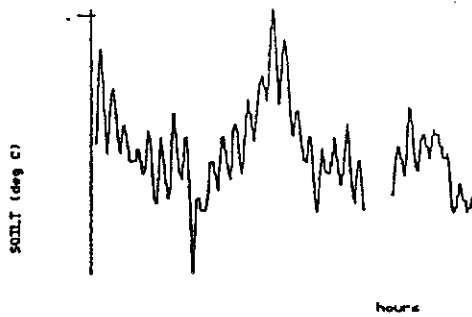
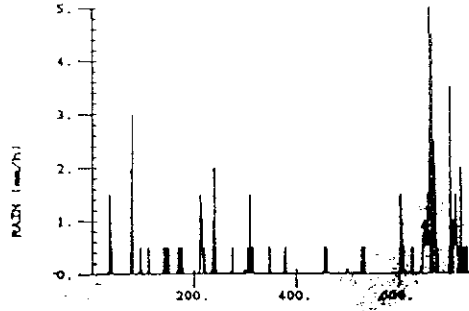
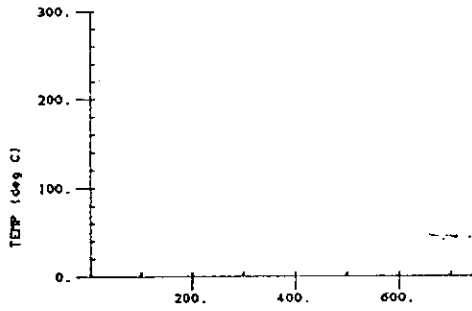
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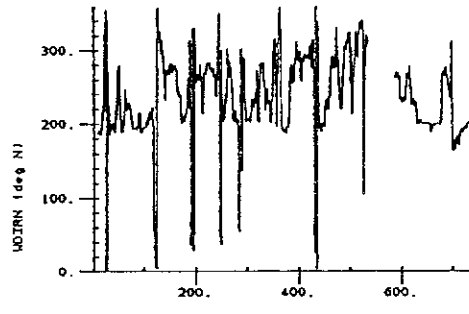
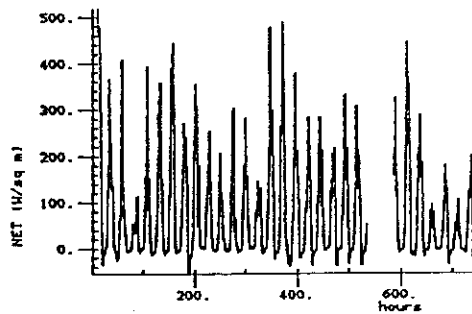
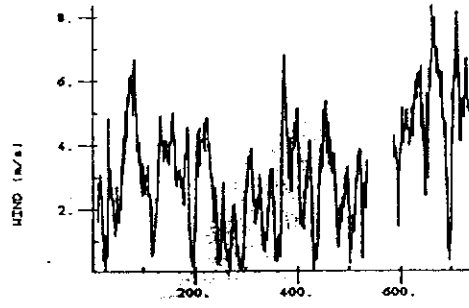
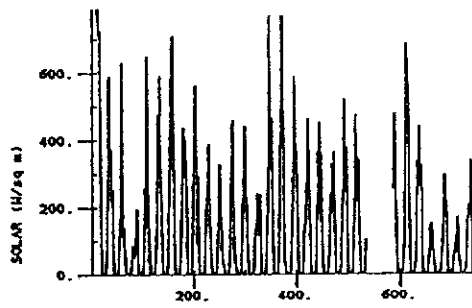
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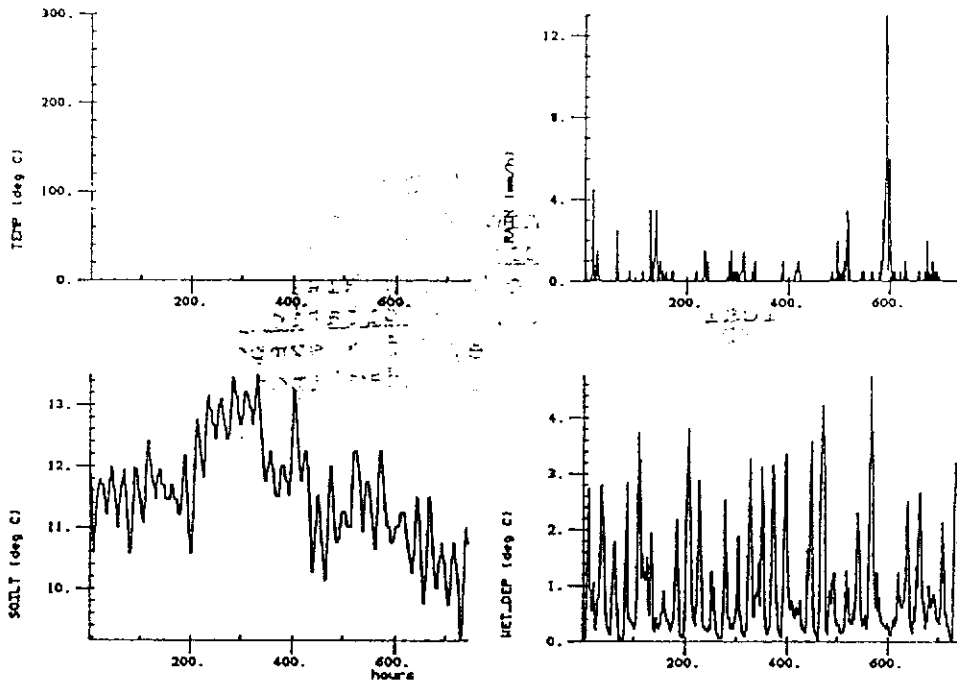
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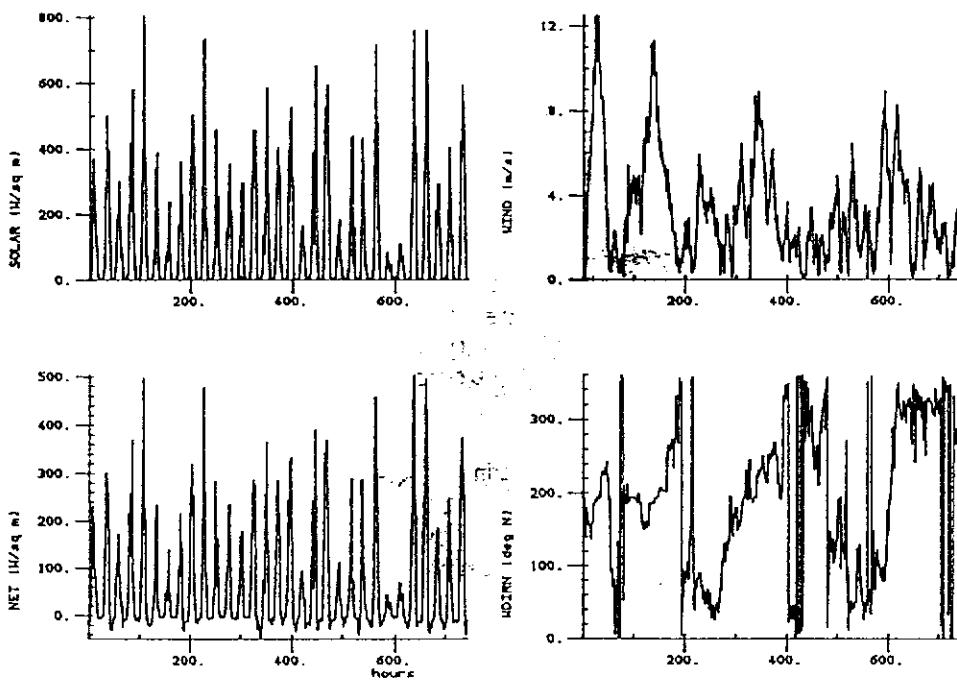
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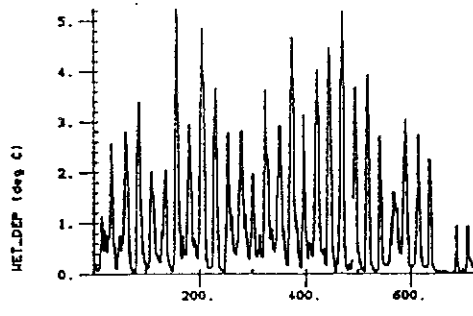
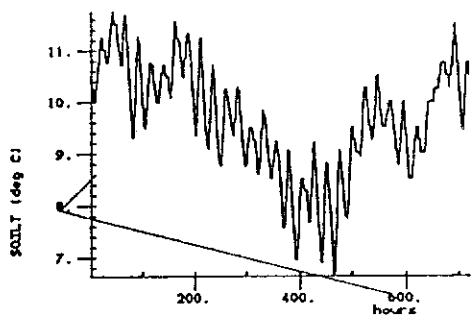
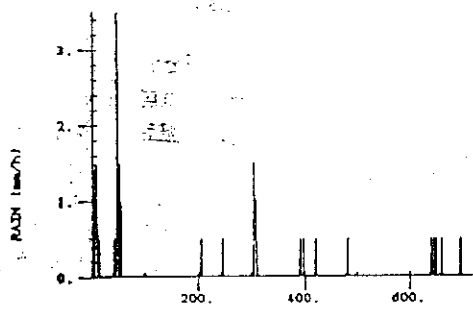
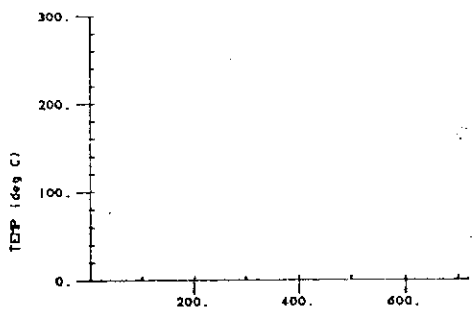
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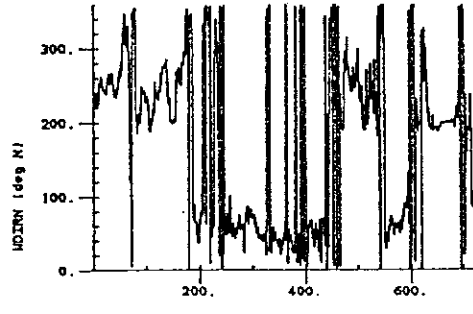
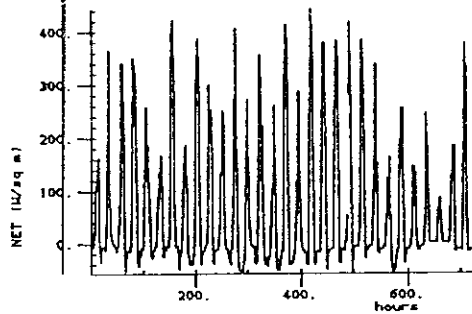
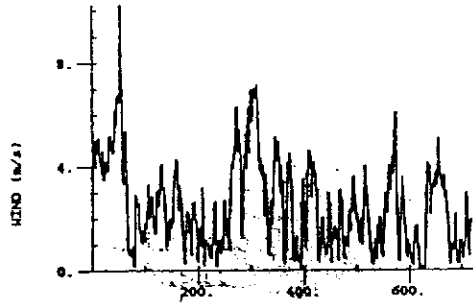
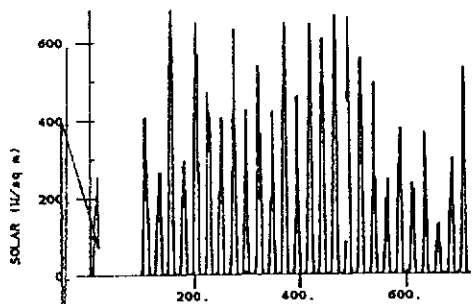
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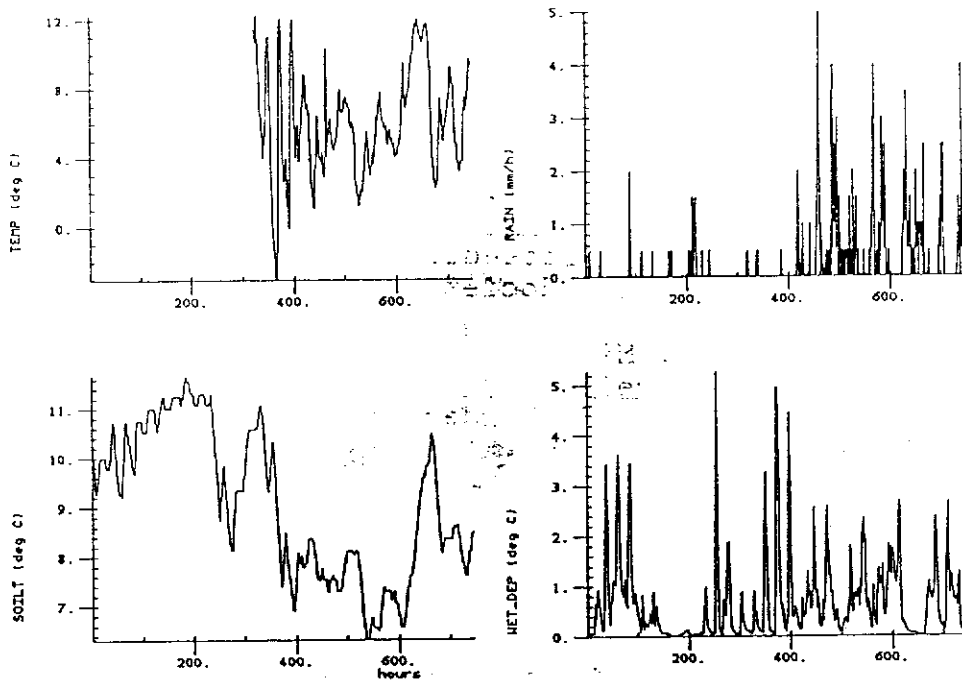
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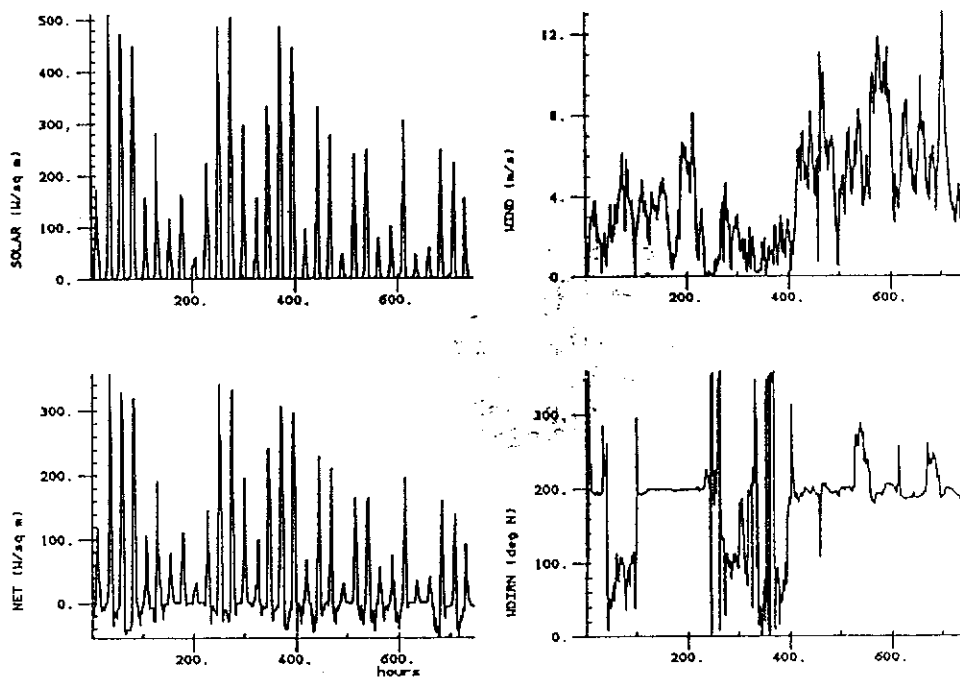
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AWS OCT86

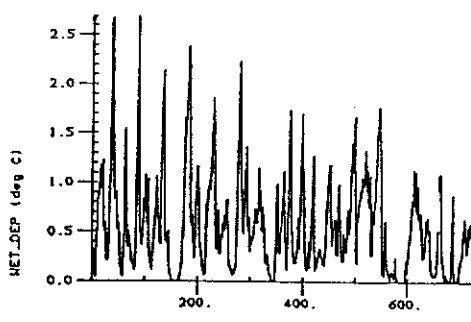
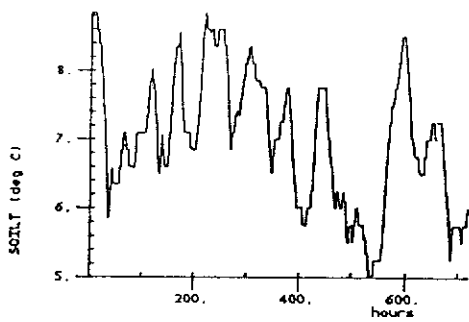
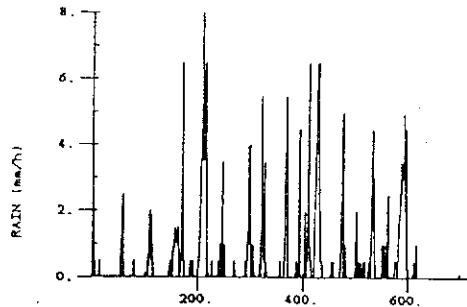
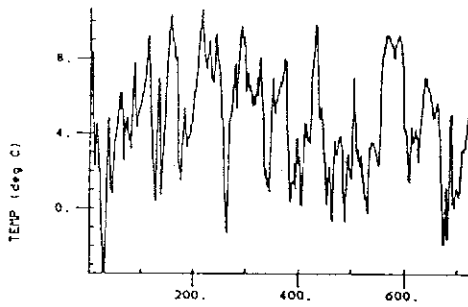


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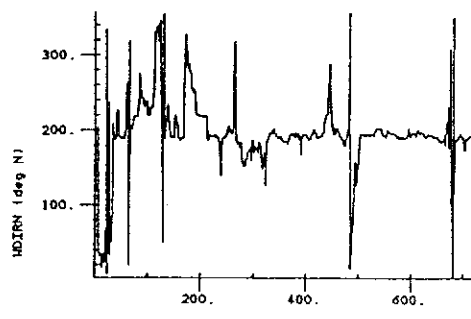
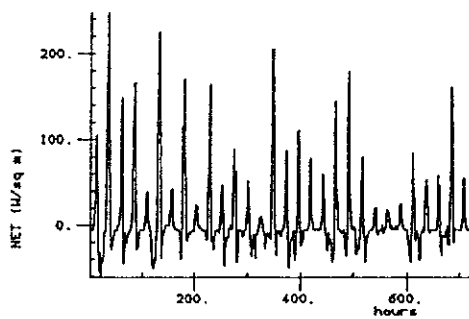
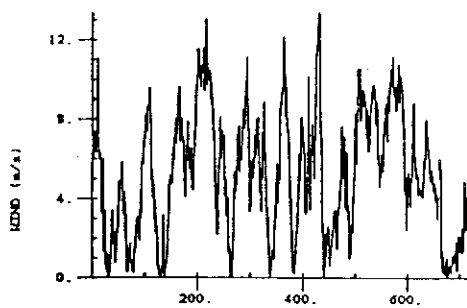
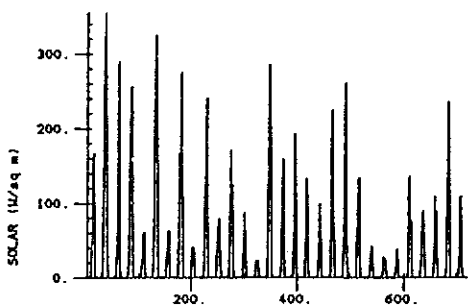




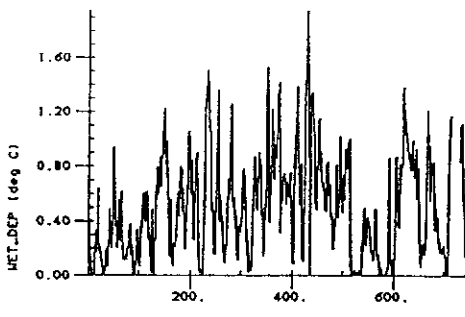
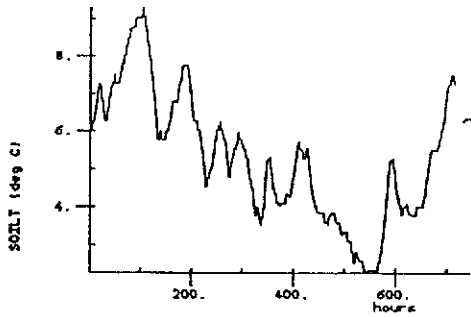
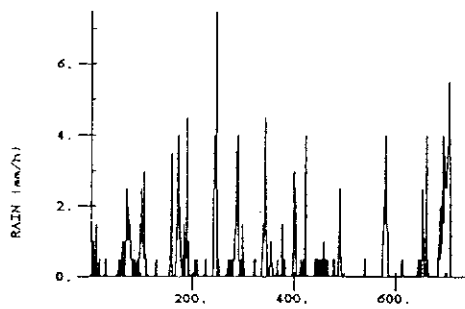
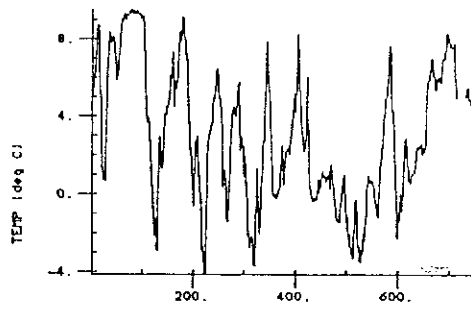
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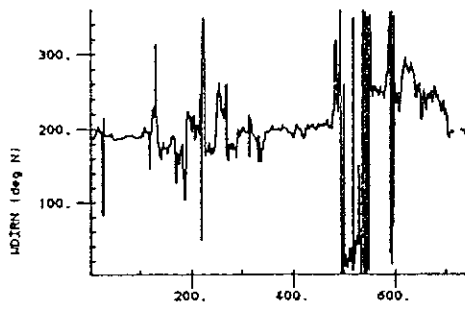
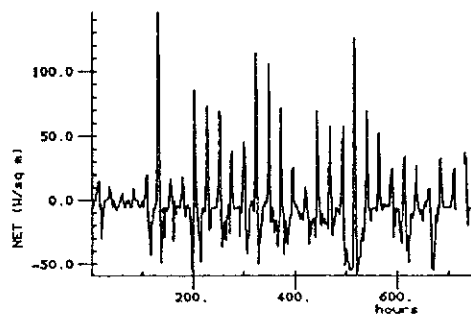
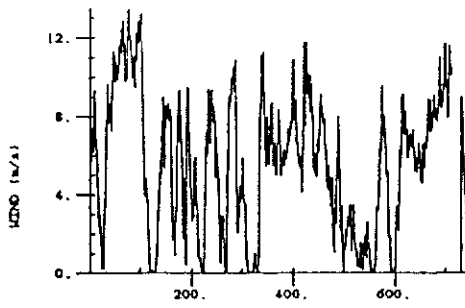
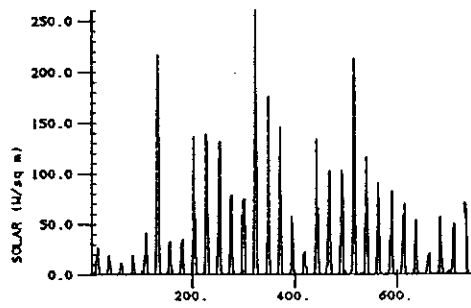
AWS NOV86



AWS DEC86



AWS DEC86



Section 3

Spot gaugings and stage-discharge relations

Site	Spot gaugings					Stage-discharge relation: $Q = C(h + AO)^B$ ( $l.s^{-1}$ )									
	Stage (m)		Number		Date		C	AO (m)	B	Code	Uncertainty %			Dates applied	
	$h_{min}$	$h_{max}$	$N_d$	$N_c$	from	to					min	at $h_{min}$	at $h_{max}$	from	to
LI1	0.120	0.300	24	-	17.7.85	25.8.86	2923.3	- 0.086	1.6532	SDLI1A	+ 3.0 - 2.9	+ 7.0 - 6.5	+ 5.6 - 5.3	**	26. 8.86
LI2	0.084	0.295	8	17	1.10.85	5.8.86	2696.2	- 0.063	1.8210	SDLI2A	+ 8.4 - 7.8	+24 -20	+20 -16	**	26. 8.86
LI3	0.100	0.210	15	-	23.10.85	19.8.86	3863.3	- 0.071	1.7109	SDLI3A	+ 5.4 - 5.1	+ 8.4 - 7.7	+13 -12	**	26. 8.86
LI4 <sup>w</sup>	0.012	0.120	10	-	18.11.85	8.4.87	1414.8	0.000*	1.5072	SDLI4A	+ 9.0 - 8.3	+13 -12	+20 -16	**	8. 4.77
LI6 <sup>‡</sup>	0.140	0.360	27	-	16.7.85	2.9.85	3253.1	- 0.048	2.3692	SDLI6A	+ 4.5 - 4.4	+10 - 9.2	+10 - 9.0	**	8.10.85
	0.033	0.147	9	11	14.1.86	30.6.86	4307.3	- 0.011	1.7280	SDLI6B	+ 7.6 + 7.0	+18 -15	+14 -12	14.1.86	30. 6.86
	0.045	0.150	17 <sup>Y</sup>	6	6.7.86	25.8.86	92727	+ 0.100*	5.2766 <sup>f</sup>	SDLI6C	+ 6.1 - 5.8	+12 -11	+12 -11	6.7.86	26. 8.86
LI8	0.059	0.205	12 <sup>§</sup>	14	31.12.85	5.8.86	10519	- 0.051	1.9329	SDLI8A	+12 -11	+30 -23	+28 -22	**	26. 8.86
CI3	0.290	0.400	12	-	12.3.86	24.8.86	6372.8	- 0.030*	4.7393 <sup>f</sup>	SDLI3A	+ 8.3 - 7.7	+12 -10	+19 -16	**	26. 8.86
CI4 <sup>w</sup>	0.015	0.170	12	-	8.10.86	30.8.86	1187.3	- 0.012	1.2601	SDCI4A	+11 - 9.8	+28 -22	+21 -17	**	26. 8.86
CI5 <sup>w</sup>	0.015	0.060	11	-	19.3.86	24.8.86	1390.1	- 0.010	1.3749	SDCI5A	+ 7.3 - 6.8	+17 -15	+14 -12	**	26. 8.86
CI6 <sup>w</sup>	0.045	0.130	8	-	21.7.85	15.11.85	1100.3	0.000*	1.3732	SDCI6A	+ 3.9 - 3.8	+ 5.5 - 5.2	+ 7.7 - 7.2	**	?
	0.023	0.255	23	-	22.3.86	27.8.86	1009.7	- 0.011	1.3816	SDCI6B	+ 3.6 - 3.5	+ 9.0 - 8.2	+ 8.1 - 7.5	?	26. 8.86
							1262.8	0.000	1.5005	SDCI6C	Derived from weir formula				
GI1 <sup>‡</sup>	0.080	0.240	17 <sup>*</sup>	8	29.10.85	5.8.86	6989.8	- 0.052	3.2337	SDGI1A	+18 -15	+62 -38	+36 -27	**	26. 8.86
UC4	0.175	0.550	6	8	6.8.85	25.6.86	1319.9	- 0.055	2.2361	SDUC4A	+ 8.0 - 7.4	+21 -17	+14 -12	**	26. 8.86

$N_d$  Number of dilution gaugings

$N_c$  Number of current meter gaugings

\*\* Start of record

<sup>w</sup> weir

<sup>f</sup> value of exponent unrealistically high

\* AO fixed at this value

<sup>‡</sup> very unstable channel for rating purposes

<sup>Y</sup> includes 1 volumetric gauging

<sup>§</sup> includes 2 volumetric gaugings

• includes 4 volumetric gaugings

Section 4

Bulk deposition and rain chemistry

Bulk deposition chemistry 1986: Upper Cothi (UC4)

TIME	SIT	NA	K	CU	MG	CA	ZN	CD	AL	PB	CR	MN	FE	NI
19-FEB-86 UC4		.95	.03	.002	.151	.13	.039	.0010	.007	.014		.020	.011	.003
04-MAR-86 UC4		1.30	1.00	.002	.154	2.88	.020	.0010	.188	.002	.003	.007	.012	.003
13-MAY-86 UC4		3.00	.20	.002	.332	.30	.064	.0010	.019	.025	.003	.002	.024	.003
21-MAY-86 UC4		1.67		.002	.189	.16	.012	.0010	.017	.025	.003	.002	.005	.003
30-MAY-86 UC4		7.78	.50	.002	.960	.61	.012	.0010	.040	.025	.003	.002	.005	.003
04-JUN-86 UC4		.69	.10	.002	.089	.32	.030	.0010	.020	.025	.003	.002	.008	.003
11-JUN-86 UC4		.94	.10	.002	.093	.16	.010	.0010	.012	.025	.003	.002	.009	.003
02-JUL-86 UC4														
17-JUL-86 UC4		.41	.10	.005	.060	.37	.024	.0010	.016	.025	.003	.003	.017	.003
24-JUL-86 UC4														
25-JUL-86 UC4		1.43	.10	.006	.219	1.75	.043	.0010	.008	.025	.003	.005	.009	.003
29-JUL-86 UC4		.47	.10	.002	.060	.35	.007	.0010	.012	.025	.003	.002	.006	.003
08-AUG-86 UC4		.41	.10	.004	.066	.57	.027	.0010	.008	.025	.003	.002	.010	.003
12-AUG-86 UC4		.44	.21	.009	.050	.20	.028	.0010	.018	.025	.003	.003	.017	.003
19-AUG-86 UC4		1.15	.10	.005	.134	.38	.019	.0010	.031	.025	.003	.003	.040	.003
28-AUG-86 UC4		2.00	.10	.002	.222	.21	.016	.0010	.018	.025	.003	.002	.027	.003
02-SEP-86 UC4														
08-SEP-86 UC4		3.36	.19	.005	.414	1.12	.050	.0010	.022		.003	.006	.012	.003
16-SEP-86 UC4		1.98	.18	.010	.533		.084	.0010	.064		.003	.018	.071	.003
22-SEP-86 UC4														
01-OCT-86 UC4														
08-OCT-86 UC4		1.33	.72	.012	.285	1.46	.328	.0090	.086		.003	.020	.073	.003
15-OCT-86 UC4														
22-OCT-86 UC4		1.43	.10	.002	.218	.16	.045	.0010	.004		.003	.002	.005	.003
29-OCT-86 UC4		5.34	.12	.002	.635	.27	.017	.0010	.013		.003	.002	.006	.003
05-NOV-86 UC4		2.08	.10	.002	.243	.13	.010	.0010	.004		.003	.005	.018	.003
12-NOV-86 UC4		2.56	.11	.002	.315	.19	.013	.0010	.008		.003	.002	.005	.003
21-NOV-86 UC4		1.46	.72	.002	.250	.14	.007	.0010	.017		.003	.002	.007	.003
26-NOV-86 UC4														
03-DEC-86 UC4		6.14	.27	.004	.744	.69	.031	.0010	.021		.003	.003	.019	.003
10-DEC-86 UC4		2.61	.13	.002	.325	.19	.028	.0010	.014		.003	.002	.007	.003
17-DEC-86 UC4		1.72	.10	.002	.220	.09	.004	.0010	.013		.003	.004	.003	.003
23-DEC-86 UC4		1.39	.11	.002	.172	.14	.008	.0010	.009		.003	.002	.011	.003
31-DEC-86 UC4		.76	.10	.002	.081	.04	.006	.0010	.011		.003	.014	.003	.003

TIME	SIT	PH	CON	AN	TON	NO2	TH	FC	TA	CL	F	OP	SI	SO4	UV	RAIN	HA	DOC	TN
19-FEB-86 UC4		5.2	12	.13	.1	.004	.7		1.0	2		.02	.2	.600					
04-MAR-86 UC4		7.1	29	.38	.6	.005	12.2		9.8	3		.02	.2	1.930			.2	1.4	
13-MAY-86 UC4		4.3	35	.30	.2	.004	2.0			4		.02	.2	2.590			.2	.6	.10
21-MAY-86 UC4		4.9	19	.25	.1	.004	.8		.8	3		.02	.2	1.340			.2	.5	
30-MAY-86 UC4		4.8	66	.37	.3	.004	5.2		.8	16		.02	.2	4.300			.2	1.1	.05
04-JUN-86 UC4		4.5	20	.62	.3	.004	.8			1		.02	.2	2.820			.2	1.3	.05
11-JUN-86 UC4		4.8	12	.21	.1	.004	.4		.6	1		.02	.2	1.260			.2	.5	.04
02-JUL-86 UC4		6.9	124	2.30	6.0	.034			8.5	6		.03	.3				.6		
17-JUL-86 UC4		4.6	23	.77	.3	.004	.9		.2	1		.02	.2	3.040			.2	.4	.11
24-JUL-86 UC4		3.6	134	1.50	3.3	.004				2		.02	.2				.4		
25-JUL-86 UC4		6.1	20	.30	.3	.004	5.2		2.7	2		.02	.2	3.230			.2	1.1	.36
29-JUL-86 UC4		5.1	8	.05	.1	.004	.8		.9	1		.02	.2	.820			.2	.4	.05
08-AUG-86 UC4		5.4	10	.08	.2	.004	1.4		1.3	1		.02	.2	1.170			.2	.3	.04
12-AUG-86 UC4		4.6	18	.37	.5	.004	.5		.2	1		.02	.2	1.700			.2	1.0	.18
19-AUG-86 UC4		3.9	.57	.64	.9	.004	1.4			2		.02	.2	4.500			.2	1.4	.15
28-AUG-86 UC4		4.5	25	.09	.2	.004	1.3		.2	4		.02	.2	1.480			.2	.2	.04
02-SEP-86 UC4		4.7	26	.15	.1	.004			.4	5		.02	.2				.2	.3	.06
08-SEP-86 UC4		5.5	36	.26	.3	.004	4.4		1.4	7		.02	.2	2.830			.2	.7	.11
16-SEP-86 UC4		4.1		.48	1.7	.004				3		.02	.2	5.130			.3	3.2	.12
22-SEP-86 UC4		4.9	25	.39	.7	.004			.6	2		.02	.2				.2	2.1	.41
01-OCT-86 UC4		3.9	79	.99	1.9	.004				4		.02	.2				.4		
08-OCT-86 UC4		3.8	86	2.90	2.4	.004	4.5			2		.42	.2	11.360			.7	8.3	1.30
15-OCT-86 UC4		3.9	64	2.10	1.7	.004				2		.02	.2				.3	1.0	.04
22-OCT-86 UC4		4.9	18	.09	.1	.004	1.2		.7	3		.02	.2	1.090			.2	.2	.04
29-OCT-86 UC4		4.9	41	.09	.1	.004	3.1		1.0	9		.02	.2	2.160			.2	.2	.14
05-NOV-86 UC4		4.8	21	.07	.1	.004	1.1		.8	4		.02	.2	1.280			.2	.3	.04
12-NOV-86 UC4		4.9	20	.06	.1	.004	1.7		1.0	4		.02	.2	1.330			.2	.3	.04
21-NOV-86 UC4		5.0	18	.10	.1	.004	1.2		1.2	4		.02	.2	1.080			.2	.2	.04
26-NOV-86 UC4		6.1																	
03-DEC-86 UC4		4.4	59	.52	.6	.004	4.6			10		.02	.2	4.320			.2	.6	.04
10-DEC-86 UC4		4.7	36	.17	.2	.004	1.7		.8	3		.02	.2	2.090				.3	
17-DEC-86 UC4		4.8	19	.07	.1	.004	1.0		.7	5		.02	.2	1.060				.2	
23-DEC-86 UC4		5.5	15	.07	.1	.004	.8		1.6	3		.2	.2	.820				.2	
31-DEC-86 UC4		5.3	8	.07	.1	.004	.1		1.6	1		.02	.2	.430				.2	

Bulk deposition chemistry 1986: Trawsnant (RCS)

TIME	SIT	NA	K	CU	MG	CA	ZN	CD	AL	PB	CR	MN	FE	NI
23-APR-86	RCS	.71	.13	.006	.071	.21	.019	.0010	.021	.025	.003	.002	.014	.003
01-MAY-86	RCS	1.11	.16		.118	.24	.050	.0010	.033	.025	.003	.002	.034	.003
08-MAY-86	RCS	1.52	.10	.003	.171	.32	.037	.0010	.020	.025	.003	.003	.019	.003
20-MAY-86	RCS	1.42	.12	.002	.170	.15	.014	.0010	.006	.025	.003	.002	.005	.003
11-JUN-86	RCS	.77	.10	.002	.094	.15	.044	.0010	.010	.025	.003	.002	.008	.003
25-JUN-86	RCS	3.80	1.00	.020	1.730	2.60	.260	.0100	.113	.025	.003	.280	.080	.030
02-JUL-86	RCS													
09-JUL-86	RCS	1.13	.10	.019	.256	.45	.145	.0010	.028	.025	.003	.005	.027	.003
16-JUL-86	RCS	.30	.10	.005	.037	.16	.049	.0010	.008	.025	.003	.002	.011	.003
25-JUL-86	RCS													
30-JUL-86	RCS	.55	.10	.002	.037	.10	.008	.0010	.012	.730	.003	.002	.008	.003
06-AUG-86	RCS	1.20	.10	.002	.135	.12	.012	.0010	.004	.025	.003	.002	.007	.003
13-AUG-86	RCS	1.61	.93	.002	.190	.21	.023	.0010	.024	.025	.003	.002	.003	.003
20-AUG-86	RCS	1.10	.10	.002	.150	.24	.027	.0010	.017	.025	.003	.002	.015	.003
27-AUG-86	RCS	.64	.10	.002	.080	.12	.021	.0010	.015	.025	.003	.002	.008	.003
03-SEP-86	RCS	1.98	.10	.002	.226	.20	.025	.0010	.014		.003	.002	.028	.003
10-SEP-86	RCS													
17-SEP-86	RCS	.56	1.00	.002	.089	.25	.031	.0010	.029		.003	.004	.003	.003
24-SEP-86	RCS													
01-OCT-86	RCS													
08-OCT-86	RCS	.40	.10	.004	.056	.33	.018	.0010	.026		.003	.004	.040	.003
15-OCT-86	RCS	1.01	.10	.003	.168	.50	.127	.0040	.033		.003	.008	.037	.003
22-OCT-86	RCS	1.89	.10	.002	.267	.18	.034	.0010	.009		.003	.002	.007	.003
29-OCT-86	RCS	7.18	.19	.002	.845	.50	.014	.0010	.010		.003	.002	.005	.003
05-NOV-86	RCS	2.70	.10	.002	.330	.21	.030	.0010	.004		.003	.002	.017	.003
12-NOV-86	RCS	2.11	.10	.002	.237	.18	.017	.0010	.018		.003	.002	.006	.003
19-NOV-86	RCS	.86	.42	.002	.101	.06	.009	.0010	.012		.003	.002	.010	.003
26-NOV-86	RCS	2.57		.002	.293	.13	.010	.0010	.011		.003	.002	.009	.003
03-DEC-86	RCS	7.89	.45	.005	1.008	.65	.073	.0020	.028		.003	.004	.056	.003
10-DEC-86	RCS	4.25	.20	.002	.529	.31	.034	.0010	.018		.003	.002	.008	.003
17-DEC-86	RCS	1.30	.10	.002	.164	.10	.010	.0010	.015		.003	.002	.005	.003
23-DEC-86	RCS	.12	.10	.002	.025	.11	.002	.0010	.004		.003	.002	.008	.003

TIME	SIT	PH	CDN	AN	TON	NO2	TH	FC	TA	CL	F	OP	SI	SO4	UV	RAIN	HA	DOC	TN
23-APR-86	RCS	4.2	32	.10	.4	.004	.5			1		.02	.2	2.010			.2	.7	.15
01-MAY-86	RCS	3.9	39	.68	.5	.004	1.0			2		.02	.2	4.350			.3	1.2	
08-MAY-86	RCS	4.3	28	.53	.4	.004	1.2			3		.02	.2	2.830			.2	.8	
20-MAY-86	RCS	4.7	19	.24	.2	.004	.8			2		.02	.2	1.650			.2	.7	.04
11-JUN-86	RCS	4.7	12	.12	.1	.004	.4			1		.02	.2	1.170			.2	.6	.04
25-JUN-86	RCS	3.9	37	2.00	1.8	.004	13.5			2		.02	.2	4.400			.3	1.8	.19
02-JUL-86	RCS	4.3	87	2.40	4.0	.004				1		.05	.2				.5	3.8	.20
09-JUL-86	RCS	4.6	23	.49	.2	.004	139.0			1		.02	.2	2.870			.2	1.4	.18
16-JUL-86	RCS	4.5	14	.34	.2	.004	.4			1		.02	.2	1.800			.2	1.0	.07
25-JUL-86	RCS	4.6		.07	.4	.004				2		.02	.0				.2		
30-JUL-86	RCS	4.7	11	.14	.1	.004	.3			1		.02	.2	.980			.2	.4	.04
06-AUG-86	RCS	5.2	17	.29	.1	.004	.7			1		.02	.2	.990			.2	.5	.08
13-AUG-86	RCS	4.2	39	.49	.6	.004	.9			3		.02	.2	2.700			.3	1.3	.11
20-AUG-86	RCS	4.3	28	.41	.3	.004	1.2			2		.02	.2				.2	1.5	.16
27-AUG-86	RCS	4.5	15	.15	.2	.005	.3			1		.14	.2	1.010			.2	.7	.10
03-SEP-86	RCS	4.7	25	.13	.1	.004	1.3			4		.02	.2	1.380			.2	.7	.07
10-SEP-86	RCS	3.6		2.00	4.6	.004				19		.02	.5				1.1		
17-SEP-86	RCS	4.5	20	.24	.5	.007	.6			1		.02	.2	1.750			.2	.7	.20
24-SEP-86	RCS	4.2	55	1.10	1.5	.004				3		.02	.2				.3		
01-OCT-86	RCS	4.2		1.60	.9	.004				4		.06	.2				.2		
08-OCT-86	RCS	4.1	35	.90	.7	.004	.8			1		.02	.2	4.340			.3	1.4	.11
15-OCT-86	RCS	4.0	51	1.40	1.1	.004	1.7			2		.02	.2	5.930			.2	2.9	.17
22-OCT-86	RCS	4.8	23	.14	.1	.004	1.3			4		.02	.2	1.430			.2	.7	.13
29-OCT-86	RCS	4.8	54	.09	.1	.004	4.5			7		.02	.2	2.790			.2	.3	.04
05-NOV-86	RCS	4.7	26	.09	.2	.004	1.8			5		.02	.2	1.640			.2	.7	.04
12-NOV-86	RCS	4.8	19	.08	.1	.004	1.3			4		.02	.2	1.350			.2	.3	.04
19-NOV-86	RCS	5.2	9	.02	.1	.004	.6			2		.06	.2	.510			.2		.04
26-NOV-86	RCS	4.9	20	.04	.1	.004	1.1			5		.02	.2	1.290			.2		.04
03-DEC-86	RCS	4.2	91	.86	1.1	.004	5.7			14		.02	.2	6.590			.2	1.9	.04
10-DEC-86	RCS	4.7	38	.24	.2	.004	2.8			7		.02	.2	2.800			.6		.21
17-DEC-86	RCS	4.9	15	.12	.1	.004	.7			5		.02	.2	1.130			.3		
23-DEC-86	RCS	5.8	2	.02	.1	.004	25.3			1		.02	.2	.100			.2		

## Bulk deposition chemistry 1986: Cwmystwyth (CWM)

TIME	SIT	NA	K	CU	MG	CA	ZN	CO	AL	PB	CR	MN	FE	NI
10-JAN-86	CWM	1.03	.10	.002	.133	.08	.026	.0010	.018	.002	.003	.002	.021	.003
14-JAN-86	CWM	15.28	.72	.003	1.745	.66	.034	.0010	.037	.002	.003	.003	.062	.003
15-JAN-86	CWM	7.78	.36	.002	.890	.36	.007	.0010	.010	.002	.003	.002	.023	.003
17-JAN-86	CWM	3.33	.14	.005	.384	.19	.020	.0010	.010	.004	.003	.002	.020	.003
20-JAN-86	CWM	3.13	.10	.002	.362	.13	.012	.0010	.004	.002	.003	.002	.003	.003
22-JAN-86	CWM	2.84	.10	.002	.330	.12	.011	.0010	.004	.002	.003	.002	.003	.003
23-JAN-86	CWM	1.05	.10	.002	.122	.06	.016	.0010	.004	.002	.003	.002	.003	.003
27-JAN-86	CWM	7.08	.26	.002	.814	.30	.024	.0010	.010	.002	.003	.002	.015	.003
03-FEB-86	CWM	1.56	.16	.012	.184	.28	.027	.0010	.018	.003	.003	.002	.031	.003
17-MAR-86	CWM	.36	.11	.007	.025	.07	.011	.0020	.016	.025	.003	.002	.031	.003
02-APR-86	CWM													
03-APR-86	CWM													
04-APR-86	CWM													
06-APR-86	CWM	5.80	.23	.002	.677	.27	.009	.0010	.009	.025	.003	.002	.007	.003
07-APR-86	CWM													
07-APR-86	CWM													
16-APR-86	CWM													
18-APR-86	CWM													
21-APR-86	CWM	.45	.17	.002	.043	.07	.013	.0020	.010	.025	.003	.002	.008	.003
22-APR-86	CWM	.49	.11	.002	.046	.05	.007	.0010	.011	.025	.003	.002	.010	.003
23-APR-86	CWM													
06-MAY-86	CWM													
21-MAY-86	CWM	1.86	.19	.003	.226	.40	.013	.0010	.021	.025	.003	.004	.023	.003
05-JUN-86	CWM	2.04	.14	.002	.234	.15	.009	.0010	.013	.025	.003	.002	.016	.003
28-JUN-86	CWM	.75	.10	.002	.105	.16	.057	.0010	.016	.025	.003	.002	.009	.003
29-JUL-86	CWM	.43	.17	.004	.056	.11	.040	.0010	.008	.025	.003	.002	.008	.003
29-JUL-86	CWM	.64	.14	.002	.081	.11	.018	.0010	.009	.025	.003	.002	.007	.003
31-JUL-86	CWM	.64	.12	.002	.080	.12	.064	.0010	.010	.025	.003	.002	.007	.003
01-AUG-86	CWM	1.84	.18	.005	.206	.24	.035	.0010	.010	.025	.003	.002	.007	.003
12-AUG-86	CWM		.10	.011	.219	.31	.023	.0010	.016		.003	.002	.007	.003
13-AUG-86	CWM													
14-AUG-86	CWM													
18-AUG-86	CWM													
27-AUG-86	CWM		.10	.003	.113	.22	.018	.0010	.015		.003	.002	.011	.003
28-AUG-86	CWM													
29-AUG-86	CWM		.10	.003	.250	.31	.017	.0010	.014		.003	.002	.005	.003
01-SEP-86	CWM	1.39	.81	.002	.179		.014	.0010	.015		.003	.002	.003	.003
02-SEP-86	CWM													
03-SEP-86	CWM	3.08	.10	.009	.373	.35	.024	.0010	.011		.003	.002	.005	.003
08-SEP-86	CWM													
10-SEP-86	CWM													
10-NOV-86	CWM	3.07	.71	.002	.363	.25	.006	.0010	.009		.003	.002	.003	.003
11-NOV-86	CWM	2.87	.67	.002	.361	.16	.005	.0010	.009		.003	.003	.005	.003
12-NOV-86	CWM	3.08	.59	.002	.388	.15	.005	.0010	.008		.003	.002	.003	.003
13-NOV-86	CWM	.47	.59	.002	.050	.07	.010	.0010	.012		.003	.002	.006	.003
14-NOV-86	CWM	.45	.56	.002	.056	.07	.011	.0010	.009		.003	.002	.004	.003
15-NOV-86	CWM													
17-NOV-86	CWM	1.48	.56	.002	.176	.08	.020	.0010	.009		.003	.002	.004	.003
18-NOV-86	CWM	2.28	.50	.002	.273	.14	.015	.0010	.006		.003	.002	.003	.003
19-NOV-86	CWM	.63	.44	.002	.071	.04	.007	.0010	.008		.003	.002	.003	.003
20-NOV-86	CWM													
21-NOV-86	CWM													
24-NOV-86	CWM	13.55	.57	.054	1.580	.57	.005	.0010	.004		.004	.004	.003	.003
25-NOV-86	CWM	.86	.10	.011	.088	.08	.008	.0010	.004		.003	.002	.007	.003
26-NOV-86	CWM	.40	.10	.006	.038	.03	.005	.0010	.004		.003	.002	.006	.003
28-NOV-86	CWM													
28-NOV-86	CWM													
01-DEC-86	CWM													
02-DEC-86	CWM													
08-DEC-86	CWM	.76	.11	.004	.087	.11	.028	.0010	.018		.003	.002	.006	.003
09-DEC-86	CWM	2.36	.18	.005	.279	.21	.035	.0010	.023		.003	.002	.013	.003
10-DEC-86	CWM													
11-DEC-86	CWM													
12-DEC-86	CWM													
16-DEC-86	CWM	4.30	.17	.002	.544	.43	.042	.0010	.010		.003	.002	.003	.003
18-DEC-86	CWM													
19-DEC-86	CWM	.77	.10	.002	.077	.08	.039	.0010	.017		.003	.027	.017	.003
22-DEC-86	CWM													
23-DEC-86	CWM													
24-DEC-86	CWM	4.73	.25	.003	.593	.26	.031	.0010	.008		.003	.002	.007	.003
29-DEC-86	CWM	3.75	.26	.003	.479	.38	.237	.0010	.018		.003	.002	.016	.003
30-DEC-86	CWM	.20	.10	.002	.025	.07	.031	.0010	.012		.003	.002	.015	.003
31-DEC-86	CWM	2.64	.13	.006	.312	.22	.029	.0010	.016		.003	.002	.007	.003



## Bulk deposition chemistry 1986: Cwmystwyth (CWM)

(continued)

TIME	SIT	PH	CON	AN	TGN	NO2	TH	FC	TA	CL	F	OP	SI	SO4	UV	RAIN	HA	DOC	TN
10-JAN-86	CWM	4.8	13	.11	.1	.004	.6		.8	2		.02	.2	.790				.2	
14-JAN-86	CWM	5.9	122	.47	.1	.004	8.6		2.0	31		.02	.2	4.100				.2	
15-JAN-86	CWM	5.5	62	.14	.1	.004	4.2		1.4	17		.02	.2	2.070				.2	
17-JAN-86	CWM	5.1	33	.31	.2	.004	1.7		1.1	6		.02	.2	1.370				.2	
20-JAN-86	CWM	5.2	26	.16	.1	.004	1.6		1.3	5		.02	.2	1.130				.2	
22-JAN-86	CWM	4.9	25	.14	.1	.004	1.5		.9	5		.02	.2	1.200				.2	
23-JAN-86	CWM	5.3	9	.05	.1	.005	.6		1.4	2		.02	.2	.320				.2	
27-JAN-86	CWM	4.8	53	.21	.1	.006	4.0		.7	13		.02	.2	2.250				.2	
03-FEB-86	CWM	3.9	53	.67	.5	.004	1.1			3		.02	.2	4.330				.7	
17-MAR-86	CWM	3.8	51	.34	.8	.004	25.2			1		.02	.2	2.920				.4	.8
02-APR-86	CWM	5.8		.45	.1	.004				9		.02	1.1					.2	.6
03-APR-86	CWM	6.7		1.40	.9	.004				9		.03	3.0				1.0	5.9	
04-APR-86	CWM	5.5		.23	.1	.004				3		.02	.2					.2	.9
06-APR-86	CWM	5.1	50	.32	.1	.004	3.1		1.7	12		.02	.2	2.200				.2	.4
07-APR-86	CWM	4.1		.76	.7	.004				1		.02	.2					.5	1.2
07-APR-86	CWM	4.2		1.30	1.0	.004				4		.02	.2					.4	1.7
06-APR-86	CWM	4.8		.32	.2	.004				2		.02	.2					.2	
18-APR-86	CWM	4.2		.08	.4	.004				2		.02	1.3					.2	.7
21-APR-86	CWM	5.0	6	1.00	.1	.004	.2		.8	1		.02	.2	.700				.2	.2
22-APR-86	CWM	4.4	16	.18	.2	.004	.1			1		.02	.2	1.120				.2	.3
03-APR-86	CWM	4.1		.24	.5	.004				4		.02	.4					.3	.9
06-MAY-86	CWM	4.5	28	.94	.4	.006			.2	2		.02	.2					.2	.6
21-MAY-86	CWM	3.7	87	.41	.1	.004	1.8			4		.02	.2	8.260				.2	.5
05-JUN-86	CWM	4.4	32	.17	.1	.004	1.2			4		.02	.2	1.880				.2	.4
28-JUN-86	CWM	4.8	16	.33	.2	.004	.8		.8	1		.02	.6	1.580				.2	.4
09-JUL-86	CWM	4.7	12	.06	.1	.004	.3		.6	1		.04	.3	.890				.2	.4
29-JUL-86	CWM	4.9	11	.15	.1	.004	.3		1.0	1		.02	.2	.760				.2	.2
31-JUL-86	CWM	4.7	18	.05	.1	.004	.3		.4	1		.02	.2	.920				.2	.2
01-AUG-86	CWM	5.3	14	.17	.1	.004	1.4		1.3	3		.02	.2	1.030				.2	.5
02-AUG-86	CWM	4.3	28	.18	.3	.004	1.6			4		.02	.2	2.160				.2	.3
13-AUG-86	CWM	3.5	134	1.40	2.8	.004				1		.02	.3					.2	1.1
14-AUG-86	CWM	4.6	9	.02	.1	.004			.4	1		.02	.2					.2	.5
18-AUG-86	CWM	4.3	59	.52	.4	.004				9		.02	.2					.7	.7
27-AUG-86	CWM	4.4	18	.02	.1	.004	1.0			2		.02	.2	1.410				.2	.4
03-AUG-86	CWM	4.6	35	.04	.1	.004			.3	6		.02	.2					.2	.4
29-AUG-86	CWM	4.5	26	.02	.1	.004	1.6			5		.02	.2	2.000				.2	.6
01-SEP-86	CWM	4.7	18	.07	.1	.004	.4		.5	3		.02	.2	1.270				.2	.4
02-SEP-86	CWM	5.1	6	.02	.1	.004			1.2	1		.02	.2					.2	.4
03-SEP-86	CWM	4.7	29	.11	.1	.004	2.1		.6	7		.02	.2	1.780				.2	.3
08-SEP-86	CWM			.02	.1	.004				8		.02	1.0					.2	.10
10-SEP-86	CWM	3.5	183	1.80	5.0	.004				5		.02	.2					.2	.04
10-SEP-86	CWM	5.3	24	.12	.1	.004	626.2		1.4	6		.02	.2	1.250				.2	.4
11-NOV-86	CWM	5.0	25	.03	.1	.004	1.6		1.1	6		.02	.2	1.270				.2	.2
12-NOV-86	CWM	4.8	26	.02	.1	.004	1.6		.9	6		.02	.2	1.310				.2	.3
13-NOV-86	CWM	4.6	14	.26	.2	.004	.2		.4	1		.02	.2	1.460				.2	.2
14-NOV-86	CWM	4.6	13	.33	.2	.004	.2		.4	1		.02	.2	1.610				.2	.3
15-NOV-86	CWM	5.9		.62	.3	.004				14		.02	.2					.2	.04
17-NOV-86	CWM	5.0	13	.08	.1	.004	.6		1.1	3		.02	.2	.890				.2	.2
18-NOV-86	CWM	5.5	18	.04	.1	.004	1.2		1.6	5		.02	.2	.840				.2	.2
19-NOV-86	CWM	5.3	6	.02	.1	.004	.1		1.4	1		.02	.2	.340				.2	.2
20-NOV-86	CWM			.02	.1	.004				11		.02	.2					.2	.04
21-NOV-86	CWM	5.1	11	.02	.1	.004			1.2	2		.02	.2					.2	.2
24-NOV-86	CWM	5.2	92	.08	.1	.004	7.6		1.5	25		.04	.2	3.950				.2	.2
25-NOV-86	CWM	5.1	7	.03	.1	.004	.2		1.2	1		.02	.2	.620				.2	.2
26-NOV-86	CWM	5.1	5	.02	.1	.004	.1		1.3	1		.02	.2	.360				.2	.2
28-NOV-86	CWM	5.7	106	.08	.1	.004				29		.02	.2					.2	.4
01-DEC-86	CWM	5.3																	
01-DEC-86	CWM	4.1		.78	1.2	.004				11		.02	.4					.2	.7
02-DEC-86	CWM	4.8	26	.35	.1	.004			.7	4		.02	.2					.2	.7
08-DEC-86	CWM	4.7	12	.02	.1	.004	.3		.6	2		.02	.2	.910				.2	.2
09-DEC-86	CWM	4.6	30	.32	.2	.004	1.3		.3	5		.02	.2	2.040				.2	.2
10-DEC-86	CWM	5.1		.02	.1	.004				6		.02	.2					.2	.2
11-DEC-86	CWM	6.7		.44	.1	.004				5		.15	.2					.2	.2
12-DEC-86	CWM	6.0		.48	.1	.012				19		.02	.2					.2	.2
16-DEC-86	CWM	5.8	45	.13	.1	.004	3.1		1.9	11		.02	.2	1.830				.2	.2
18-DEC-86	CWM	5.6		.15	.1	.004				8		.02	.2					.2	.2
19-DEC-86	CWM	5.3	8	.06	.1	.004	.2		1.2	1		.02	.2	.560				.2	.2
22-DEC-86	CWM	5.1		.10	.1	.004				24		.02	.2					.2	.2
23-DEC-86	CWM	5.6		.35	.2	.004				13		.02	.2					.2	.2
24-DEC-86	CWM	5.2	44	.09	.1	.004	2.7		1.1	11		.02	.2	1.810				.2	.2
29-DEC-86	CWM	5.0	31	.24	.1	.004	2.6		1.1	7		.02	.2	2.160				.2	.2
30-DEC-86	CWM	5.2	3	.03	.1	.004	25.2		1.1	1		.02	.2	.260				.2	.2
31-DEC-86	CWM	5.9	28	.15	.1	.004	1.8		1.9	.7		.02	.2	1.570				.2	.2

Rain chemistry 1986: Trawsnant (WDS)

TIME	SIT	NA	K	CU	MG	CA	ZN	CD	AL	PB	CR	MN	FE	NI
18-JUL-86	WDS	.30	.10	.007	.054	.40	.020	.0010	.012	.025	.003	.003	.028	.003
30-JUL-86	WDS	.59	.23	.002	.076	.09	.042	.0010	.014	.025	.003	.002	.014	.003
06-AUG-86	WDS	2.47	.46	.002	.381	.29	.082	.0010	.012	.025	.003	.008	.017	.003
13-AUG-86	WDS	1.94	.10	.002	.282	.46	.027	.0010	.017	.025	.003	.002	.015	.003
20-AUG-86	WDS	1.35	.67	.002	.229	.28	.045	.0010	.014	.032	.003	.033	.003	.003
27-AUG-86	WDS	.58	.10	.002	.089	.17	.011	.0010	.010	.025	.003	.002	.006	.003
03-SEP-86	WDS	2.03	.32	.002	.237	.18	.026	.0010	.010		.003	.002	.030	.004
17-SEP-86	WDS													
24-SEP-86	WDS													
01-OCT-86	WDS													
08-OCT-86	WDS													
15-OCT-86	WDS													
22-OCT-86	WDS	1.51	.11	.002	.207	.14	.017	.0010	.004		.003	.002	.004	.003
29-OCT-86	WDS	7.43	.24	.002	.855	.37	.038	.0010	.012		.003	.002	.012	.003
05-NOV-86	WDS	2.09	.10	.002	.236	.13	.041	.0010	.004		.003	.002	.013	.020
12-NOV-86	WDS	1.64		.002	.214	.10	.036	.0010	.005		.003	.002	.003	.003
19-NOV-86	WDS	1.52	.34	.002	.174	.11	.032	.0010	.012		.003	.002	.009	.003
26-NOV-86	WDS	5.30		.002	.641	.24	.047	.0010	.004		.003	.002	.004	.003
03-DEC-86	WDS													
10-DEC-86	WDS	4.07	.17	.002	.496	.29	.102	.0010	.016		.003	.002	.006	.003
17-DEC-86	WDS	1.98	.10	.002	.250	.10	.023	.0010	.017		.003	.002	.004	.003
23-DEC-86	WDS	4.47	.23	.002	.589	.30	.037	.0010	.006		.003	.007	.003	.003
31-DEC-86	WDS	1.10	.10	.002	.127	.05	.033	.0010	.004		.003	.002	.003	.003

TIME	SIT	PH	CON	AN	TON	NO2	TH	FC	TA	CL	F	OP	SI	S04	UV	RAEN	HA	DOC	TN
18-JUL-86	WDS	5.4	12	.89	.2	.004	1.0		1.6	1		.07	.2	2.440			.2	.4	.07
30-JUL-86	WDS	5.1	14	1.10	.1	.004	.2		3.3	1		.02	.2	1.140			.3	1.8	.82
06-AUG-86	WDS						2.0							1.500				4.0	
13-AUG-86	WDS	4.4	35	.65	.5	.004	2.0			4		.08	.2	2.720			.2	.6	.08
20-AUG-86	WDS	6.8	75	6.30	.3	.013	1.5		25.0	3		.57	.2	3.920			2.1	3.1	4.60
27-AUG-86	WDS	4.5	15	.15	.1	.004	.4		.1	1		.02	.2	1.020			.2	.2	.07
03-SEP-86	WDS	6.1	32	1.60	.1	.005	1.3		4.8	5		.18	.2	1.600			.2	.9	.76
17-SEP-86	WDS	4.4	25	.77	.4	.007				3		.02	.2				.6		
24-SEP-86	WDS			.82	.4	.010				1		.04	.2				.2		
01-OCT-86	WDS	3.7	103	1.90	1.4	.004				5		.02	.2				.4		
08-OCT-86	WDS	4.0	57	2.20	1.3	.004				1		.02	.2				.3		
15-OCT-86	WDS	4.3	32	1.10	.7	.004				1		.02	.2				.2	.7	.13
22-OCT-86	WDS	4.9	19	.11	.1	.004	1.2		.7	3		.02	.2	1.070			.2	.3	.04
29-OCT-86	WDS	4.9	56	.10	.1	.004	4.2		1.1	14		.02	.2	2.590			.2	.2	.04
05-NOV-86	WDS	4.9	21	.10	.1	.004	1.1		.8	4		.02	.2	1.330			.2	.3	.10
12-NOV-86	WDS	4.8	18	.09	.1	.004	1.1		.9	3		.02	.2	1.140			.2	.2	.04
19-NOV-86	WDS	4.8	16	.12	.1	.004	.7		.9	2		.02	.2	1.160					.08
26-NOV-86	WDS	5.0	38	.06	.1	.004	3.1		1.1	10		.02	.2	1.950				.2	.04
03-DEC-86	WDS	4.3	73	.84	.8	.004	.0			11		.02	.2				.2	.8	.20
10-DEC-86	WDS	4.7	26	.23	.2	.004	2.4		.6	6		.02	.2	2.600				.2	
17-DEC-86	WDS	4.9	19	.06	.1	.004	1.1		1.0	6		.02	.2	1.080				.2	
23-DEC-86	WDS	5.2	39	.11	.1	.004	2.8		1.2	10		.02	.2	1.860				.2	
31-DEC-86	WDS	5.1	12	.08	.1	.004	.5		1.3	2		.02	.2	.670				.2	

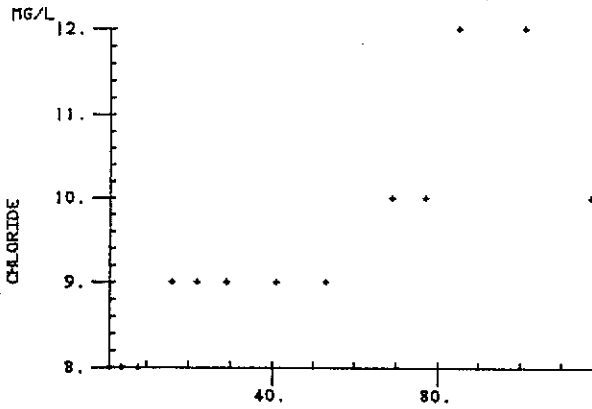
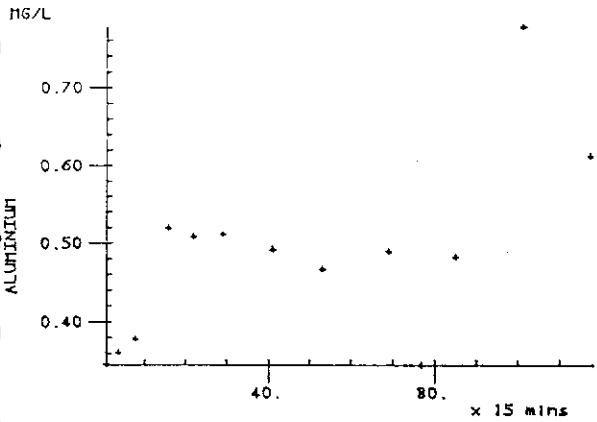
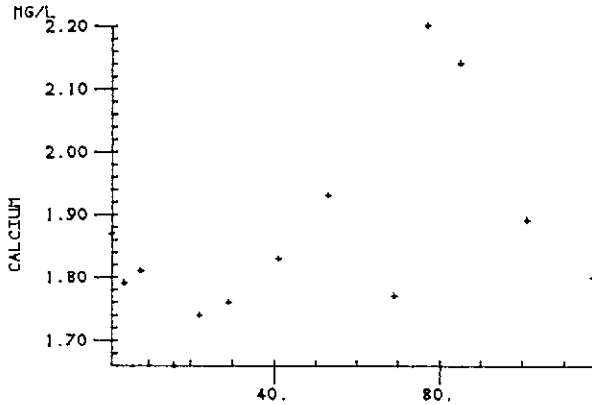
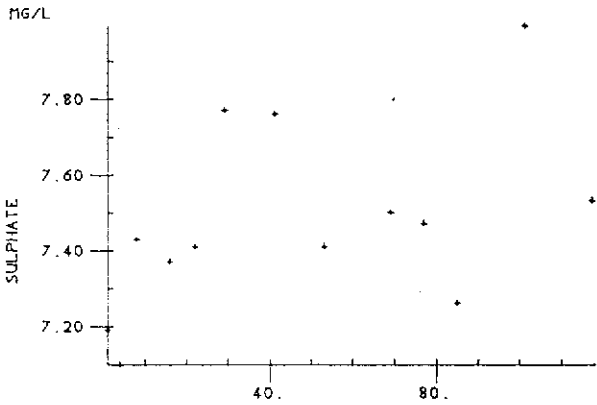
Section 5

Event sampled stream chemistry

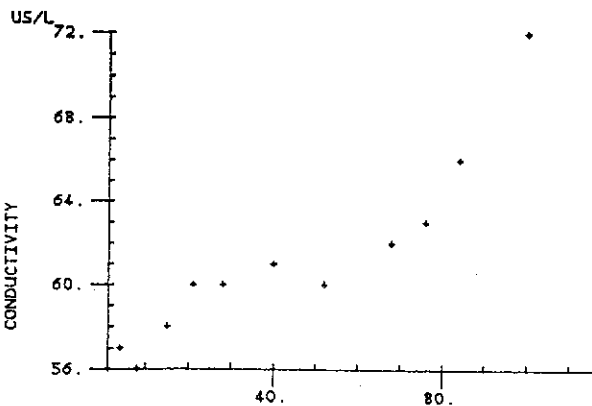
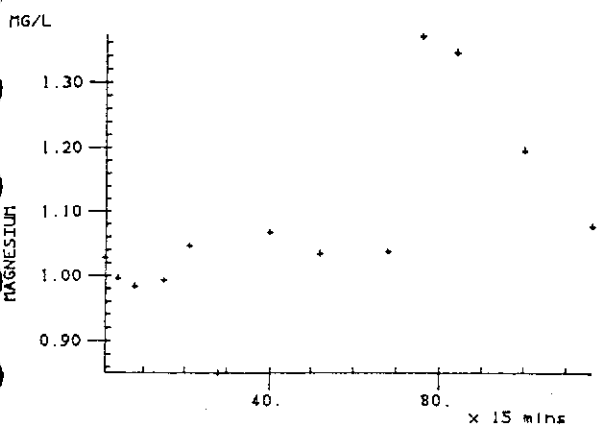
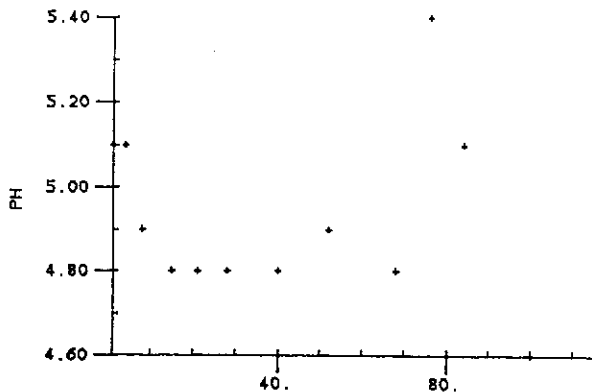
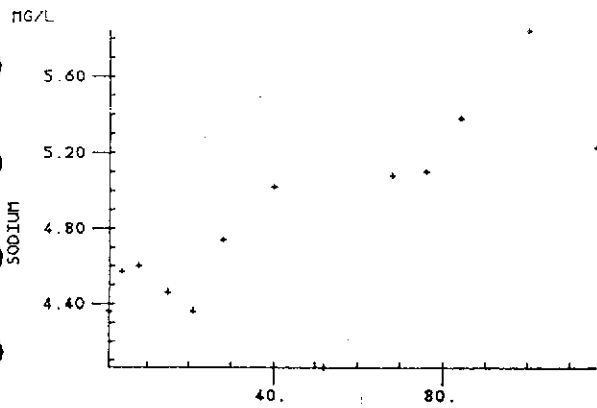
Dates of autosampled episodes 1986

Catchment Stream	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
LI1			3 20					21			5 13	29
LI2			4	19						4 20 24		8 29
LI3			4				30					
LI4												
LI6			4 20	19								
LI8								1		24		4 11
GI1			4					26		4		
UC4	22		24 29	19		9	28			20		
CI2												
CI3					17	10	26			7 12 21		
CI4			4 20		17	10		5 22		24		
CI5			4				28			25		
CI6			4	3						21	8	

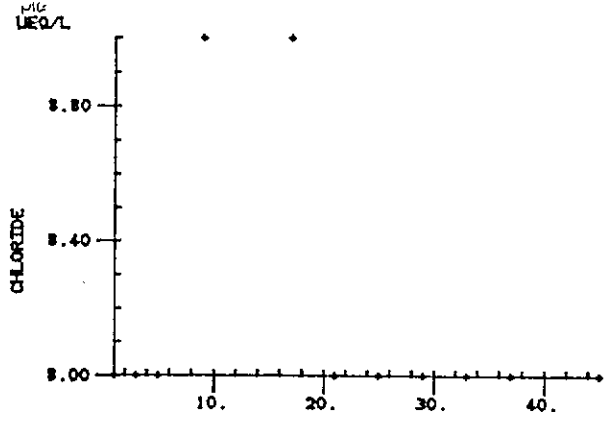
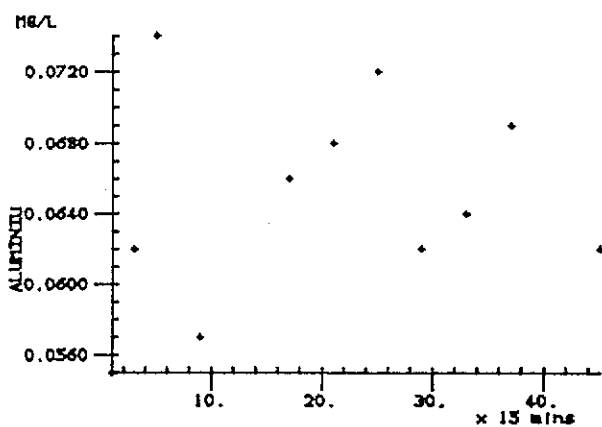
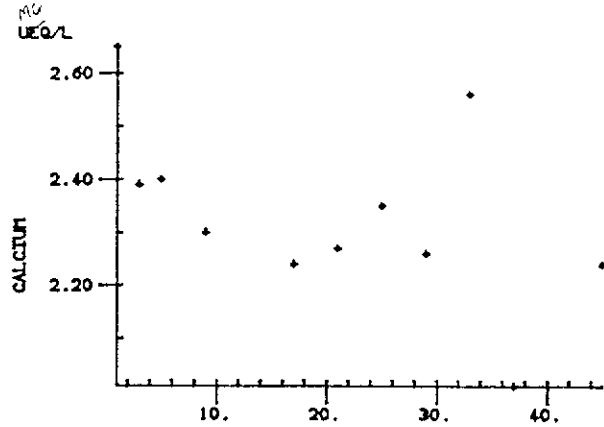
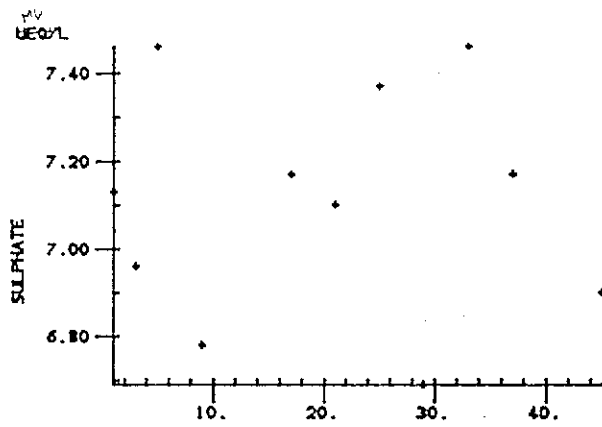
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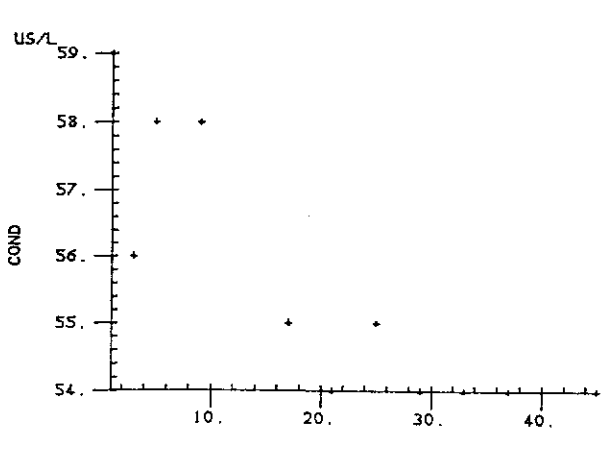
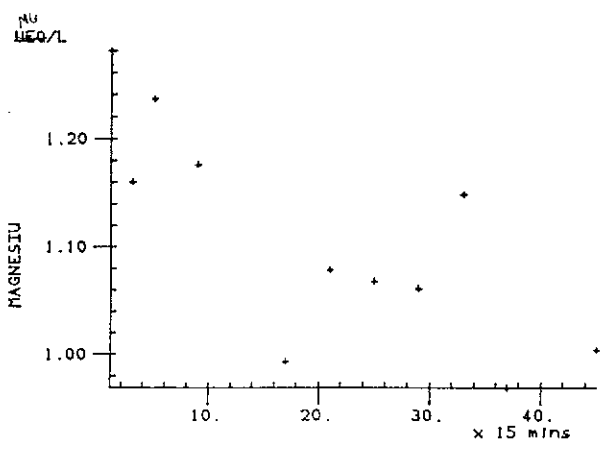
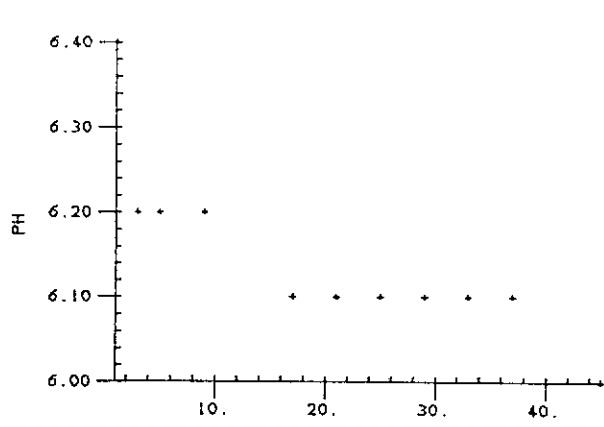
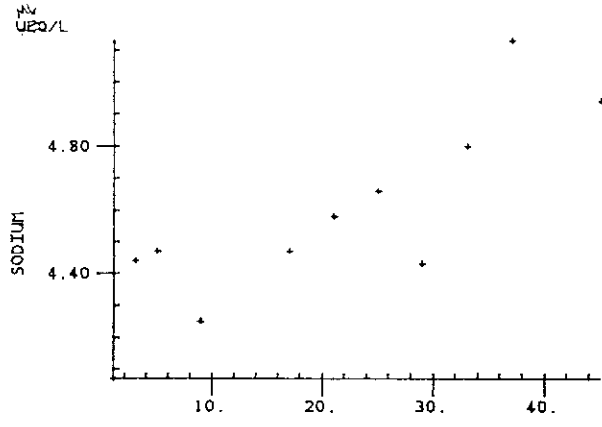
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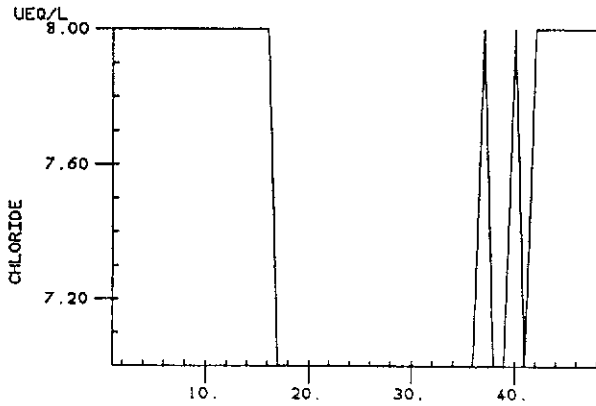
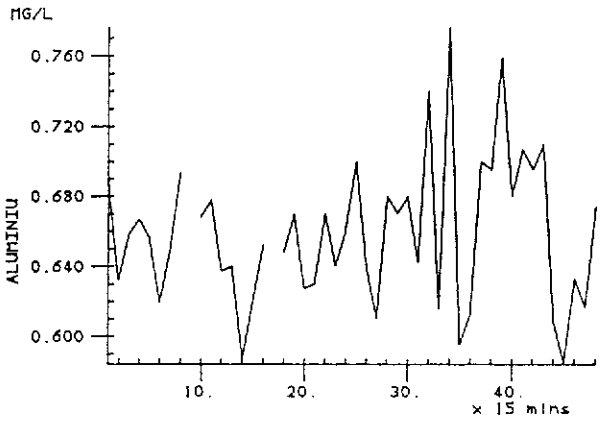
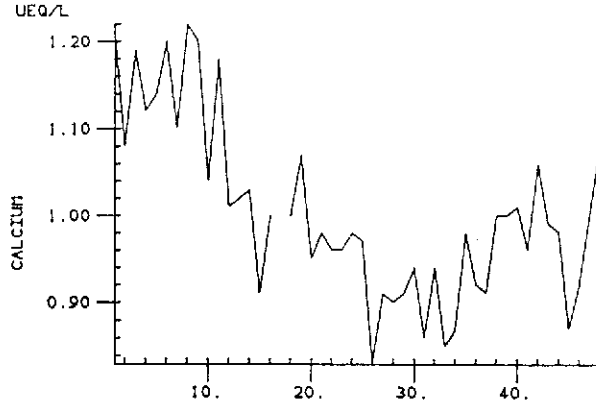
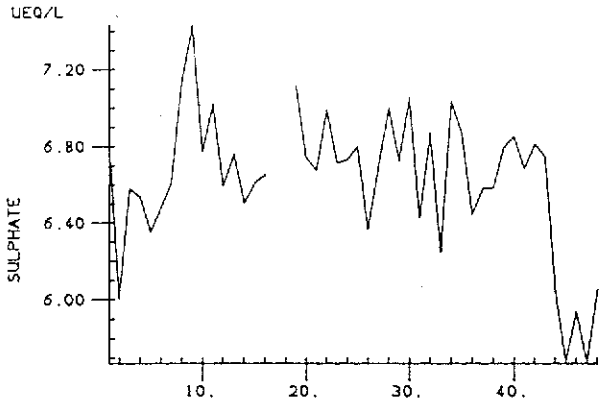
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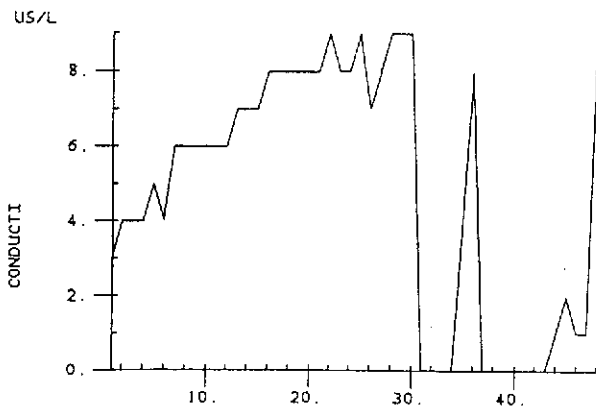
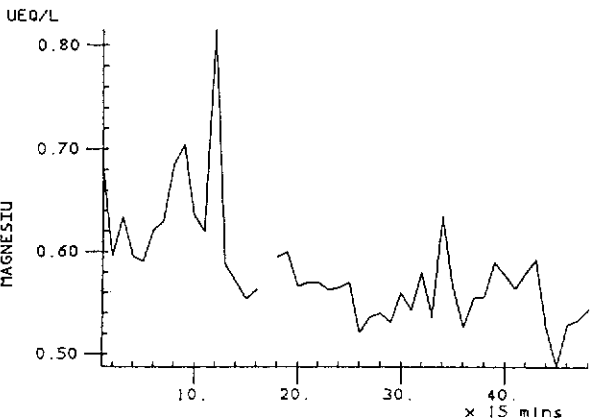
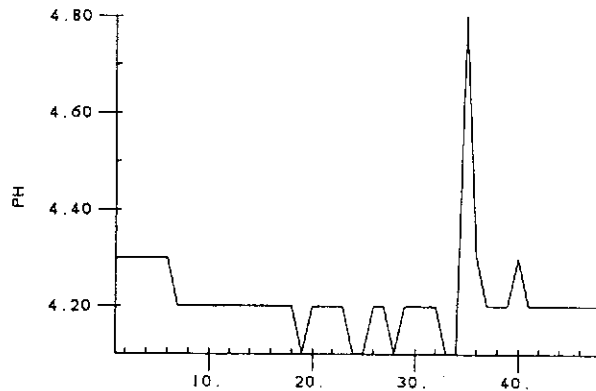
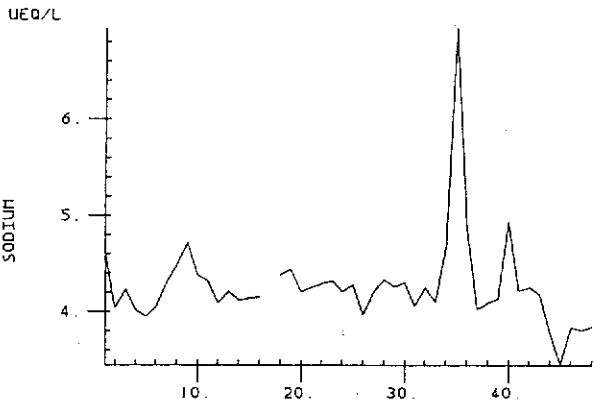
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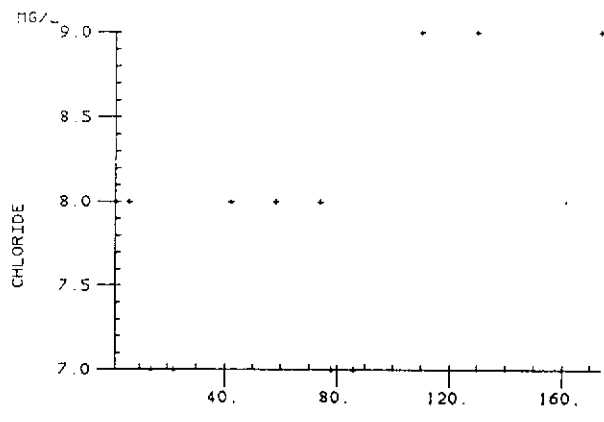
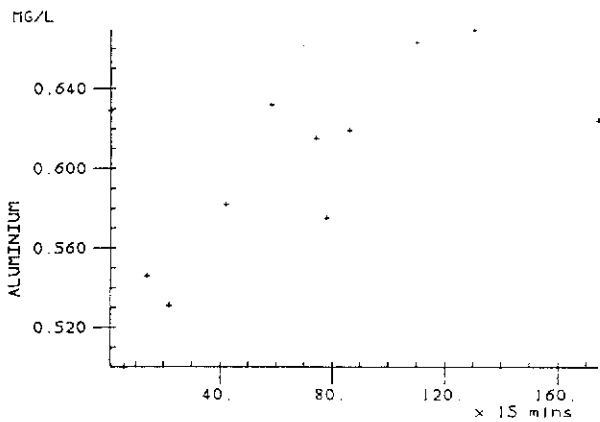
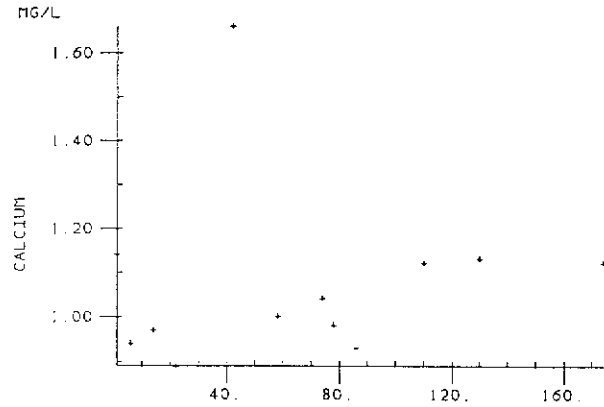
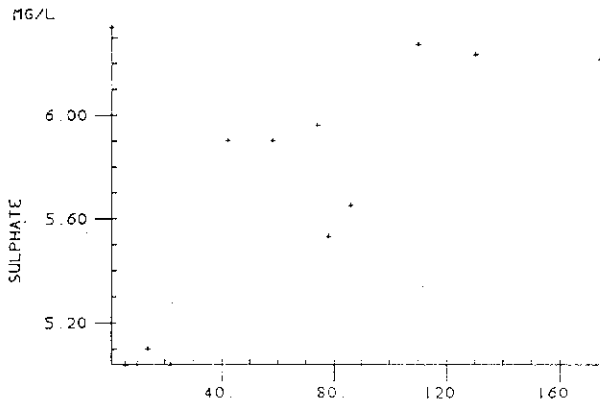
LI2 AUTO SAMPLE DATA (190486-200486)



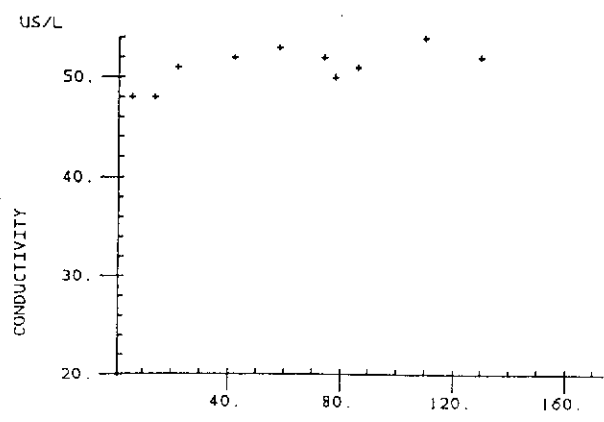
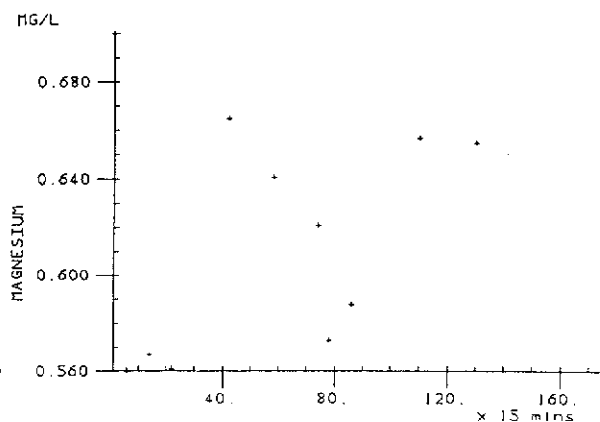
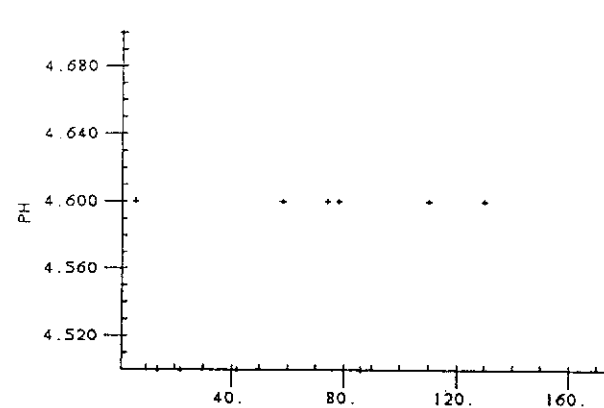
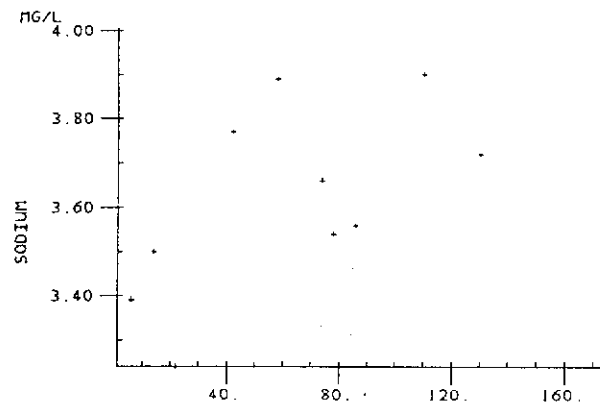
LI2 AUTO SAMPLE DATA (190486-200486)



LI2 AUTO SAMPLES (081286-091286)

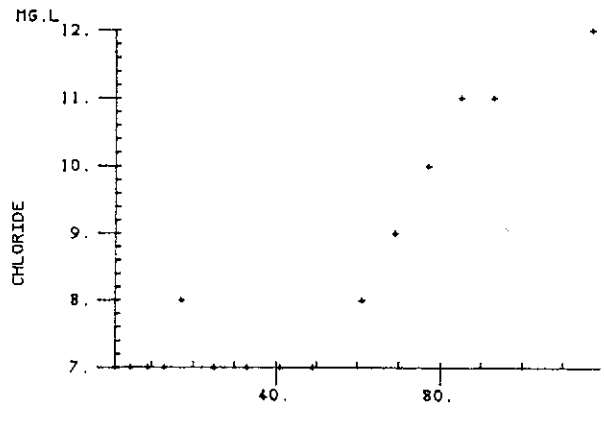
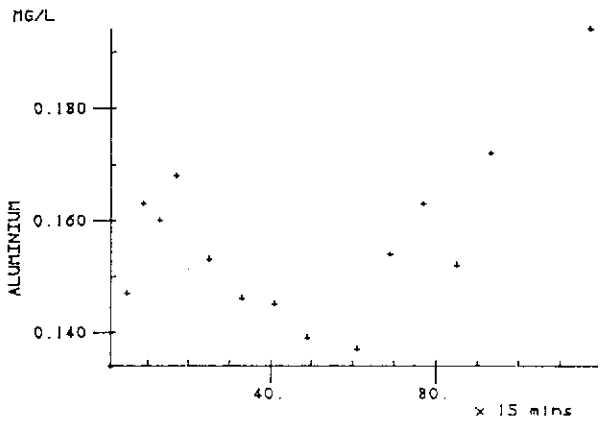
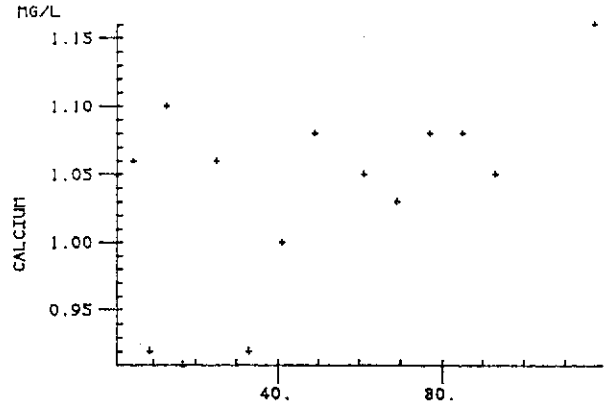
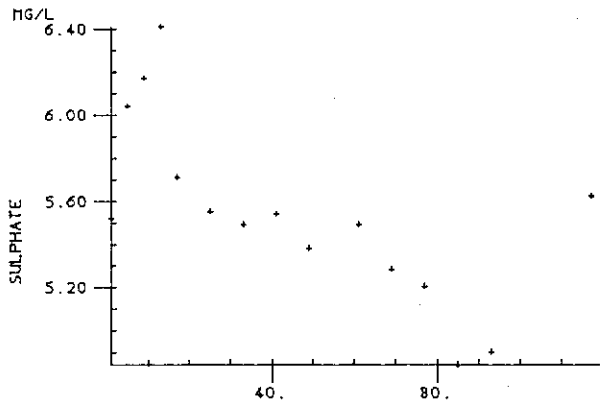


LI2 AUTO SAMPLES (081286-091286)

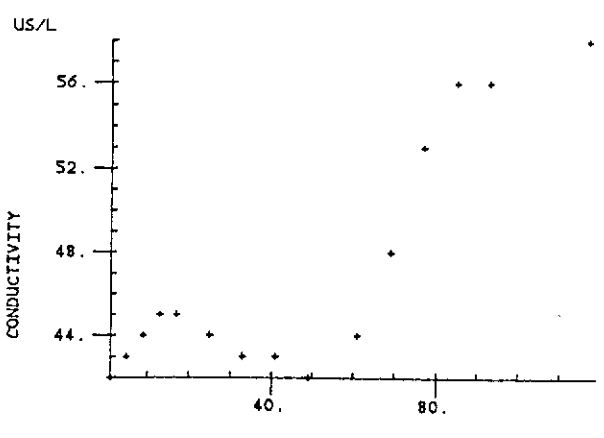
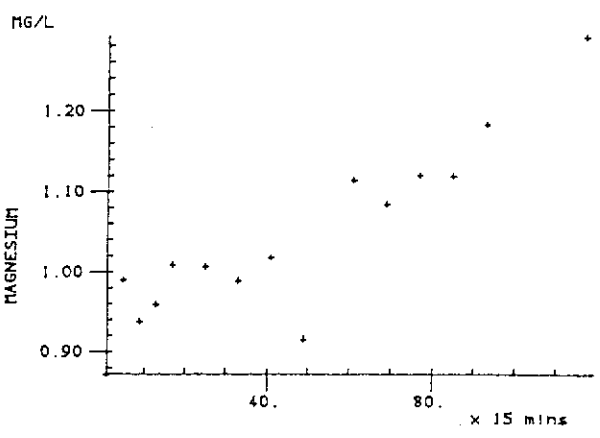
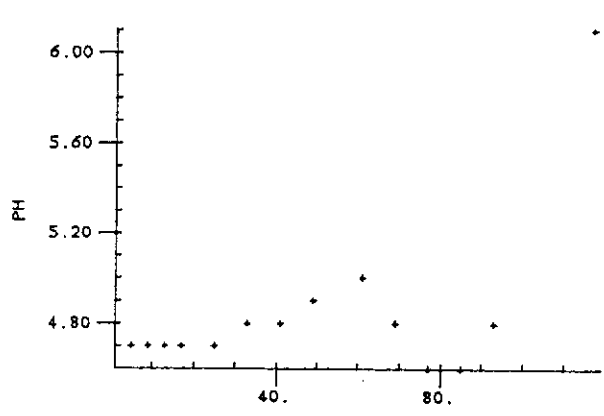
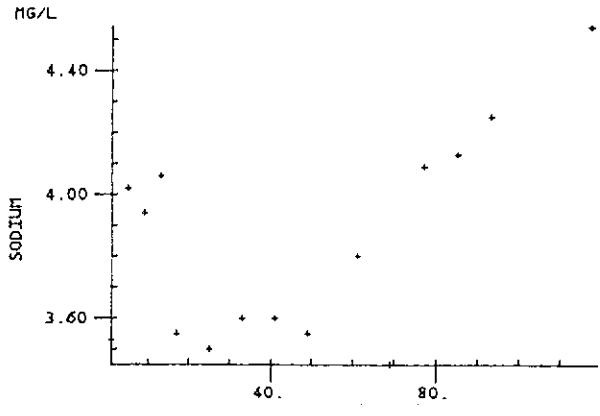




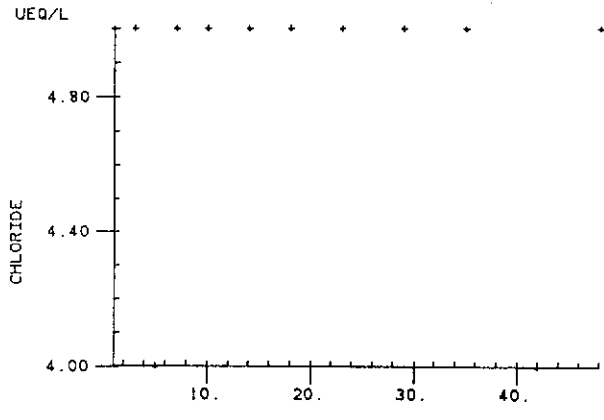
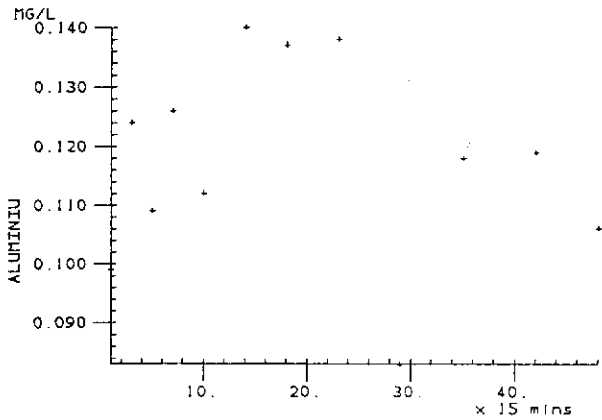
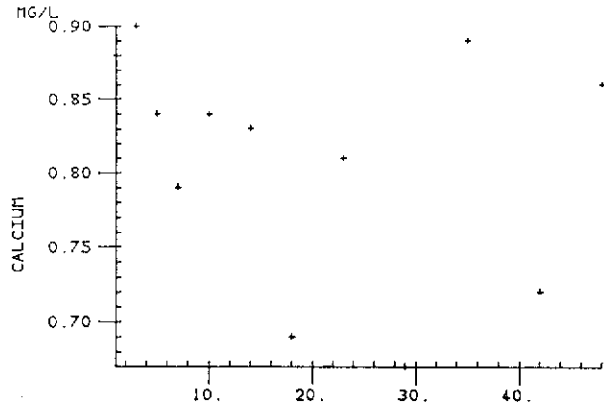
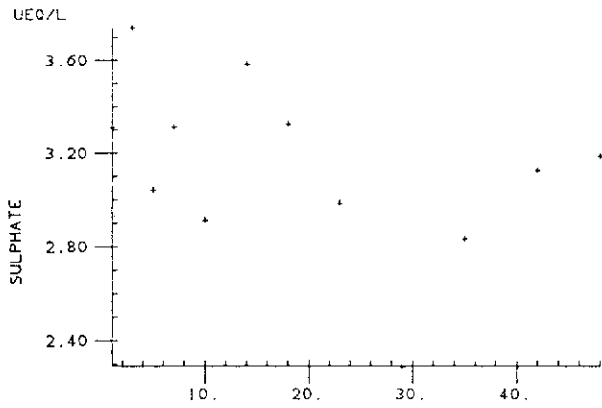
CI4 AUTO SAMPLES (241086-251086)



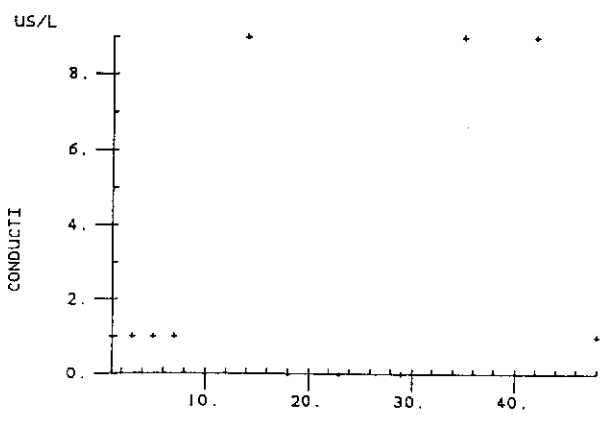
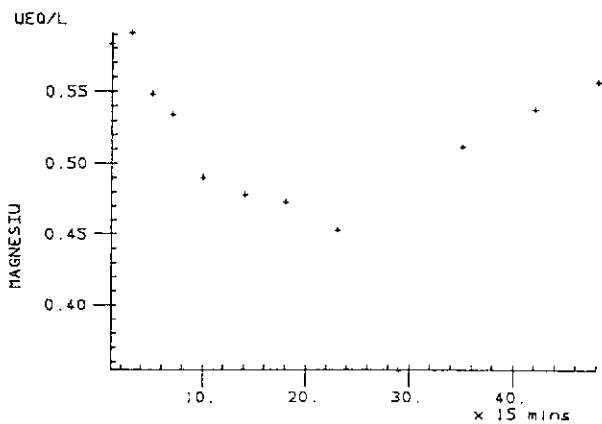
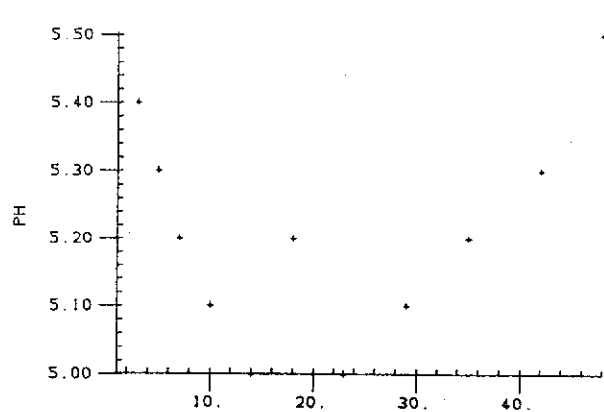
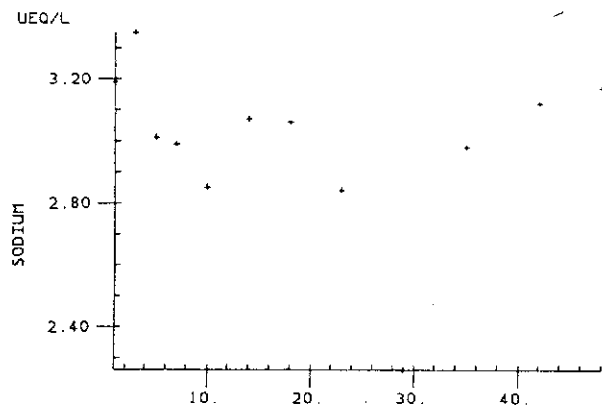
CI4 AUTO SAMPLES (241086-251086)



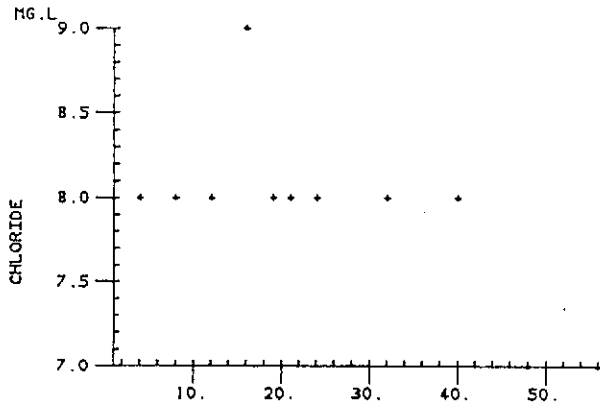
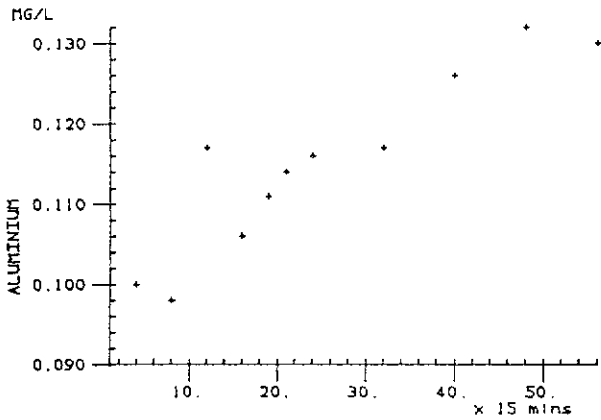
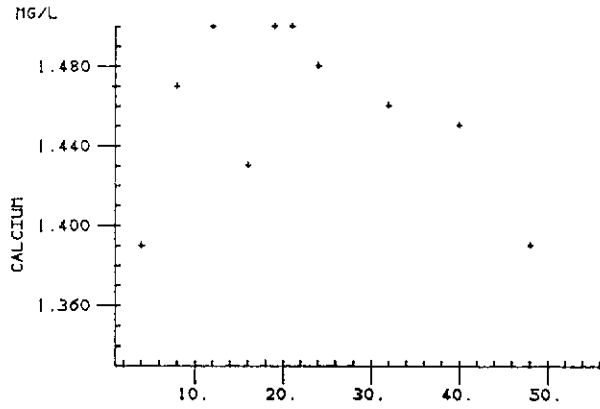
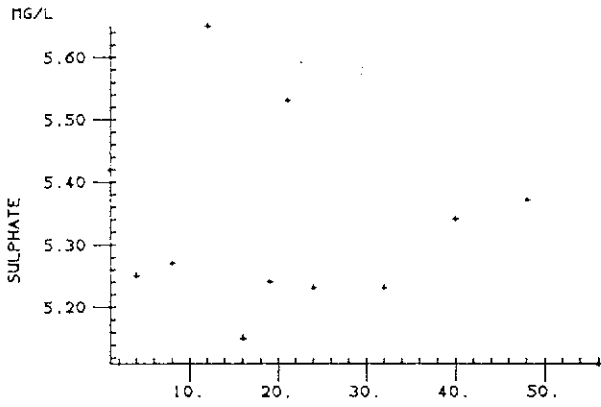
CI4 AUTO SAMPLES (100686-110686)



CI4 AUTO SAMPLES (100686 110686)

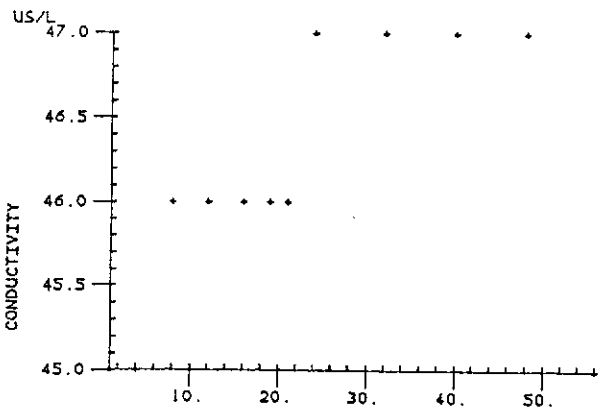
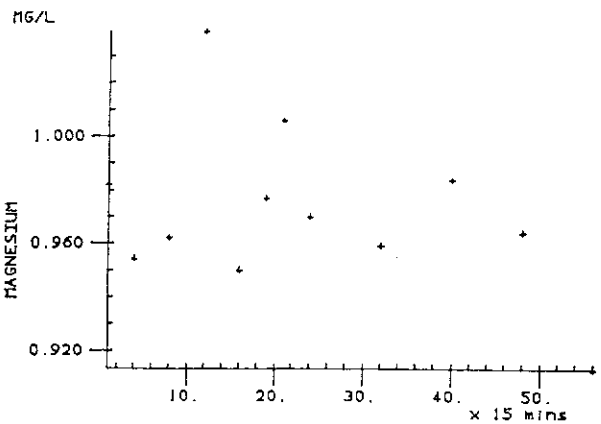
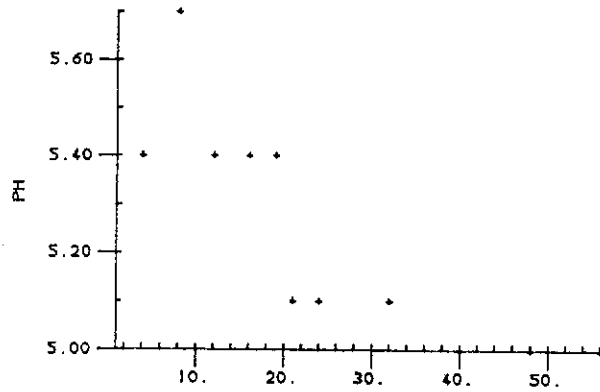
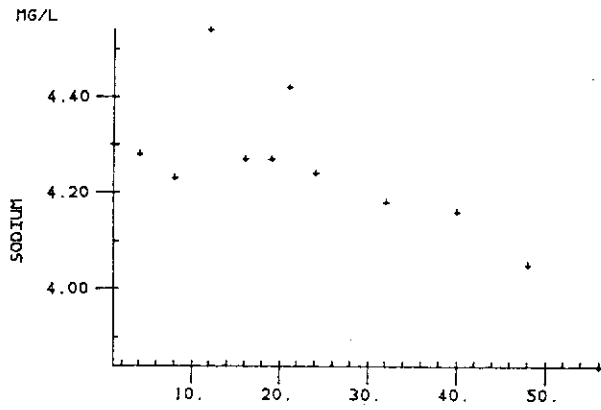


# CI3 AUTO SAMPLE DATA (211086)

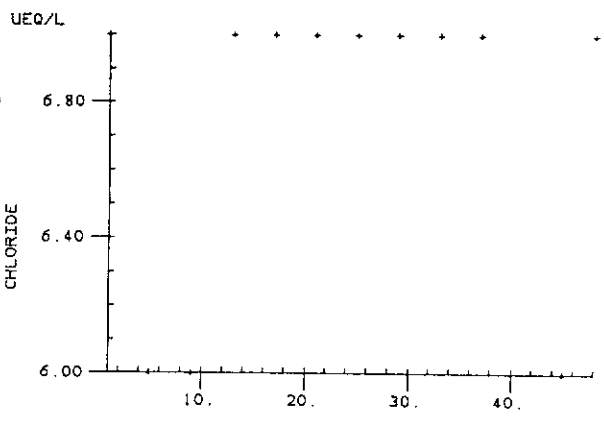
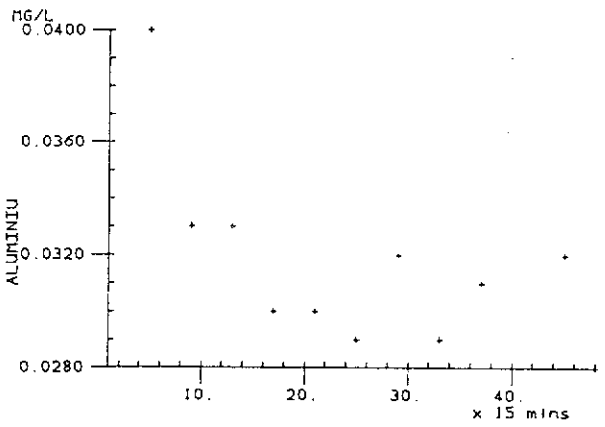
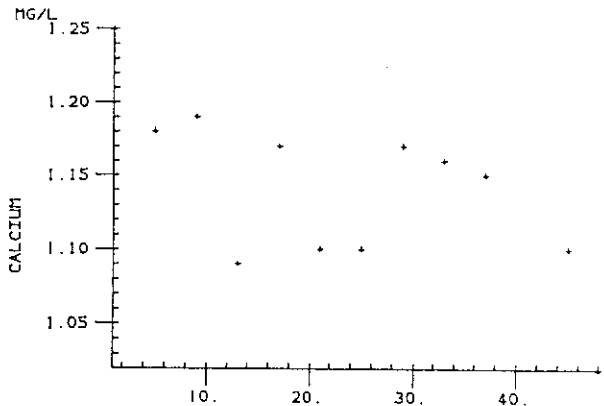
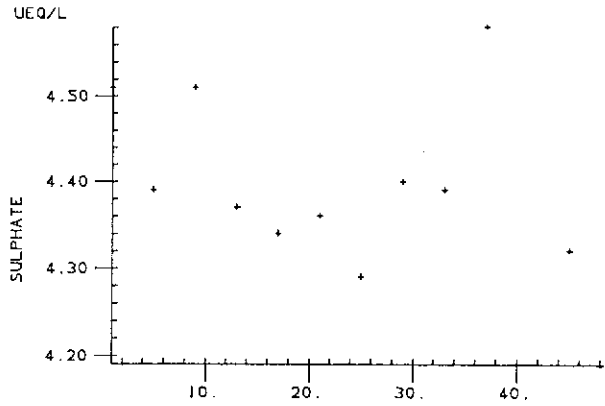


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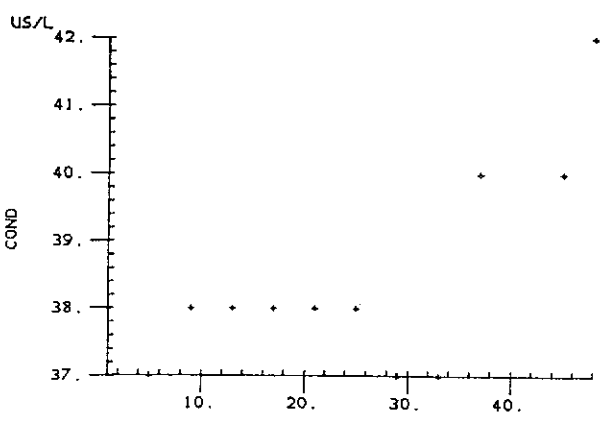
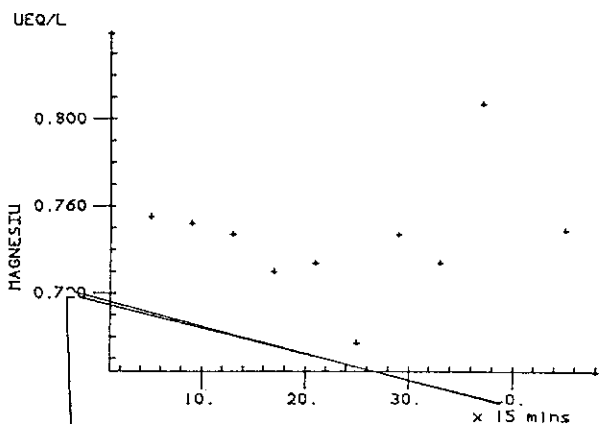
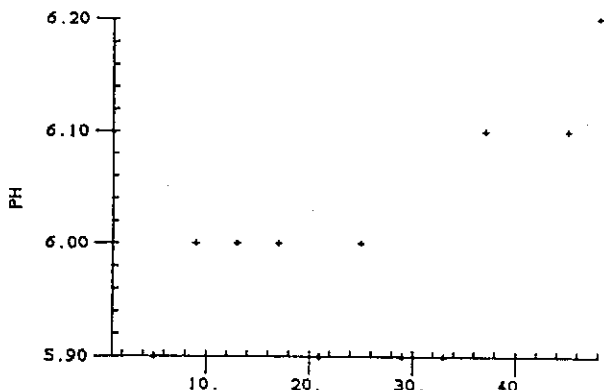
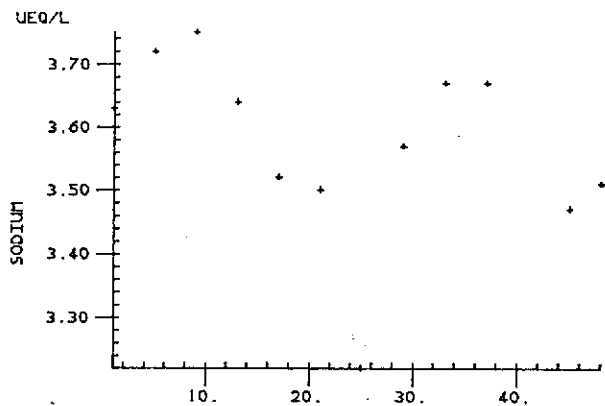
# CI3 AUTO SAMPLES (21086)



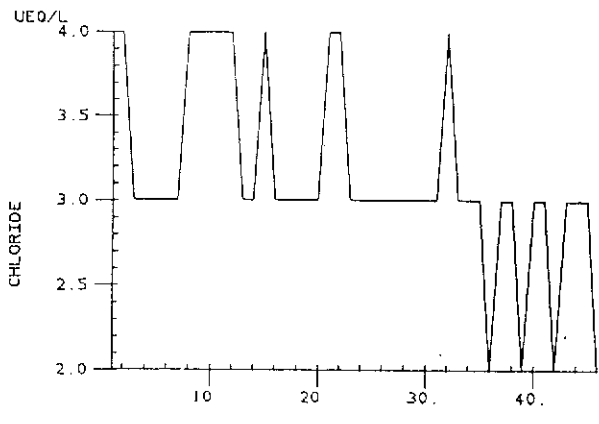
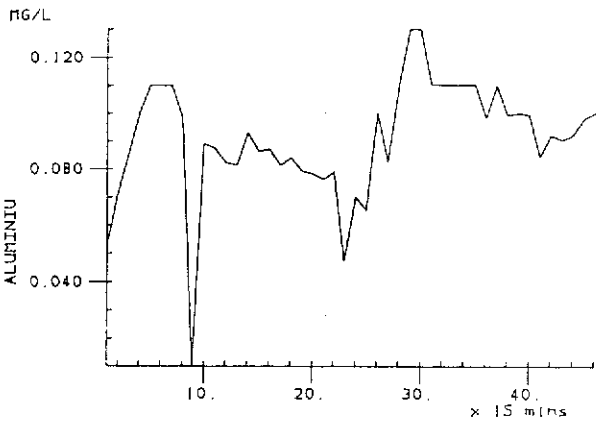
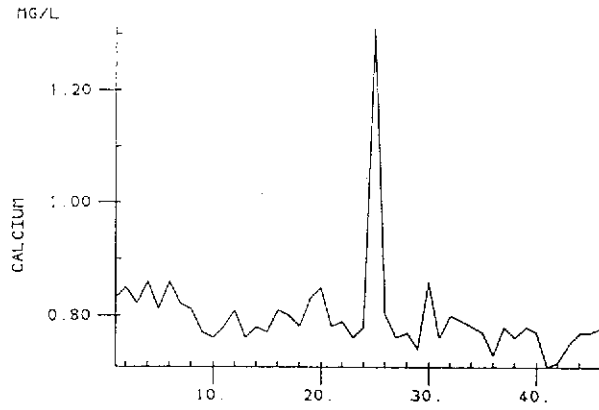
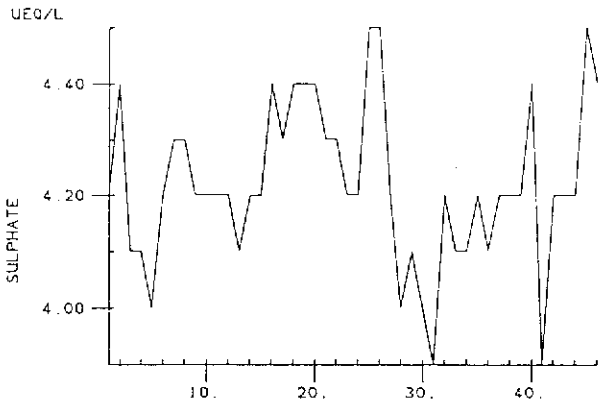
### CI3 AUTO SAMPLES (071086)



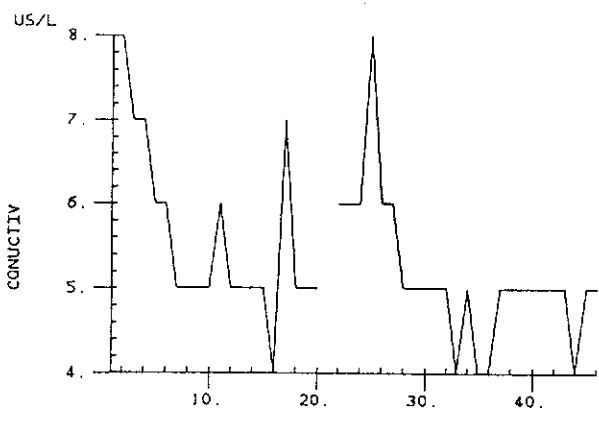
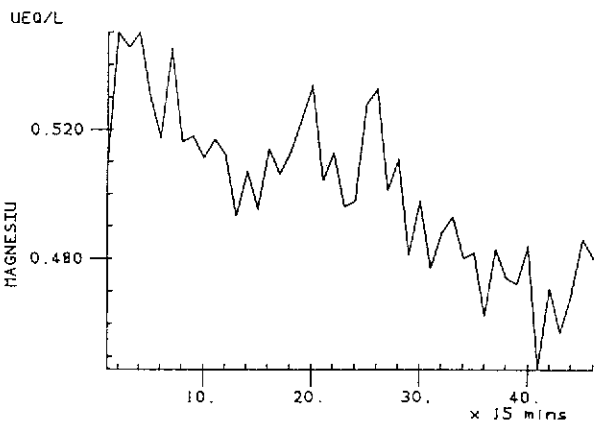
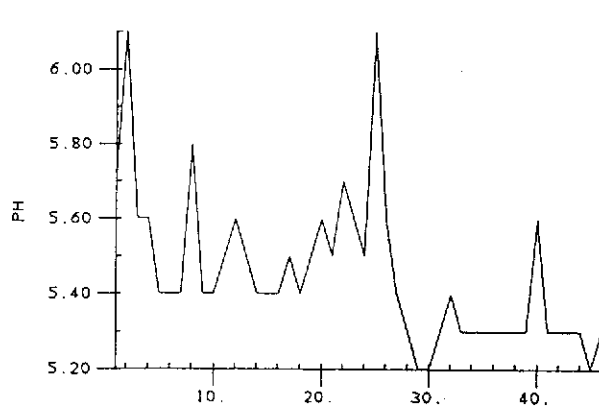
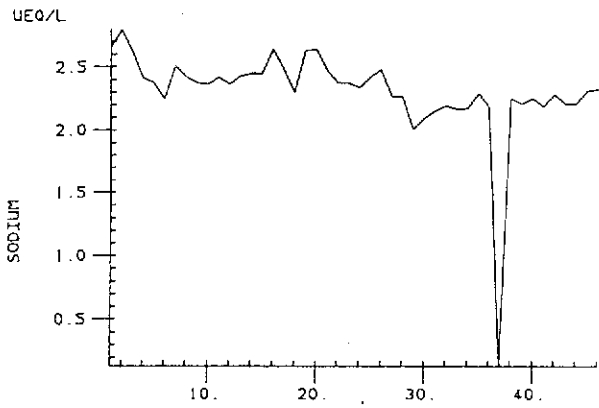
### CI3 AUTO SAMPLE DATA (071086)



C13 AUTO SAMPLES (260785-270785)



C13 AUTO SAMPLES (260785-270785)



Section 6

Spot sampled stream chemistry

	PH	HARD	CA	MG	AL	ZN	MN	FE	SO4	CL	NA	
SIT NUM												
CI1	10	4.92	4.81	.96	.63	.08	.01	.06	.051	3.68	5.80	3.49
		5.20	5.50	1.37	.75	.10	.02	.08	.084	4.93	7.00	6.34
		4.30	4.00	.78	.50	.07	.00	.04	.034	3.16	4.00	2.63
		.27	.50	.16	.07	.01	.00	.01	.014	.52	.79	1.04
CI2	10	5.04	4.15	.81	.58	.12	.01	.18	.120	3.34	6.10	3.31
		5.80	4.90	1.00	.69	.21	.02	.23	.175	3.80	8.00	4.12
		4.50	3.10	.59	.48	.08	.00	.12	.080	3.03	4.00	2.62
		.42	.51	.13	.06	.04	.00	.03	.029	.32	1.10	.45
CI3	11	5.11	5.03	.96	.68	.14	.01	.06	.044	3.89	5.27	3.21
		5.60	6.70	1.53	.81	.25	.02	.13	.121	4.37	8.00	3.89
		4.70	3.90	.73	.56	.05	.01	.03	.023	3.38	3.00	2.69
		.31	.83	.21	.09	.06	.00	.03	.030	.34	1.27	.36
CI4	11	5.43	5.11	.94	.72	.09	.01	.10	.127	3.42	5.64	3.13
		6.10	7.10	1.37	.90	.14	.01	.23	.171	4.50	7.00	3.47
		4.60	4.90	.83	.53	.05	.00	.04	.074	2.92	4.00	2.51
		.53	1.04	.24	.10	.03	.00	.06	.027	.49	.81	.26
CI5	11	5.15	4.84	.96	.66	.18	.01	.07	.077	4.08	5.45	3.19
		6.20	5.60	1.12	.79	.30	.02	.10	.180	4.71	6.00	3.67
		4.70	4.80	.94	.63	.09	.01	.03	.034	3.92	4.00	3.17
		.41	.69	.15	.09	.07	.00	.02	.057	.47	.69	.26
CI6	11	5.64	6.22	1.26	.79	.10	.01	.09	.181	4.01	5.36	3.30
		6.20	8.10	1.60	1.07	.16	.02	.16	.394	5.16	6.00	3.87
		4.90	5.50	1.07	.72	.05	.01	.06	.092	3.42	4.00	3.15
		.50	1.06	.22	.14	.03	.00	.04	.085	.64	.81	.37
GI1	11	6.00	7.35	1.66	.83	.03	.01	.00	.014	5.17	6.82	3.88
		6.70	8.20	1.80	.95	.05	.01	.01	.031	5.89	8.00	4.27
		5.60	6.50	1.47	.77	.02	.00	.00	.005	4.45	6.00	3.60
		.28	.42	.09	.06	.01	.00	.00	.009	.52	.60	.20

Spot Sampled Stream Chemistry: Quarterly Statistics Jan-Mar 1986

- 1): Mean
- 2): Maximum
- 3): Minimum
- 4): Standard Deviation

Site, Number of Data Points

	PH	HARD	CA	MG	AL	ZN	MN	FE	SO4	CL	NA
SIT NUM											
	4.79	5.36	1.13	.67	.40	.01	.09	.045	5.76	7.58	3.86
	5.70	7.60	1.71	.83	.76	.02	.15	.103	9.38	10.00	4.51
	4.10	2.60	.54	.36	.07	.01	.06	.012	3.65	7.00	2.52
	.47	1.63	.40	.16	.22	.00	.03	.032	1.51	1.00	.56
LI1	12										
	4.54	4.83	1.01	.61	.58	.02	.09	.040	5.90	7.82	3.99
	4.80	6.50	1.45	.78	.76	.04	.14	.088	8.39	10.00	4.69
	4.30	3.10	.50	.43	.38	.01	.06	.014	4.19	7.00	2.86
	.16	1.18	.31	.11	.13	.01	.02	.025	1.20	1.08	.60
LI2	11										
	5.13	7.48	1.84	.75	.28	.02	.10	.042	6.05	7.83	4.11
	6.10	10.80	2.84	1.04	.59	.03	.14	.093	7.19	9.00	4.82
	4.40	3.90	.92	.49	.04	.01	.02	.014	4.40	6.00	3.09
	.58	1.90	.61	.14	.20	.01	.04	.024	.81	.83	.47
LI3	12										
	4.96	7.72	1.89	.78	.21	.01	.05	.015	5.89	6.64	3.69
	5.30	8.70	2.17	.96	.42	.02	.10	.023	7.49	8.00	4.11
	4.70	7.60	1.81	.70	.02	.01	.00	.007	5.85	6.00	3.44
	.21	.99	.24	.12	.12	.00	.03	.006	1.55	.67	.24
LI4	11										
	5.54	6.99	1.31	.95	.04	.01	.01	.015	5.56	5.50	3.19
	5.90	9.20	1.42	1.40	.06	.02	.01	.021	7.33	7.00	3.44
	5.30	5.50	1.06	.74	.04	.01	.01	.007	4.32	5.00	2.90
	.16	1.02	.11	.19	.01	.00	.00	.004	.90	.85	.16
LI5	10										
	6.60	12.98	2.71	1.55	.05	.01	.01	.036	3.99	5.20	3.06
	7.10	19.80	4.16	2.33	.10	.02	.02	.087	4.79	7.00	3.44
	6.00	5.80	1.16	.74	.02	.00	.00	.020	2.72	3.00	2.56
	.36	4.38	.98	.47	.02	.01	.01	.019	.63	1.03	.24
LI6	10										
	6.68	16.17	3.92	1.58	.11	.01	.03	.057	6.28	6.20	3.38
	7.50	27.80	7.00	2.50	.65	.02	.14	.259		8.00	4.98
	5.80	7.10	1.52	.80	.01	.00	.00	.011	2.98	5.00	2.72
	.51	7.94	2.12	.65	.20	.01	.04	.074	5.18	1.03	.62
LI7	10										
	4.96	6.09	1.26	.76	.26	.02	.08	.047	4.56	7.17	3.41
	5.40	7.60	1.56	.92	.41	.03	.11	.086	5.80	9.00	3.90
	4.50	4.20	.84	.55	.08	.00	.01	.012	3.93	6.00	2.08
	.27	.91	.20	.11	.10	.01	.03	.019	.65	.94	.47
LI8	12										
	5.60	8.10	1.43	1.14	.06	.02	.12	.115	6.80	7.00	3.98
	6.50	9.60	1.88	1.26	.09	.04	.22	.167		8.00	4.25
	4.90	6.70	1.20	.96	.03	.00	.05	.052	3.71	6.00	3.63
	.82	1.45	.39	.16	.03	.02	.09	.058	4.26	1.00	.32
UC4	3										

Spot Sampled Stream Chemistry: Quarterly Statistics Jan-Mar 1986 (continued)



PH	HARD	CA	MG	AL	ZN	MN	FE	SO4	CL	NA
SIT NUM										
4.93	4.42	.88	.60	.08	.01	.05	.040	3.74	6.08	3.25
5.30	6.20	1.17	.82	.12	.01	.07	.058	5.31	8.00	4.32
4.60	2.70	.50	.40	.04	.01	.04	.032	2.53	5.00	2.50
.21	1.11	.21	.14	.02	.00	.01	.011	.79	1.00	.52
CI1 12										
4.98	4.05	.78	.55	.13	.01	.18	.131	3.43	6.42	3.30
5.60	5.40	1.01	.77	.18	.02	.29	.295	4.91	8.00	4.29
4.50	2.40	.47	.33	.07	.01	.05	.038	2.47	5.00	2.30
.37	.94	.17	.14	.04	.00	.07	.078	.78	1.00	.64
CI2 12										
5.00	5.05	.93	.70	.16	.01	.06	.027	4.26	6.25	3.44
5.60	6.30	1.20	.84	.23	.01	.08	.036	5.07	7.00	3.98
4.90	3.60	.61	.51	.05	.01	.01	.024	3.64	5.00	2.63
.30	.91	.18	.11	.06	.00	.02	.006	.41	.62	.45
CI3 13										
5.14	4.65	.83	.68	.11	.01	.11	.083	3.93	5.58	3.16
6.00	6.00	1.07	.88	.14	.02	.17	.110	5.31	7.00	3.87
4.50	3.10	.59	.44	.06	.01	.07	.095	3.04	5.00	2.29
.50	.95	.17	.13	.02	.00	.03	.017	.63	.79	.48
CI4 12										
5.03	4.57	.86	.65	.18	.01	.06	.050	4.26	5.58	3.18
5.50	5.60	1.08	.80	.31	.02	.09	.102	5.05	7.00	3.74
4.70	2.50	.52	.40	.04	.01	.05	.015	3.41	5.00	1.90
.27	.89	.16	.11	.08	.00	.01	.032	.40	.67	.49
CI5 12										
5.50	5.80	1.17	.75	.10	.01	.07	.040	4.49	5.55	3.31
6.40	6.80	1.39	.88	.17	.02	.13	.062	5.35	6.00	3.66
4.80	3.80	.69	.53	.04	.00	.04	.041	3.84	5.00	2.15
.55	.98	.21	.13	.04	.01	.03	.011	.52	.52	.48
CI6 11										
6.08	7.73	1.75	.85	.03	.00	.00	.013	5.11	7.38	4.00
6.50	8.60	1.95	.95	.05	.01	.00	.022	5.82	8.00	4.58
5.80	5.60	1.10	.71	.02	.00	.00	.010	4.74	7.00	2.94
.23	.80	.23	.08	.01	.00	.00	.005	.35	.51	.40
GI1 13										

Spot Sampled Stream Chemistry: Quarterly Statistics: Apr-Jun 1986

- 1): Mean
- 2): Maximum
- 3): Minimum
- 4): Standard Deviation

Site, Number of Data Points

PH	HARD	CA	MG	AL	ZN	MN	FE	SO4	CL	NA
SIT NUM										
4.81	5.84	1.21	.72	.35	.01	.09	.031	5.84	9.08	4.32
5.40	7.80	1.79	.82	.64	.02	.11	.069	7.08	11.00	5.30
4.40	5.10	1.04	.63	.06	.02	.07	.020	3.38	8.00	3.36
.35	.90	.24	.07	.19	.00	.02	.016	.88	1.12	.49
LI1	13									
4.57	5.05	1.03	.64	.59	.02	.12	.081	6.41	8.67	4.34
4.80	5.90	1.26	.73	.79	.02	.13	.346	6.98	9.00	4.87
4.30	3.60	.76	.48	.05	.01	.10	.003	5.50	8.00	3.30
.16	.73	.17	.08	.19	.00	.02	.097	.51	.49	.48
LI2	12									
4.99	6.52	1.58	.69	.37	.01	.10	.032	6.10	8.67	4.35
6.10	8.90	2.41	.75	.57	.02	.13	.053	6.66	9.00	4.69
4.60	5.10	1.23	.57	.01	.00	.03	.003	4.23	8.00	3.54
.47	1.53	.53	.07	.19	.00	.03	.016	.72	.49	.38
LI3	12									
4.91	7.25	1.81	.75	.21	.01	.05	.015	6.16	7.08	3.39
5.20	9.30	2.42	.91	.33	.02	.08	.039	7.23	8.00	4.32
4.70	5.10	1.15	.65	.05	.01	.02	.007	5.81	5.00	2.80
.19	1.23	.36	.09	.09	.00	.02	.009	.41	.76	1.12
LI4	13									
5.69	6.91	1.32	.84	.04	.01	.01	.024	5.59	4.92	3.19
6.40	8.10	1.58	1.07	.09	.01	.02	.086	6.79	6.00	3.82
5.30	4.40	.76	.68	.01	.00	.01	.013	3.26	4.00	2.19
.34	1.07	.24	.29	.02	.00	.00	.021	1.00	.49	.60
LI5	13									
6.71	12.26	2.55	1.50	.05	.01	.01	.043	4.22	4.80	3.02
7.20	16.00	3.46	1.87	.08	.01	.02	.062	5.00	6.00	3.60
6.20	11.60	2.02	1.49	.04	.00	.01	.027	3.74	4.00	2.10
.36	2.91	.72	.29	.02	.00	.00	.015	.48	.79	.48
LI6	10									
6.81	16.56	3.99	1.63	.04	.00	.00	.036	4.49	5.42	3.13
7.70	24.90	6.20	2.34	.08	.01	.01	.086	5.23	6.00	3.74
6.40	9.20	2.21	.94	.03	.00	.00	.022	3.58	5.00	2.06
.39	5.21	1.31	.46	.02	.00	.00	.020	.47	.51	.53
LI7	12									
4.91	5.73	1.18	.72	.27	.02	.08	.069	4.52	7.18	3.49
5.40	7.70	1.60	.91	.36	.02	.09	.105	5.23	8.00	4.01
4.40	3.60	.78	.48	.13	.01	.07	.047	3.41	6.00	2.24
.31	1.28	.27	.14	.08	.00	.01	.026	.57	.60	.61
LI8	11									
5.67	6.23	1.10	.90	.05	.03	.05	.091	5.05	6.36	3.77
6.70	8.70	1.50	1.26	.07	.21	.09	.130	7.73	8.00	4.88
5.10	4.70	.75	.71	.04	.01	.03	.074	3.30	5.00	2.68
.60	1.17	.24	.16	.01	.06	.02	.025	1.24	1.21	.75
UC4	11									

Spot Sampled Stream Chemistry: Quarterly Statistics Apr-Jun 1986 (continued)

	PH	HARD	CA	MG	AL	ZN	MN	FE	SO4	CL	NA	
SIT NUM												
CI1	13	5.32	3.71	.75	.50	.06	.47	.05	.082	2.90	4.77	2.75
		5.80	4.10	.33	.57	.08	6.00	.08	.141	3.37	6.00	3.41
		4.60	3.30	.66	.44	.05	.00	.04	.003	2.49	4.00	1.97
		.31	.37	.06	.04	.01	1.66	.01	.035	.22	.73	.40
CI2	12	5.45	4.33	.90	.56	.13	.01	.30	.884	2.73	4.92	2.68
		6.10	6.00	1.27	.74	.24	.01	.64	3.304	3.17	6.00	3.32
		4.80	3.10	.59	.42	.09	.00	.15	.007	2.08	4.00	2.03
		.46	1.11	.25	.11	.05	.00	.17	1.131	.28	.79	.47
CI3	13	5.53	4.33	.85	.59	.07	.01	.05	.052	3.75	4.77	2.76
		6.00	5.20	.94	.74	.12	.01	.07	.083	4.29	6.00	3.52
		5.10	4.80	.94	.68	.05	.01	.03	.043	3.99	4.00	3.52
		.34	.39	.07	.07	.02	.00	.01	.017	.30	.73	.40
CI4	13	5.68	4.73	.92	.64	.08	.01	.08	.153	3.06	4.08	2.65
		6.40	6.50	1.28	.80	.11	.01	.11	.263	3.63	5.00	3.29
		4.60	2.40	.15	.49	.06	.00	.05	.147	2.40	3.00	2.02
		.62	1.20	.32	.10	.01	.00	.02	.083	.30	.64	.45
CI5	13	5.55	4.52	.94	.57	.07	.01	.06	.104	3.85	4.77	2.80
		6.10	5.70	1.31	.66	.12	.02	.09	.210	4.31	6.00	3.47
		5.10	3.80	.70	.48	.04	.01	.04	.025	3.29	4.00	2.21
		.28	.55	.16	.05	.03	.00	.01	.059	.28	.60	.31
CI6	14	6.14	5.29	1.15	.65	.06	.01	.07	.206	3.19	4.14	2.67
		6.70	6.40	1.41	.81	.09	.01	.10	.451	3.64	5.00	3.40
		5.30			.52	.04	.00	.05	.097	2.70	3.00	1.79
		.47	.77	.20	.08	.02	.00	.02	.106	.27	.66	.47
GI1	13	6.28	8.13	1.90	.86	.04	.01	.00	.015	5.21	6.77	3.99
		6.60	9.50	2.15	1.01	.08	.03	.00	.026	6.10	9.00	4.56
		6.00	6.10	1.47	.64	.02	.00	.00	.003	4.08	6.00	2.98
		.16	1.05	.22	.12	.02	.01	.00	.007	.64	.83	.43

Spot Sampled Stream Chemistry: Quarterly Statistics Jul-Sep 1986

- 1): Mean
- 2): Maximum
- 3): Minimum
- 4): Standard Deviation

Site, Number of Data Points

	PH	HARD	CA	MG	AL	ZN	MN	FE	SO4	CL	NA
SIT NUM											
	5.18	6.78	1.49	.80	.24	.02	.11	.034	5.56	9.50	4.79
	6.00	8.30	1.99	.90	.49	.12	.17	.088	6.06	11.00	7.07
	4.50	4.50	.43	.63	.05	.01	.09	.015		8.00	3.88
	.53	1.40	.43	.09	.17	.03	.02	.021	.39	.80	.83
LI1	12										
	4.83	6.23	1.38	.70	.38	.02	.14	.034	6.06	8.50	4.55
	6.60	11.80	2.74	1.22	.63	.03	.17	.072	7.42	9.00	5.16
	4.40	3.80	.21	.55	.09	.01	.08	.021	5.39	8.00	3.97
	.58	2.29	.70	.18	.16	.01	.02	.021	.62	.52	.36
LI2	12										
	5.71	8.38	2.20	.74	.16	.01	.08	.033	6.03	8.08	3.95
	6.50	10.90	2.93	.90	.53	.02	.13	.055	6.75	9.00	4.72
	4.60	5.30	1.15	.63	.04	.01	.01	.016		7.00	2.44
	.67	1.96	.66	.08	.15	.01	.04	.016	.34	.67	.64
LI3	12										
	5.11	7.35	1.81	.76	.14	.01	.03	.010	6.21	6.75	3.79
	5.50	8.60	2.28	.94	.30	.02	.09	.021	7.47	8.00	4.79
	4.90	4.40	.28	.61	.07	.01	.01	.003	5.23	5.00	3.39
	.18	1.22	.57	.12	.07	.00	.02	.006	.70	.87	.41
LI4	12										
	5.60	5.87	1.23	.87	.03	.01	.01	.016	5.33	4.82	4.32
	5.90	7.10	1.52	1.08	.06	.01	.01	.026	5.87	6.00	
	5.50	3.70	1.00	.75	.02	.00	.00	.003	4.81	4.00	2.76
	.13	1.07	.15	.10	.01	.00	.00	.007	.31	.60	4.05
LI5	11										
	7.01	16.75	3.33	2.10	.03	.00	.01	.041	4.04	4.58	2.96
	7.50	25.80	5.55	3.14	.05	.01	.02	.057	7.52	6.00	3.72
	6.60	22.90	4.90	.93	.02	.00	.00	.045	3.37	4.00	2.43
	.29	6.50	1.60	.71	.01	.00	.00	.018	1.08	.67	.37
LI6	13										
	7.18	21.48	5.26	2.15	.03	.00	.01	.036	4.05	5.08	3.11
	7.70	33.30	8.39	3.05	.05	.02	.04	.072	4.71	6.00	3.98
	6.80	28.70	7.05	1.18	.01	.00	.00	.016	2.50	4.00	1.75
	.32	8.05	2.13	.70	.01	.00	.01	.016	.55	.64	.58
LI7	13										
	5.64	7.94	1.27	.68	.13	.01	.07	.083	4.36	6.23	3.36
	6.30	11.20	1.49	.75	.27	.02	.11	.173	5.04	7.00	4.25
	4.90	6.30	1.36	.59	.07	.01	.04	.003	3.93	5.00	2.79
	.40	7.34	.13	.05	.06	.00	.02	.039	.30	.60	.38
LI8	13										
	6.15	7.04	1.36	.94	.05	.02	.06	.198	4.11	4.75	3.01
	6.90	8.70	1.67	1.12	.07	.11	.10	.297	7.60	8.00	3.87
	5.00	4.70	.90	.64	.03	.01	.04	.118	2.81	3.00	2.16
	.71	1.67	.31	.22	.01	.04	.02	.073	1.73	1.67	.68
UC4	8										

Spot Sampled Stream Chemistry: Quarterly Statistics Jul-Sep 1986 (continued)

	PH	HARD	CA	MG	AL	ZN	MN	FE	SO4	CL	NA	
SIT NUM												
CI1	12	5.14	4.85	.91	.65	.08	.01	.06	.063	3.95	6.50	3.47
		5.80	6.40	1.25	.84	.11	.02	.09	.098	5.53	9.00	4.20
		4.80	3.90	.72	.52	.04	.00	.04	.041	2.72	5.00	2.78
		.37	.85	.17	.11	.03	.00	.01	.017	.87	1.09	.47
CI2	13	5.01	4.66	.84	.67	.14	.01	.23	.352	4.15	6.85	3.47
		6.30	6.50	1.30	.91	.19	.02	.52	1.071	6.47	10.00	4.18
		4.40	2.90	.49	.49	.13	.00	.06	.024	2.63	5.00	2.89
		.69	1.25	.27	.13	.05	.00	.11	.353	1.08	1.34	.46
CI3	12	5.14	5.71	1.04	.78	.14	.01	.05	.034	4.25	6.64	3.52
		5.80	7.00	1.31	.96	.22	.01	.07	.073	5.01	9.00	3.98
		4.90	5.10	.90	.75	.15	.01	.06	.017	3.70	6.00	3.19
		.34	.71	.13	.11	.07	.00	.02	.016	.39	1.43	.24
CI4	12	5.20	5.11	.91	.75	.12	.01	.11	.161	3.91	6.50	3.25
		6.50	8.10	1.60	1.01	.18	.02	.23	.282	6.17	10.00	3.93
		4.50	3.40	.55	.52	.05	.00	.01	.104	2.80	5.00	2.46
		.71	1.40	.32	.14	.04	.00	.06	.052	.92	1.45	.44
CI5	13	5.18	4.84	.91	.68	.21	.01	.07	.063	4.47	6.00	3.37
		5.90	7.00	1.47	.87	.33	.03	.08	.204	5.64	8.00	3.87
		4.80	3.70	.64	.55	.03	.00	.02	.030	3.92	5.00	2.76
		.34	.91	.23	.10	.11	.01	.01	.057	.56	.82	.35
CI6	12	5.45	6.13	1.25	.77	.13	.01	.08	.097	4.21	6.17	3.27
		6.50	8.20	1.89	.99	.24	.03	.18	.240	5.57	9.00	4.08
		5.00	4.50	.80	.60	.03	.00	.06	.030	3.14	5.00	1.62
		.60	1.20	.34	.11	.07	.01	.03	.073	.67	1.11	.69
GI1	12	6.15	8.12	1.92	.92	.03	.02	.00	.012	5.83	7.42	4.11
		6.30	9.20	2.15	1.01	.04	.17	.01	.026	7.40	8.00	4.49
		6.00	4.00	1.61	.81	.03	.00	.00	.003	4.35	6.00	3.66
		.10	1.34	.15	.07	.00	.05	.00	.008	.88	.67	.29

Spot Sampled Stream Chemistry: Quarterly Statistics Oct-Dec 1986

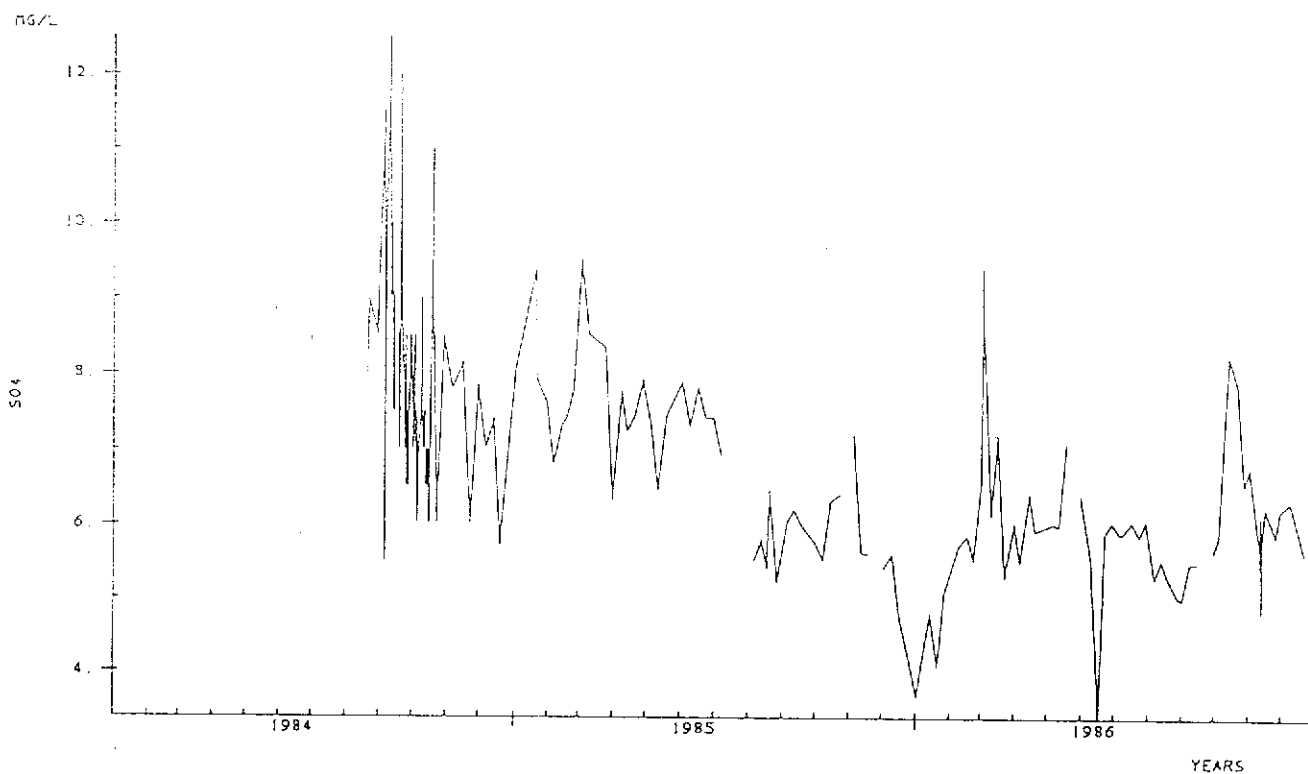
- 1): Mean
- 2): Maximum
- 3): Minimum
- 4): Standard Deviation

Site, Number of Data Points

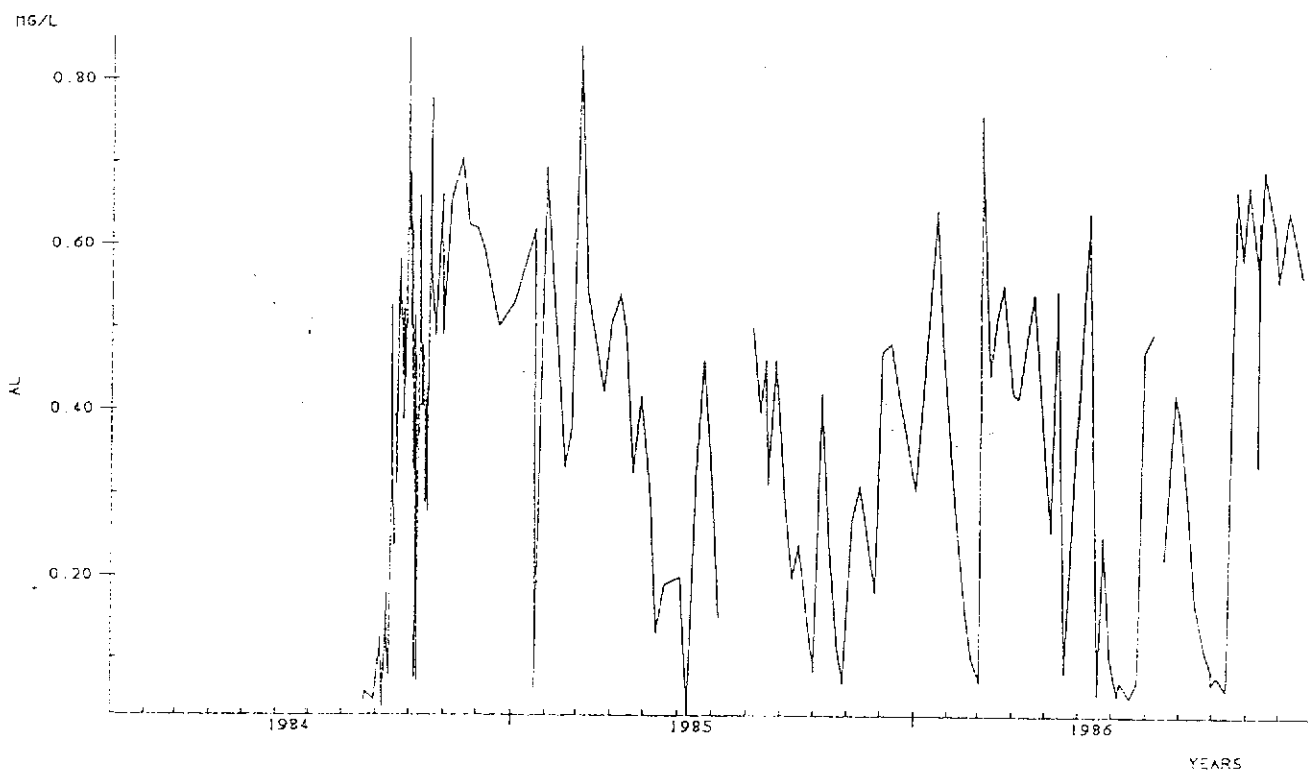
	PH	HARD	CA	MG	AL	ZN	MN	FE	SO4	CL	NA	
SIT NUM												
LI1	12	4.83	5.75	1.15	.75	.48	.02	.09	.034	6.39	9.25	4.64
		5.80	10.80	2.34	1.22	.69	.02	.14	.081	8.22	11.00	6.07
		4.20	4.40	.77	.61	.06	.01	.05	.003	5.60	8.00	3.76
		.50	1.91	.48	.17	.25	.00	.03	.024	.85	.87	.55
LI2	13	5.14	7.17	1.50	.90	.47	.02	.11	.041	6.98	8.54	4.67
		6.20	10.10	2.23	1.17	.77	.02	.18	.082	8.39	10.00	5.87
		4.60	5.60	1.08	.74	.06	.01	.05	.011	6.13	7.00	4.41
		.61	1.75	.45	.15	.28	.01	.04	.021	.58	.78	.50
LI3	12	5.16	7.18	1.74	.74	.44	.01	.10	.038	6.93	8.58	4.64
		6.30	10.90	3.05	.83	.68	.02	.18	.068	8.10	10.00	5.81
		4.70	5.40	1.17	.64	.02	.00	.03	.011	6.21	8.00	4.21
		.65	1.75	.60	.06	.26	.01	.05	.017	.56	.67	.56
LI4	13	5.03	7.70	1.88	.77	.24	.01	.05	.015	6.58	7.54	3.97
		5.50	9.50	2.50	.90	.38	.03	.08	.046	7.40	9.00	4.27
		4.80	5.30	1.29	.53	.06	.01	.01	.003	5.95	6.00	3.73
		.19	1.11	.31	.11	.11	.01	.03	.012	.48	.88	.19
LI5	12	5.52	7.23	1.35	.99	.04	.01	.01	.013	6.08	5.50	3.46
		5.90	8.90	1.59	1.29	.07	.01	.01	.026	6.76	8.00	3.98
		4.50	6.20	1.12	.80	.01	.00	.00	.003	4.92	5.00	3.00
		.35	.71	.13	.12	.02	.00	.00	.006	.59	.90	.27
LI6	12	6.83	14.95	3.13	1.78	.05	.01	.01	.048	4.29	5.75	3.05
		7.30	30.80	6.59	3.56	.07	.02	.03	.121	5.58	7.00	3.62
		6.40	9.10	1.83	1.17	.01	.00	.00	.029	3.02	5.00	2.24
		.24	7.47	1.76	.76	.02	.01	.01	.027	.59	.75	.33
LI7	12	7.03	20.41	5.03	1.96	.04	.01	.01	.059	4.93	5.92	3.17
		7.60	38.00	9.45	3.57	.13	.01	.03	.232	6.52	8.00	3.73
		6.50	13.20	3.16	1.35	.01	.00	.00	.017	4.30	5.00	2.24
		.27	8.59	2.43	.66	.03	.00	.01	.060	.64	.79	.40
LI8	11	5.28	6.35	1.28	.81	.24	.02	.07	.067	5.07	7.00	3.43
		6.50	19.70	2.08	1.12	.41	.02	.10	.119	6.23	9.00	3.80
		4.80	4.80	.94	.66	.06	.00	.03	.045	4.24	6.00	2.67
		.58	1.31	.31	.13	.13	.01	.02	.023	.49	.89	.40
UC4	4	5.53	8.43	1.48	1.22	.05	.01	.06	.125	5.24	8.00	3.95
		6.60	11.40	1.92	1.66	.07	.02	.08	.191	6.95	9.00	4.06
		4.90	6.00	1.07	.86	.03	.01	.04	.090	3.85	7.00	3.74
		.76	2.31	.36	.34	.02	.00	.02	.045	1.30	1.15	.15

Spot Sampled Stream Chemistry: Quarterly Statistics Oct-Dec 1986 (continued)

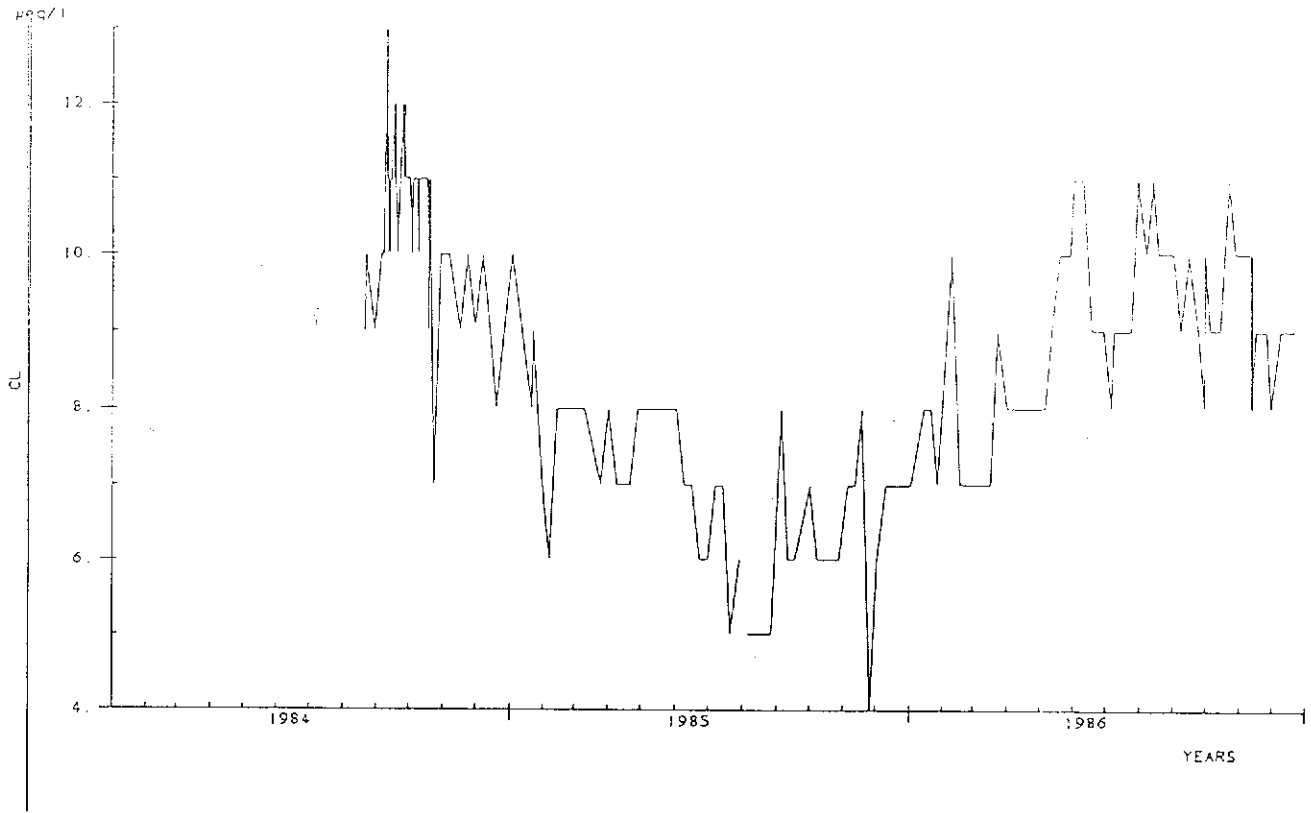
LII SULPHATE CONTINUOUS DATA (1984-1986)



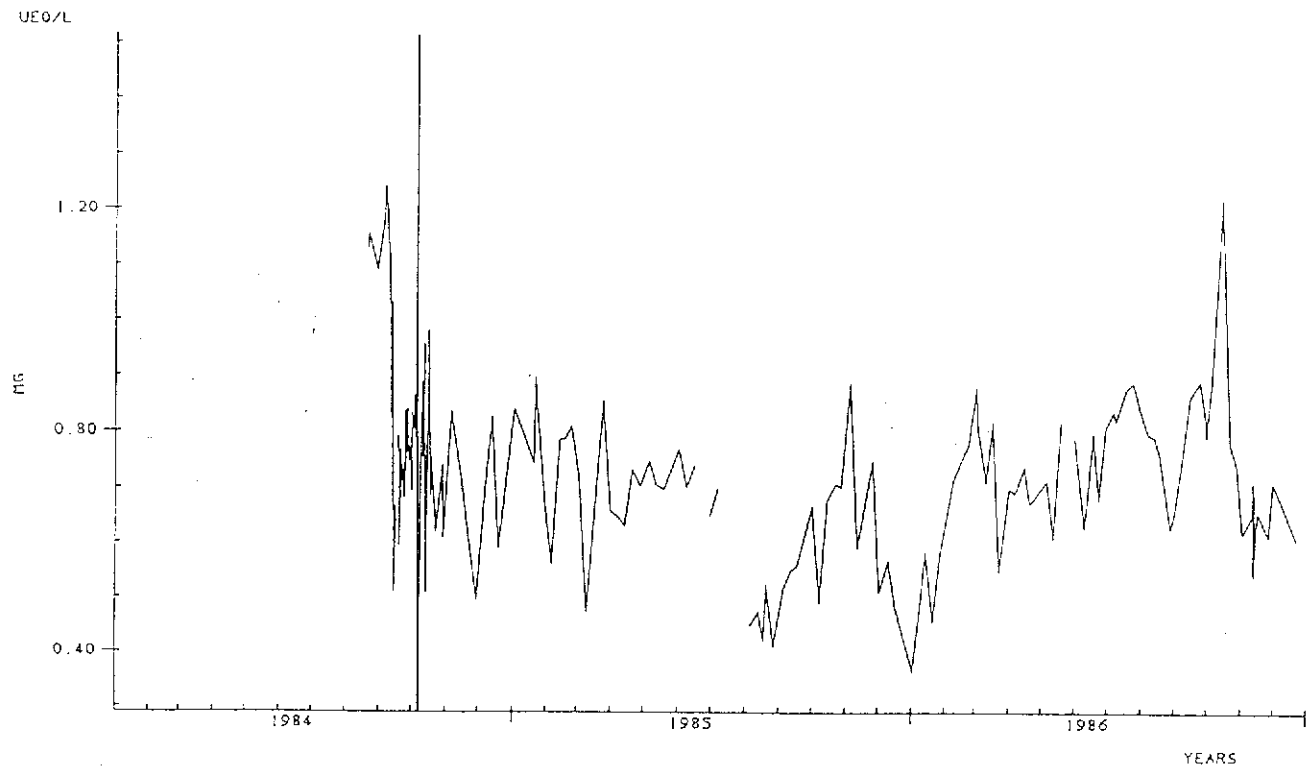
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LI1 CHLORIDE (1984-1986)

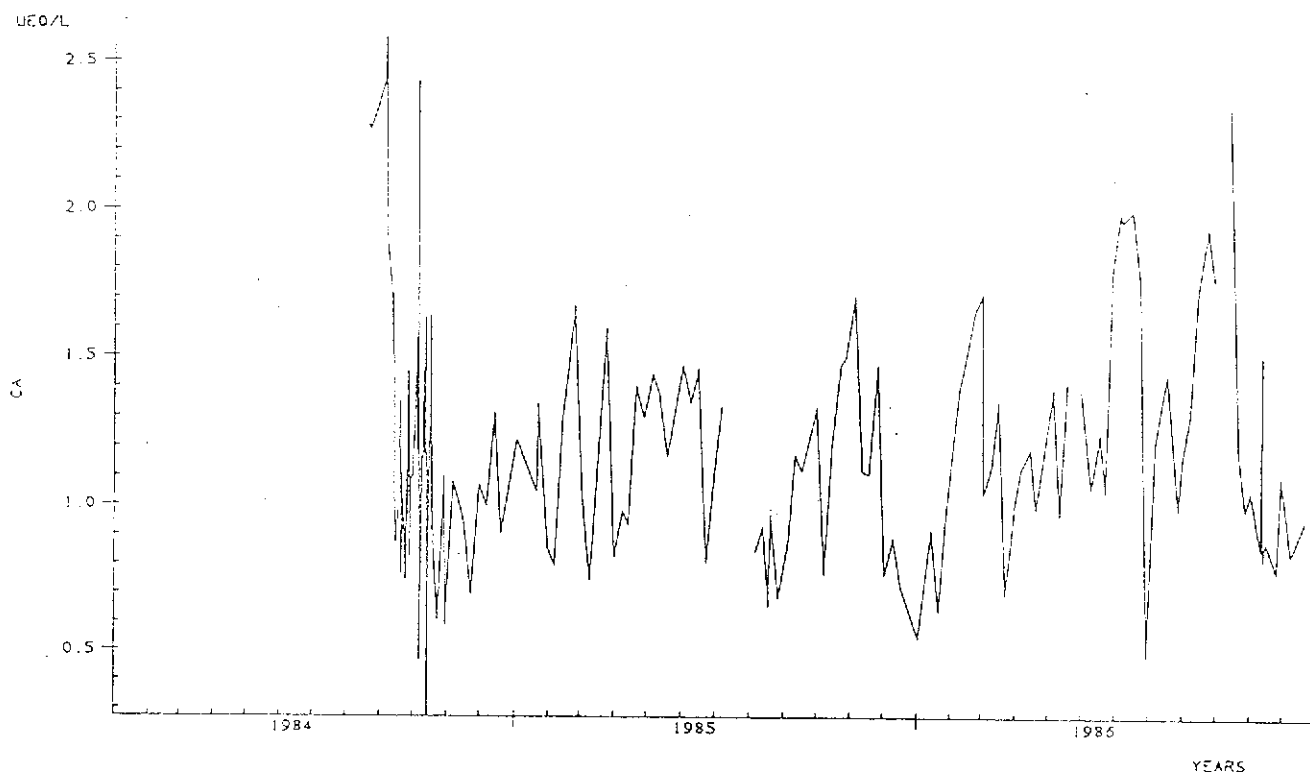


LI1 MAGNESIUM (1984-1986)

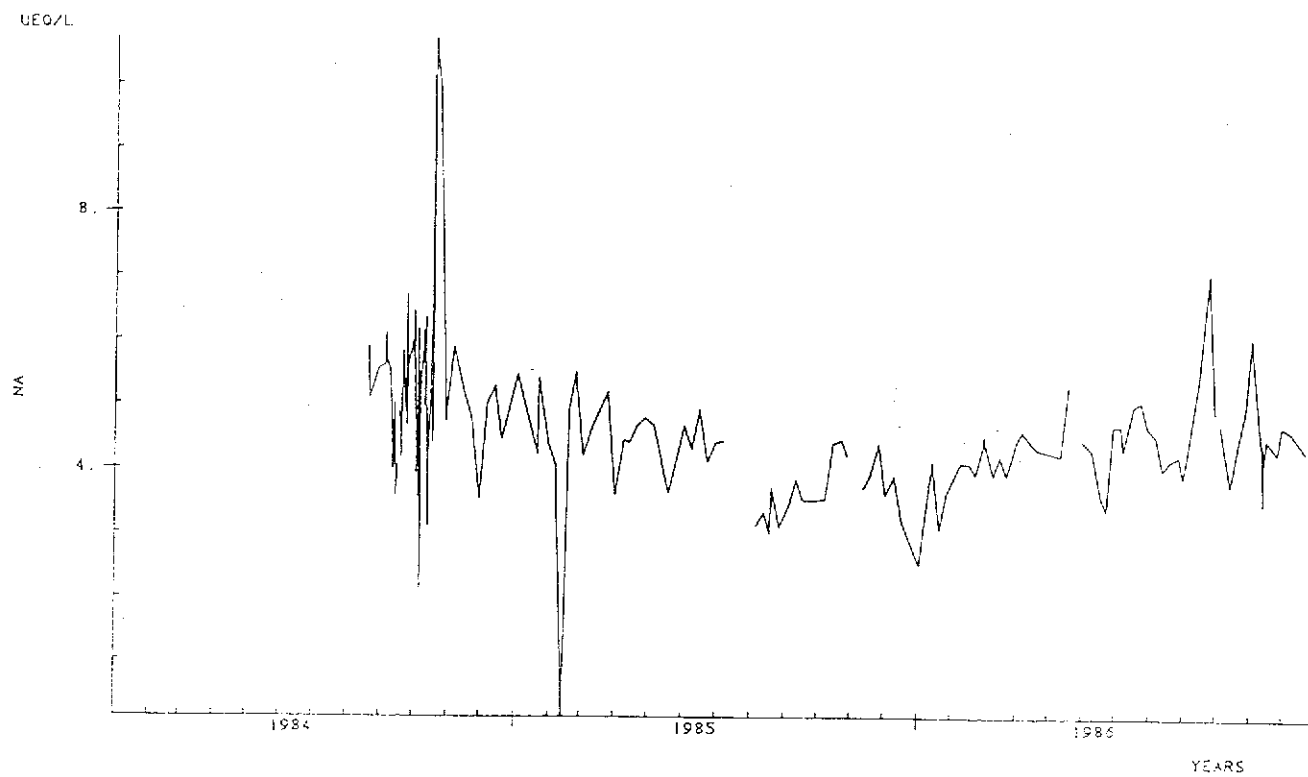




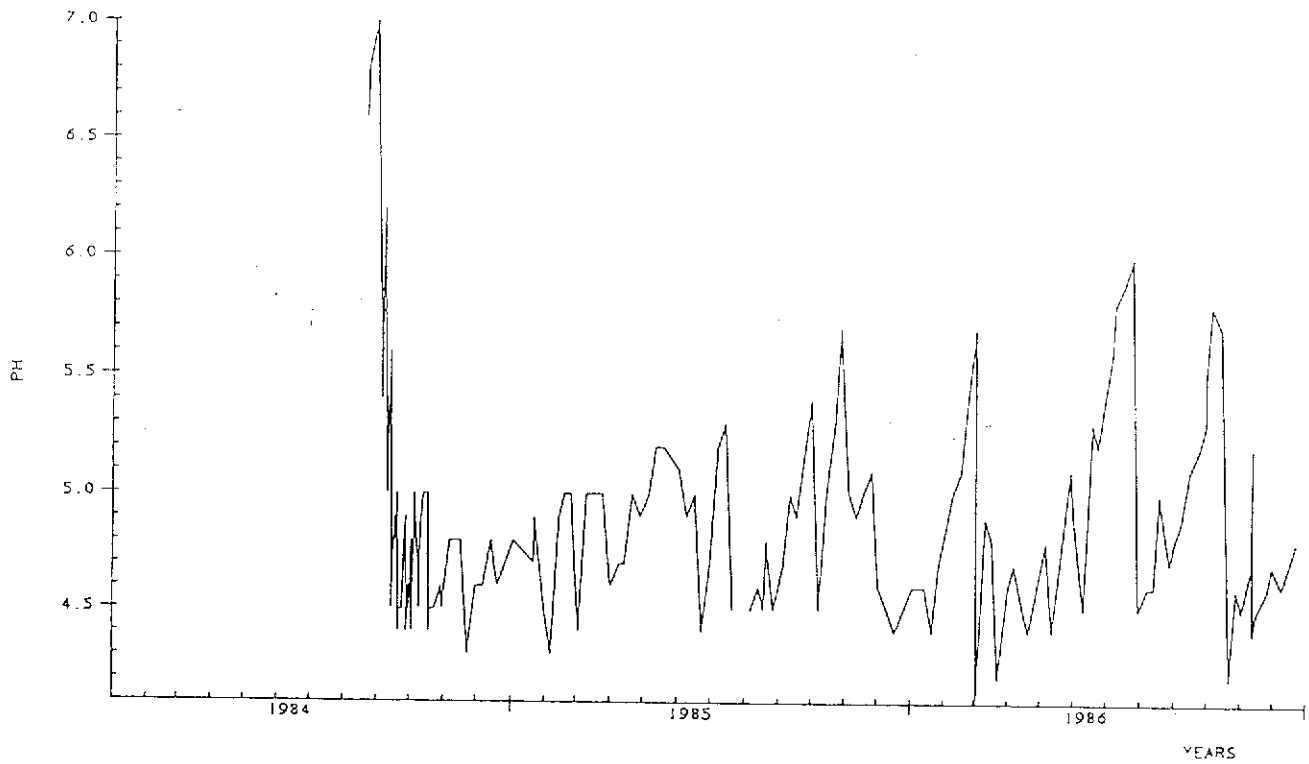
LII CALCIUM (1984-1986)



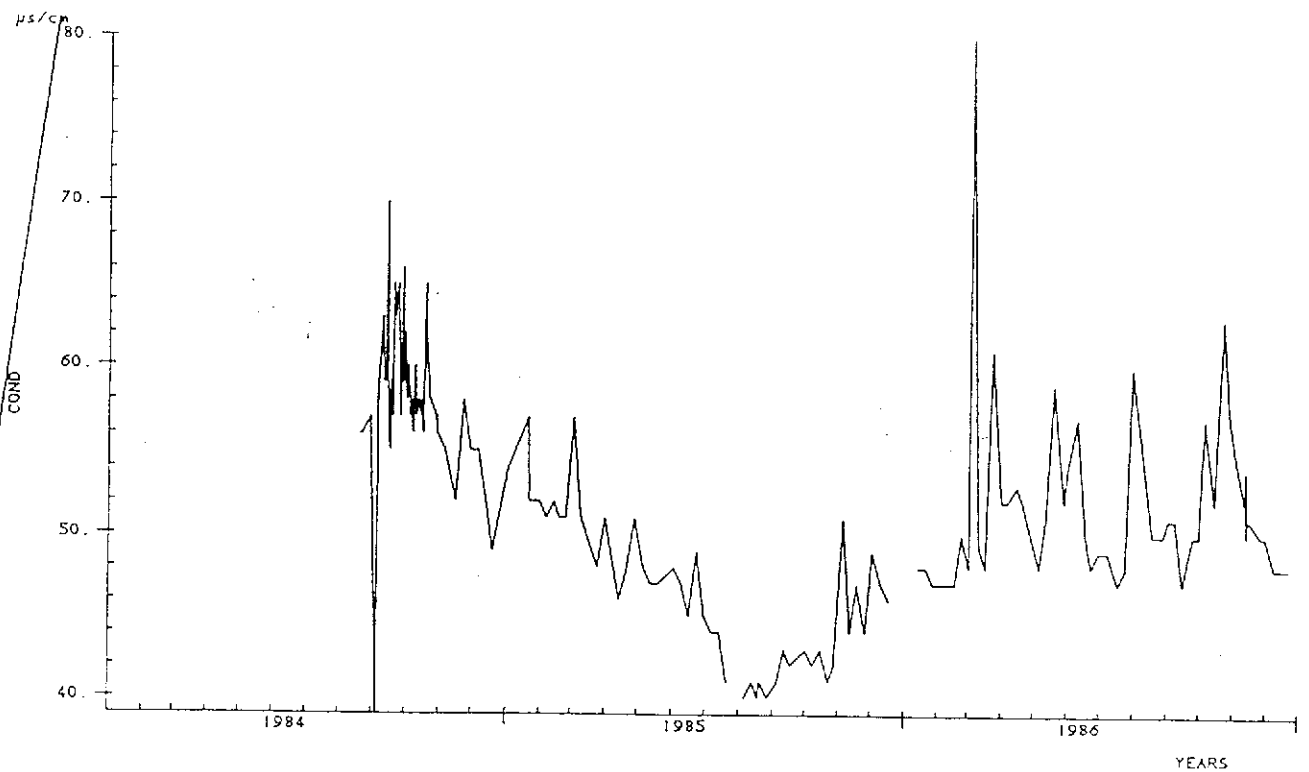
LII SODIUM (1984-1986)



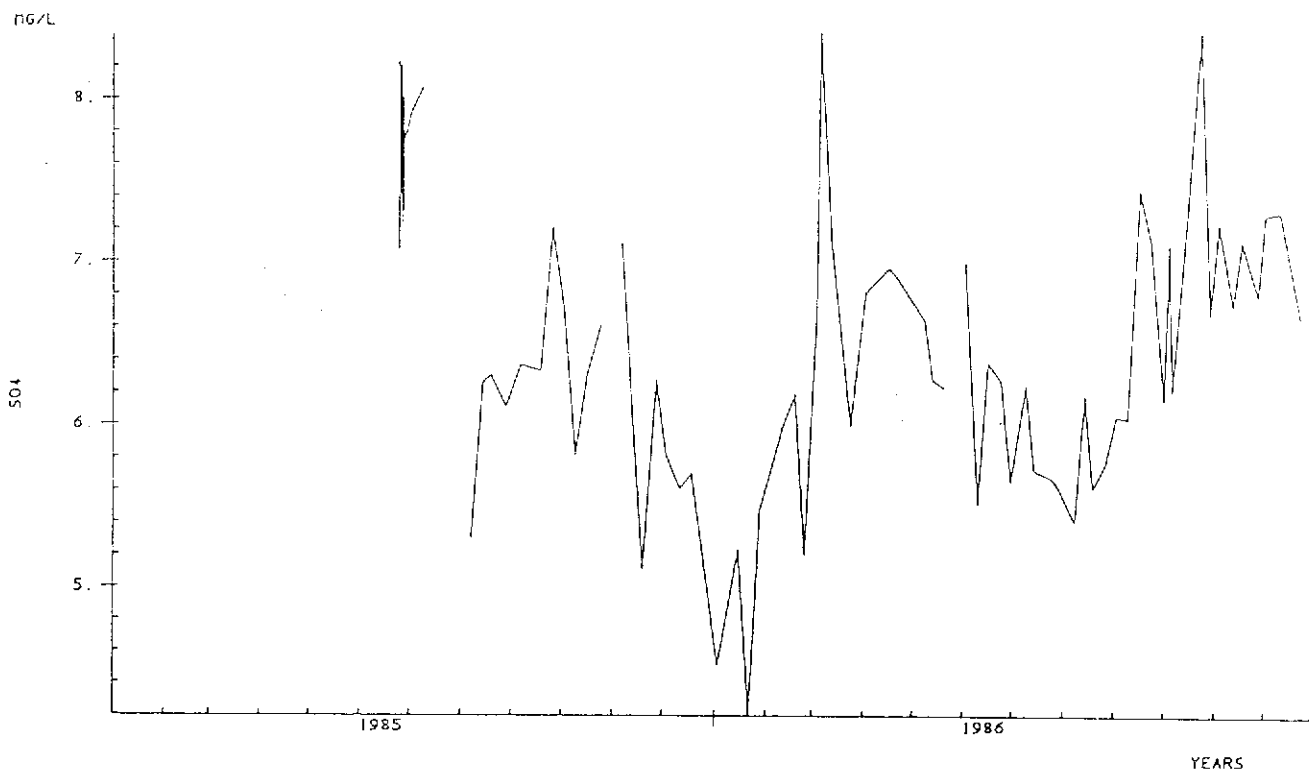
LII PH (1984-1986)



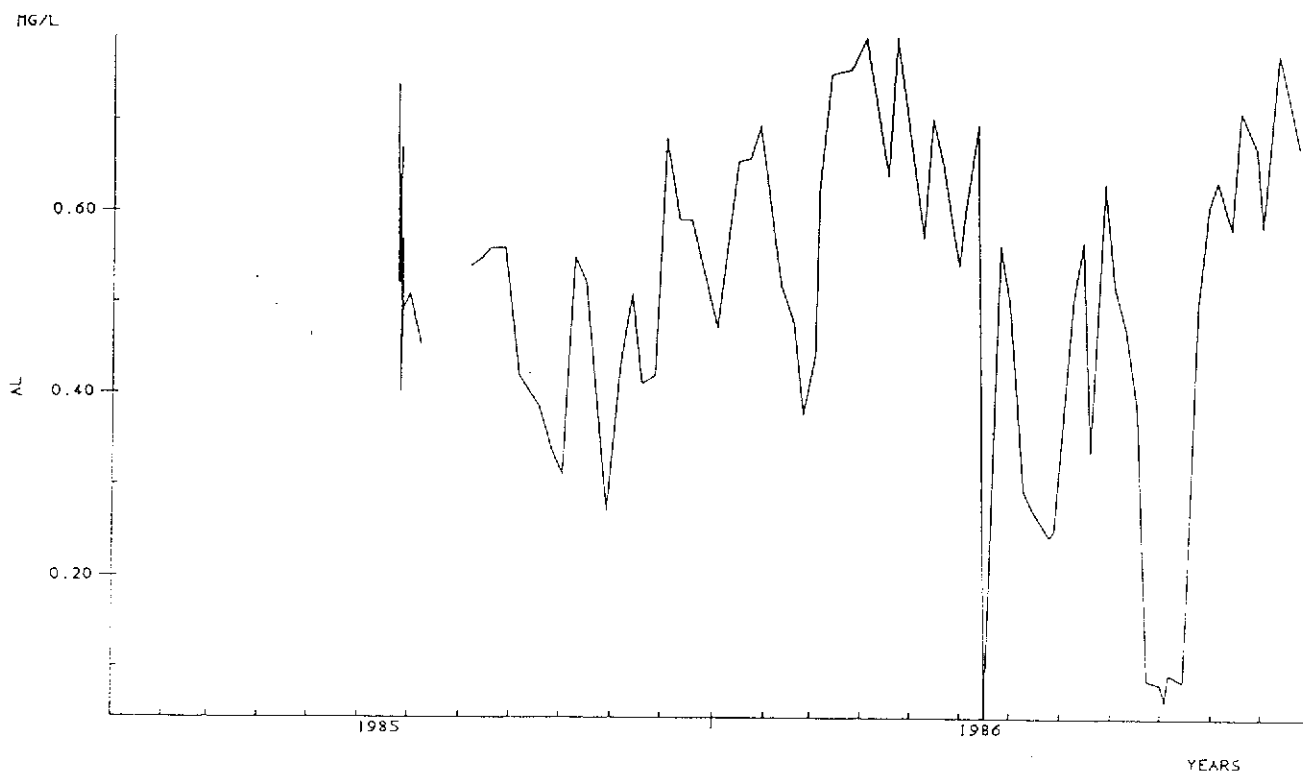
LII CONDUCTIVITY (1984-1986)



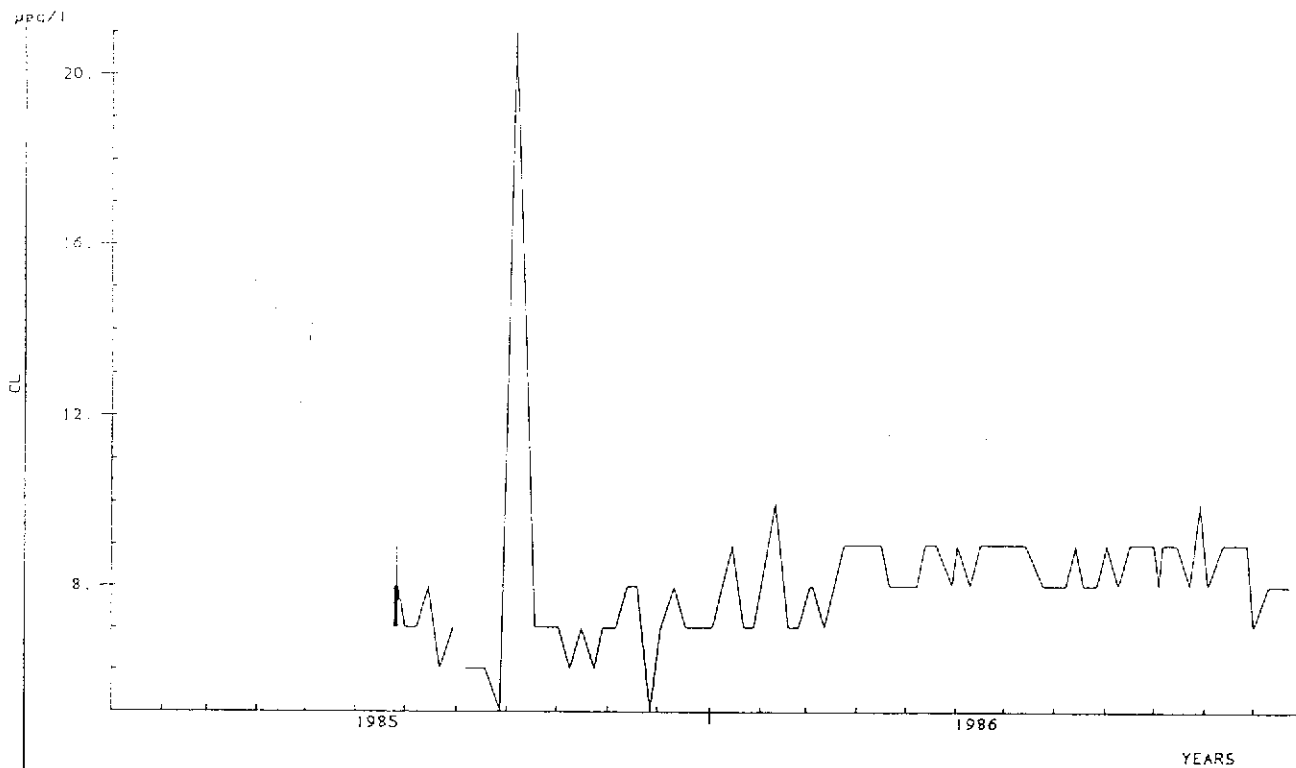
LI2 SULPHATE CONTINUOUS DATA (1984-1986)



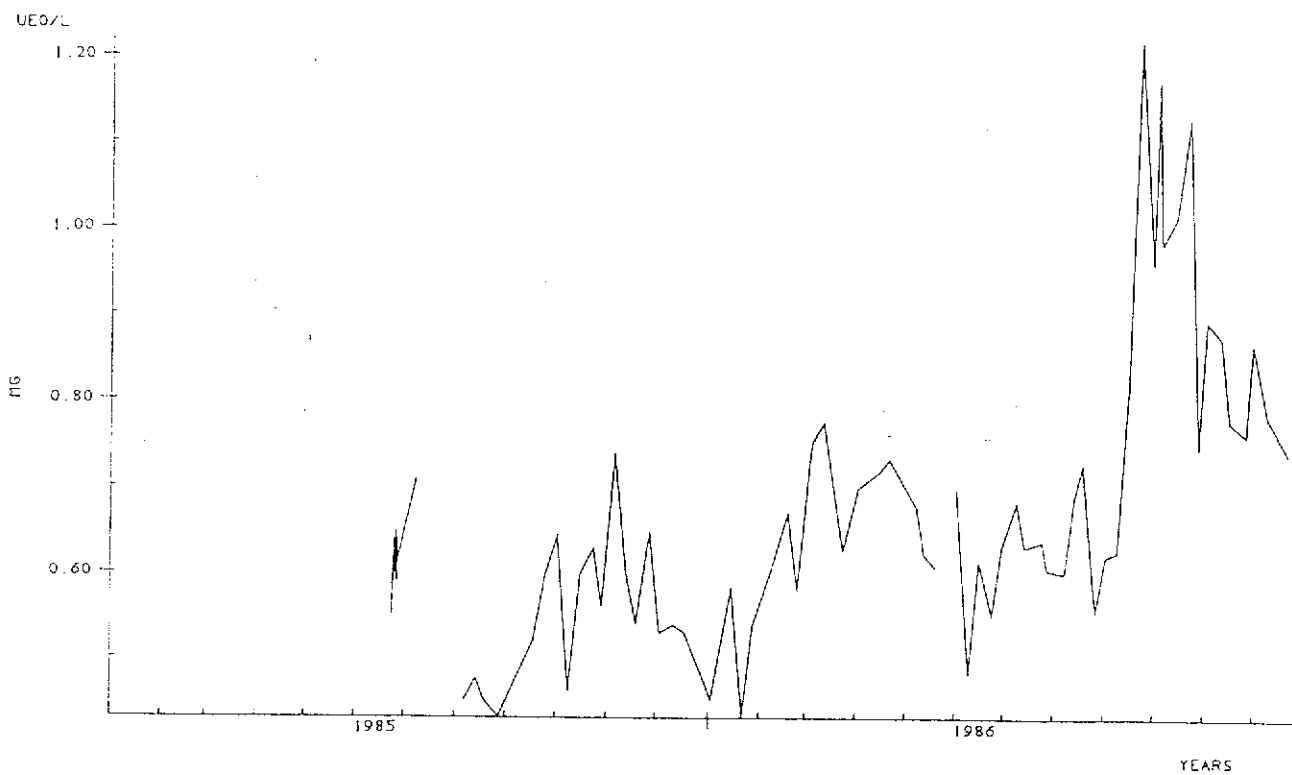
LI2 ALUMINIUM CONTINUOUS DATA (1984-1986)



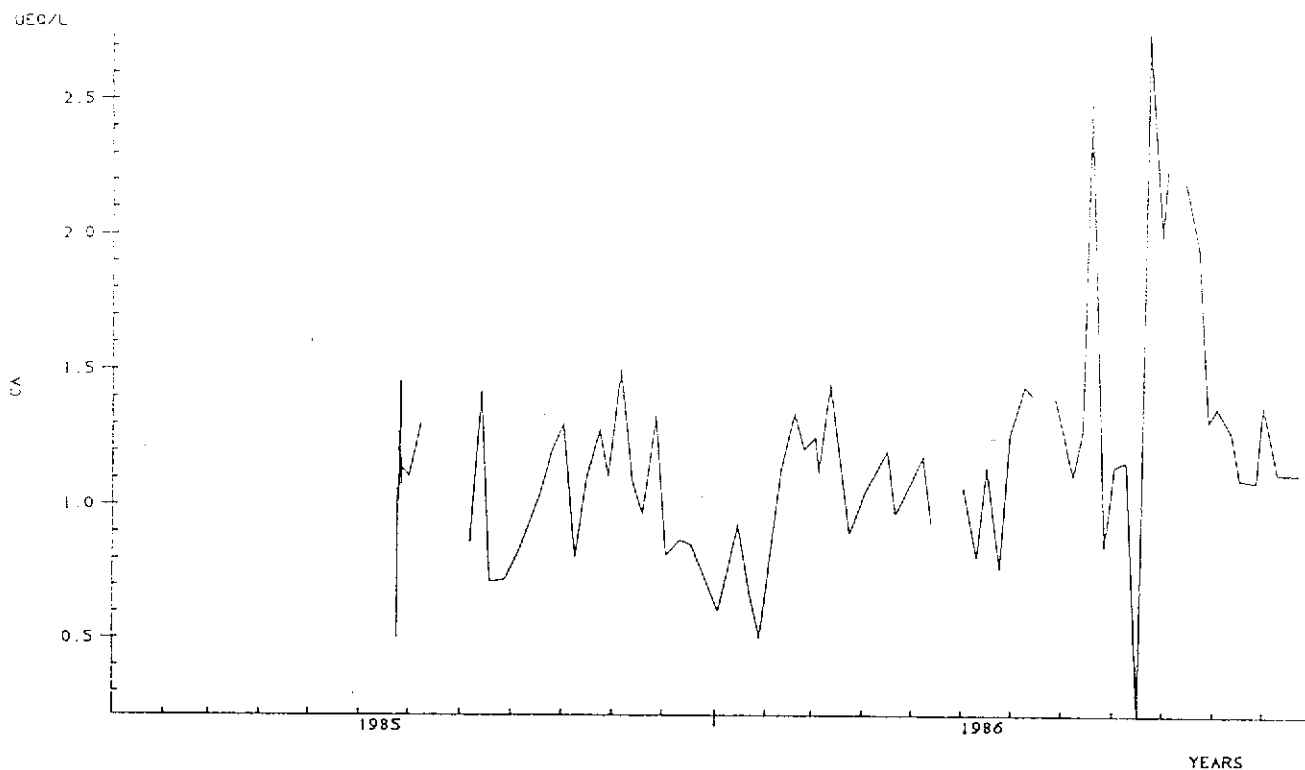
LI2 CHLORIDE (1984-1986)



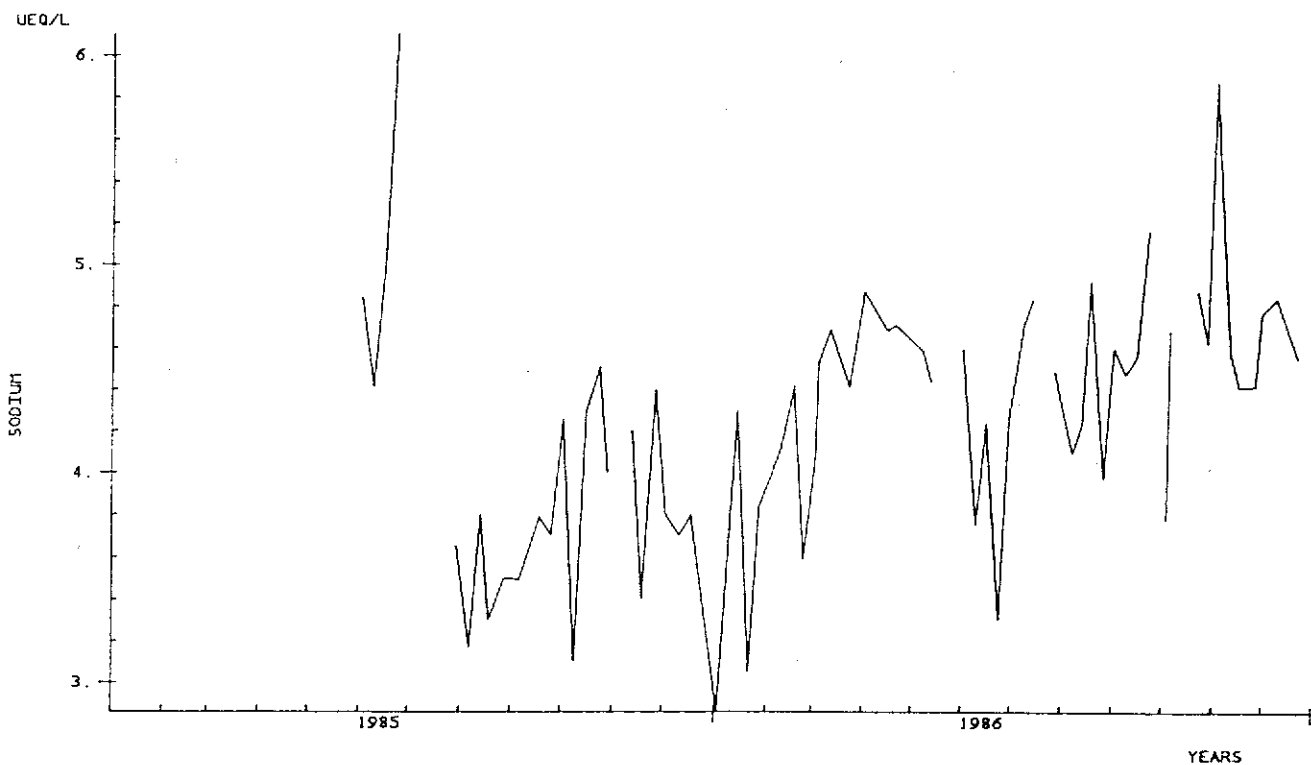
LI2 MAGNESIUM (1984-1986)



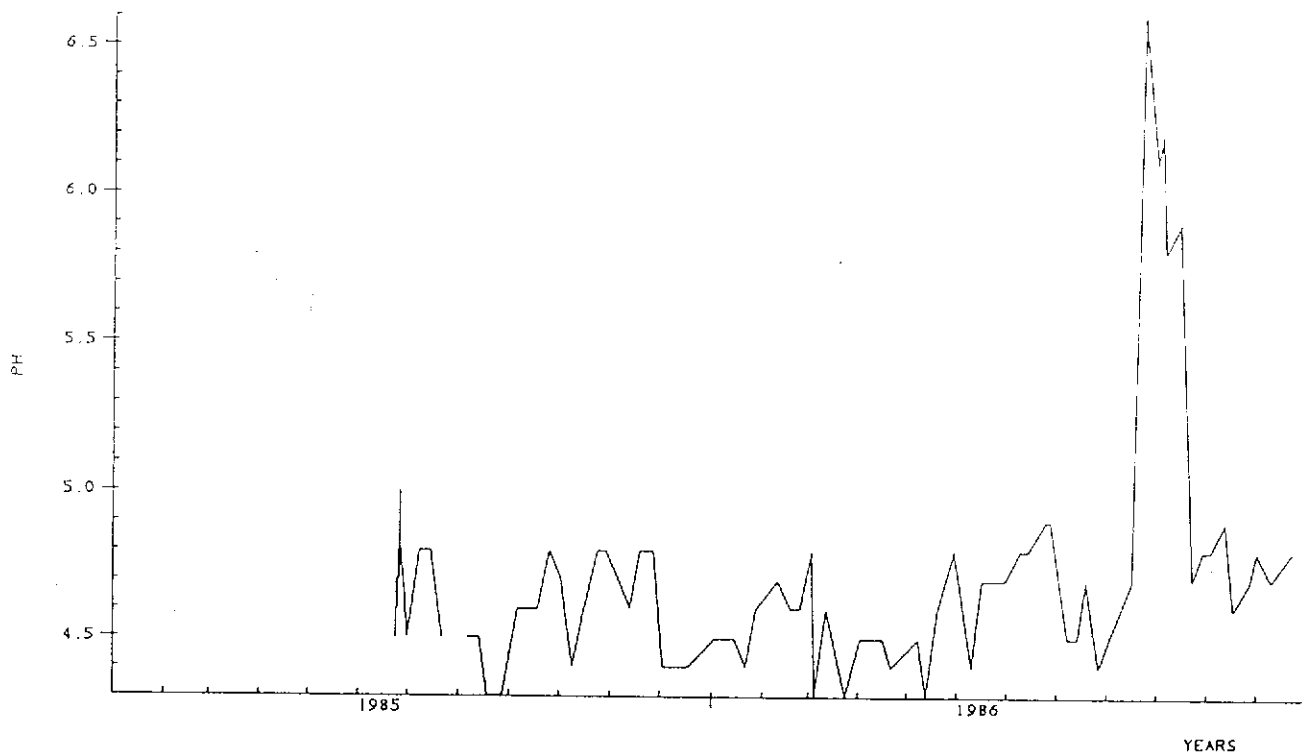
LI2 CALCIUM (1984-1986)



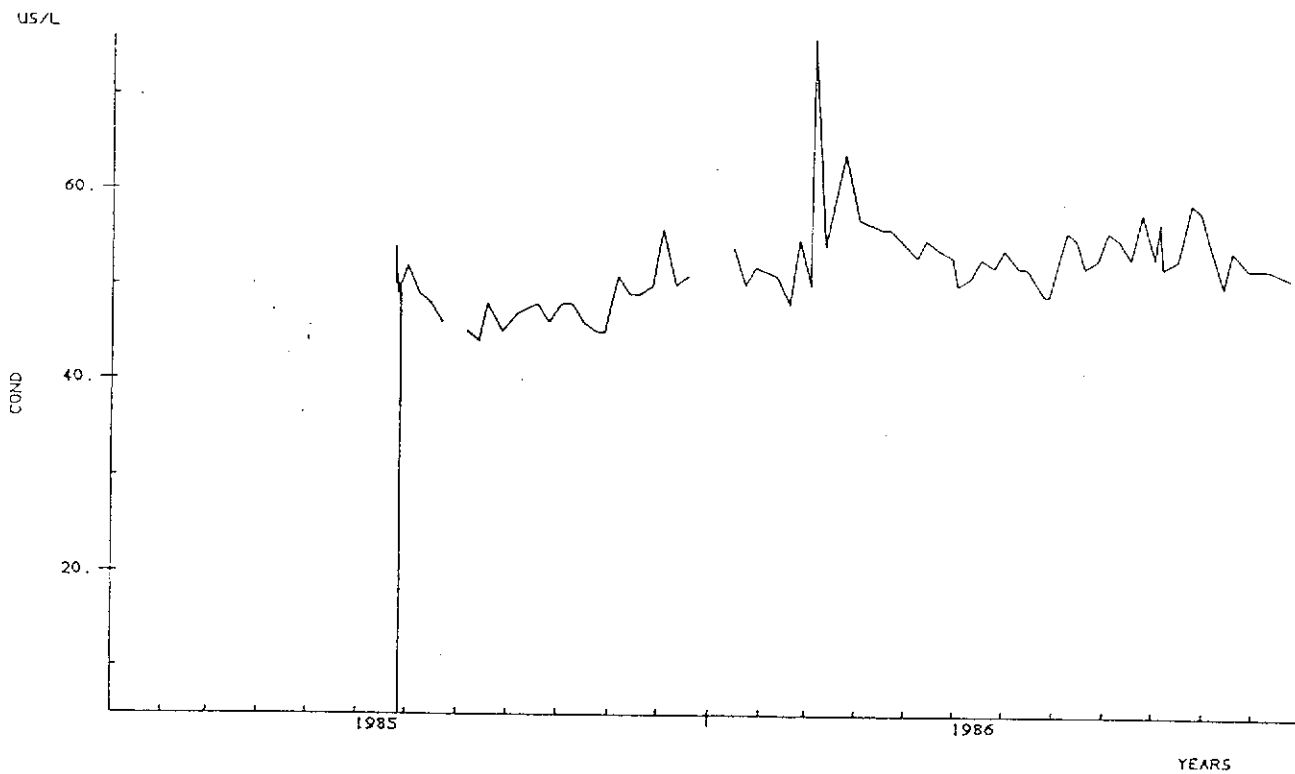
LI2 SODIUM SPOT SAMPLES (1985-1986)



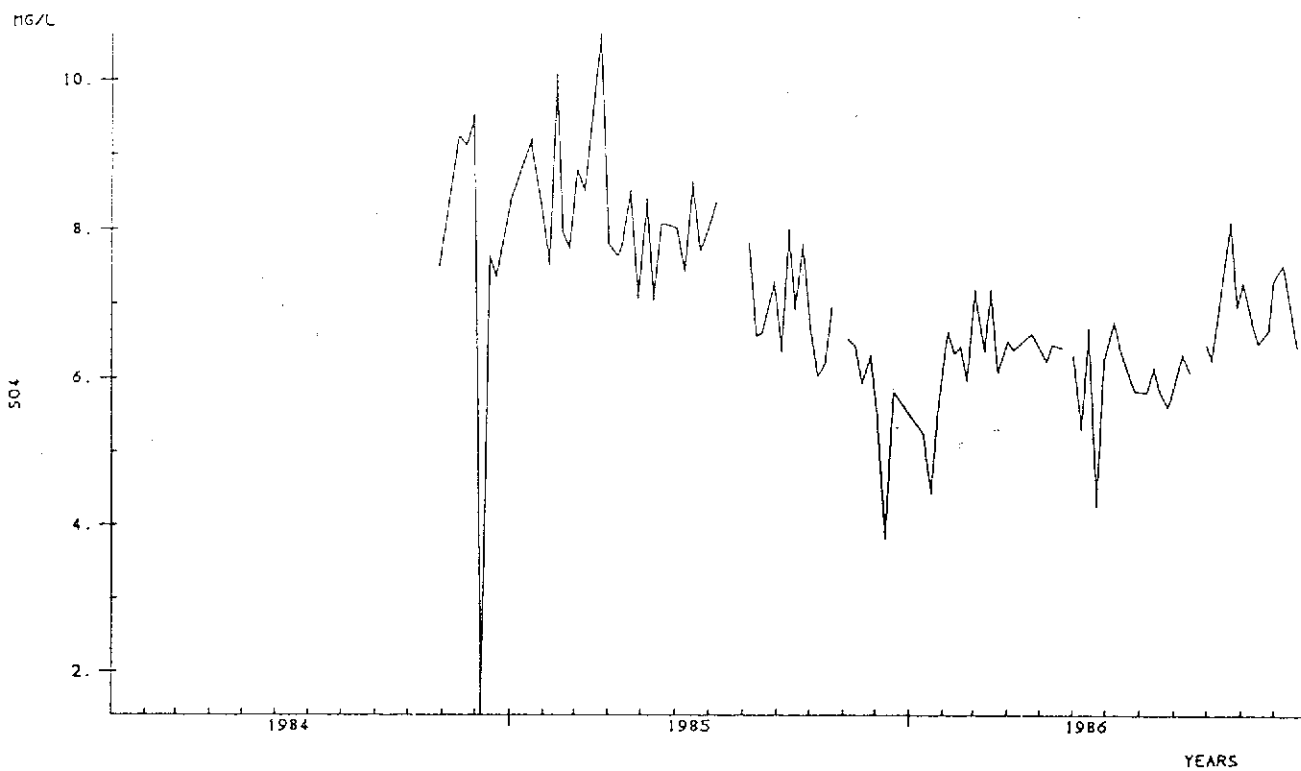
LI2 PH (1984-1986)



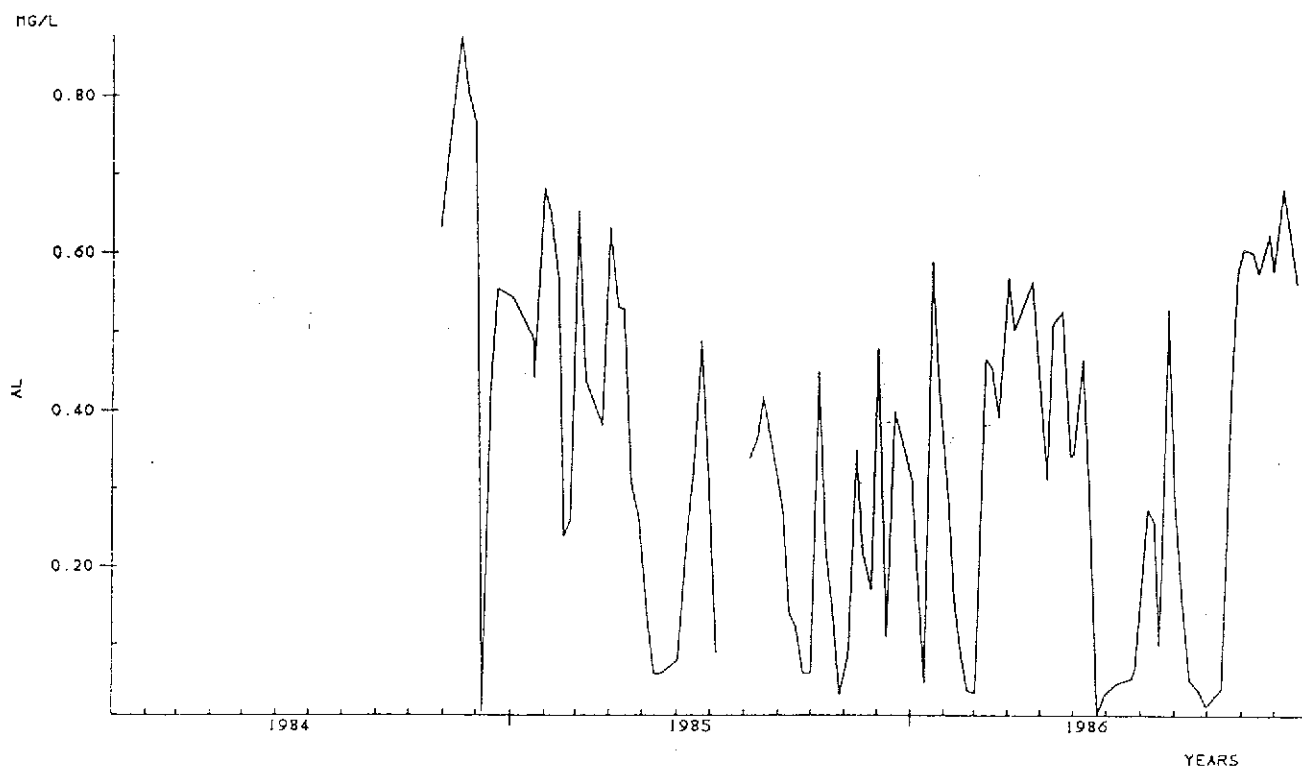
LI2 CONDUCTIVITY (1984-1986)



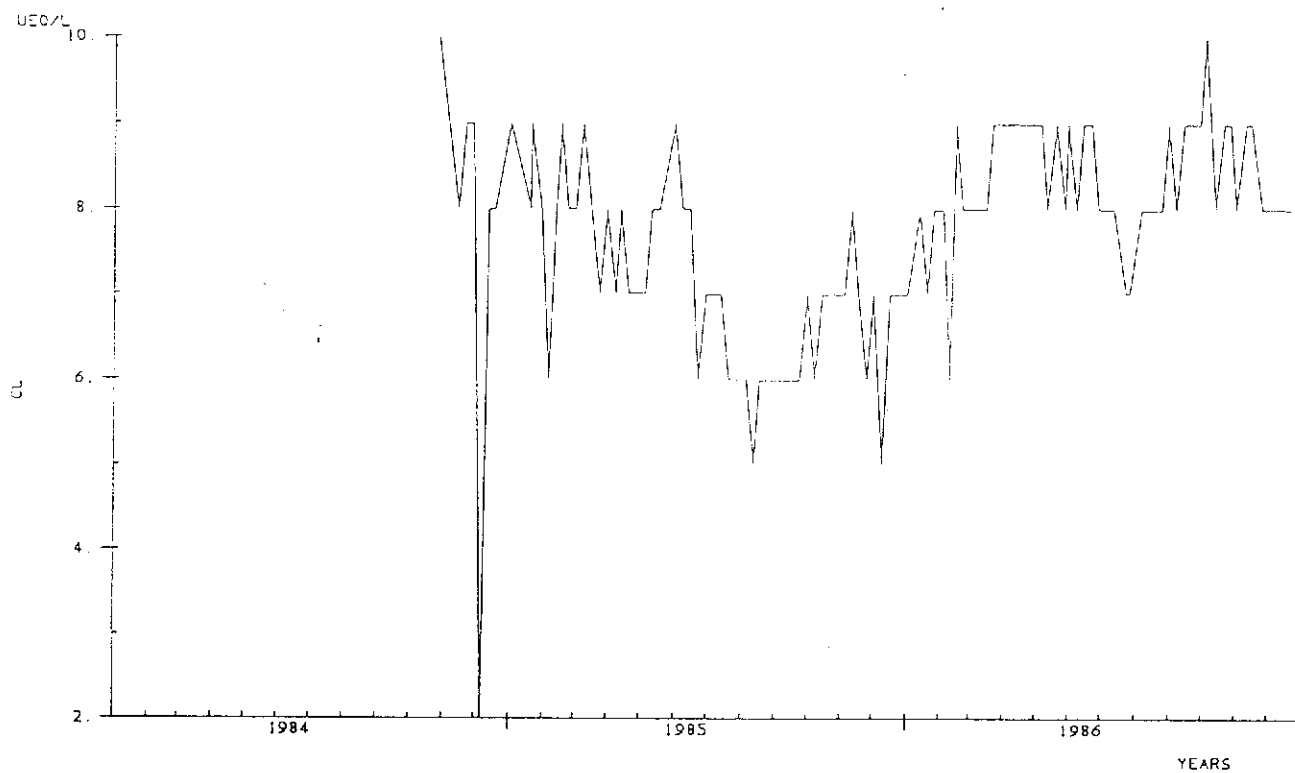
LI3 SULPHATE CONTINUOUS DATA (1984-1986)



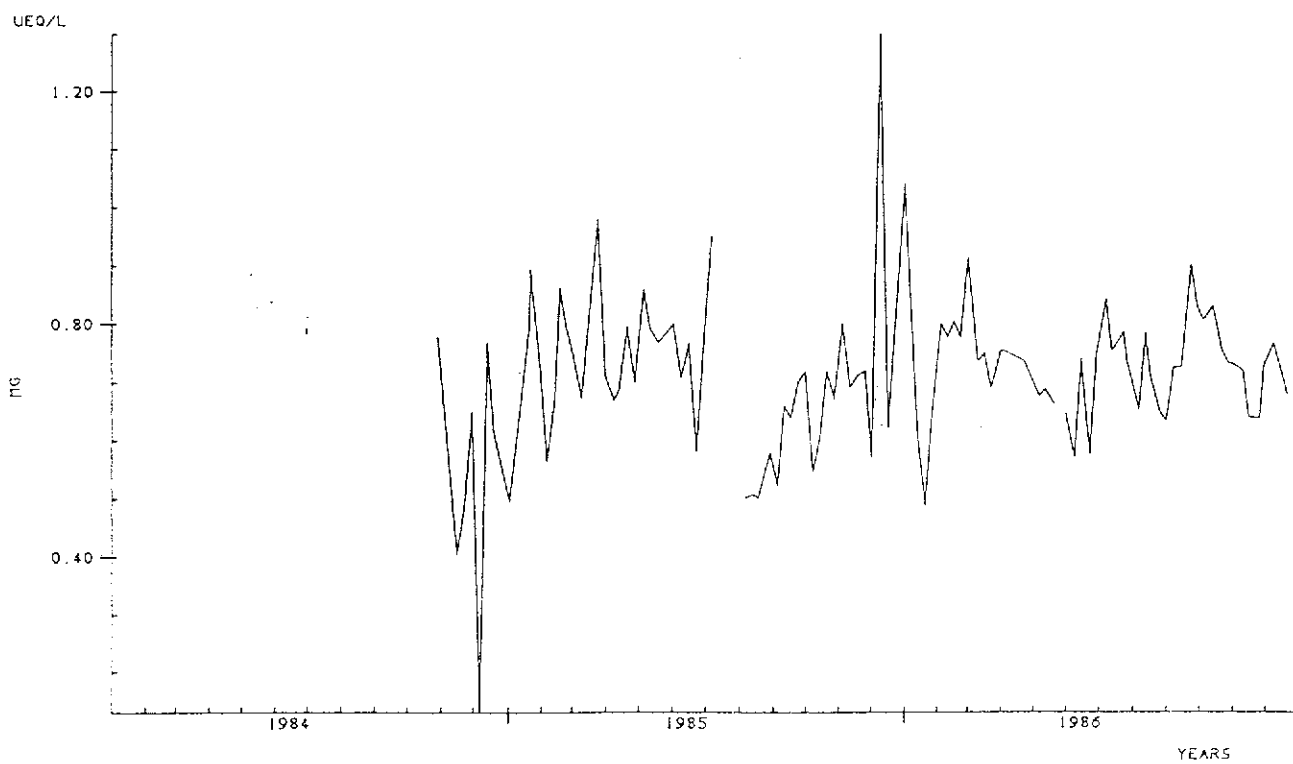
LI3 ALUMINIUM CONTINUOUS DATA (1984-1986)



LI3 CHLORIDE (1984-1986)

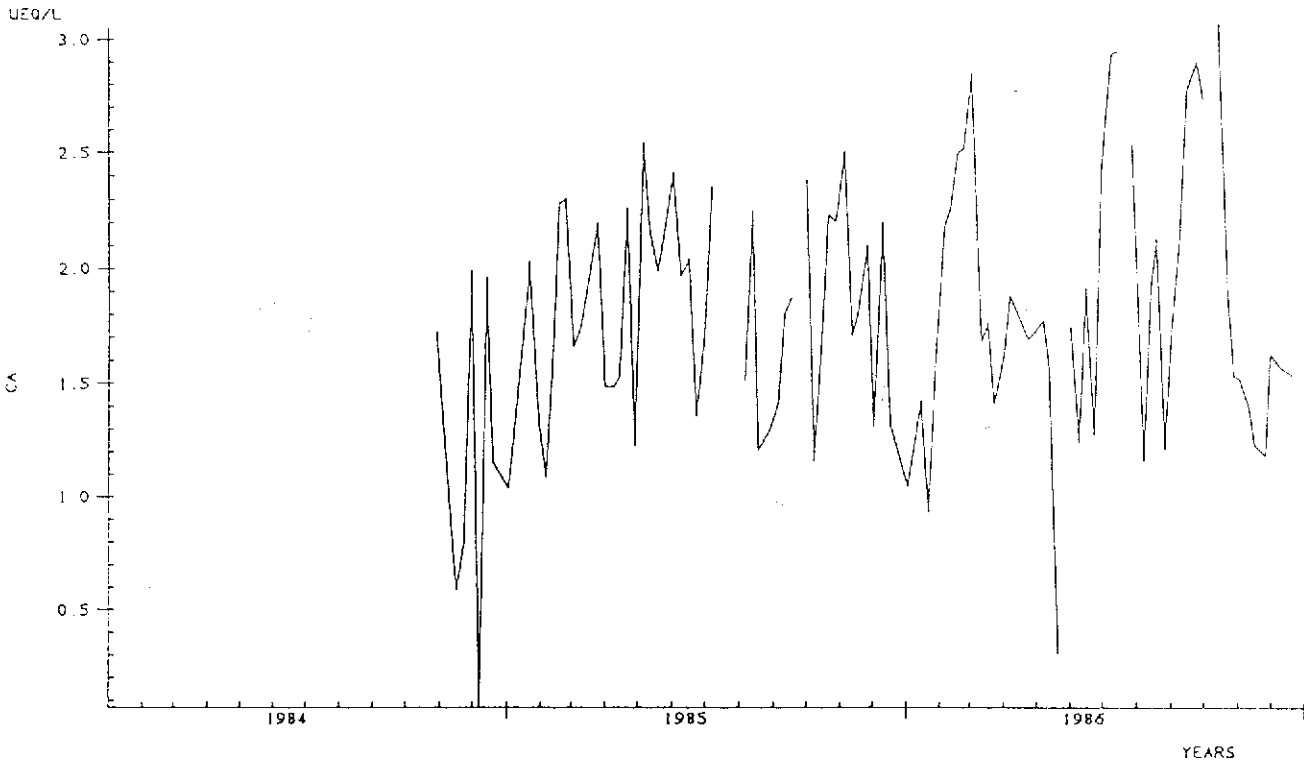


LI3 MAGNESIUM (1984-1986)

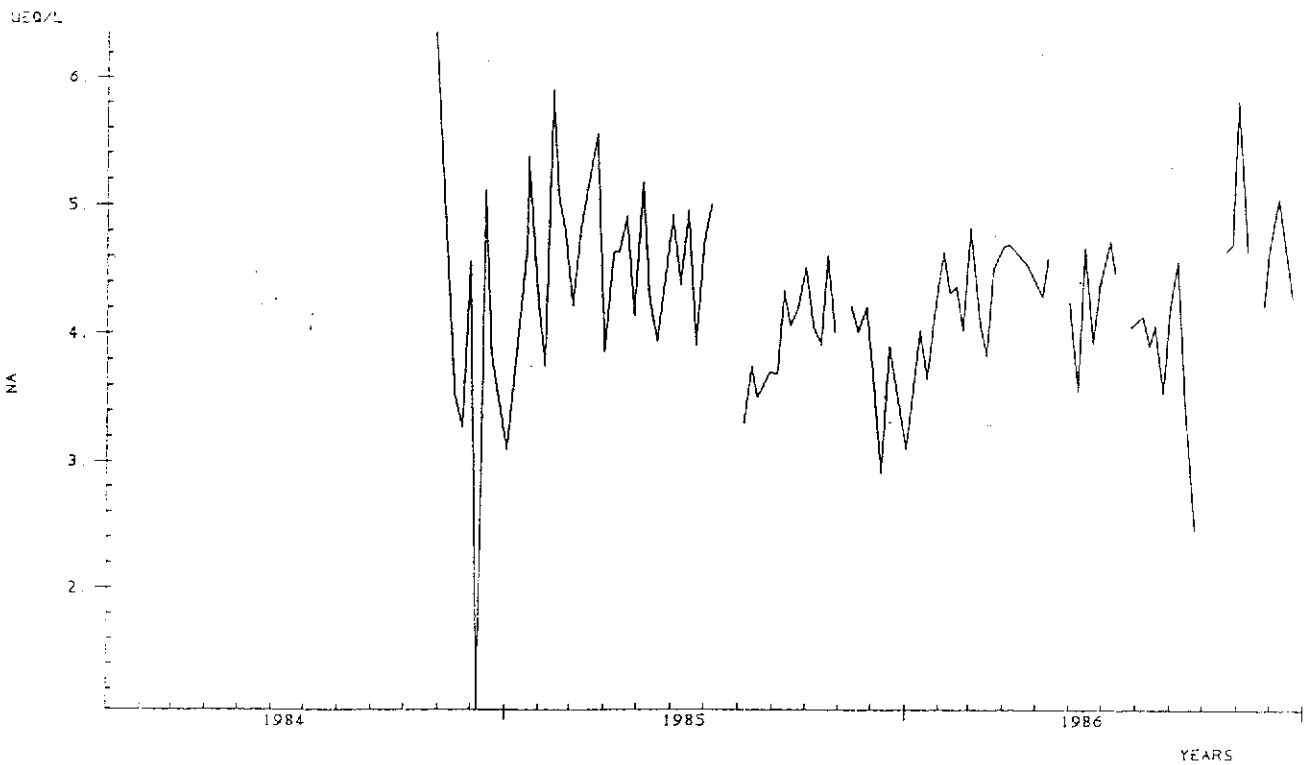




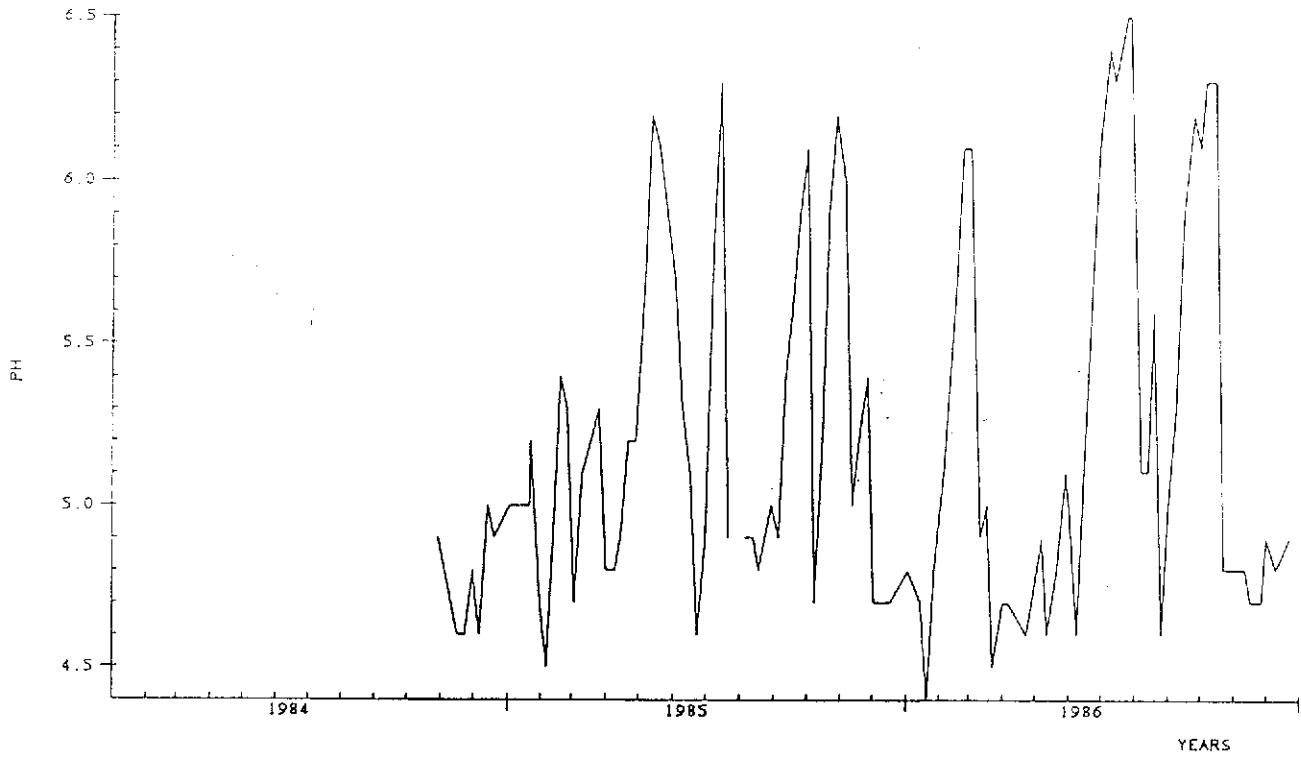
LI3 CALCIUM (1984-1986)



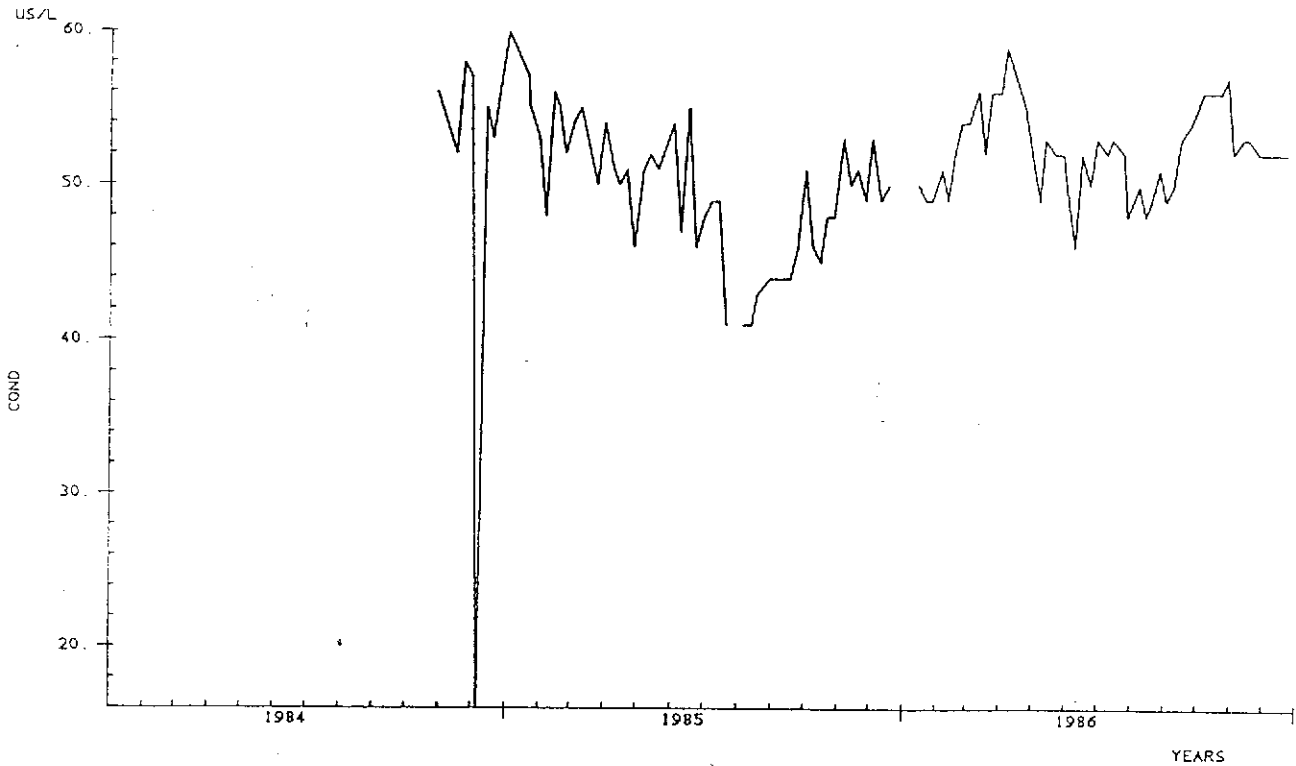
LI3 SODIUM (1984-1986)



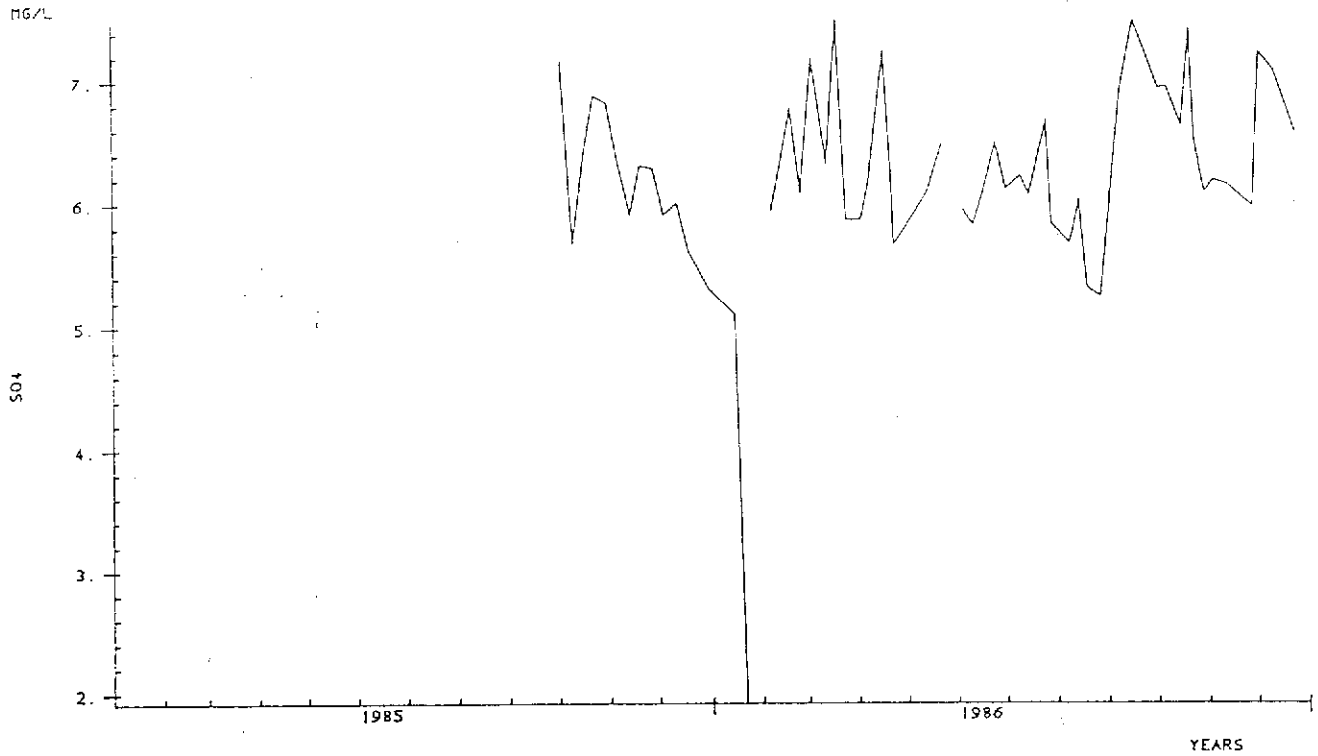
LI3 PH SPOT SAMPLES (1984-1986)



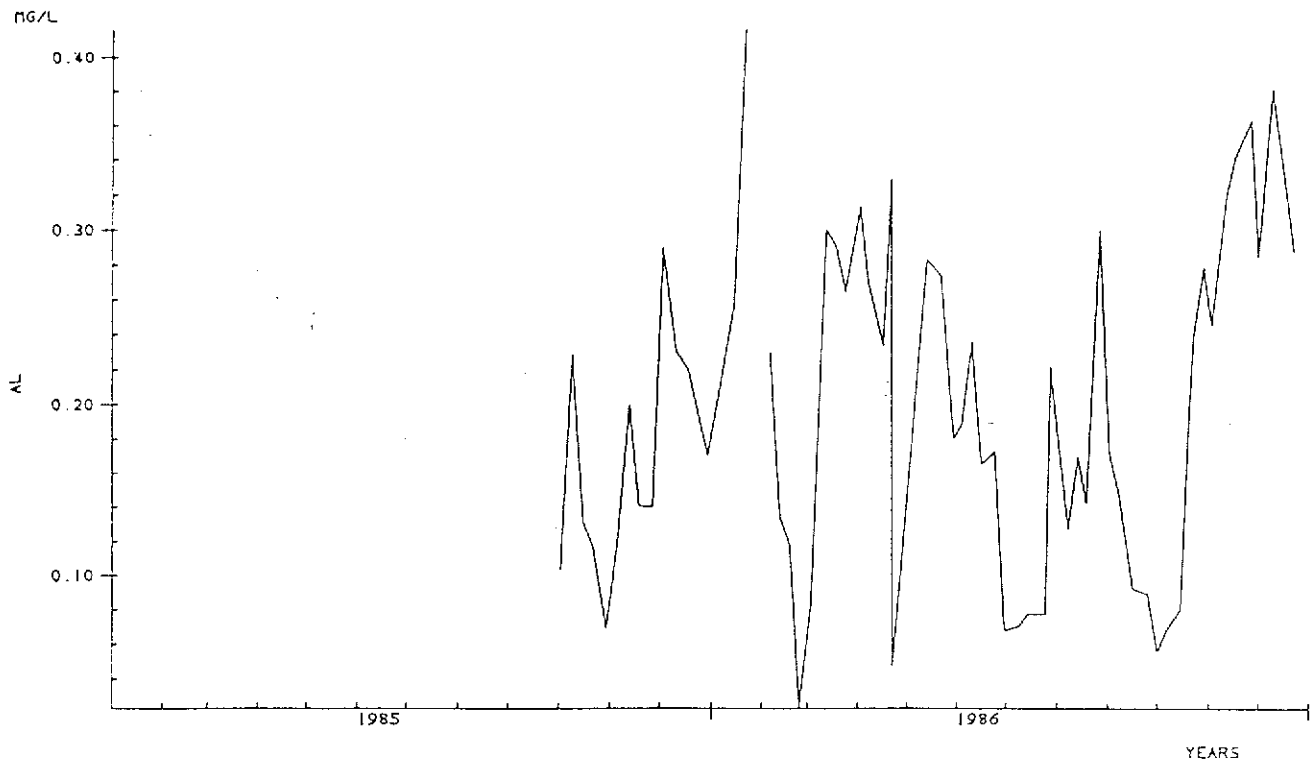
LI3 CONDUCTIVITY (1984-1986)



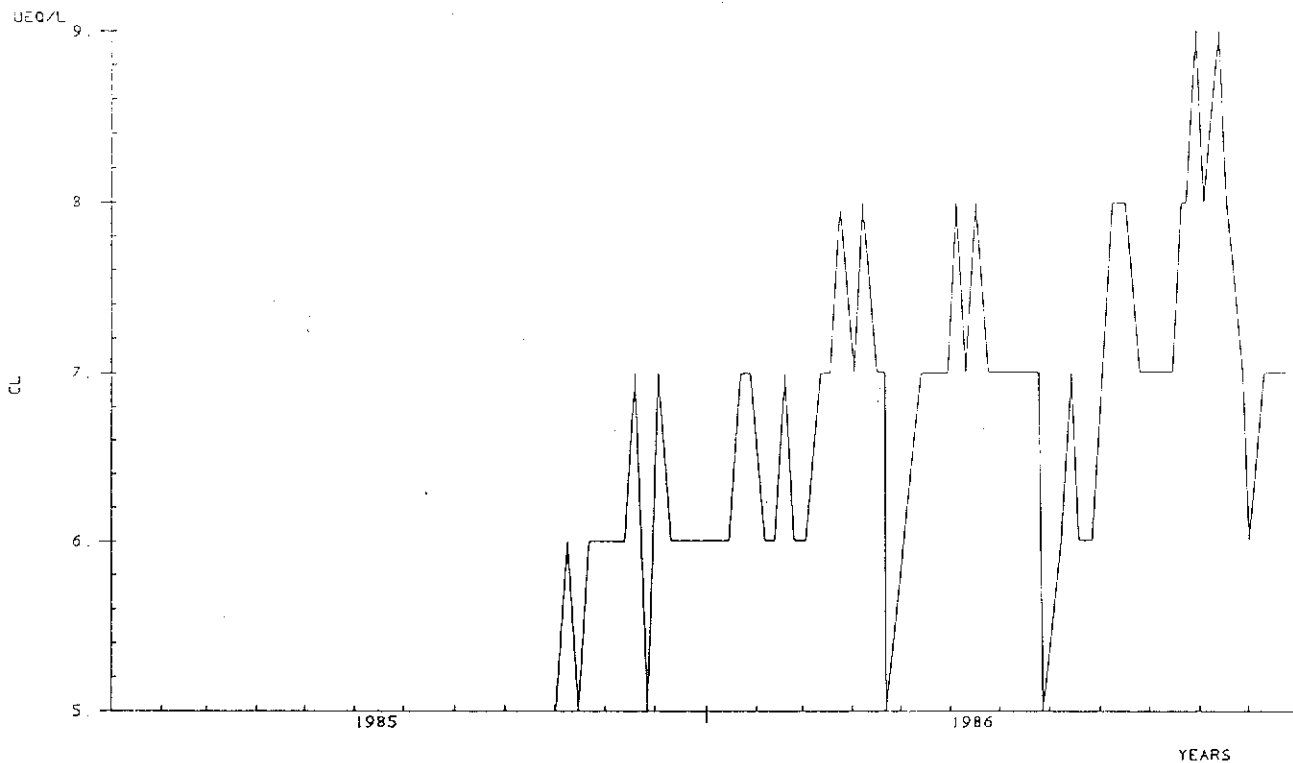
LI4 SULPHATE CONTINUOUS DATA(1984-1986)



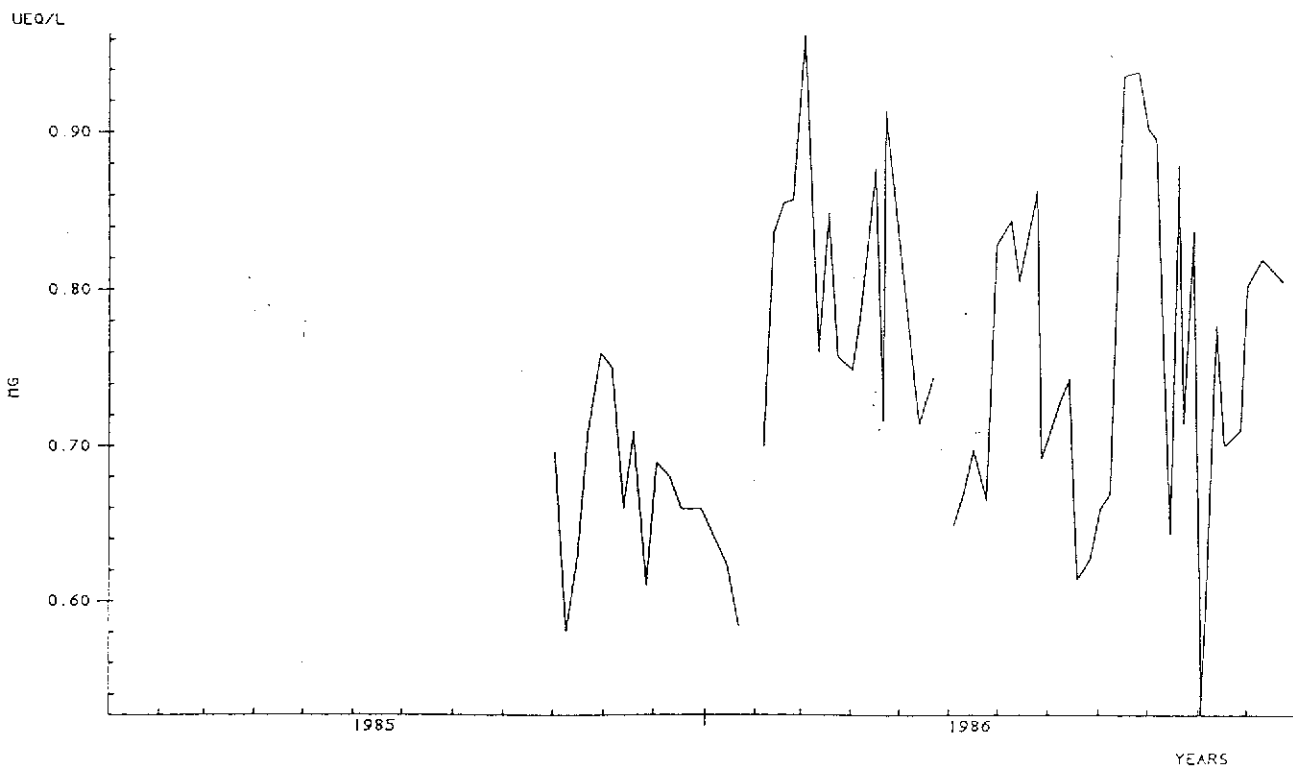
LI4 ALUMINIUM CONTINUOUS DATA(1984-1986)



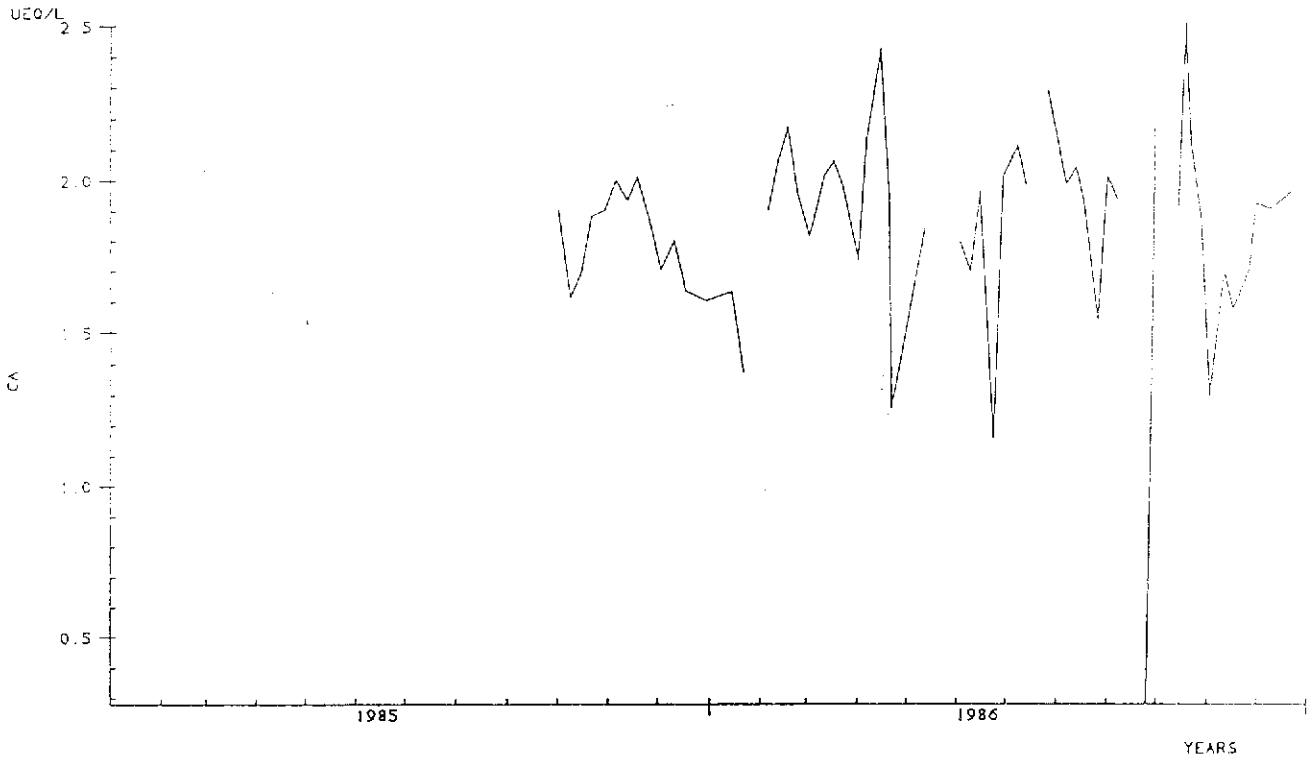
LI4 CHLORIDE (1984-1986)



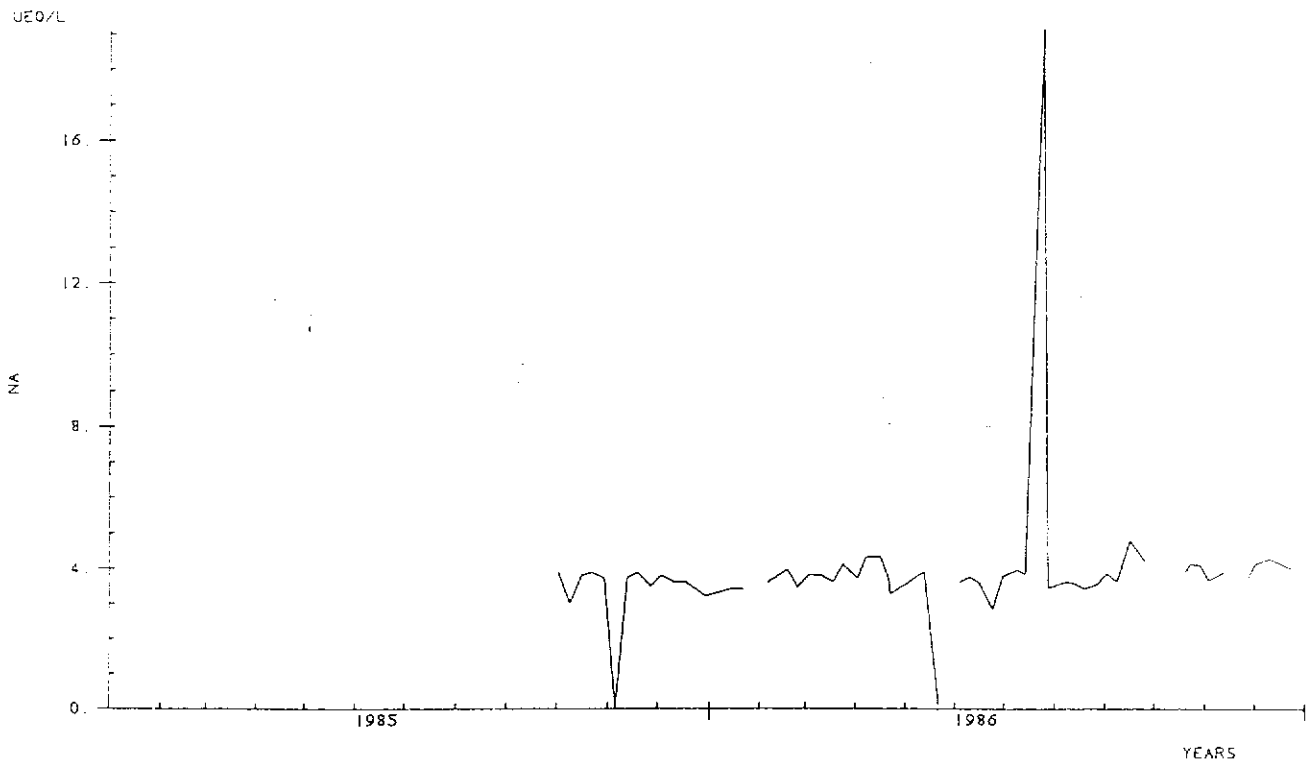
LI4 MAGNESIUM (1984-1986)



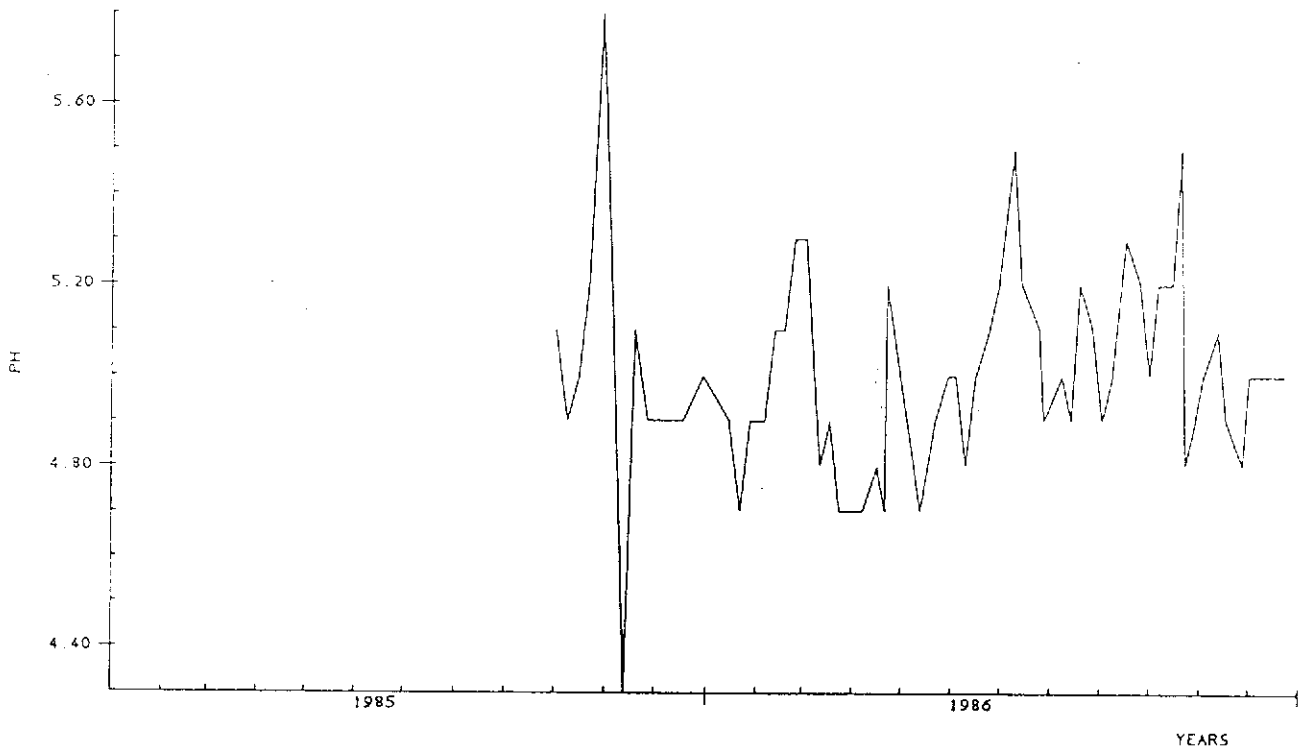
LI4 CALCIUM (1984-1986)



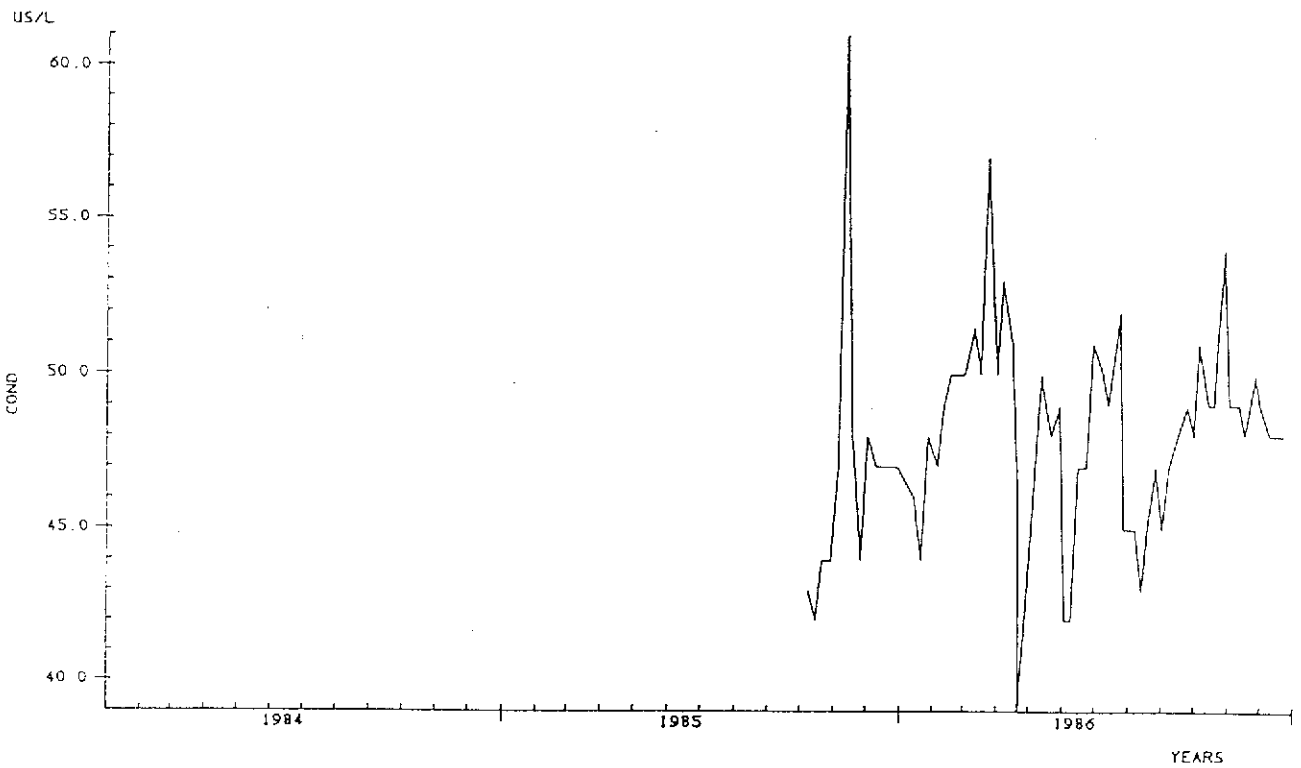
LI4 SODIUM (1984-1986)



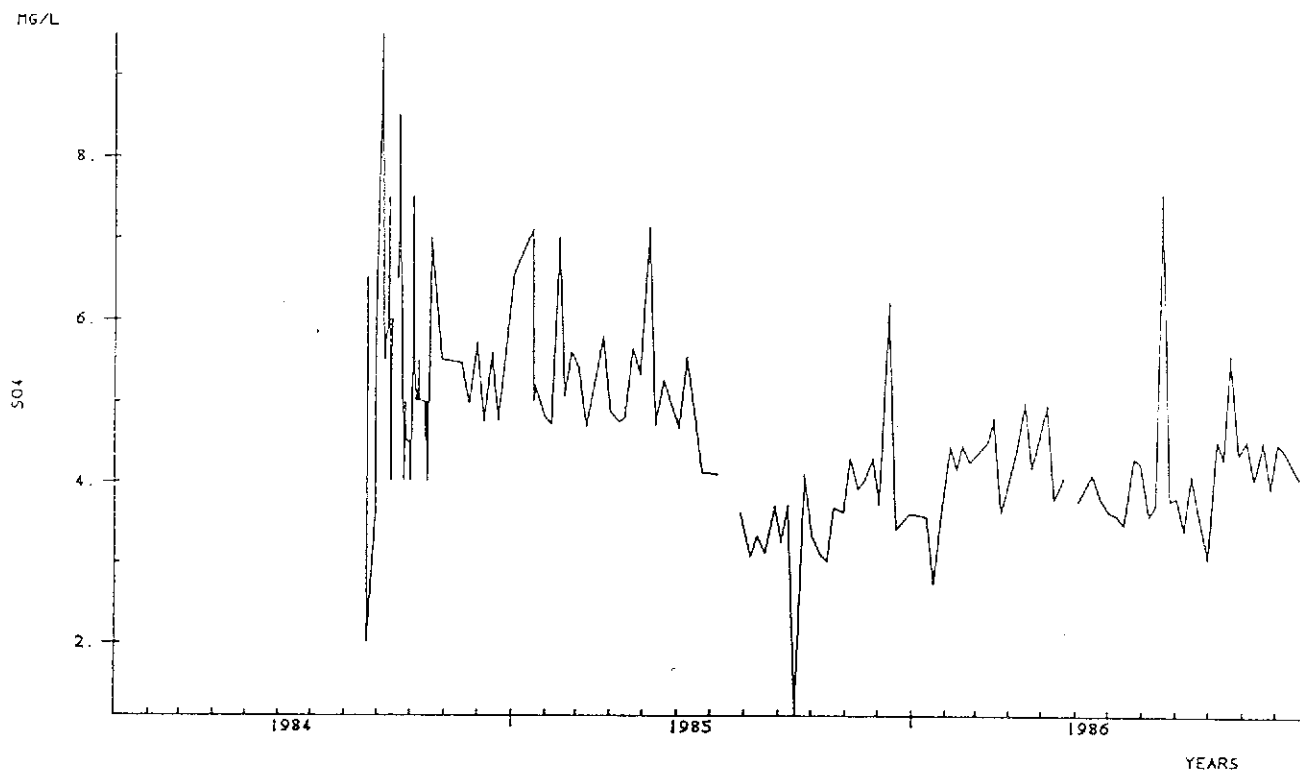
LI4 PH SPOT SAMPLES (1984-1986)



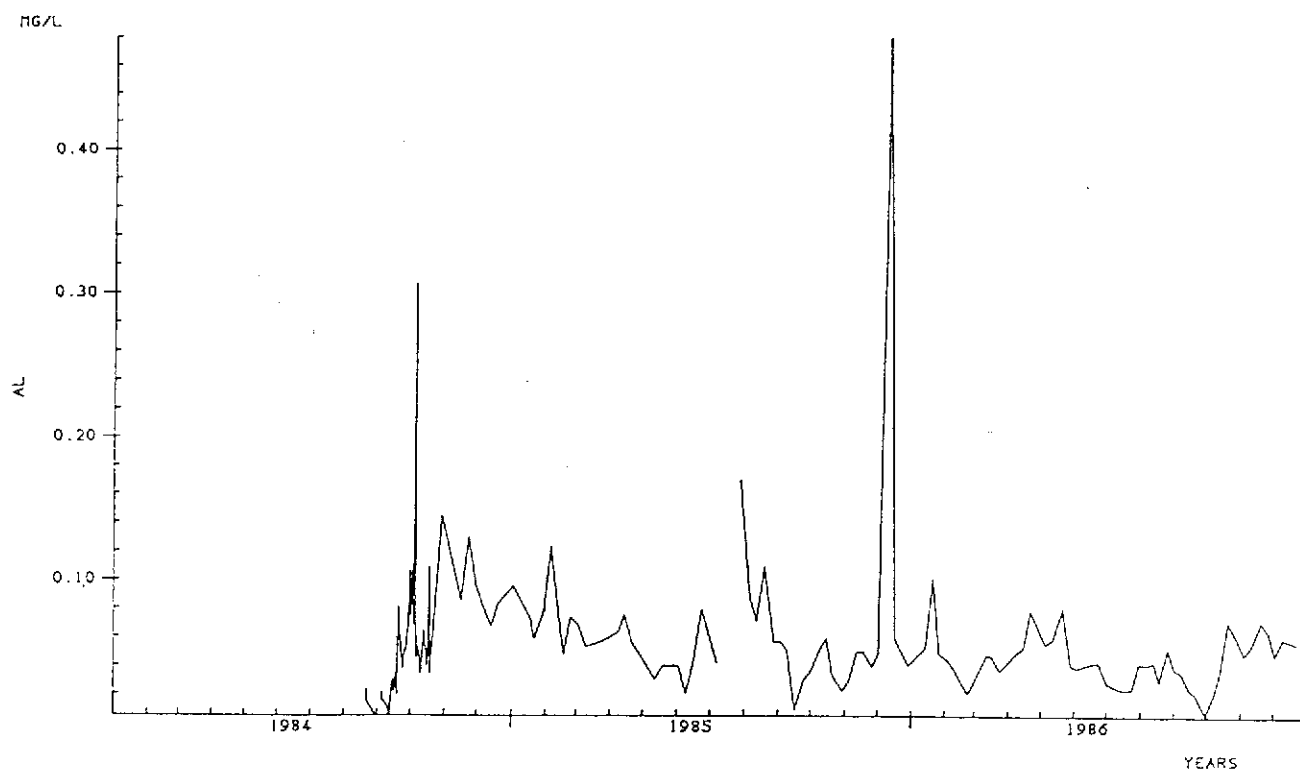
LI4 CONDUCTIVITY (1984-1986)



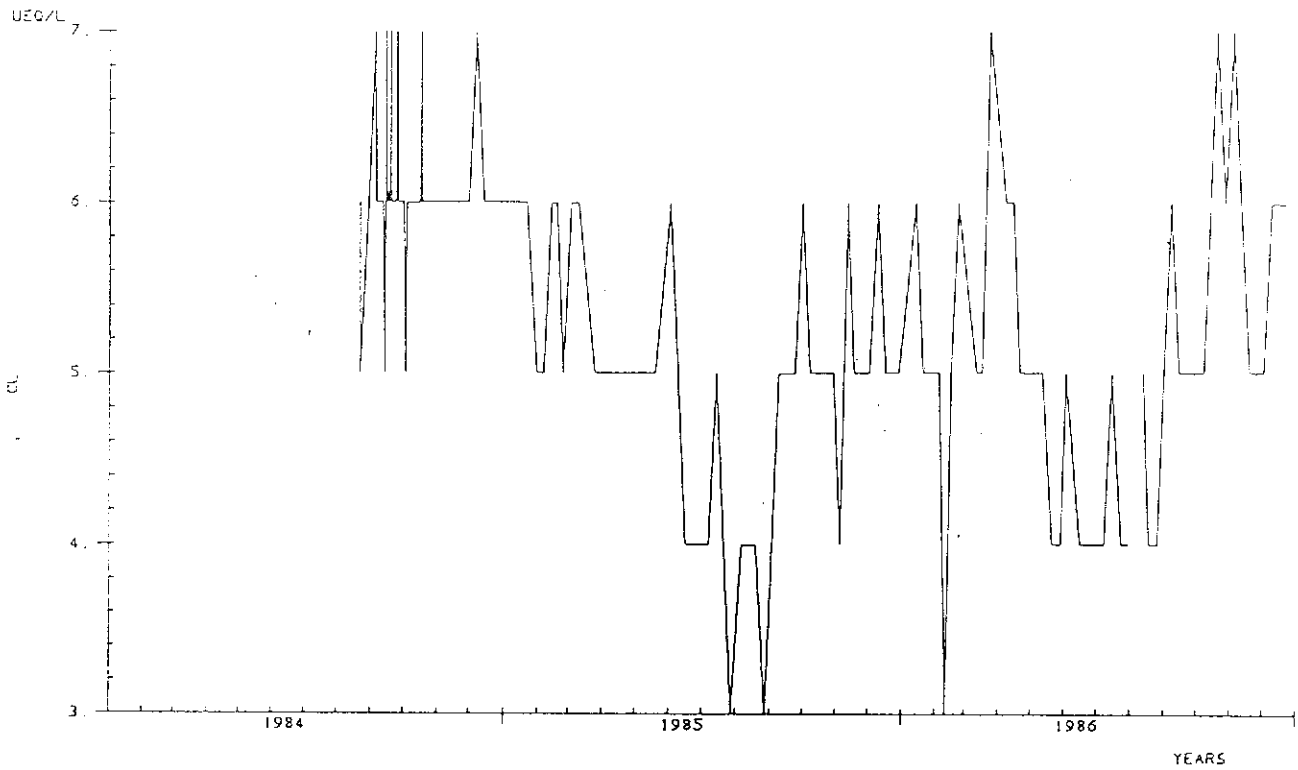
LI6 SULPHATE CONTINUOUS DATA(1984-1986)



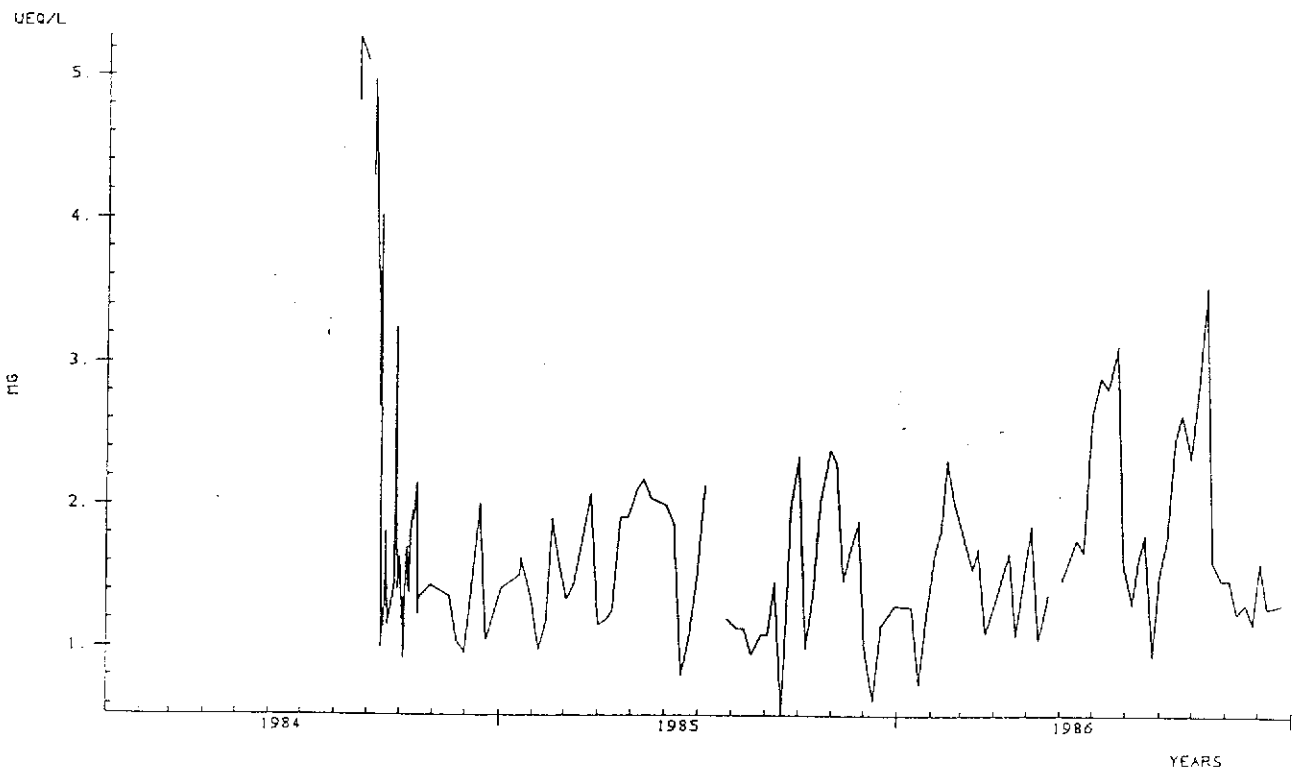
LI6 ALUMINIUM CONTINUOUS DATA(1984-1986)



LI6 CHLORIDE (1984-1986)

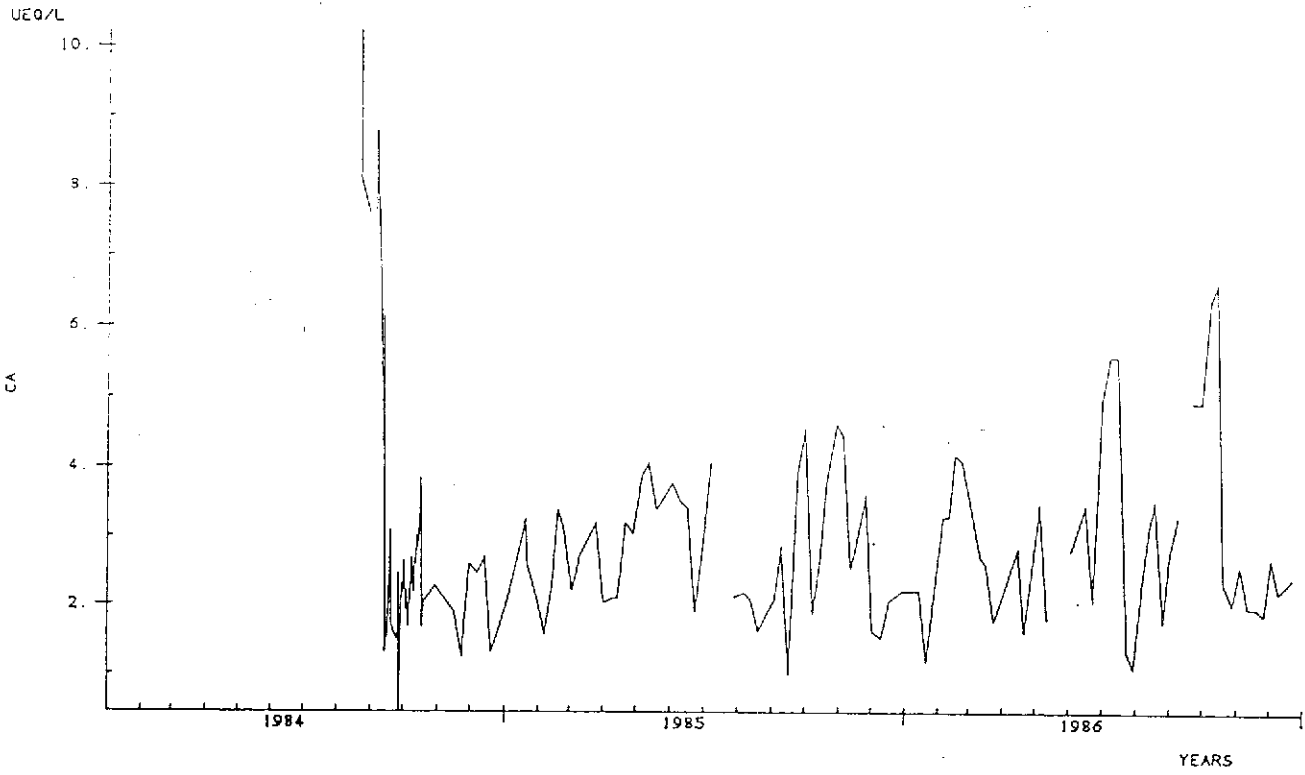


LI6 MAGNESIUM (1984-1986)

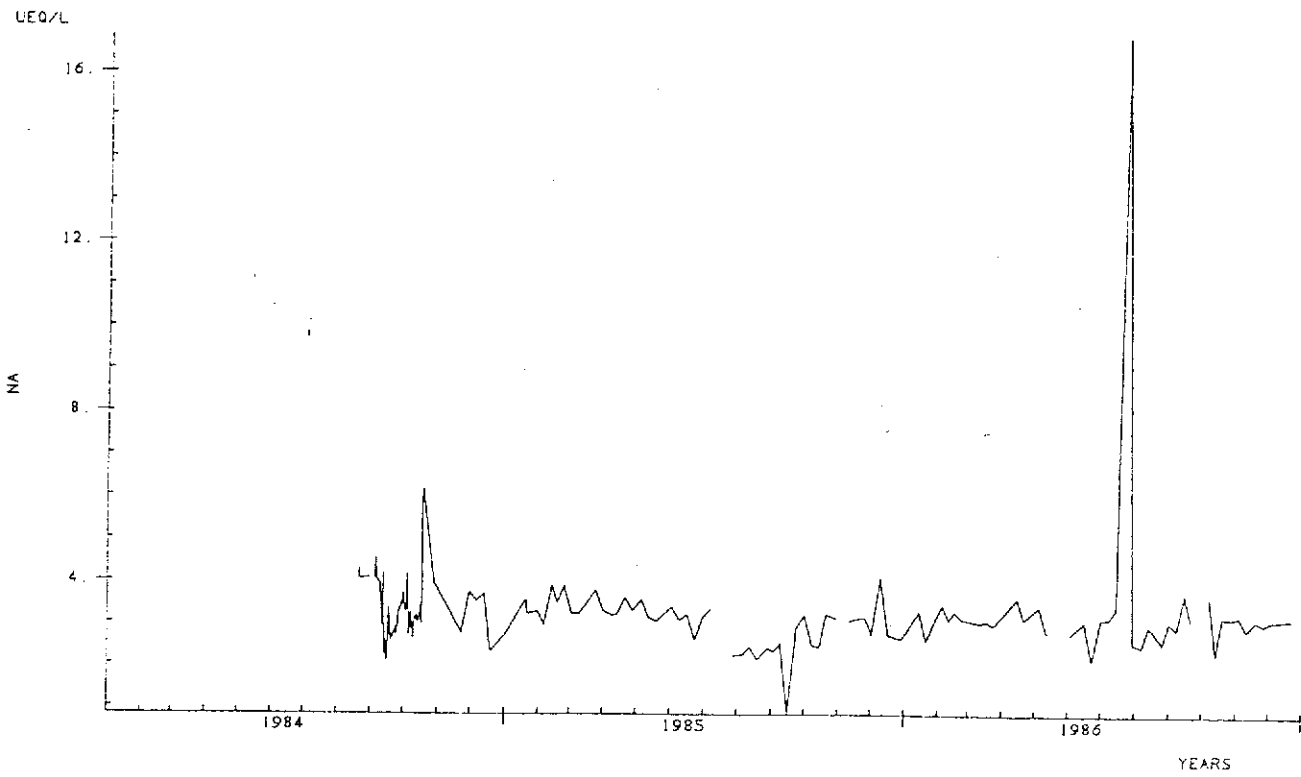




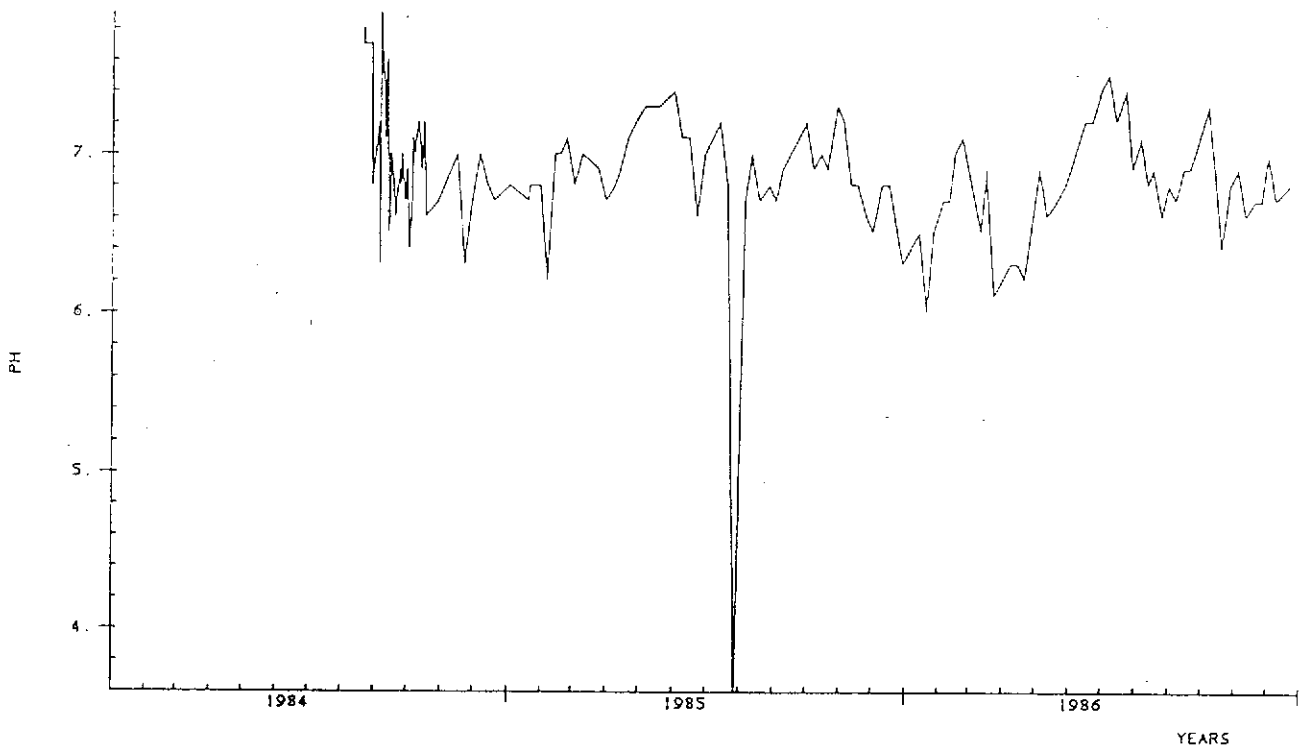
LI6 CALCIUM (1984-1986)



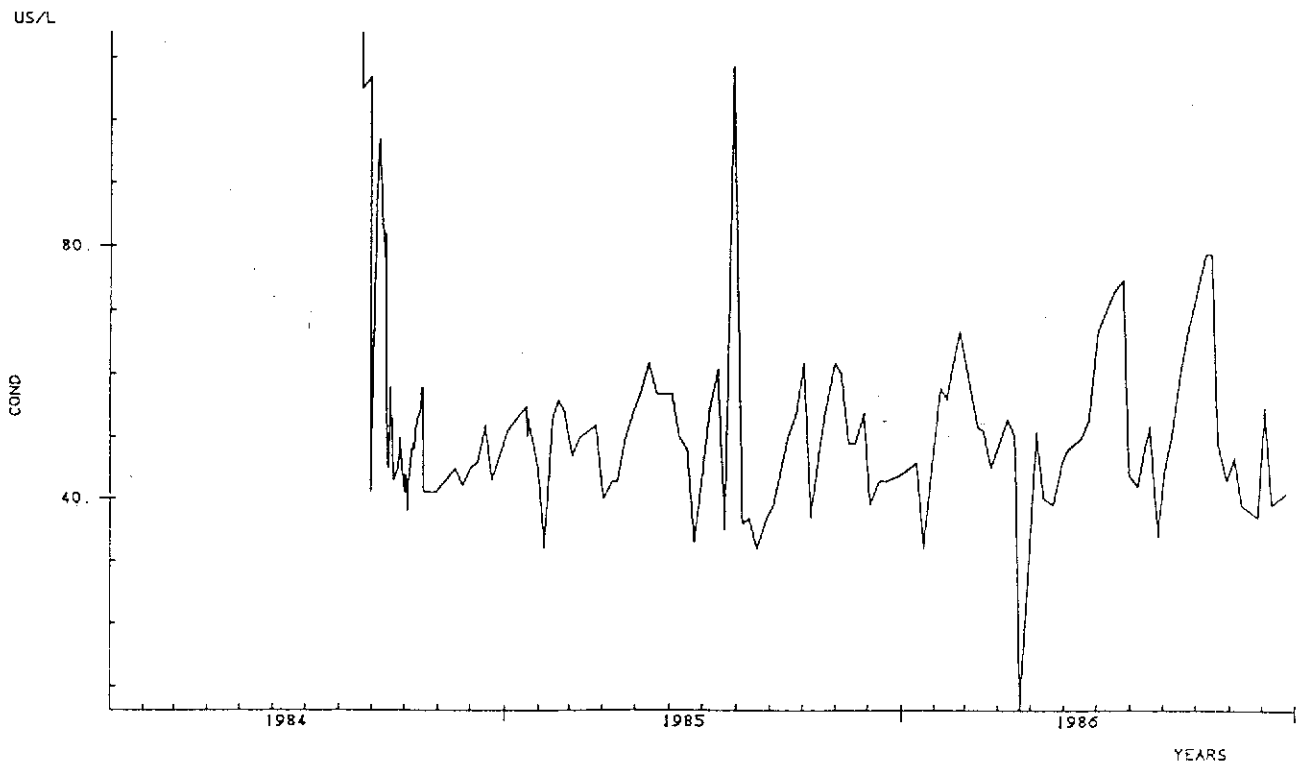
LI6 SODIUM (1984-1986)



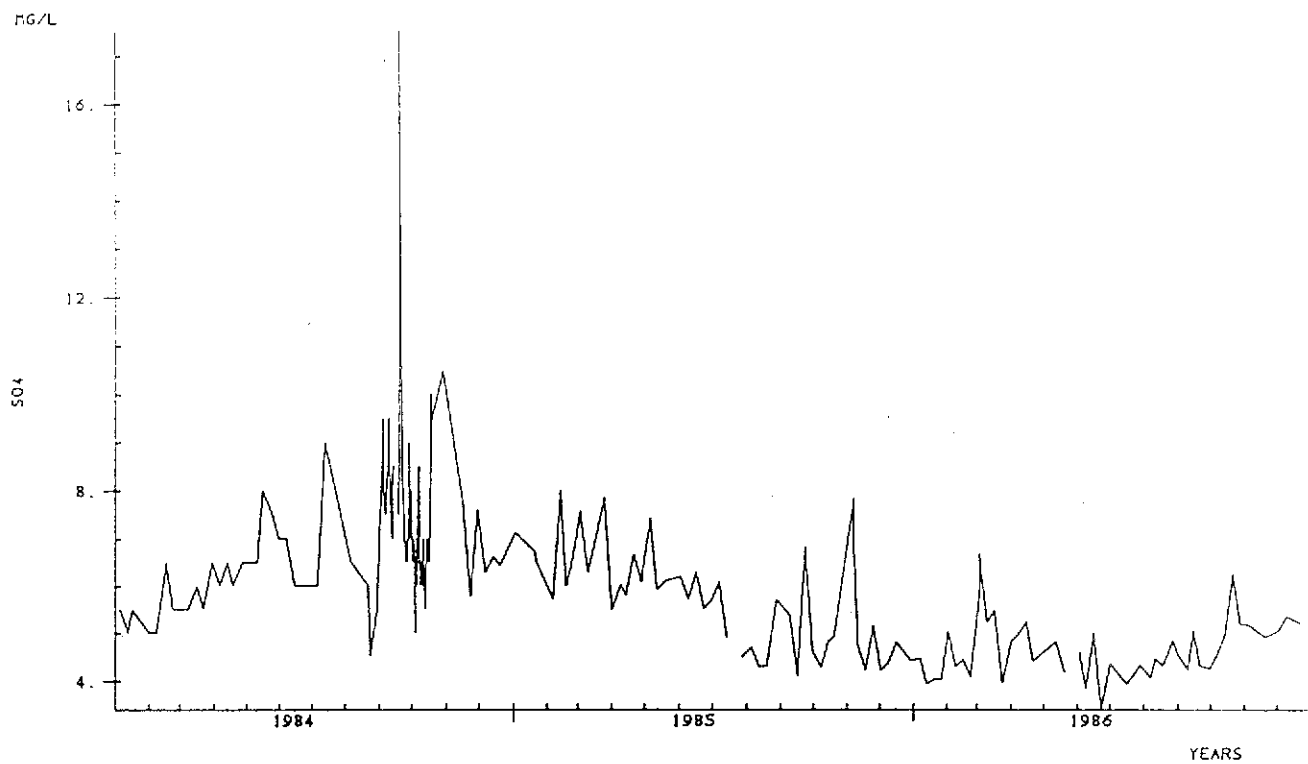
LI6 PH SPOT SAMPLES (1984-1986)



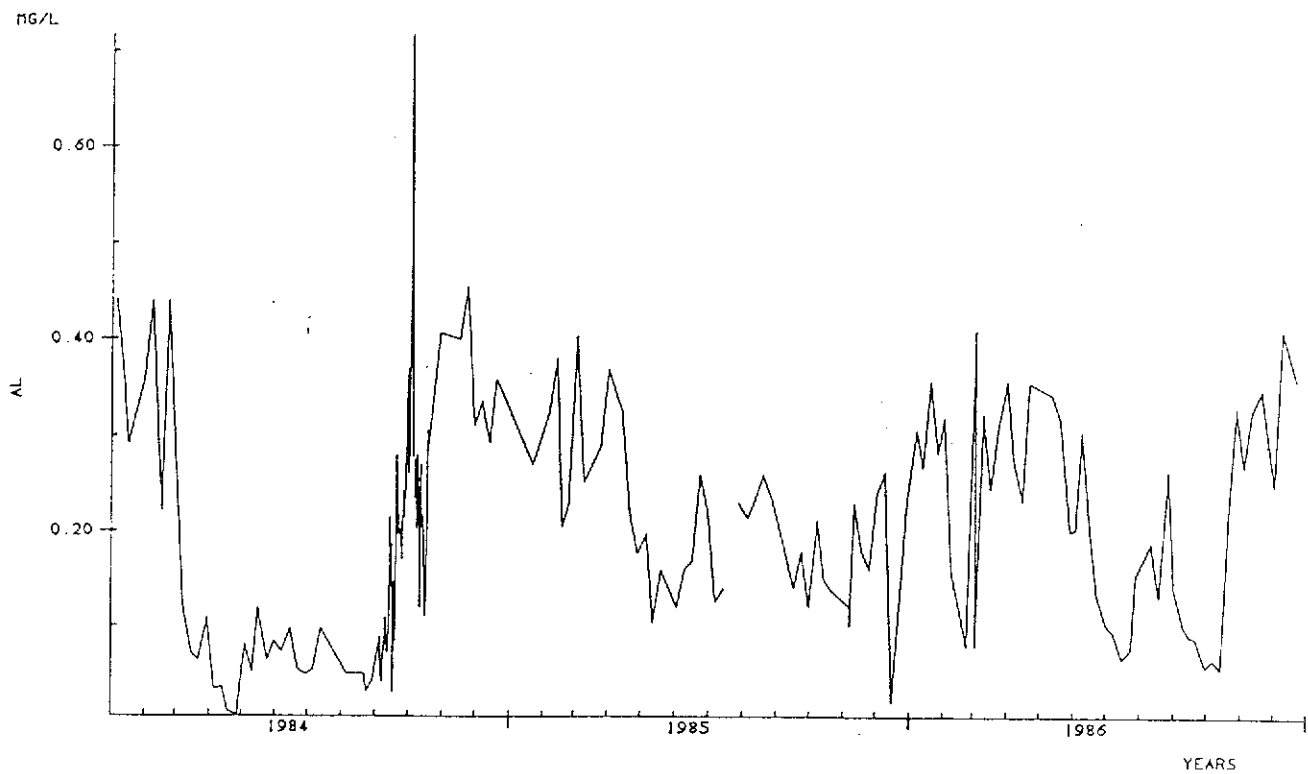
LI6 CONDUCTIVITY (1984-1986)



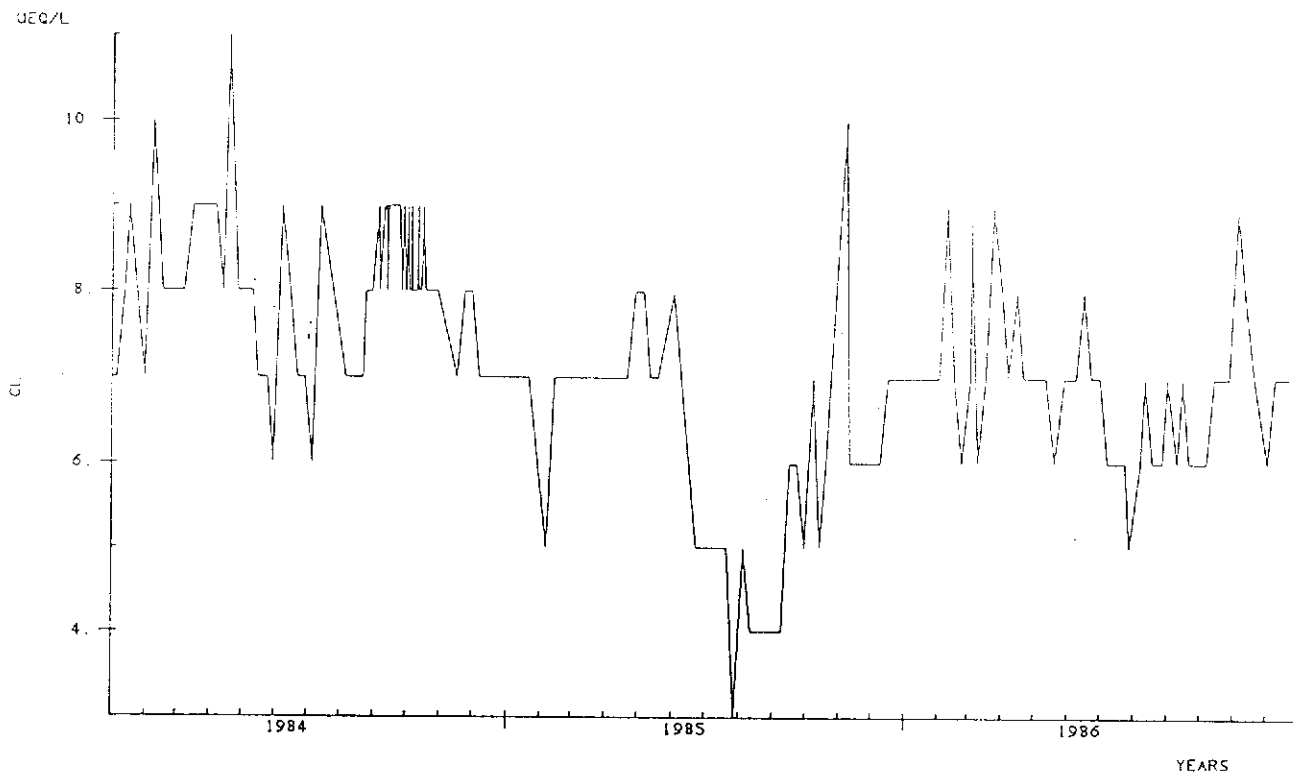
# LI8 SULPHATE CONTINUOUS DATA (1984-1986)



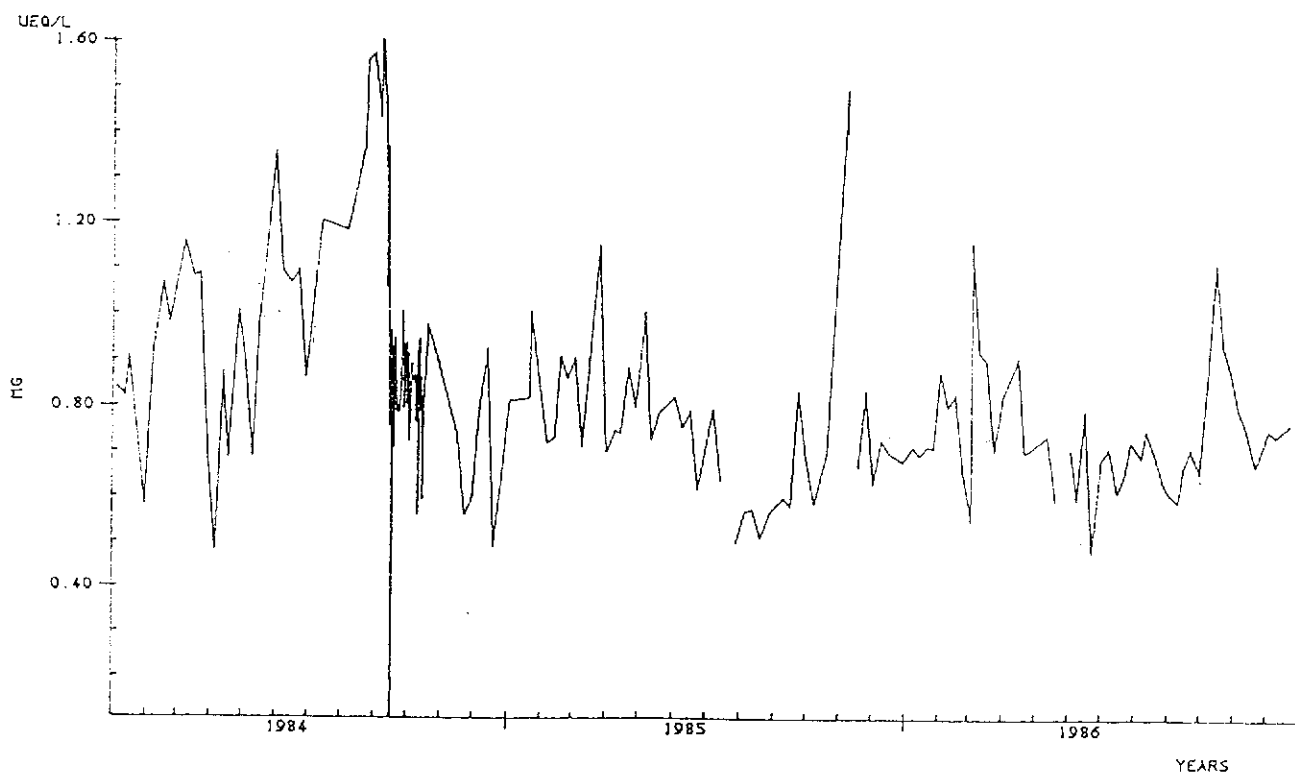
# LI8 ALUMINIUM CONTINUOUS DATA (1984-1986)



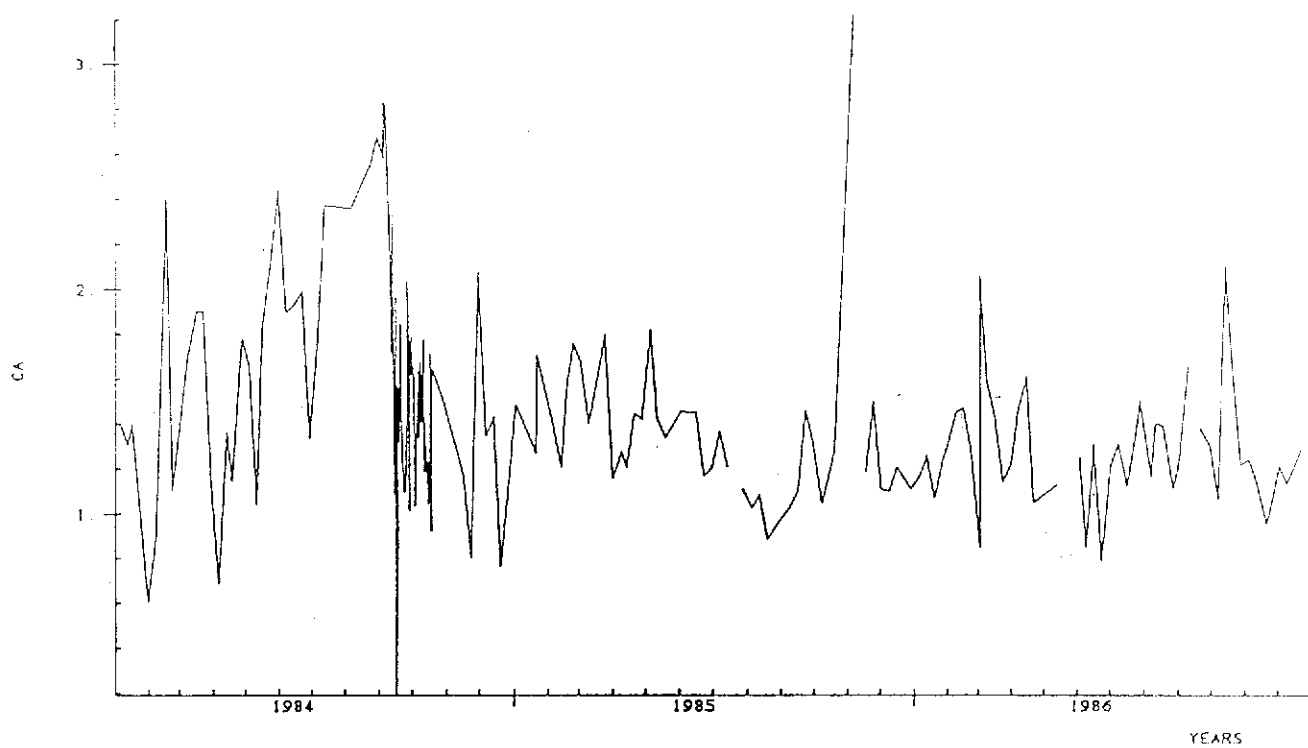
# LI8 CHLORIDE (1984-1986)



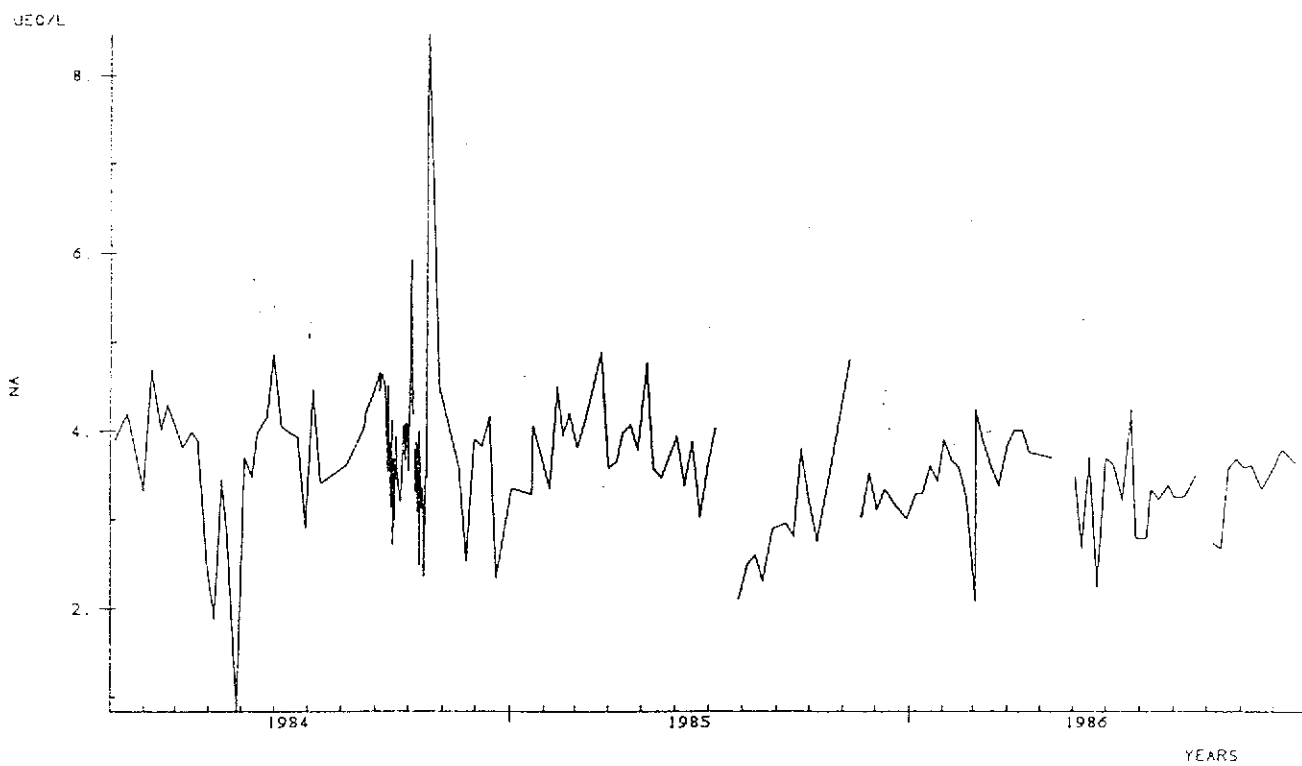
# LI8 MAGNESIUM DATA (1984-1986)



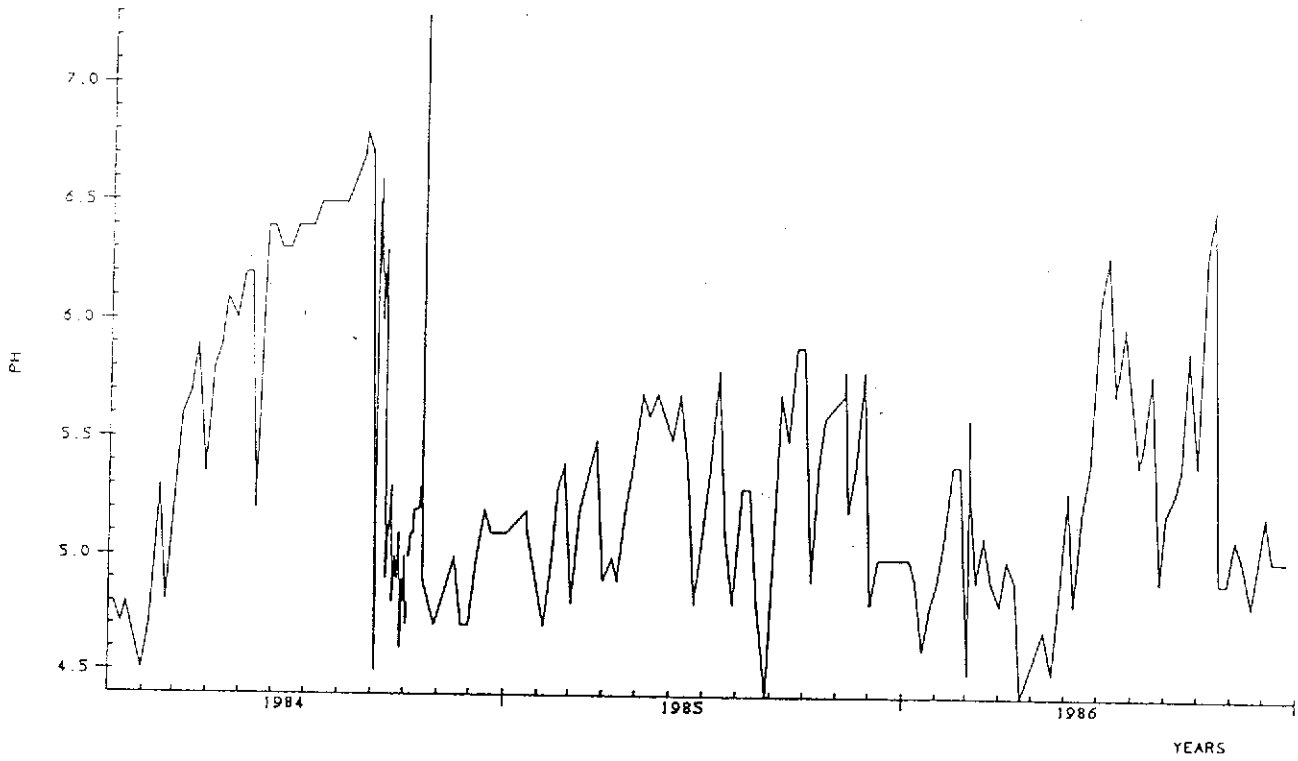
LI8 CALCIUM (1984-1986)



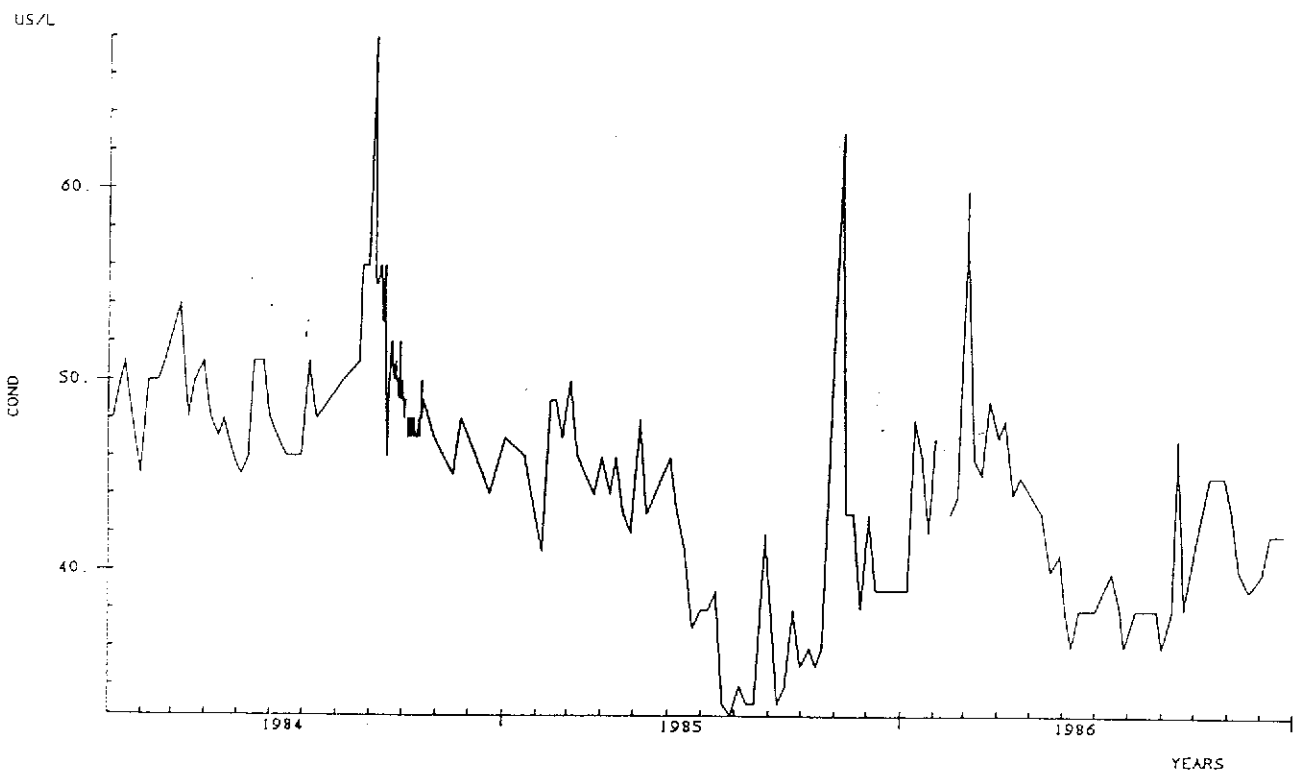
LI8 SODIUM (1984-1986)



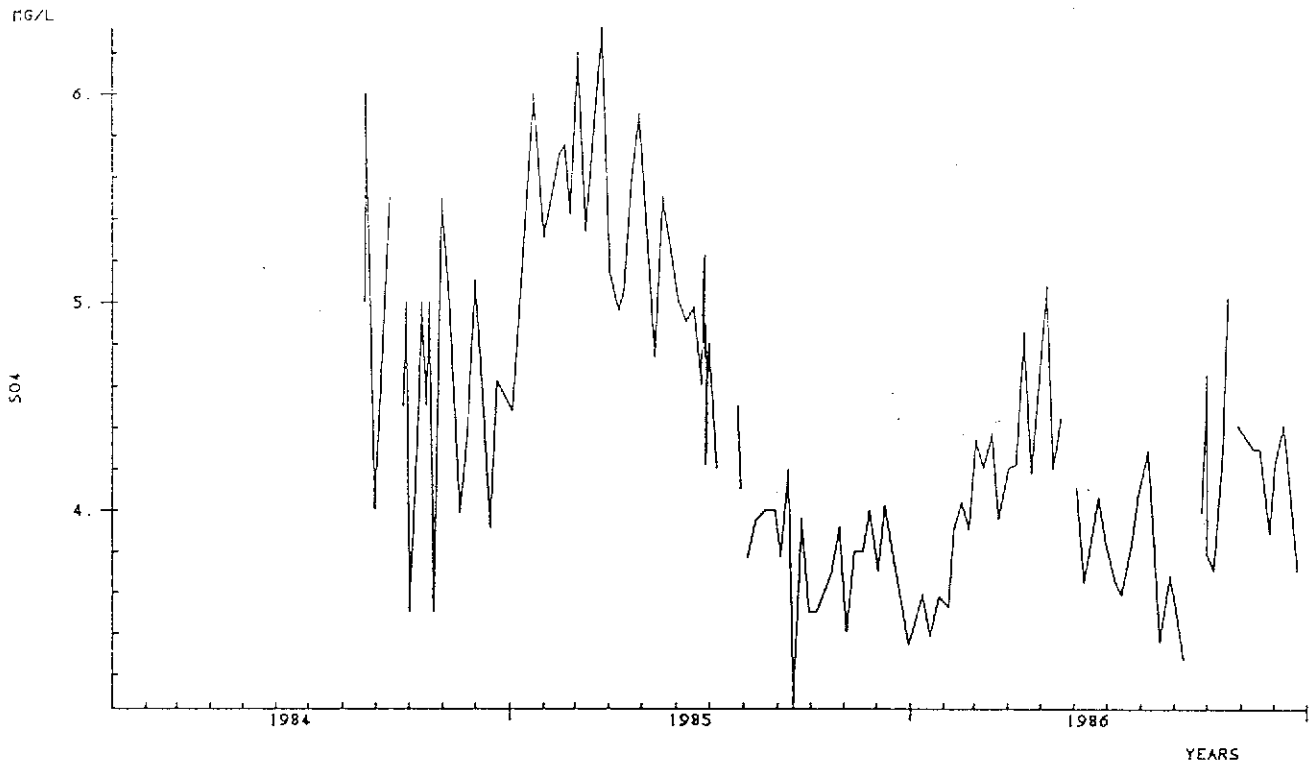
# LI8 PH SPOT SAMPLES (1984-1986)



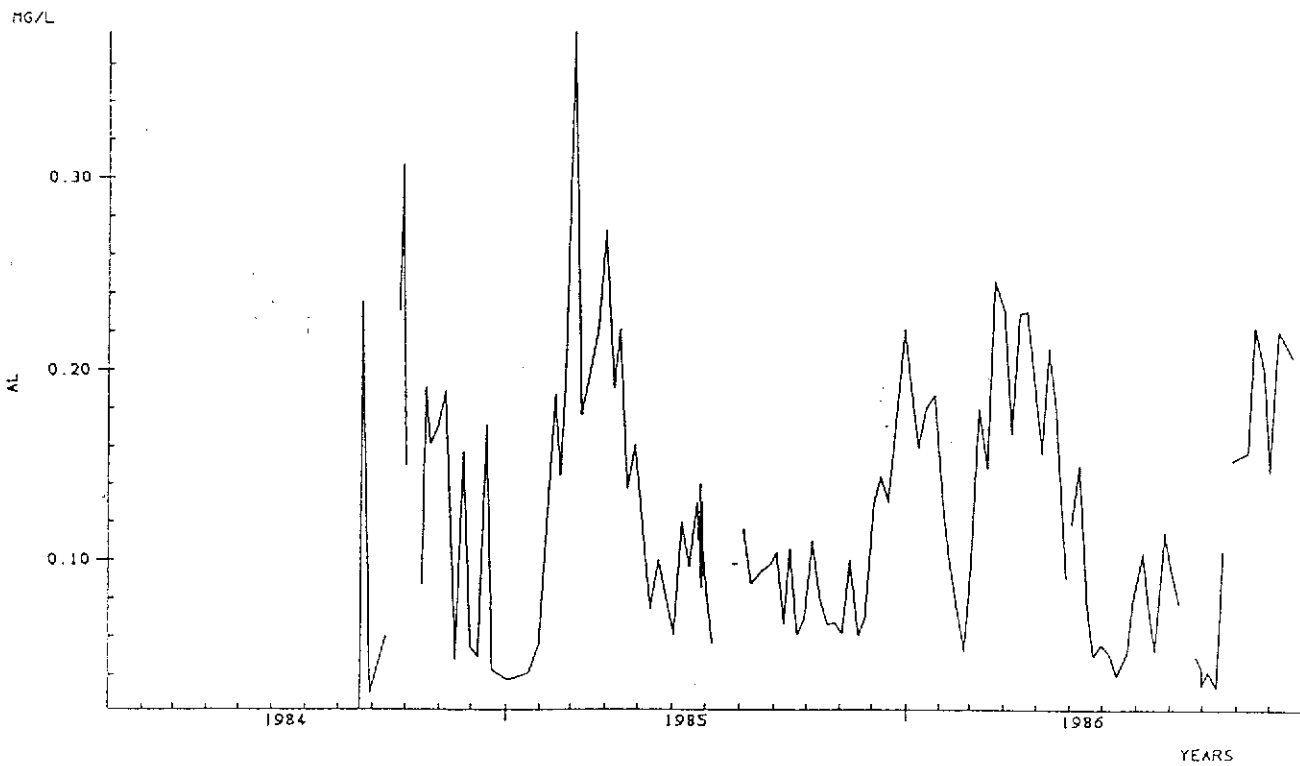
# LI8 CONDUCTIVITY (1984-1986)



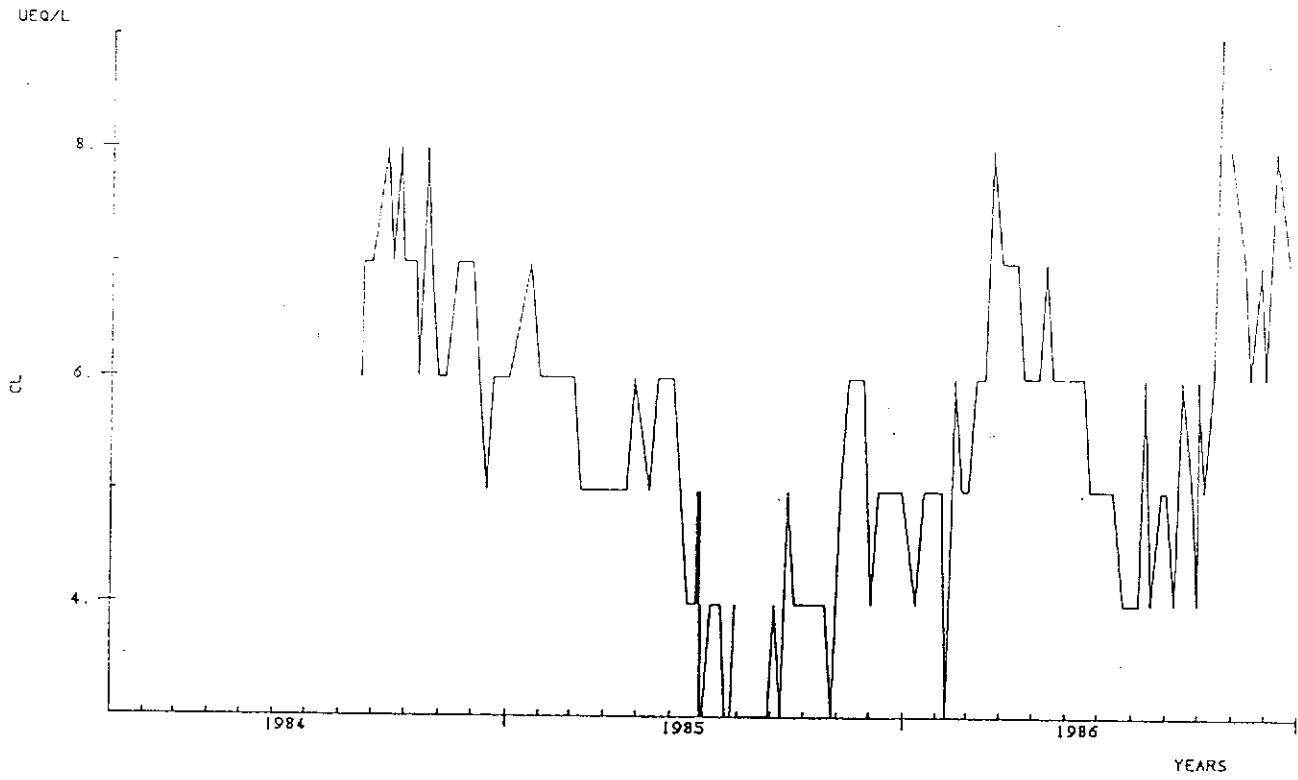
C13 SULPHATE CONTINUOUS DATA (1984-1986)



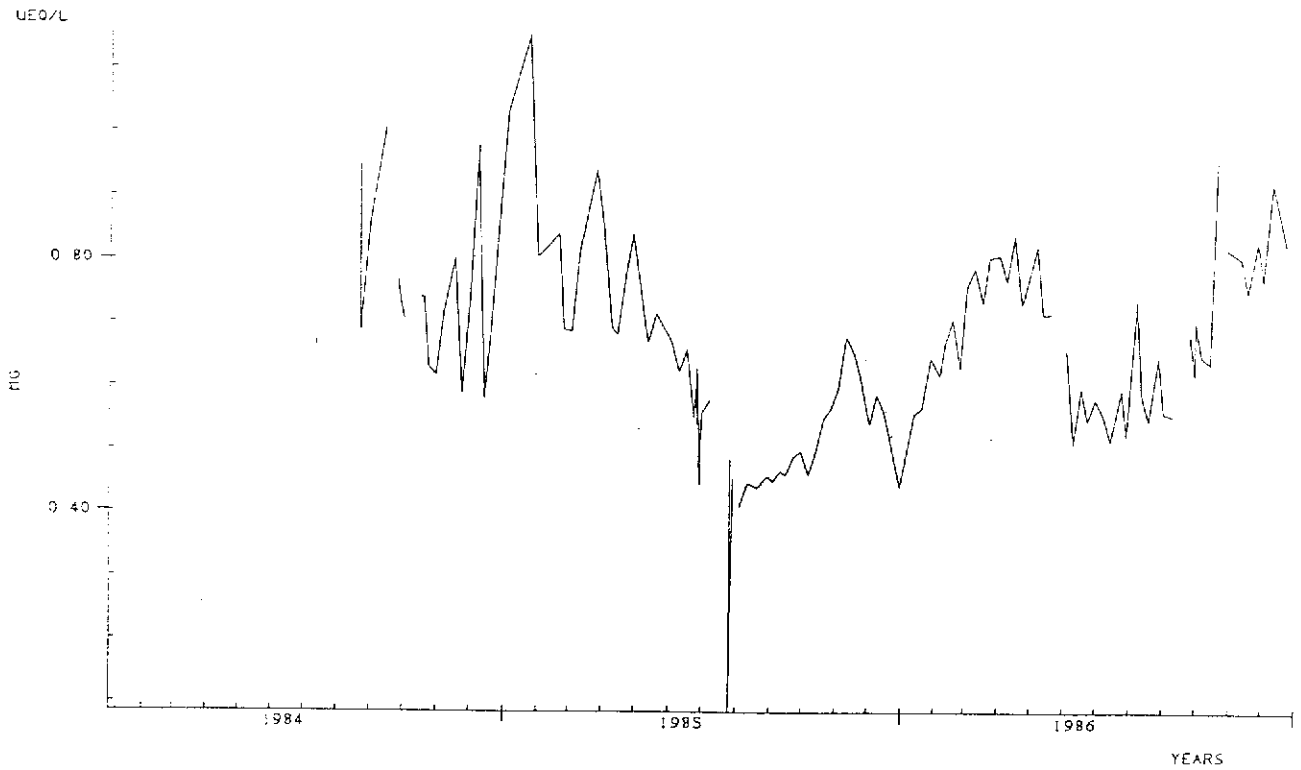
C13 ALUMINIUM CONTINUOUS DATA (1984-1986)



# CI3 CHLORIDE (1984-1986)

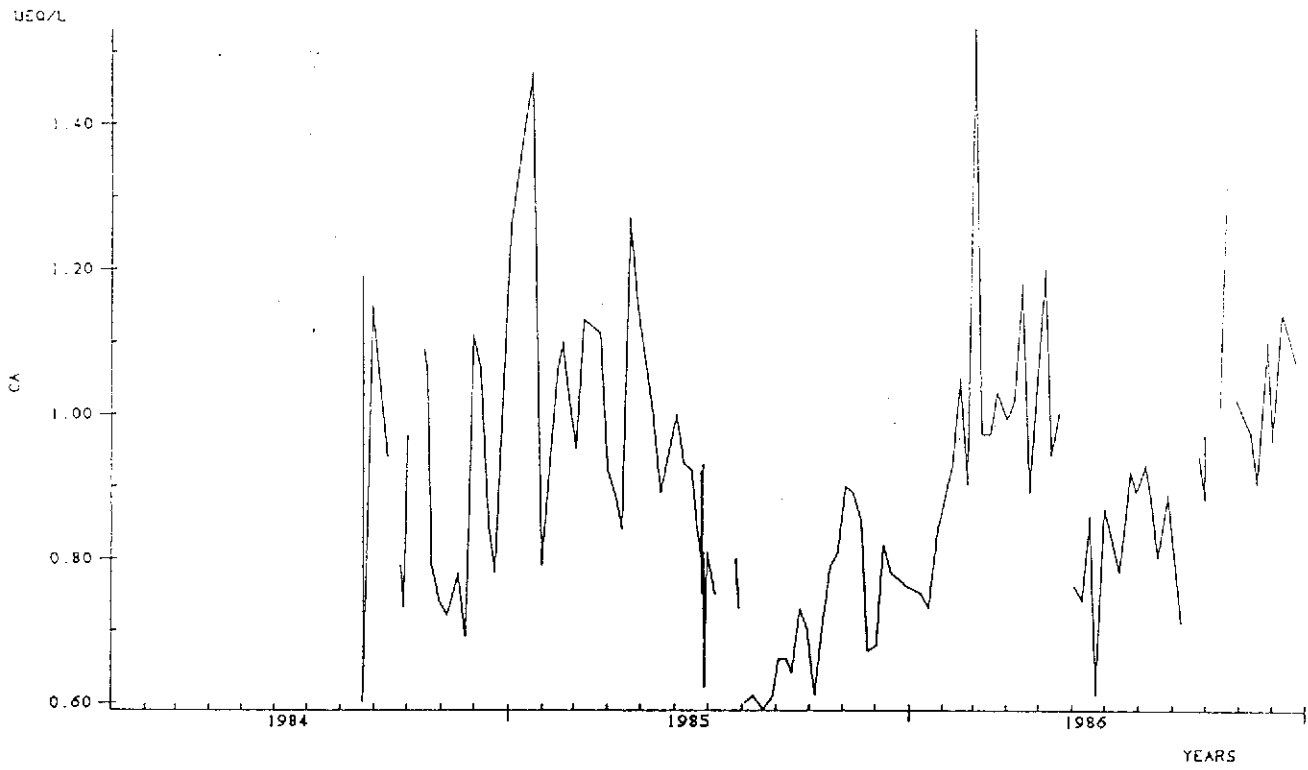


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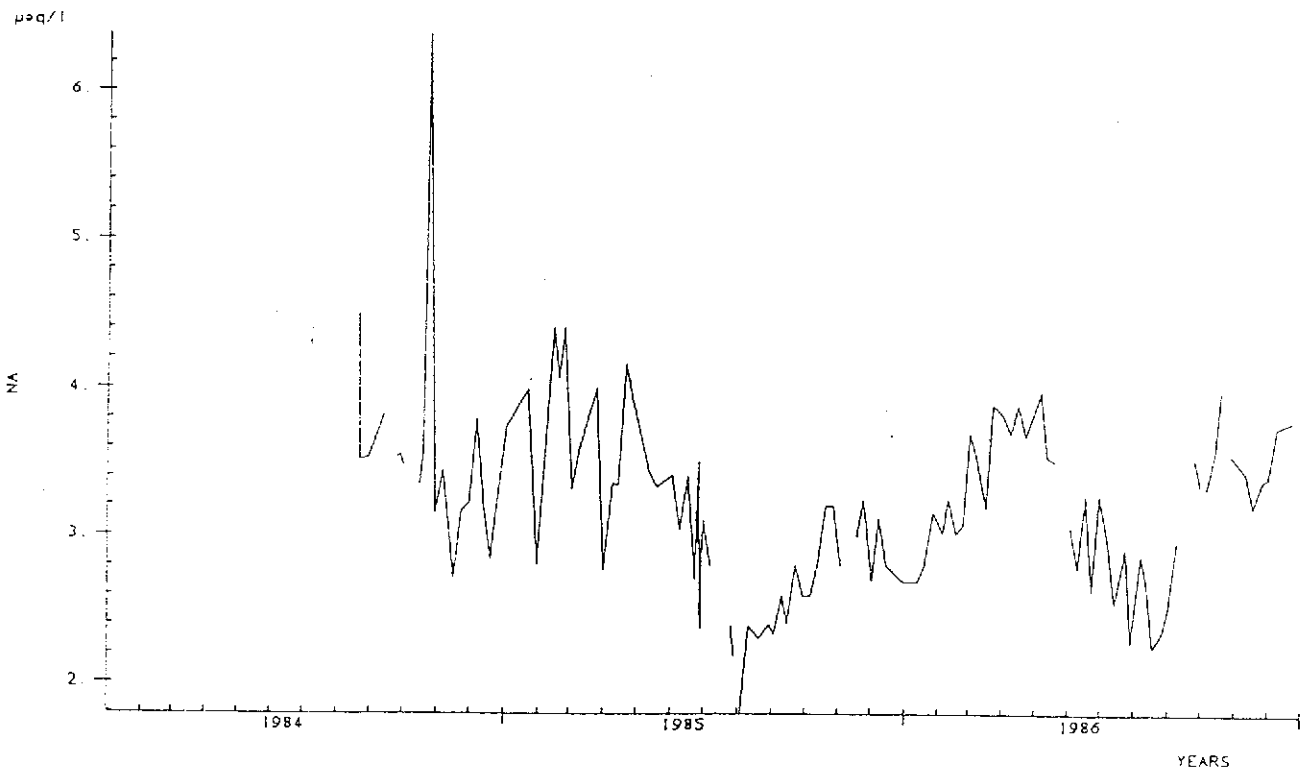




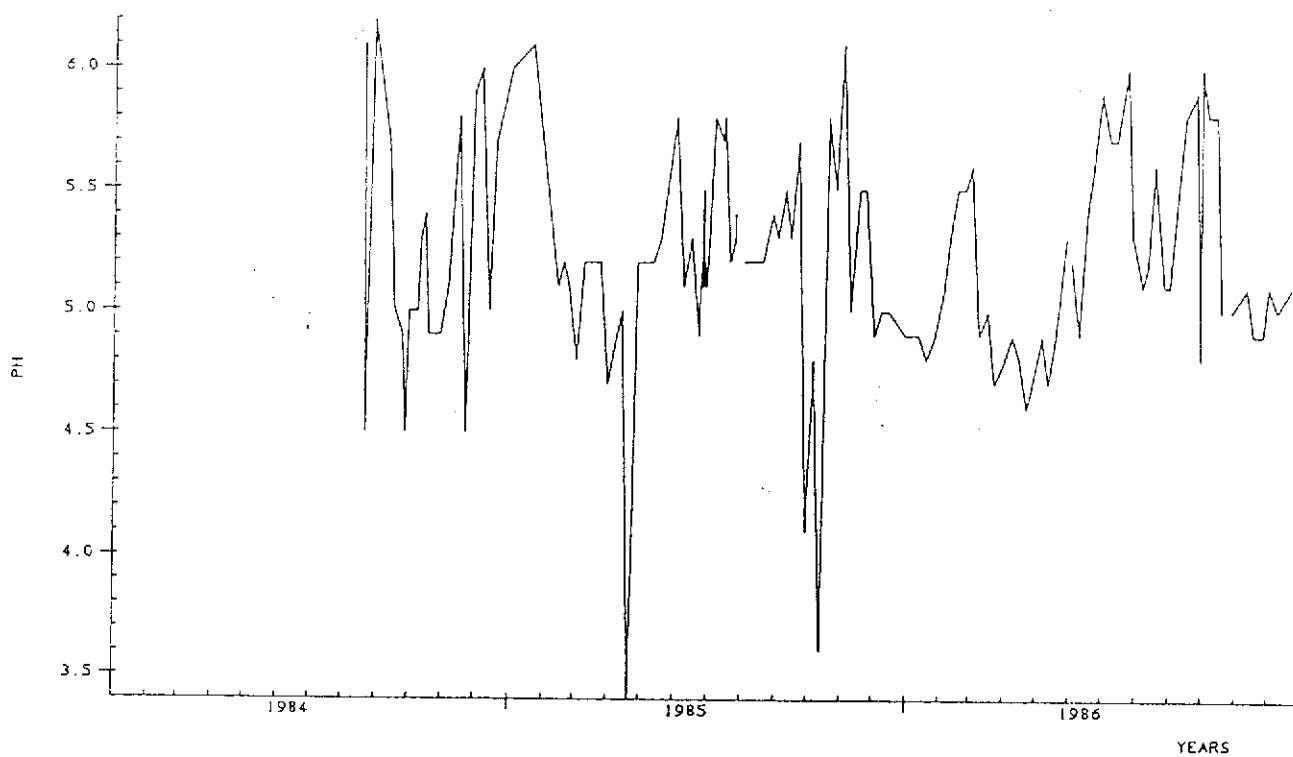
C13 CALCIUM (1984-1986)



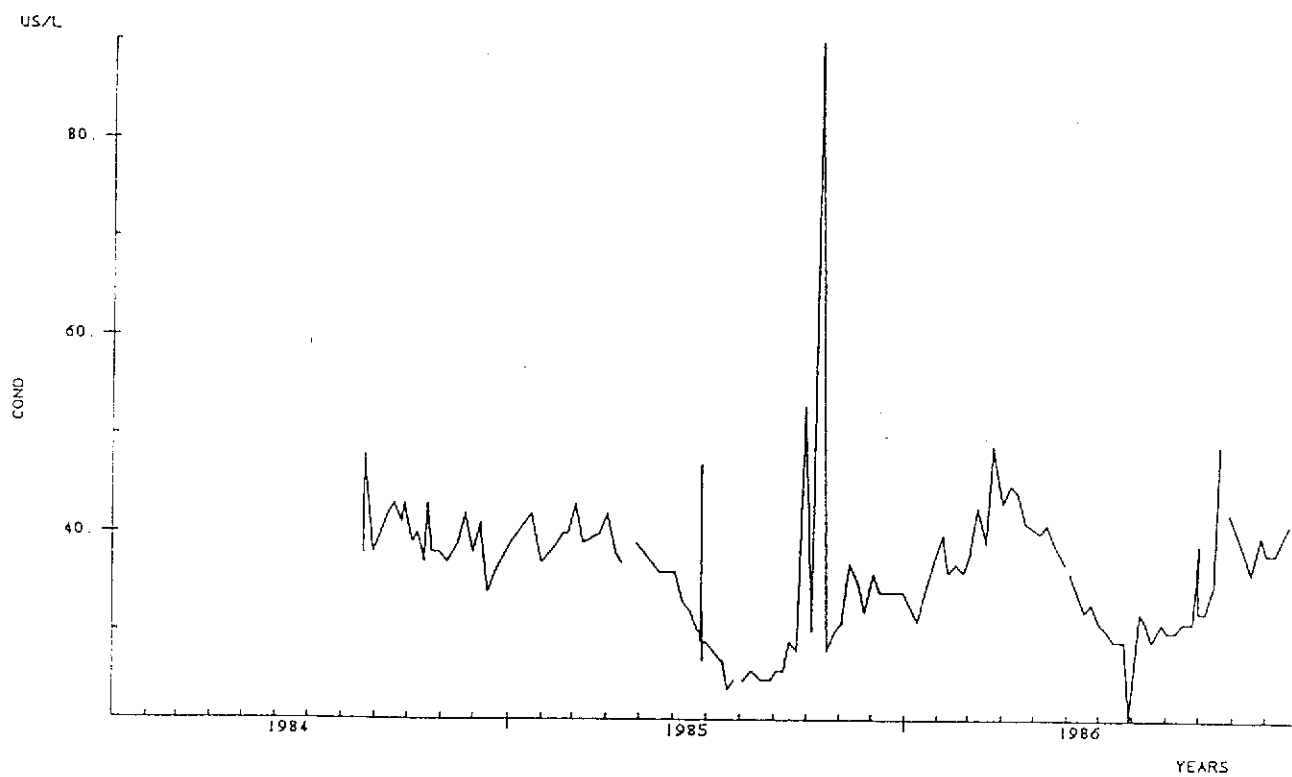
C13 SODIUM (1984-1986)



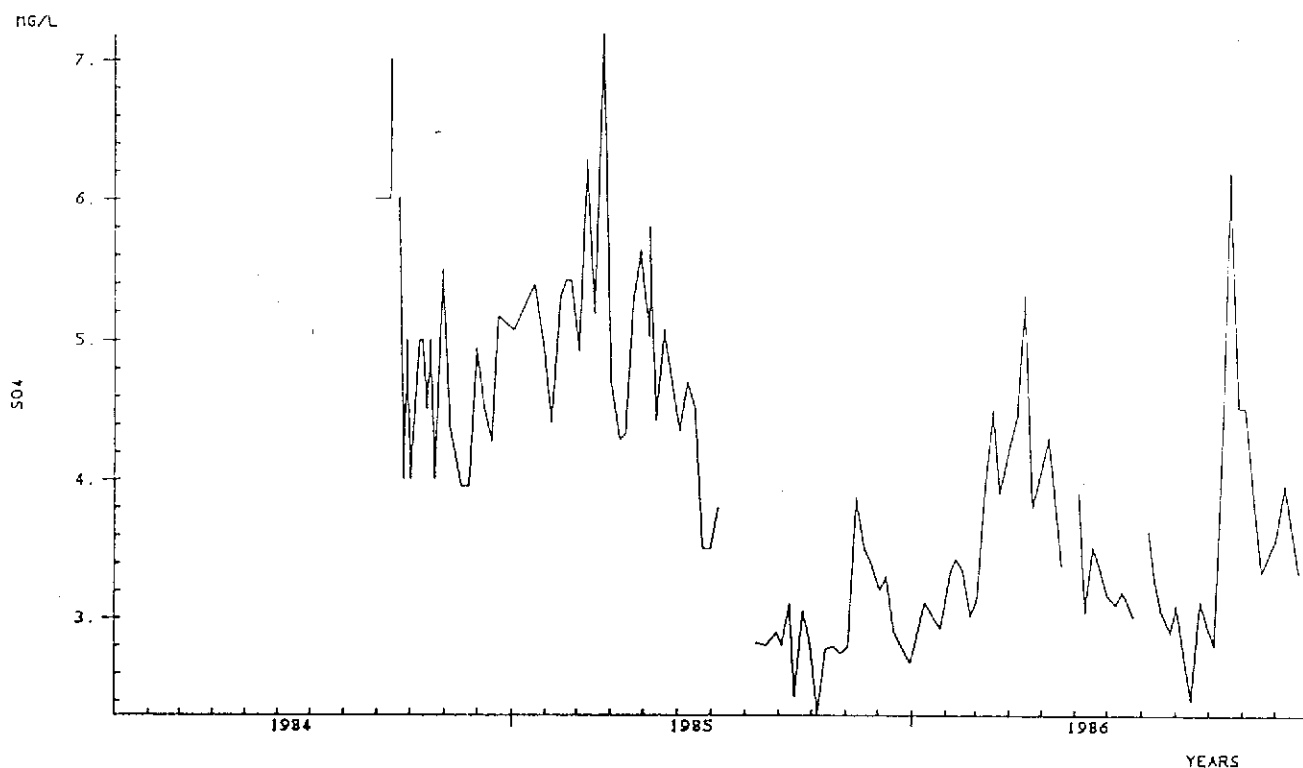
# C13 PH SPOT SAMPLES (1984-1986)



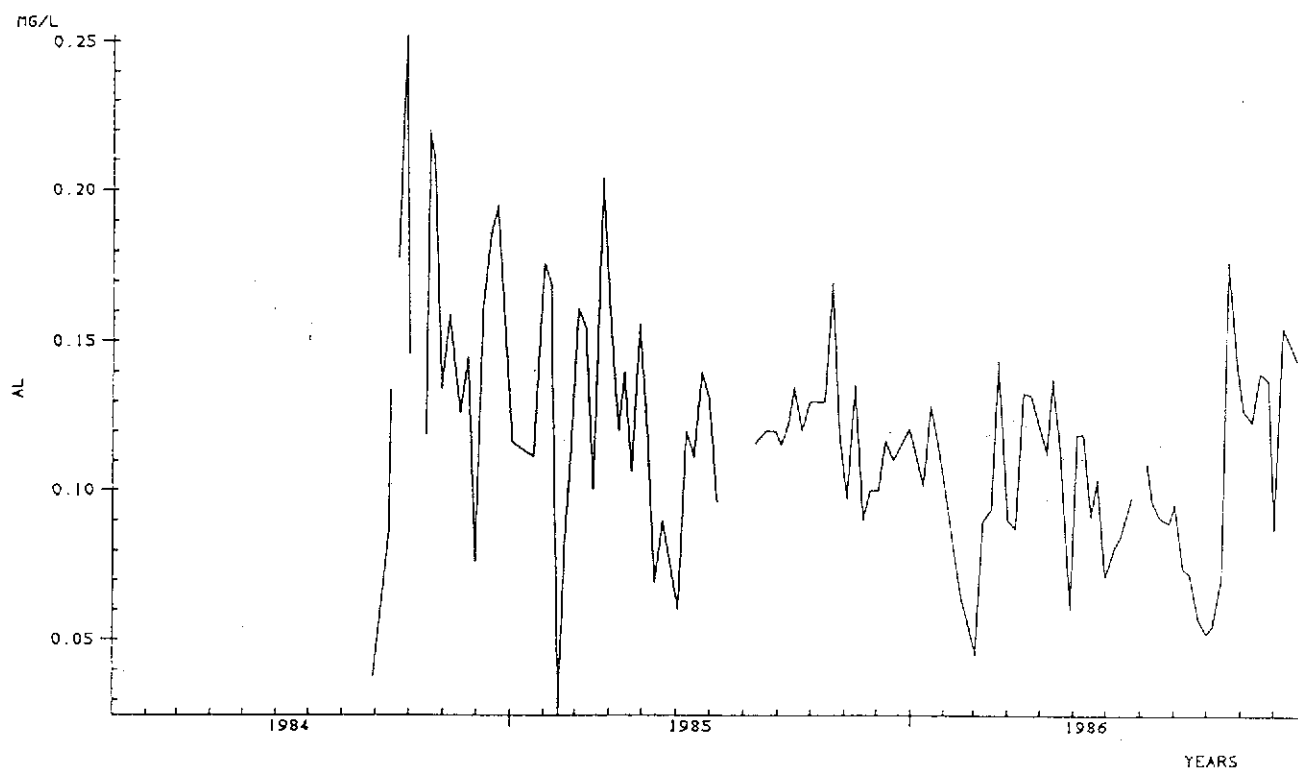
# C13 CONDUCTIVITY (1984-1986)



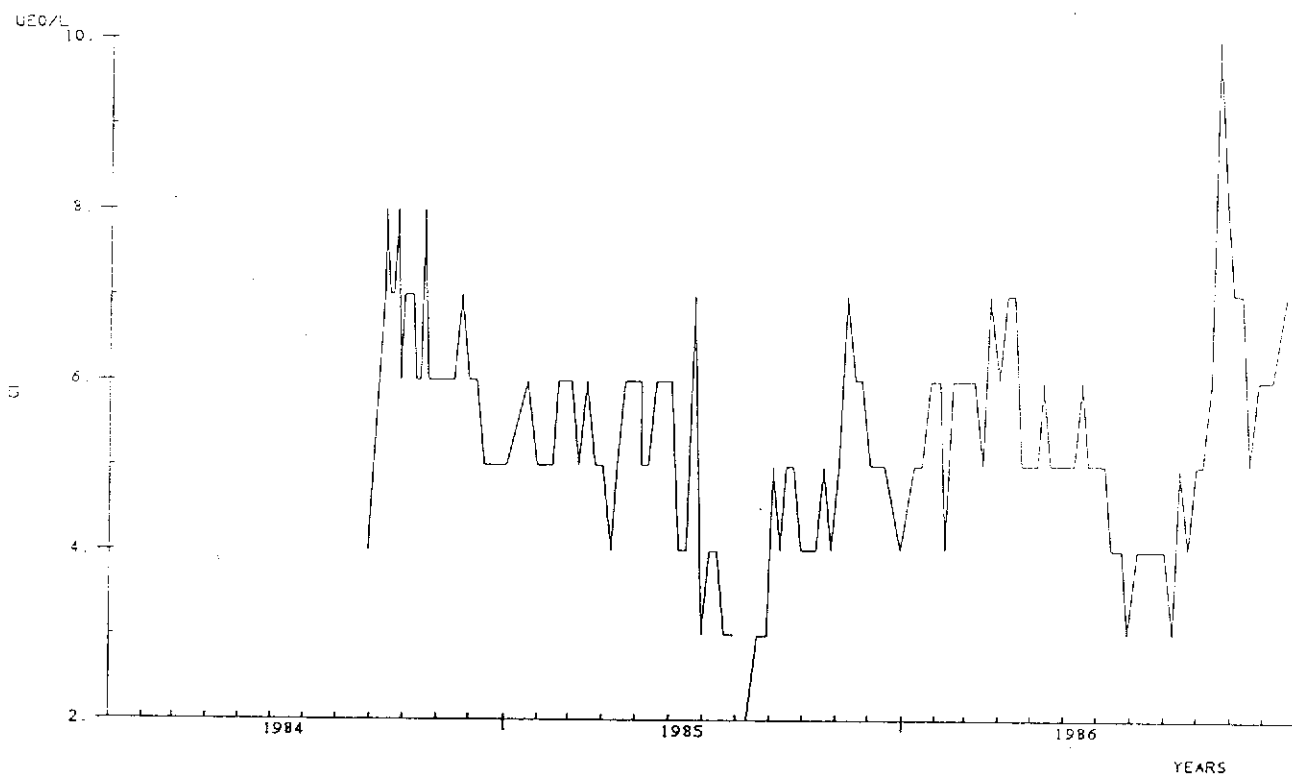
CI4 SULPHATE CONTINUOUS DATA (1984-1986)



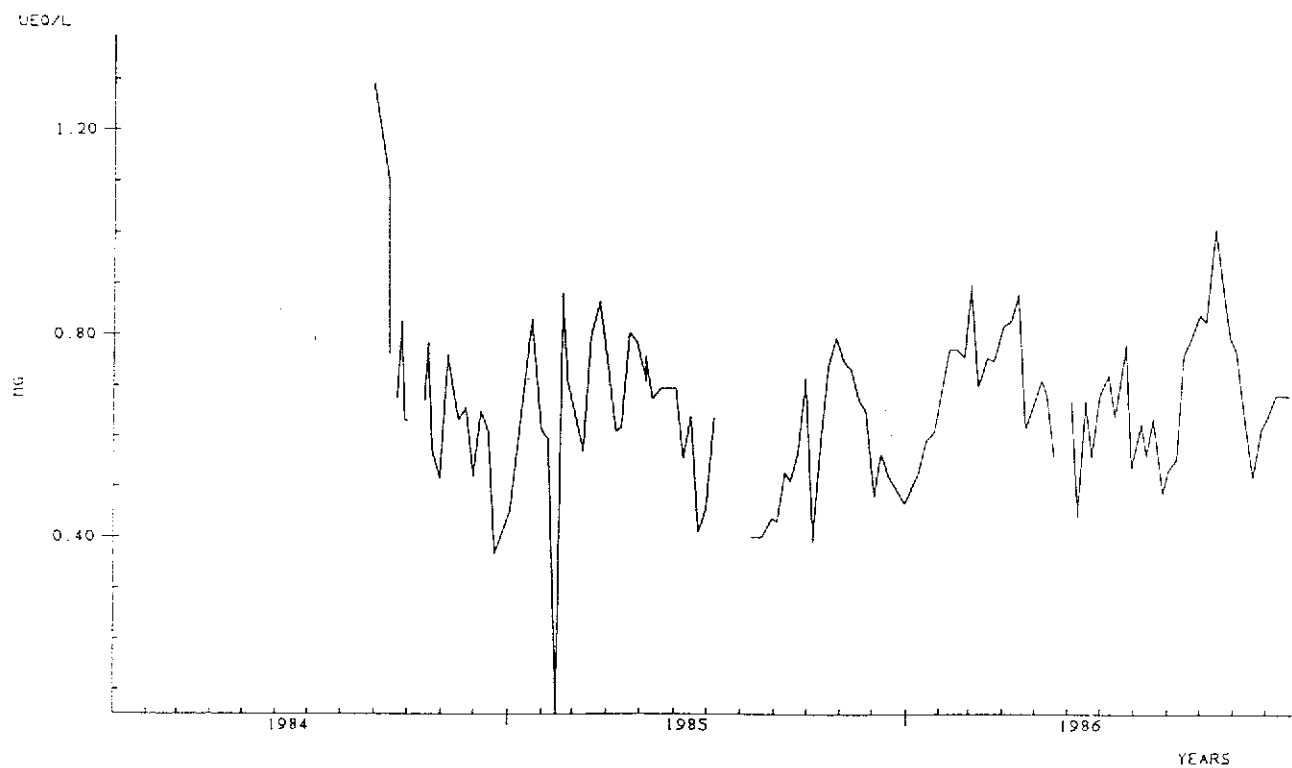
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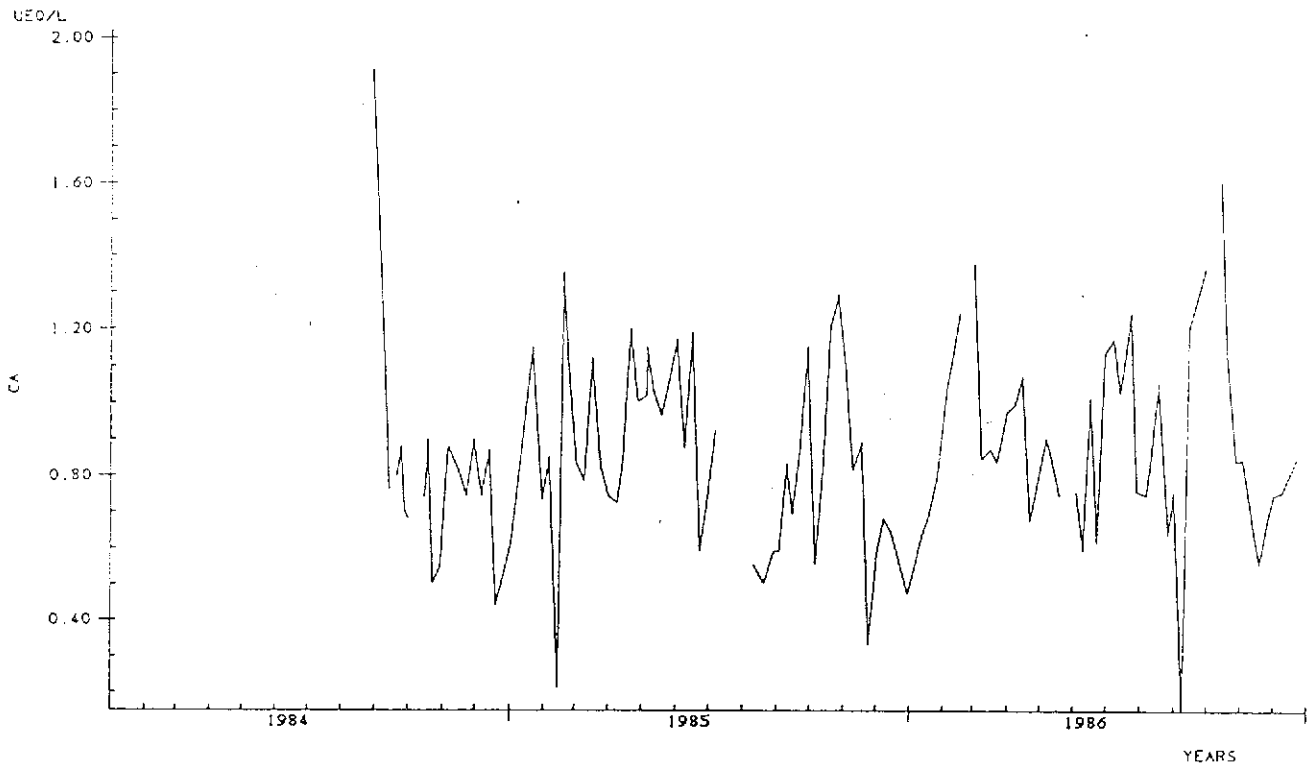
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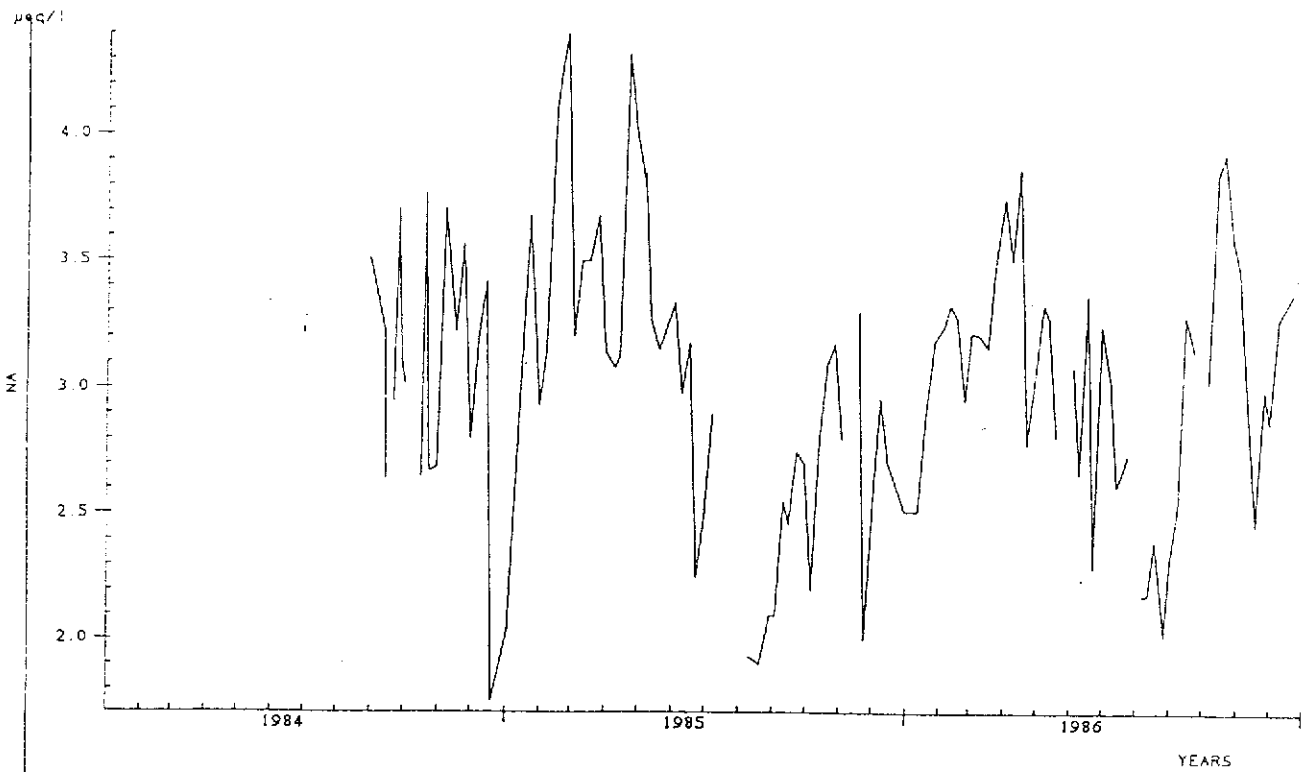
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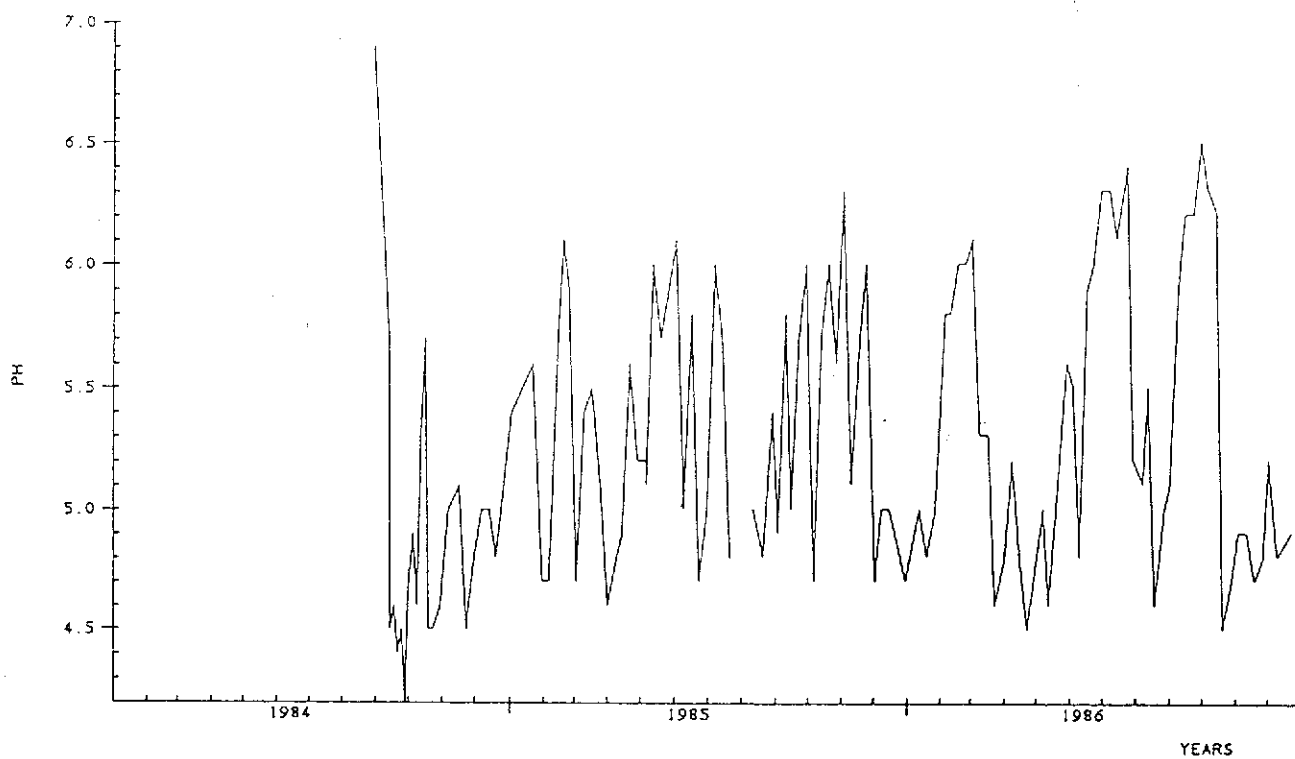
CI4 CALCIUM (1984-1986)



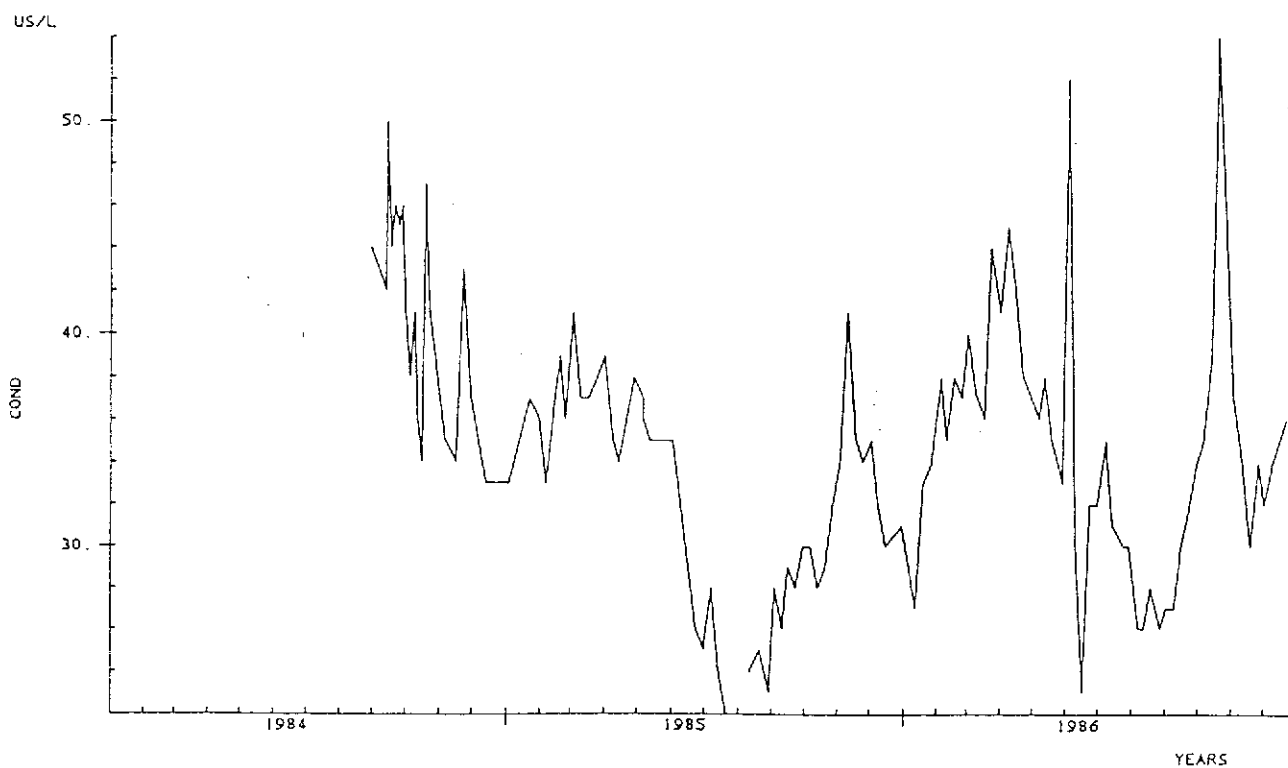
CI4 SODIUM (1984-1986)



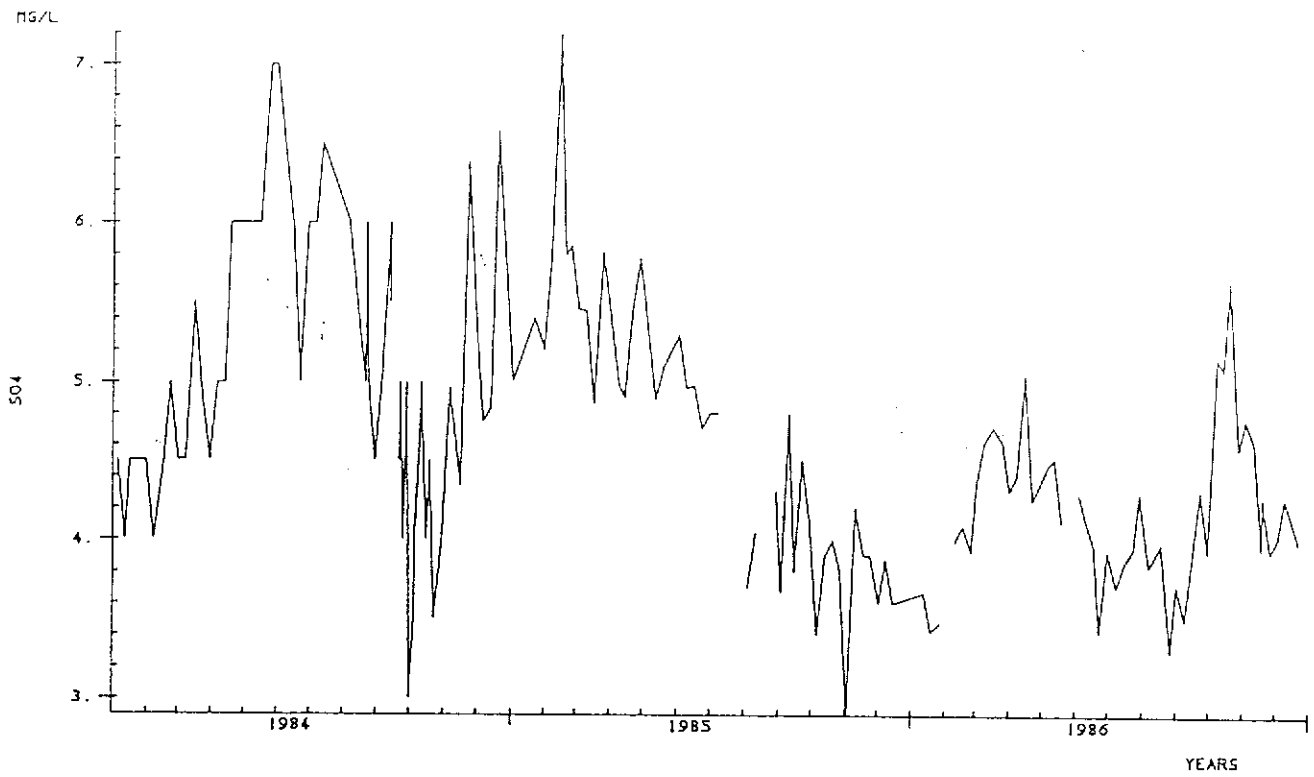
CI4 PH SPOT SAMPLES (1984-1986)



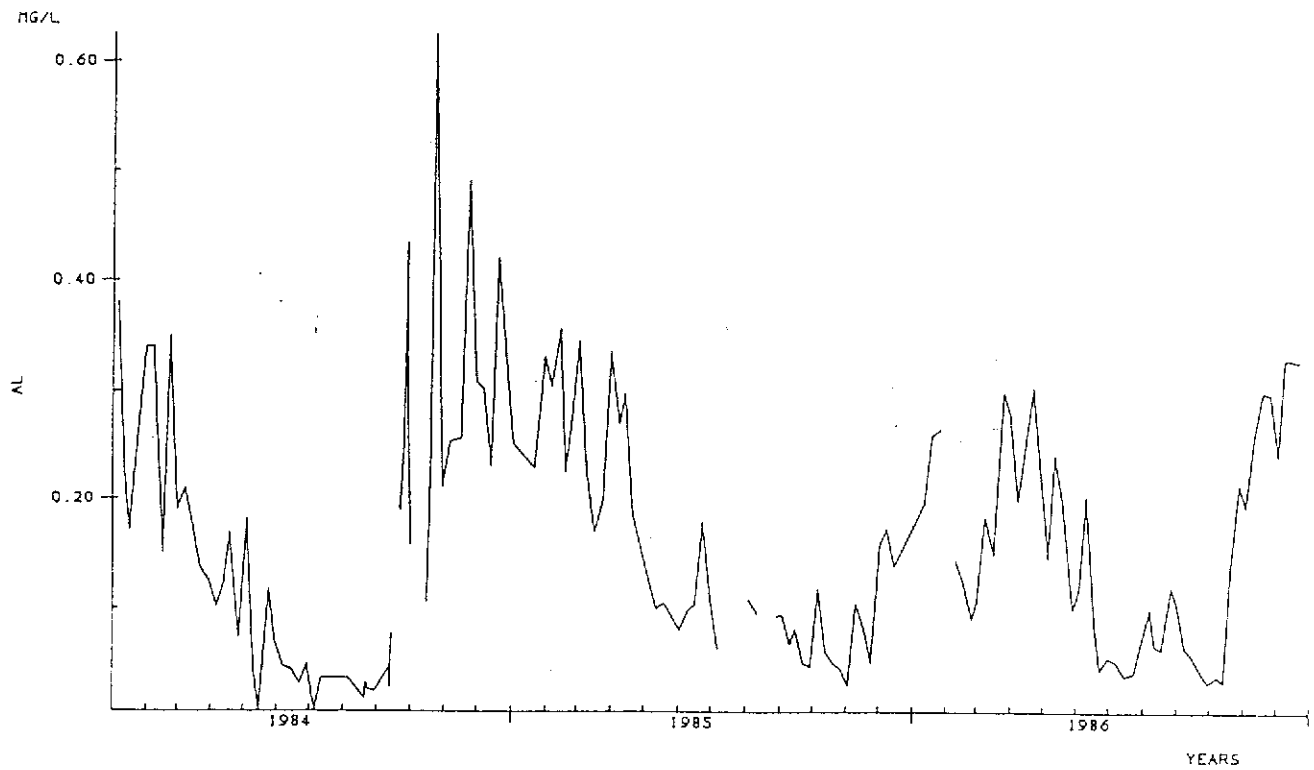
CI4 CONDUCTIVITY (1984-1986)



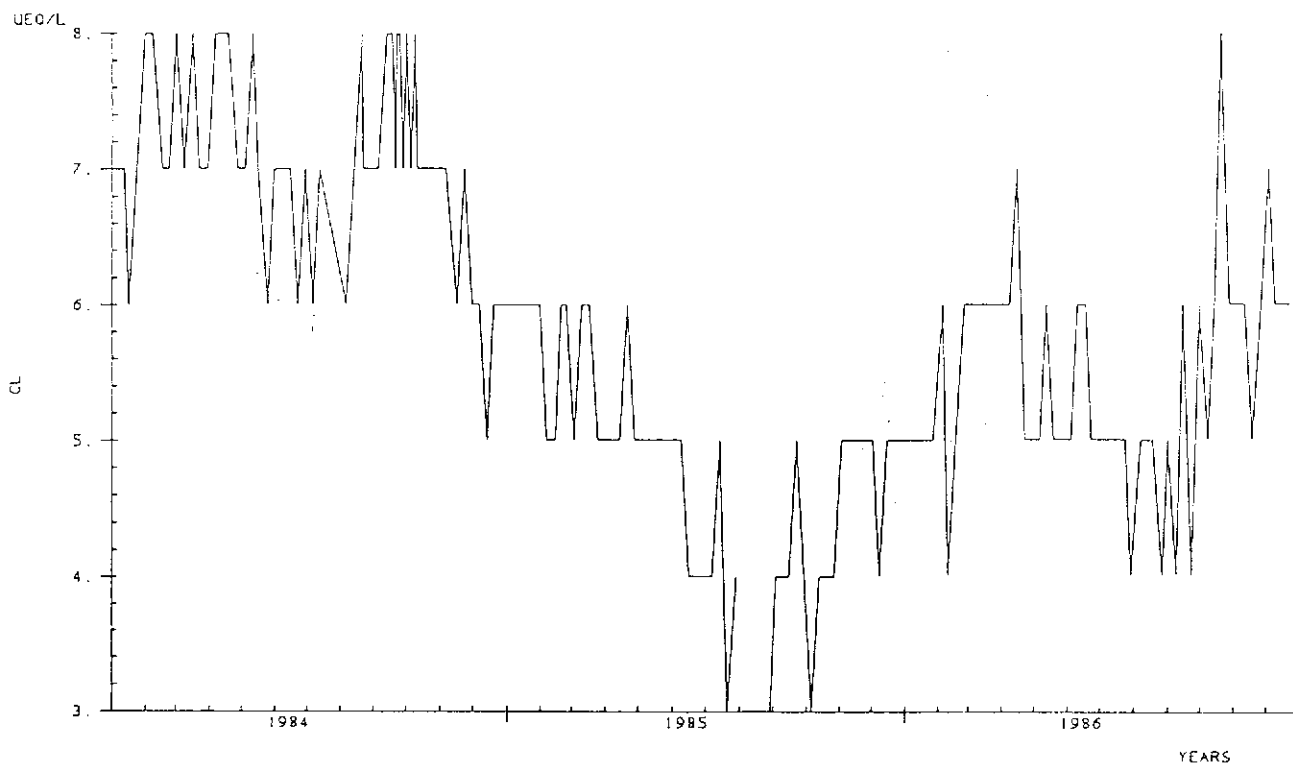
CI5 SULPHATE CONTINUOUS DATA (1984-1986)



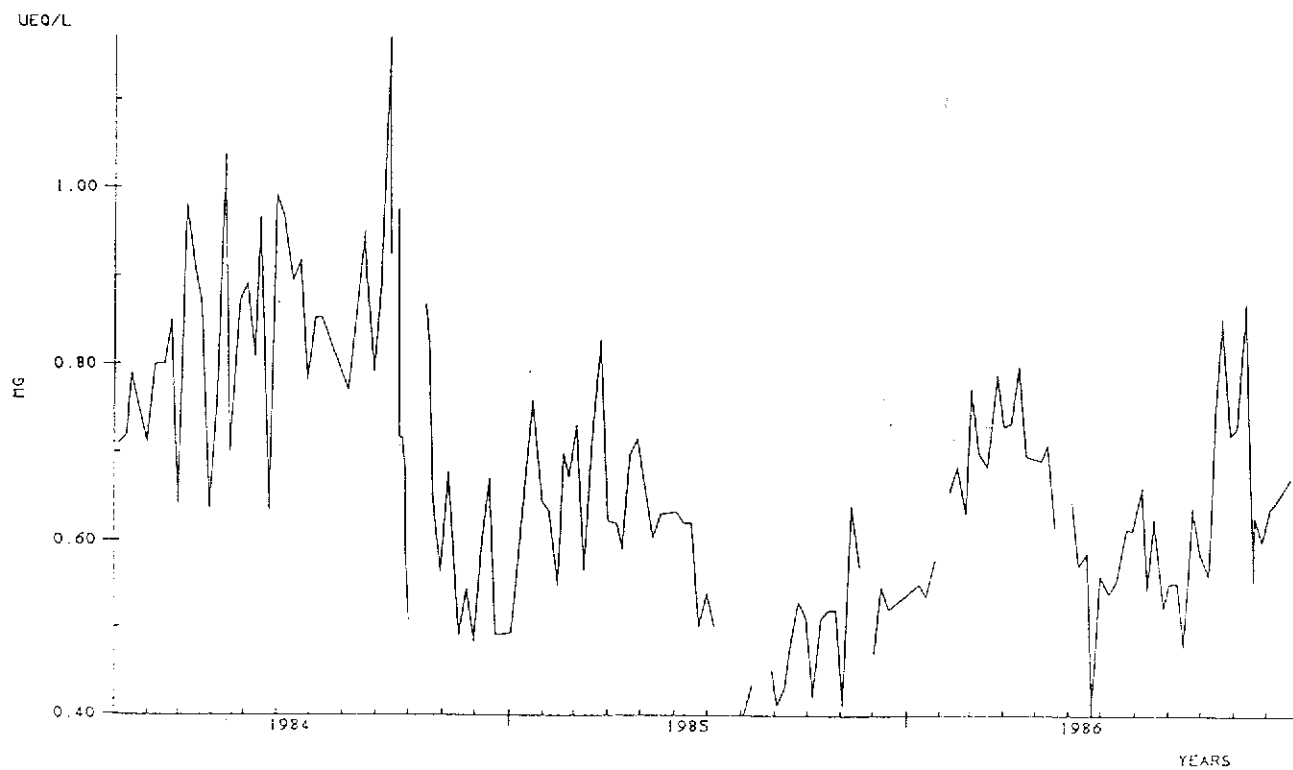
CI5 ALUMINIUM CONTINUOUS DATA (1984-1985)



# CI5 CHLORIDE (1984-1986)

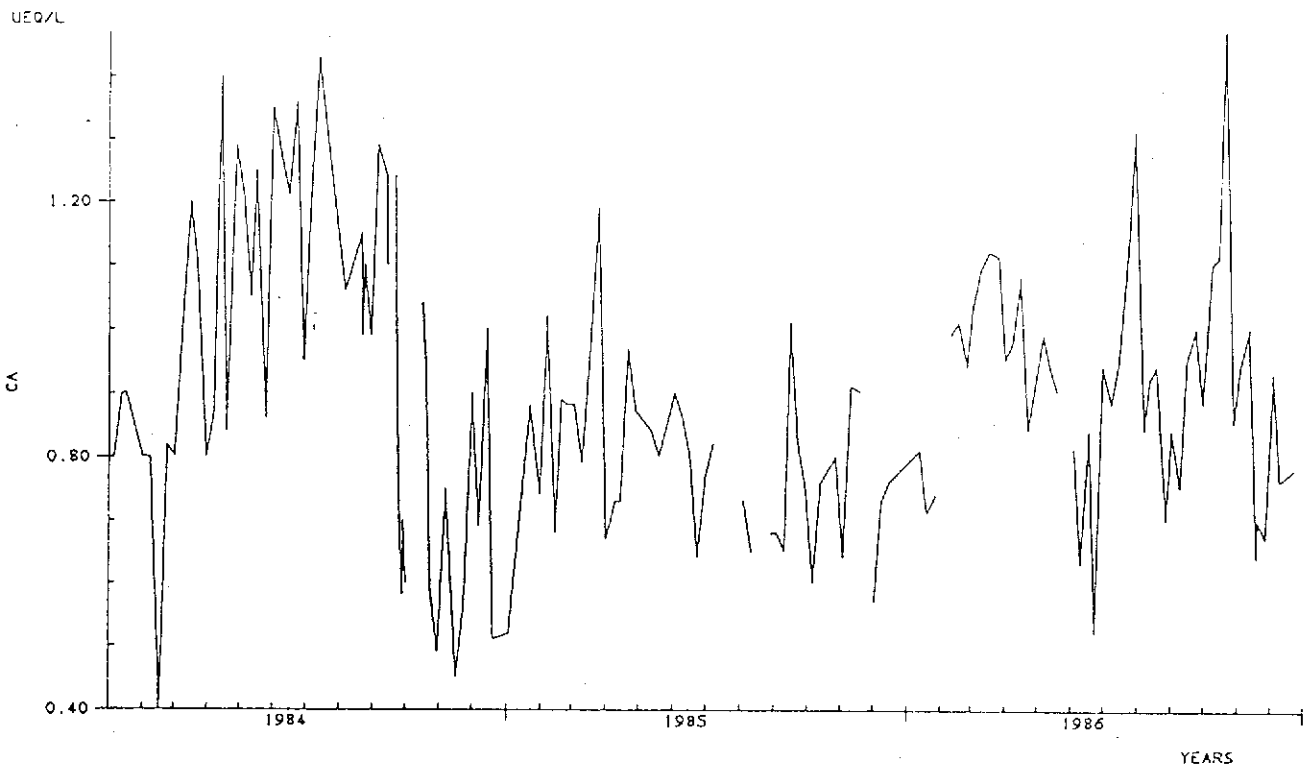


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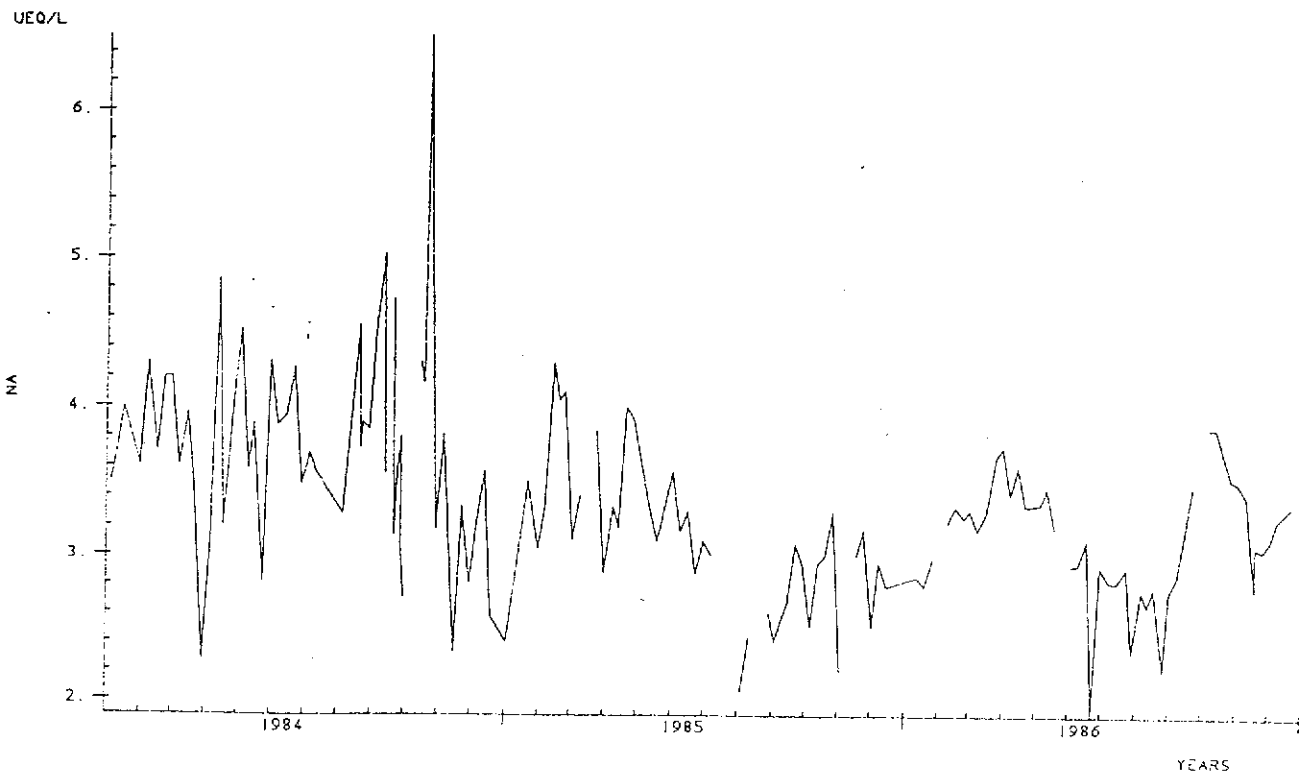




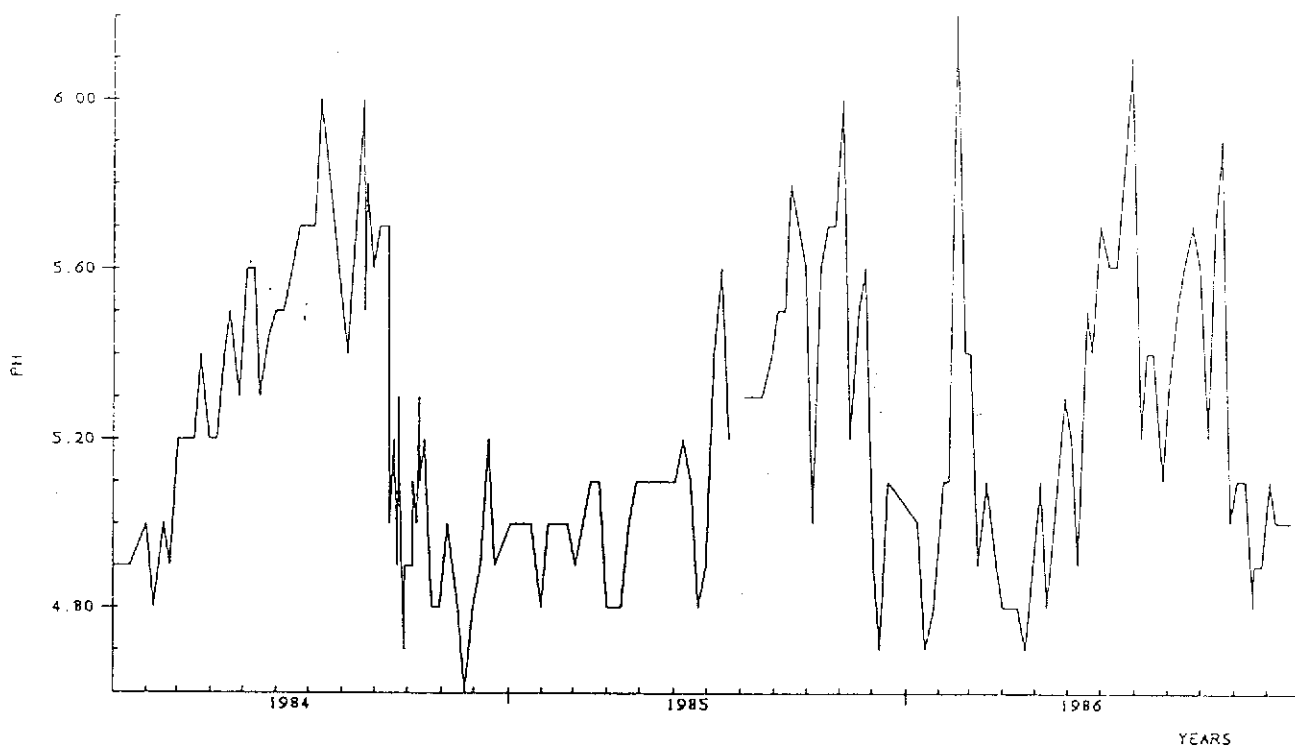
CI5 CALCIUM (1984-1986)



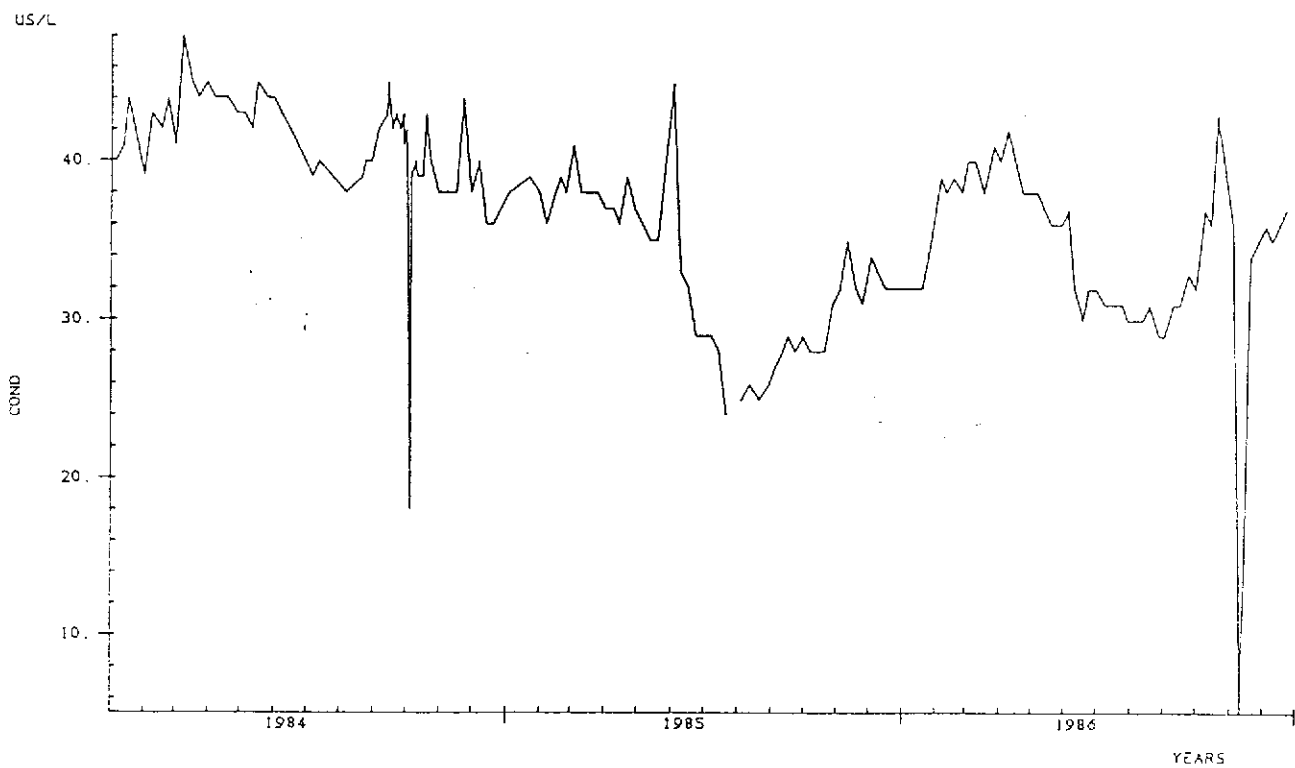
CI5 SODIUM (1984-1986)



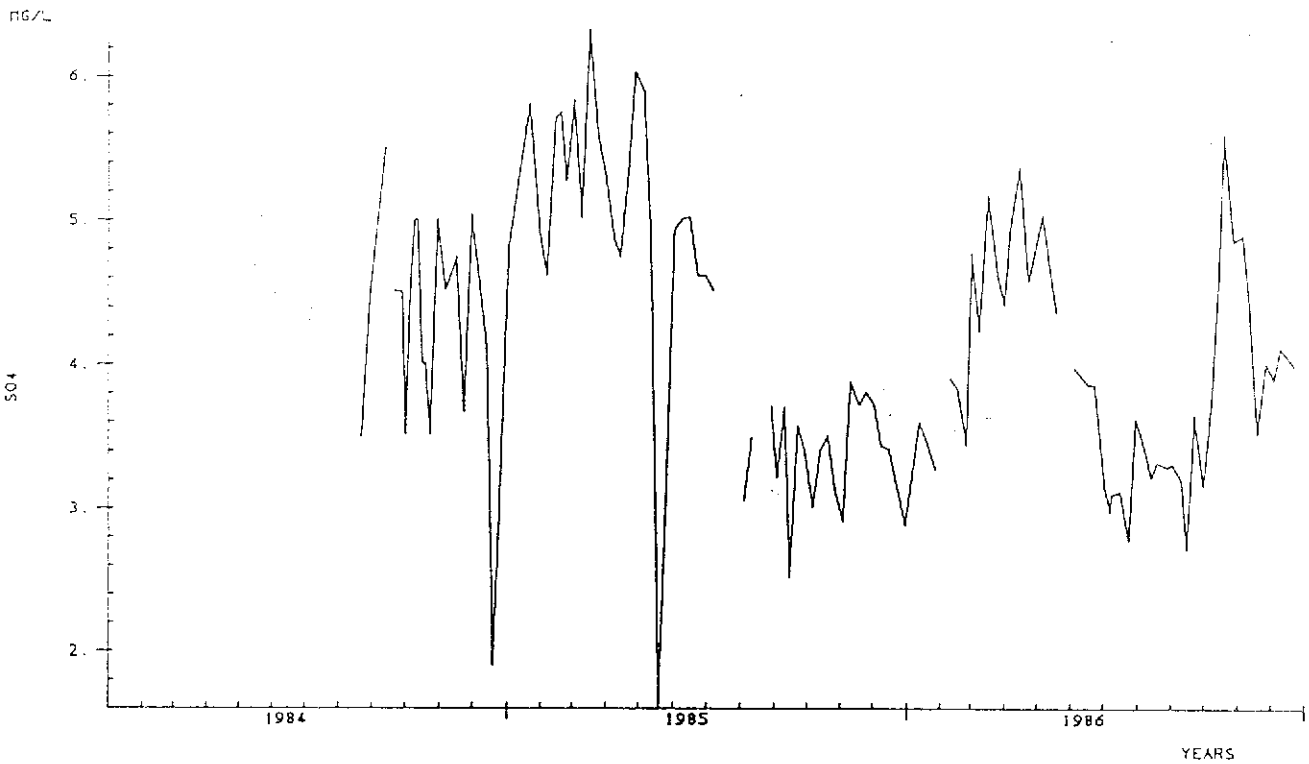
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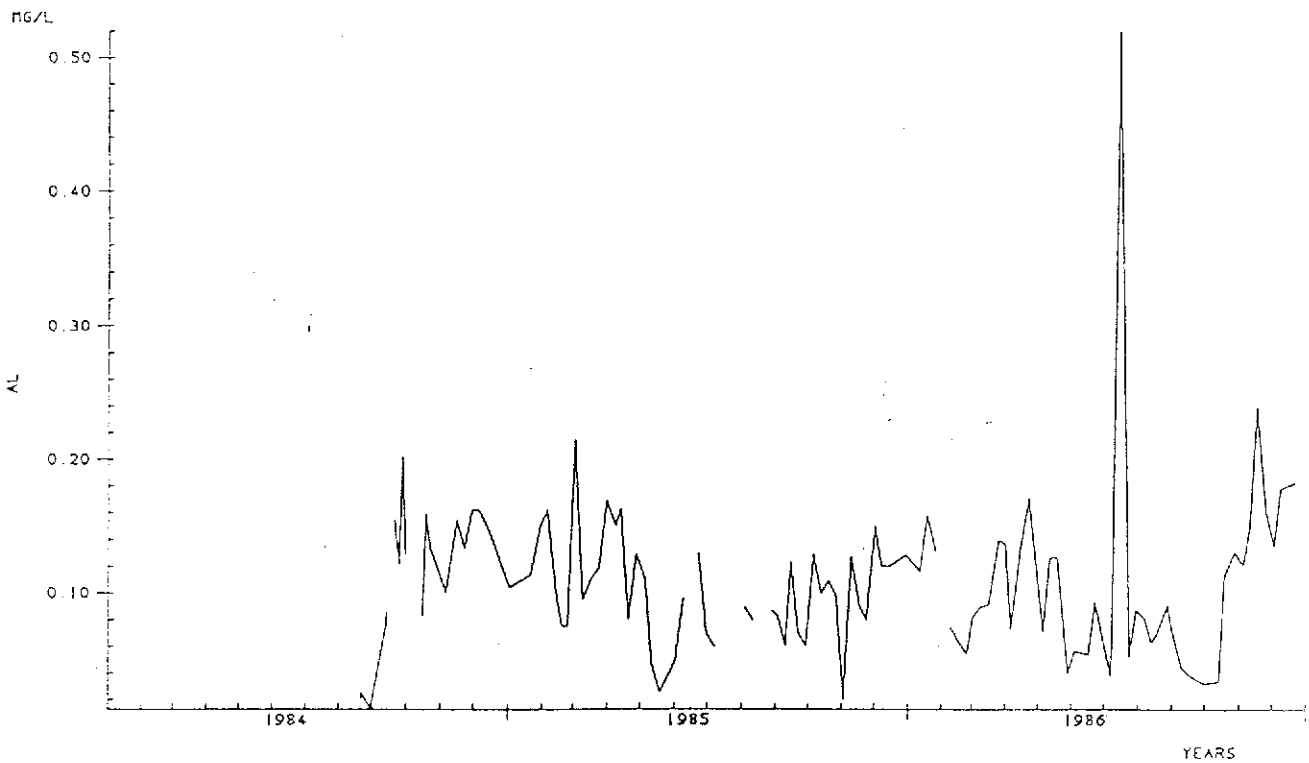
CI5 CONDUCTIVITY (1984-1986)



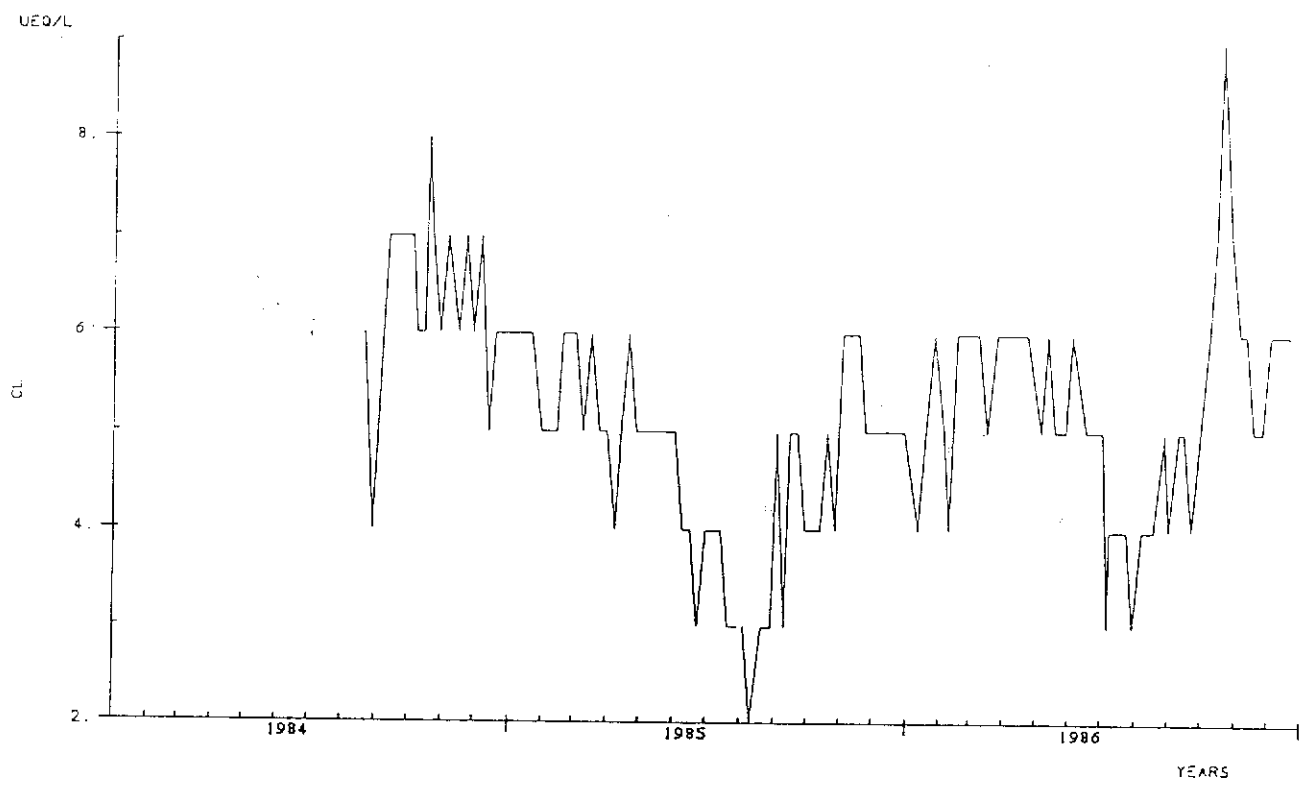
CI6 SULPHATE CONTINUOUS DATA (1984-1986)



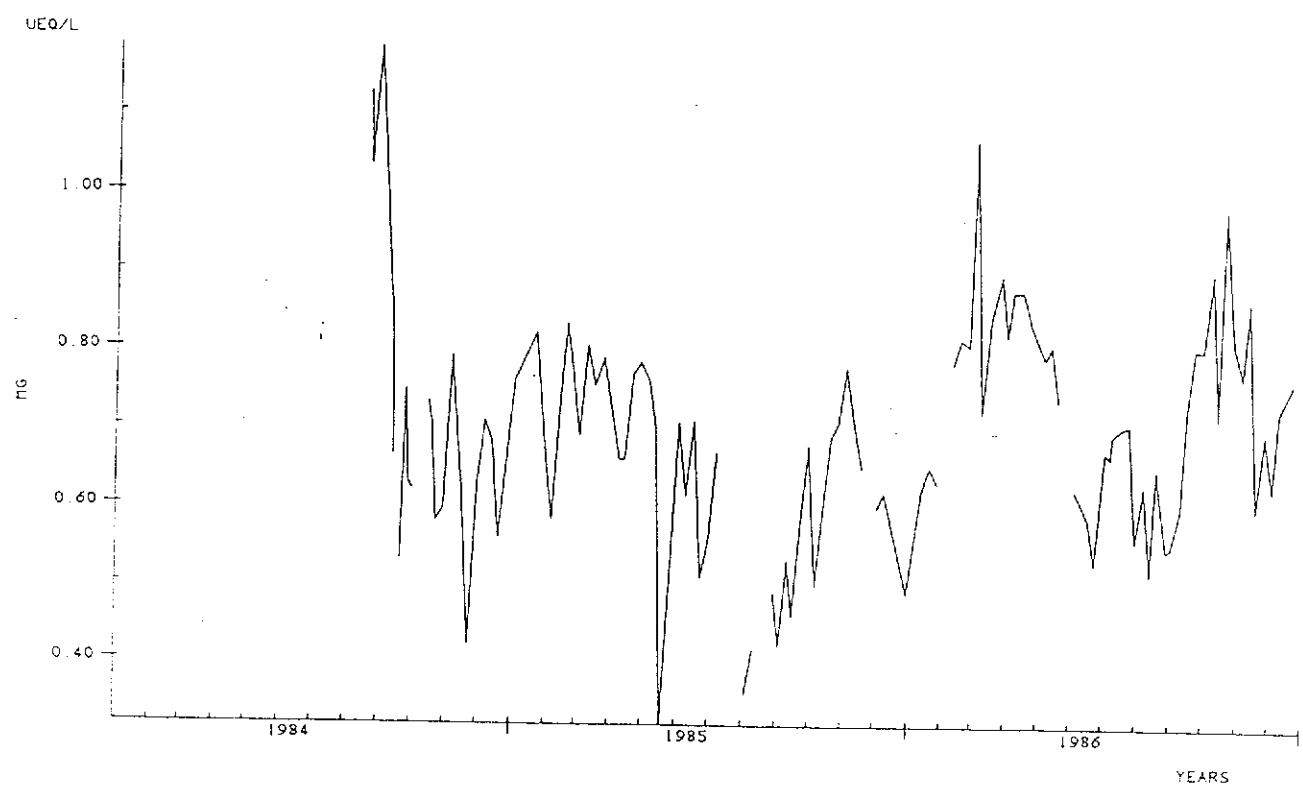
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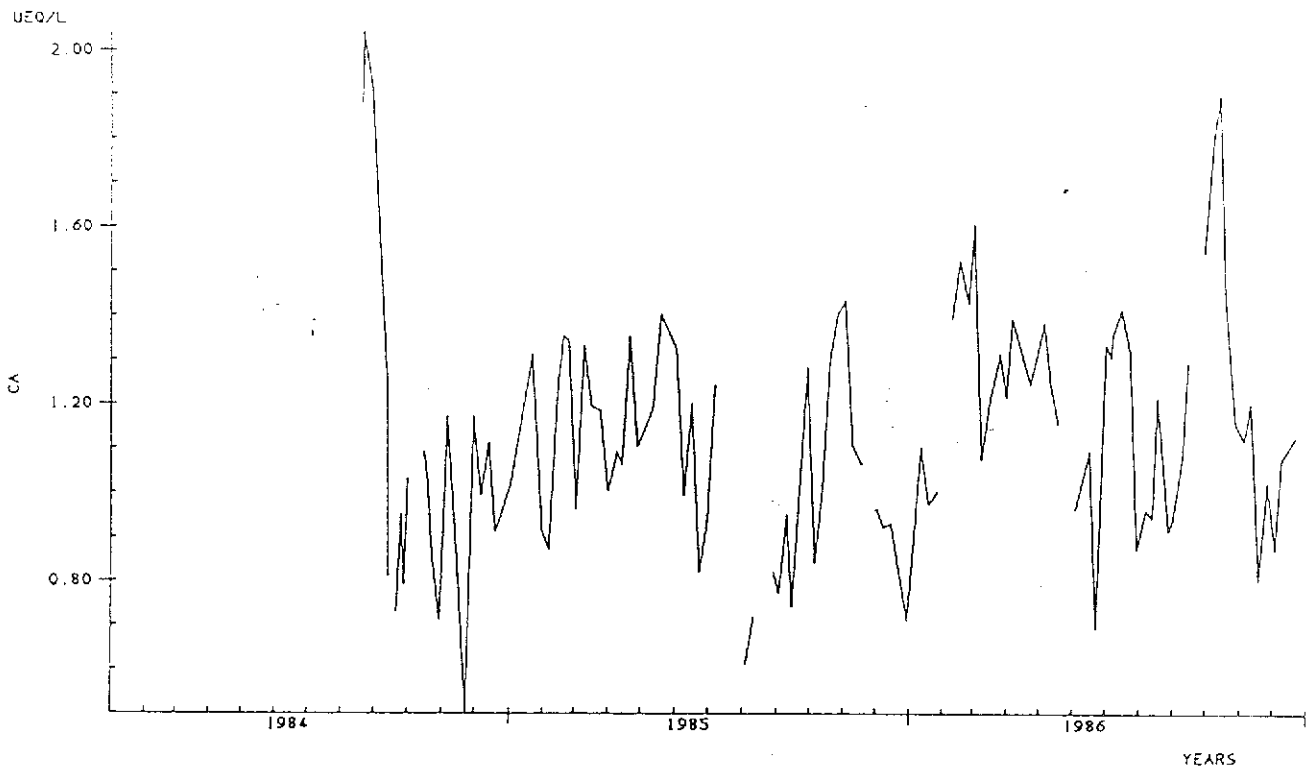
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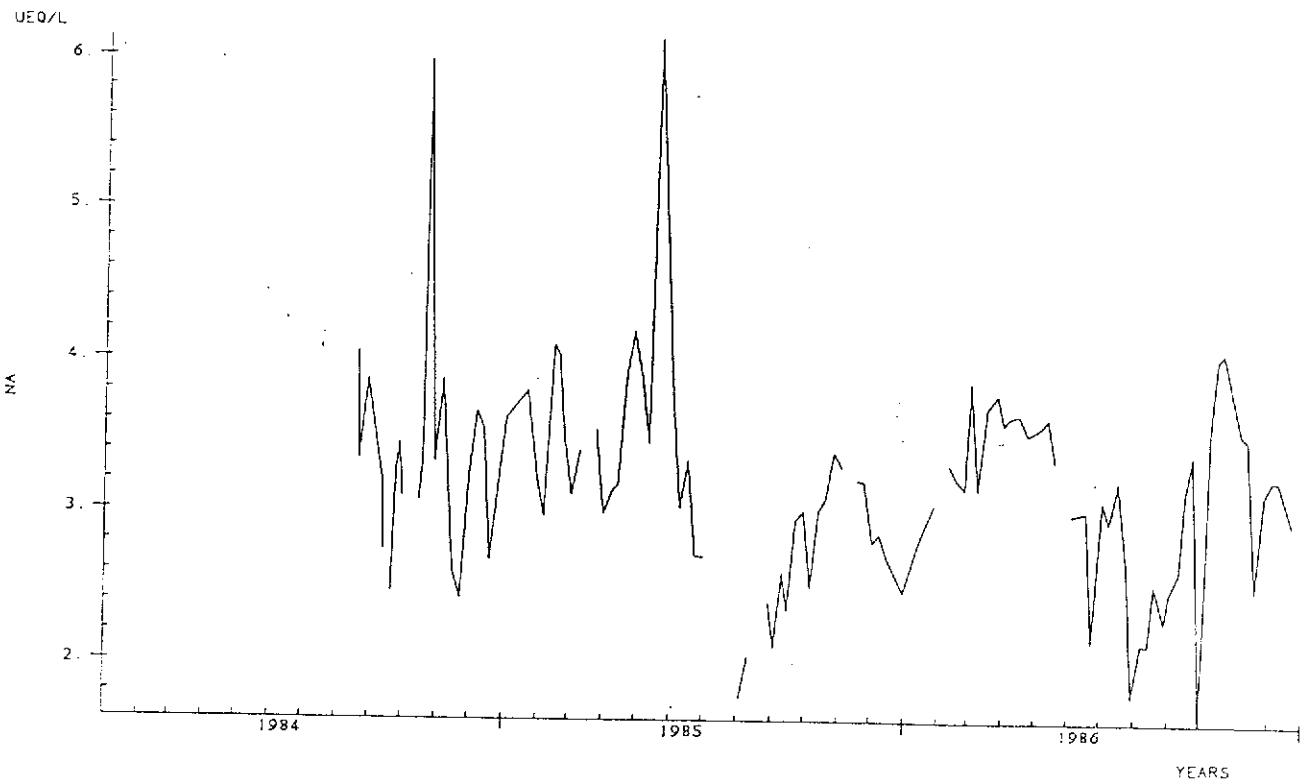
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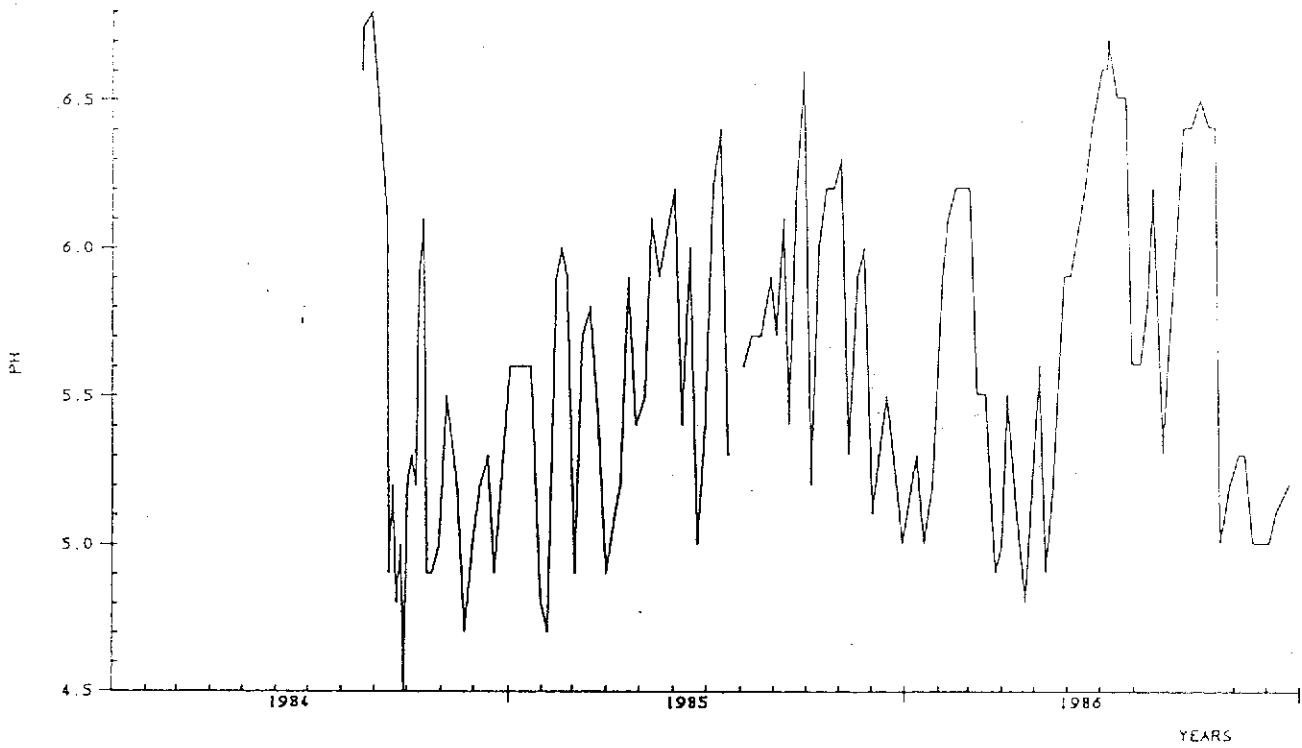
CI6 CALCIUM (1984-1986)



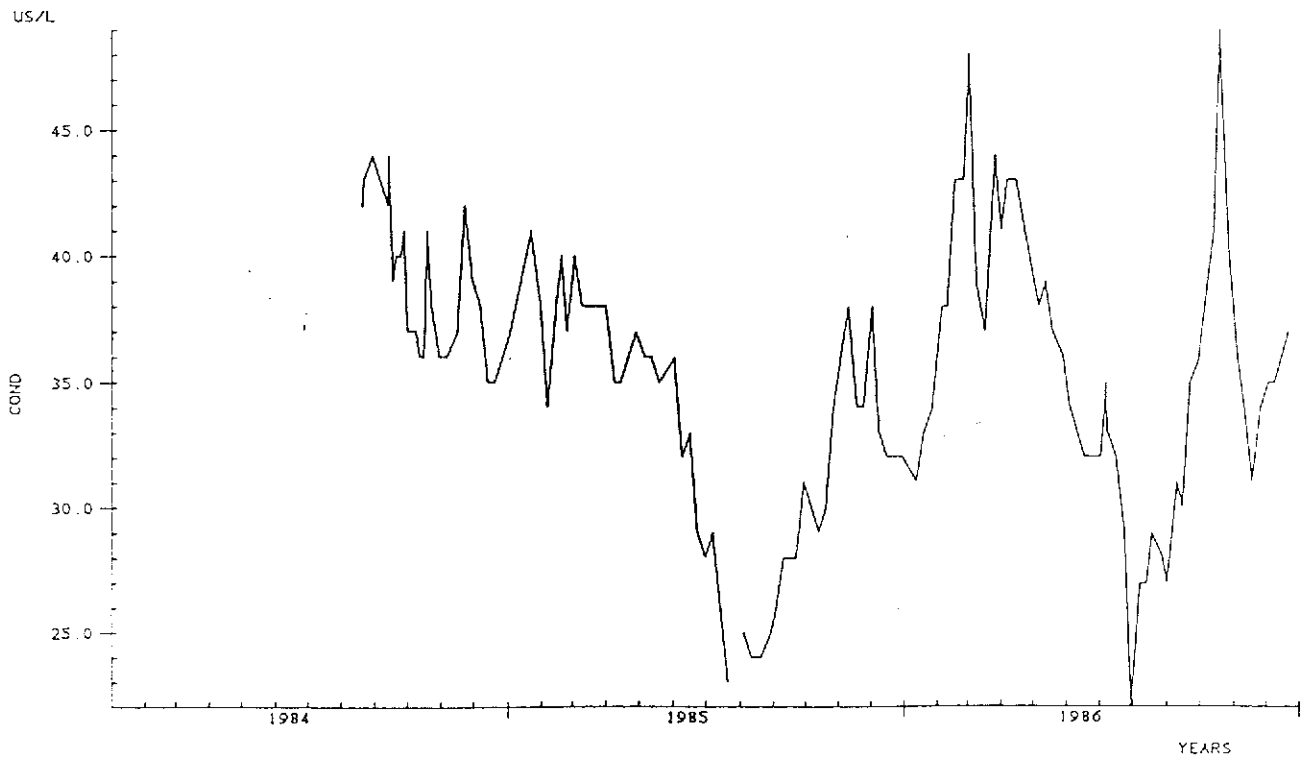
CI6 SODIUM (1984-1986)



CI6 PH SPOT SAMPLES (1984-1986)



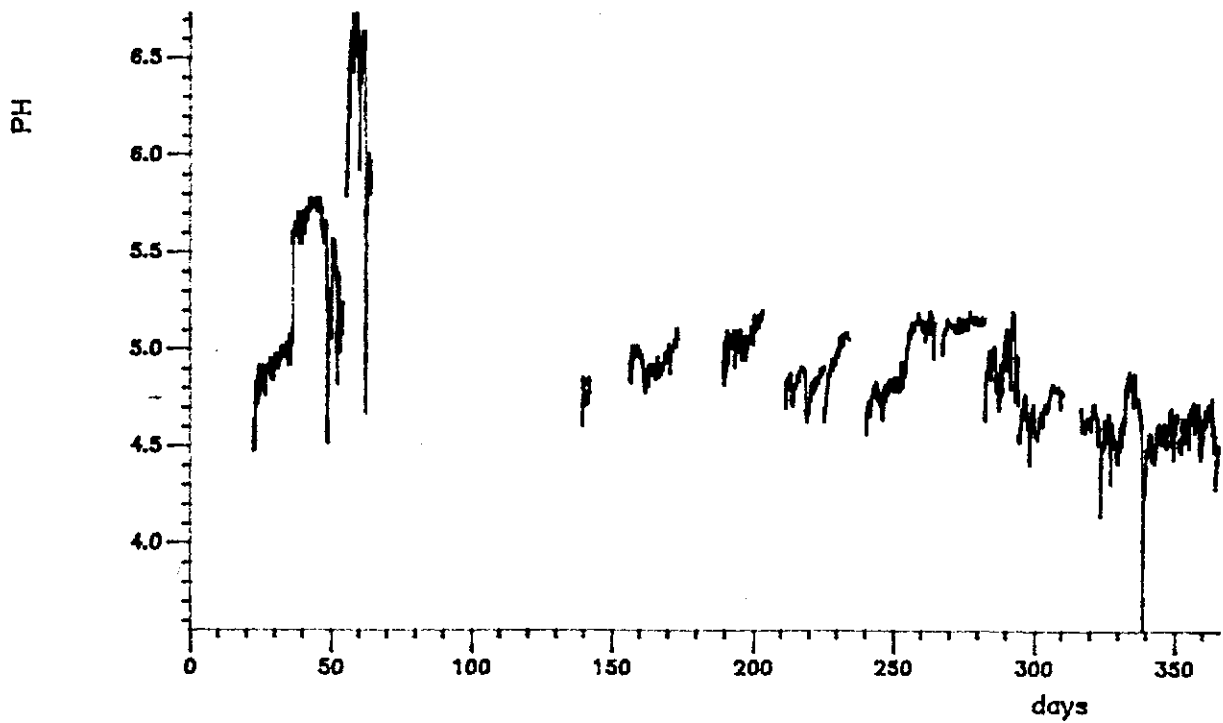
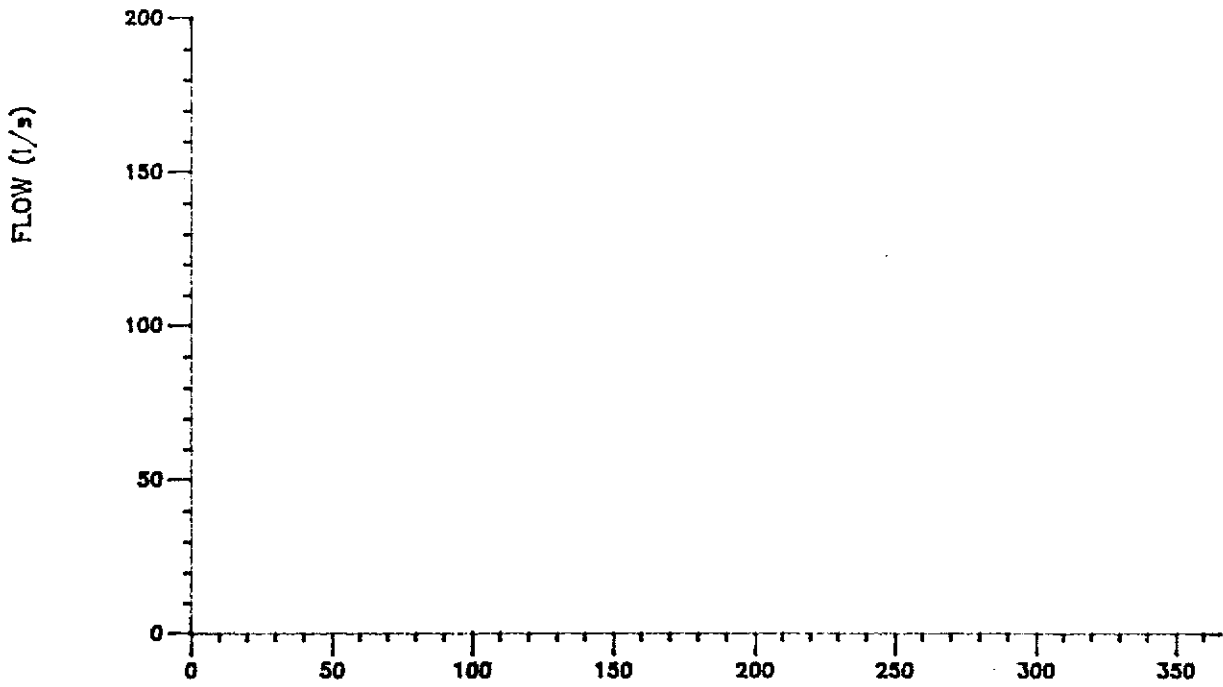
CI6 CONDUCTIVITY (1984-1986)



Section 7

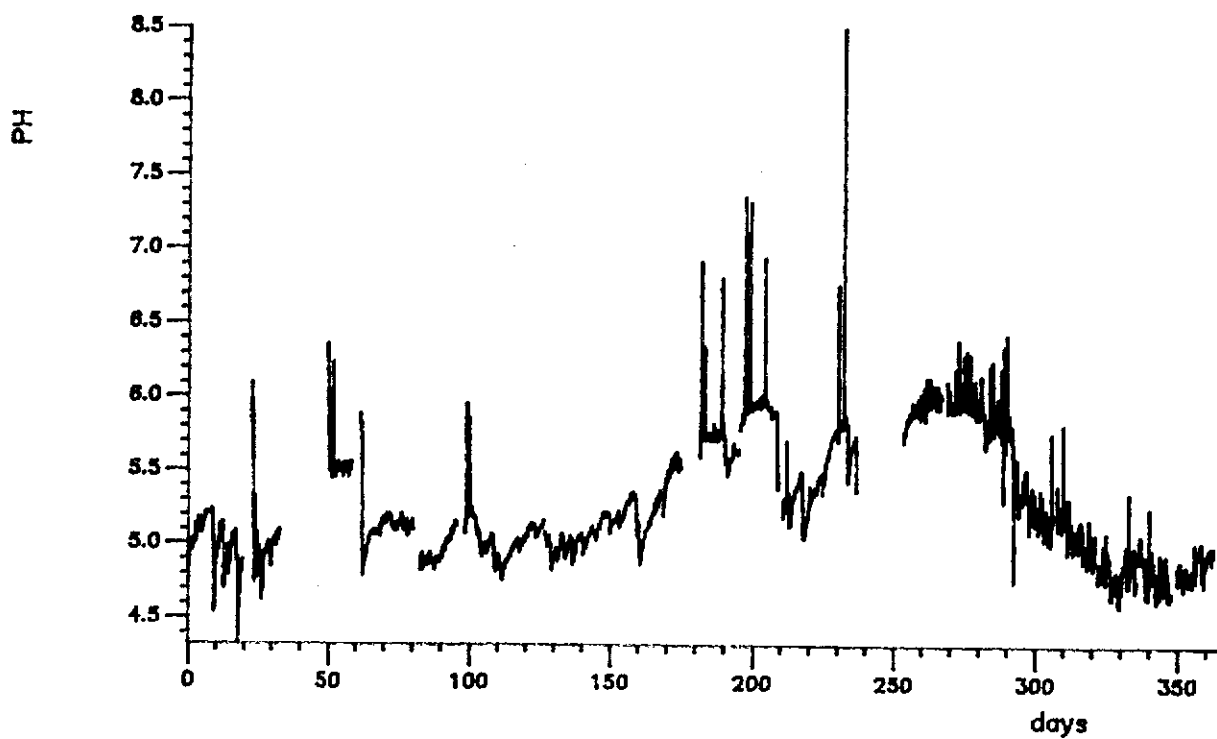
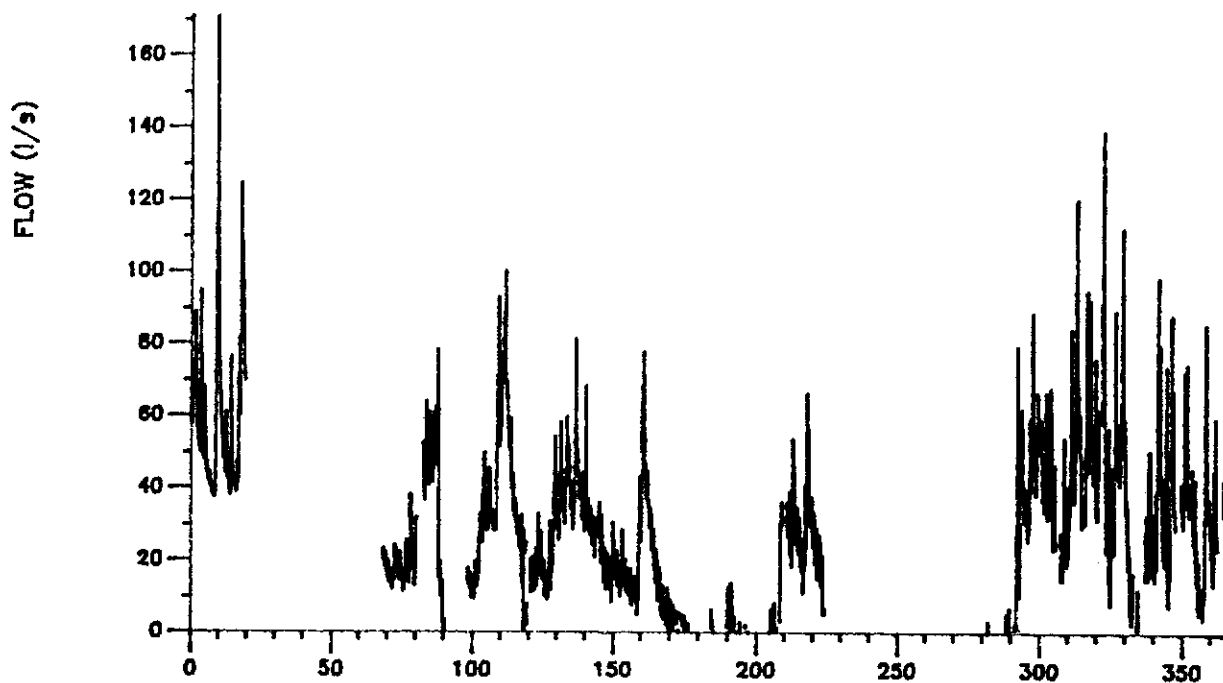
pH-duration and Q-duration curves

5X 1986

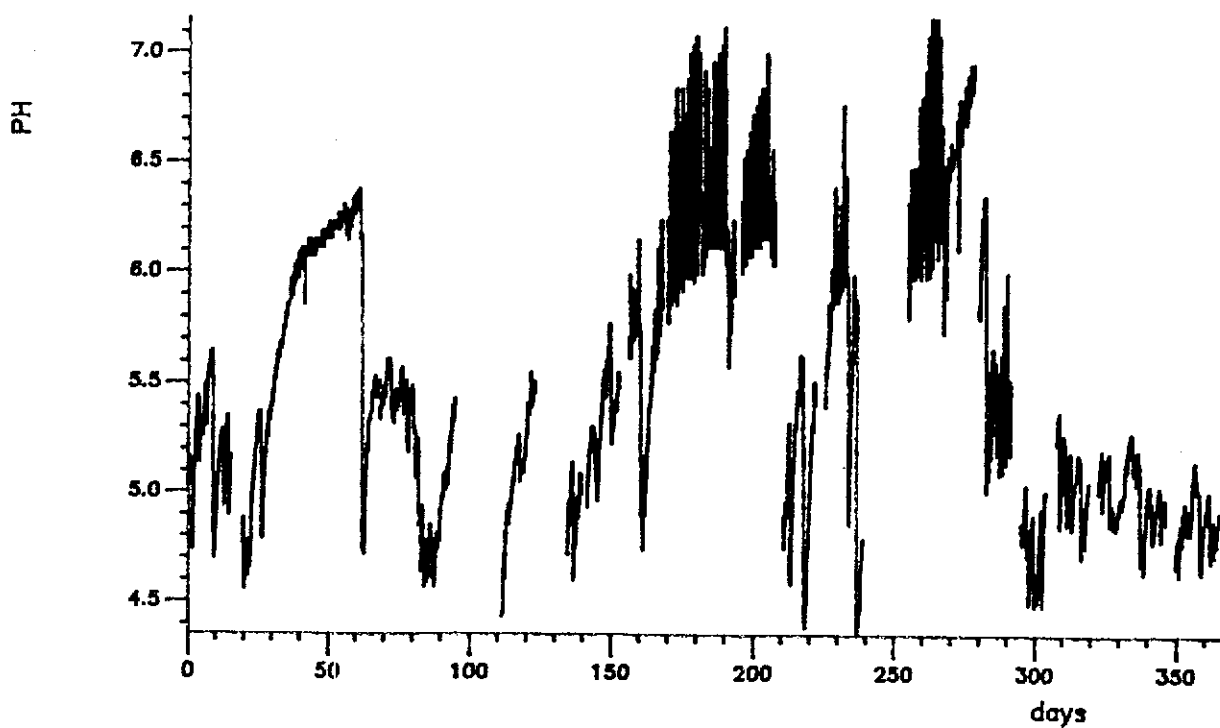
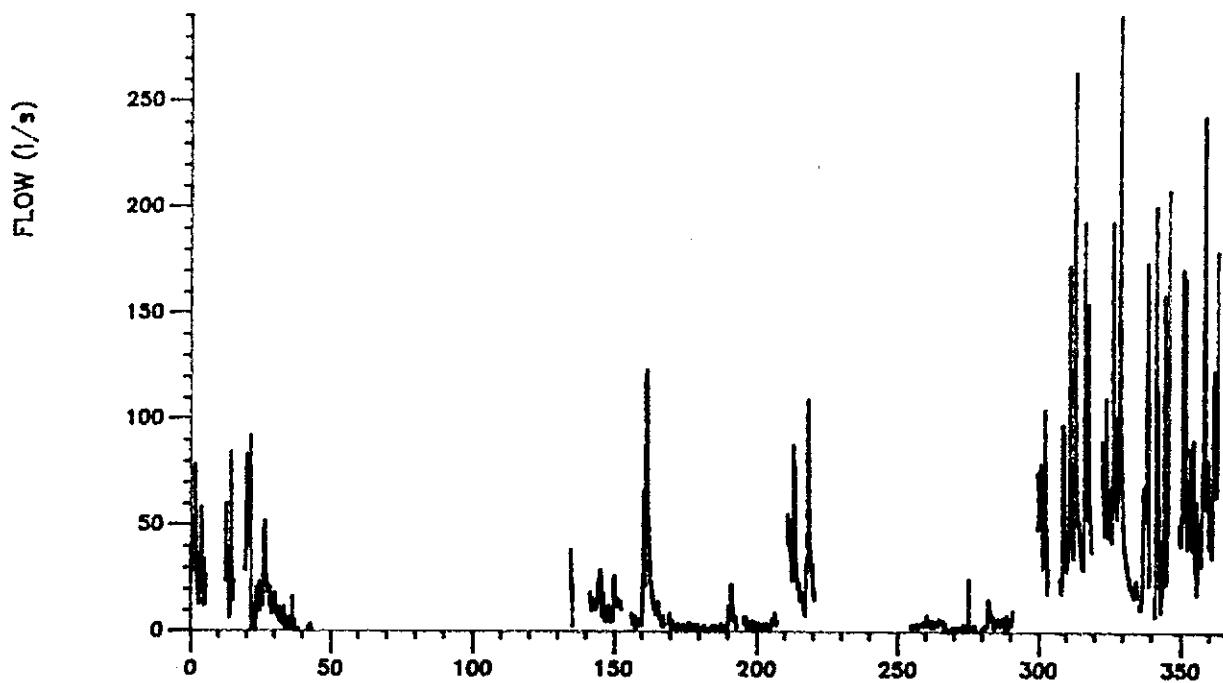




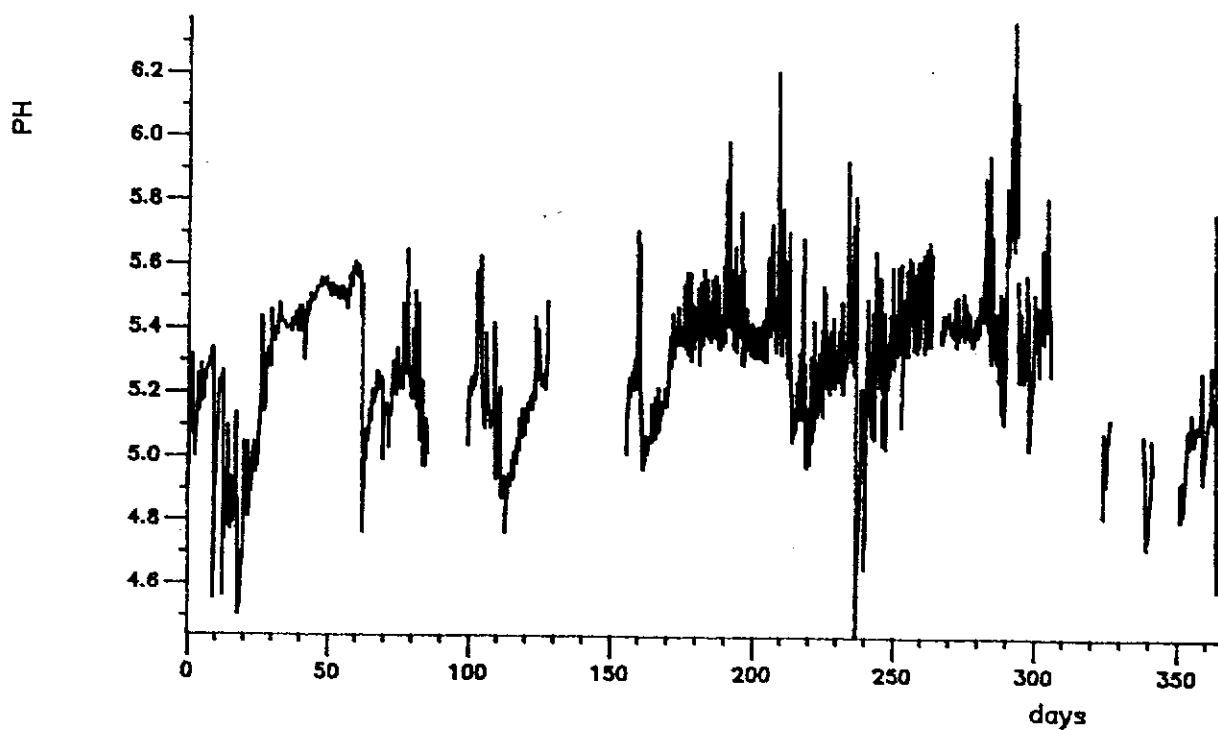
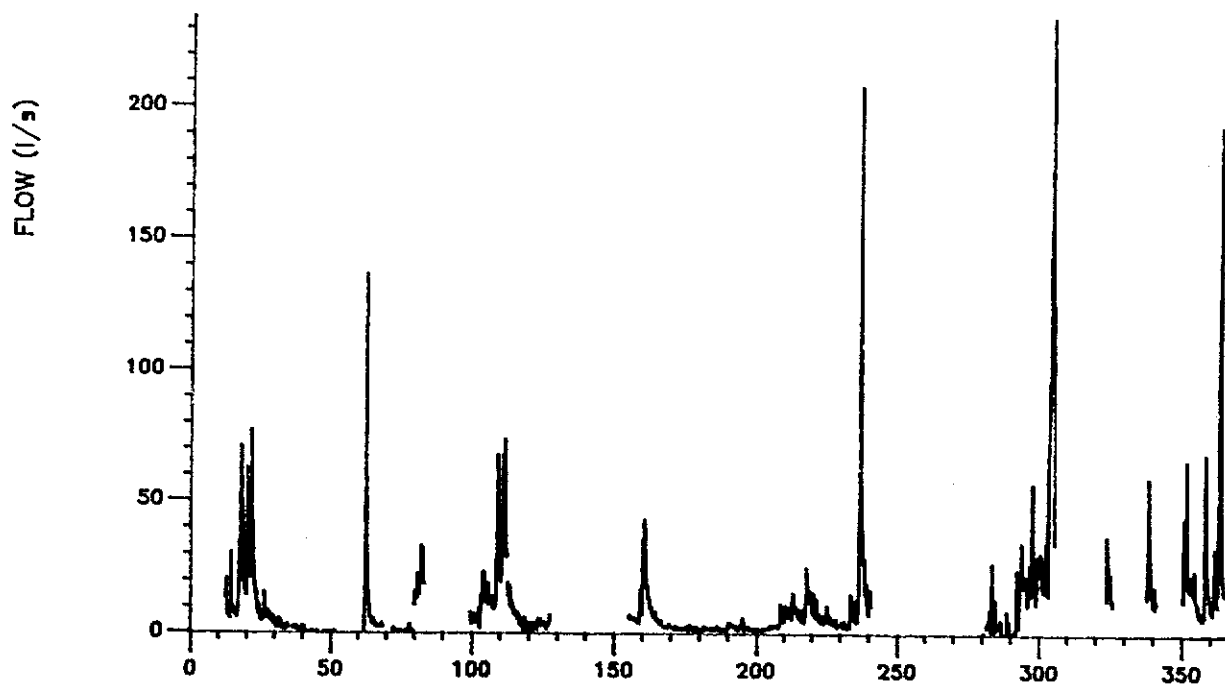
CI3 1986



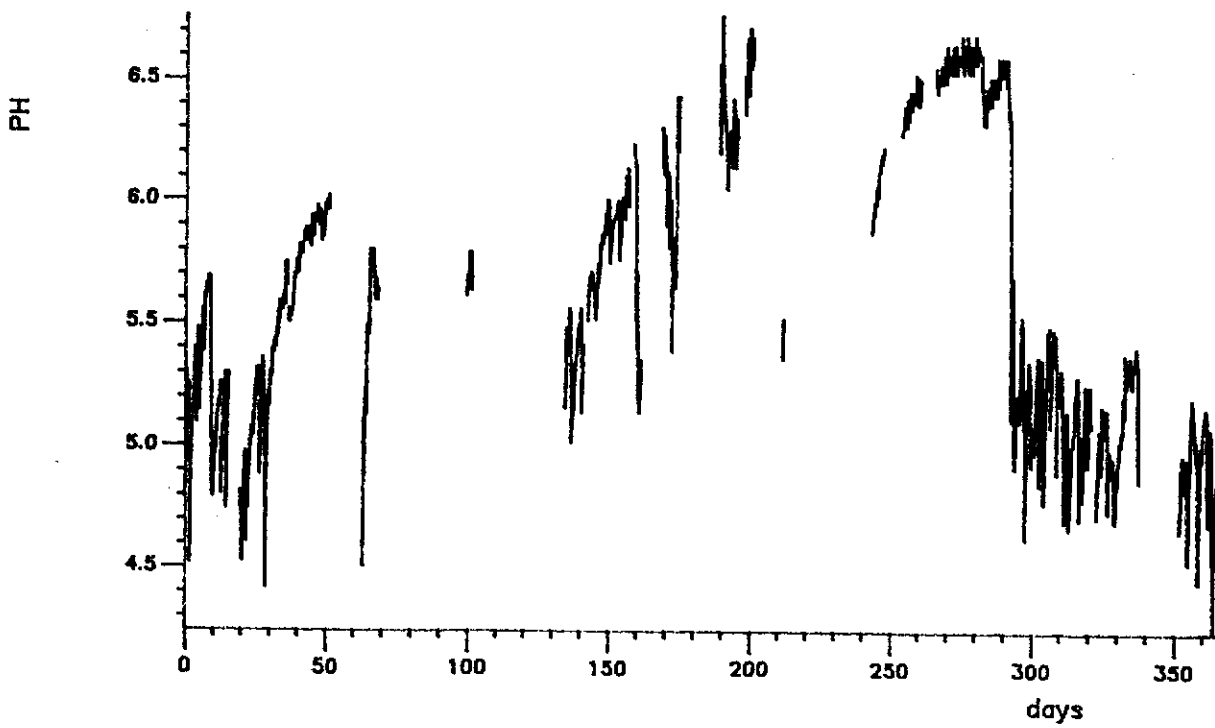
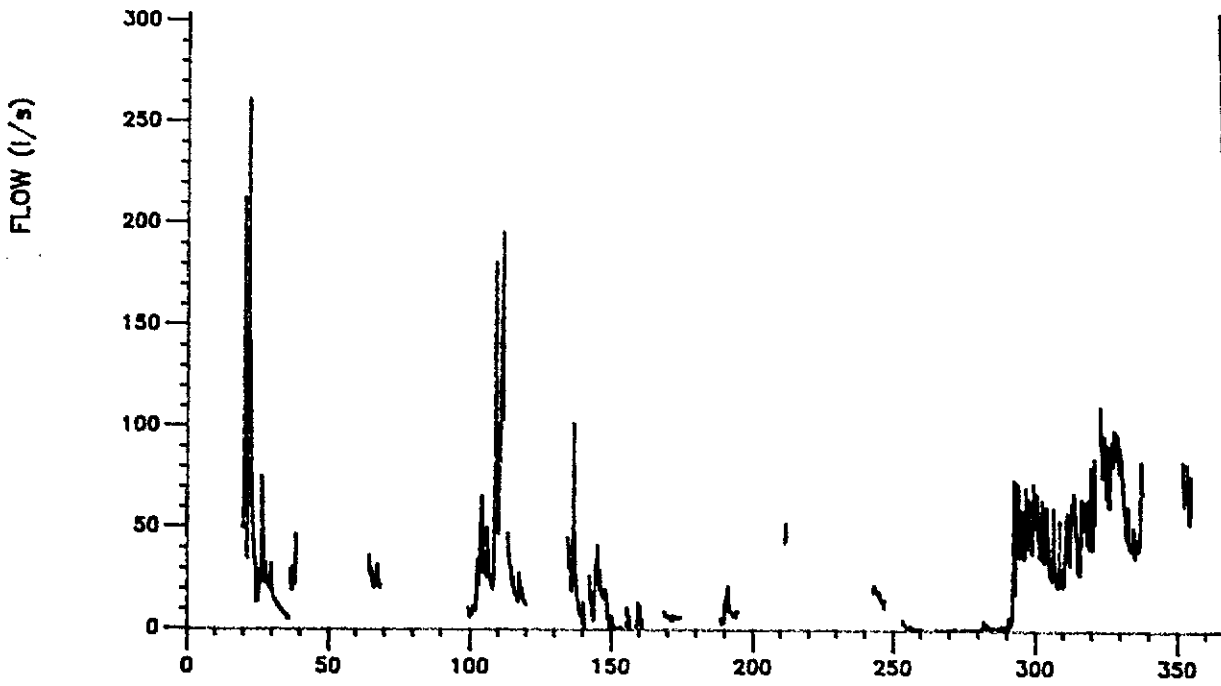
CI4 1986



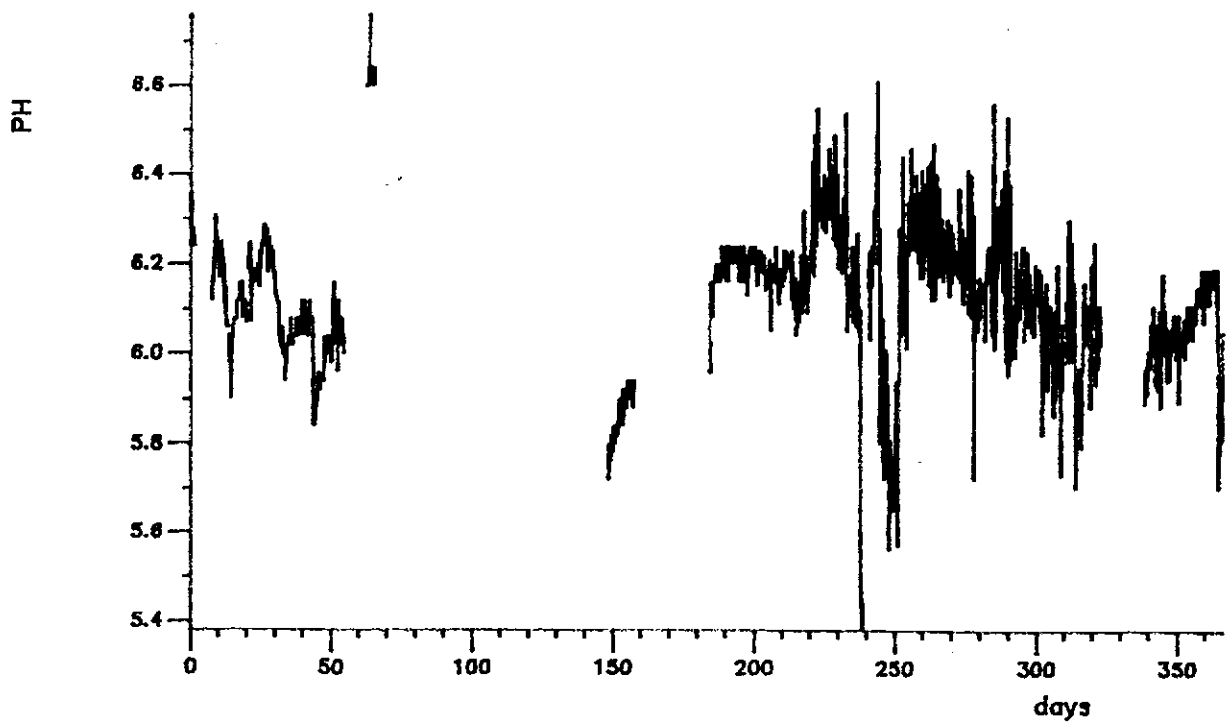
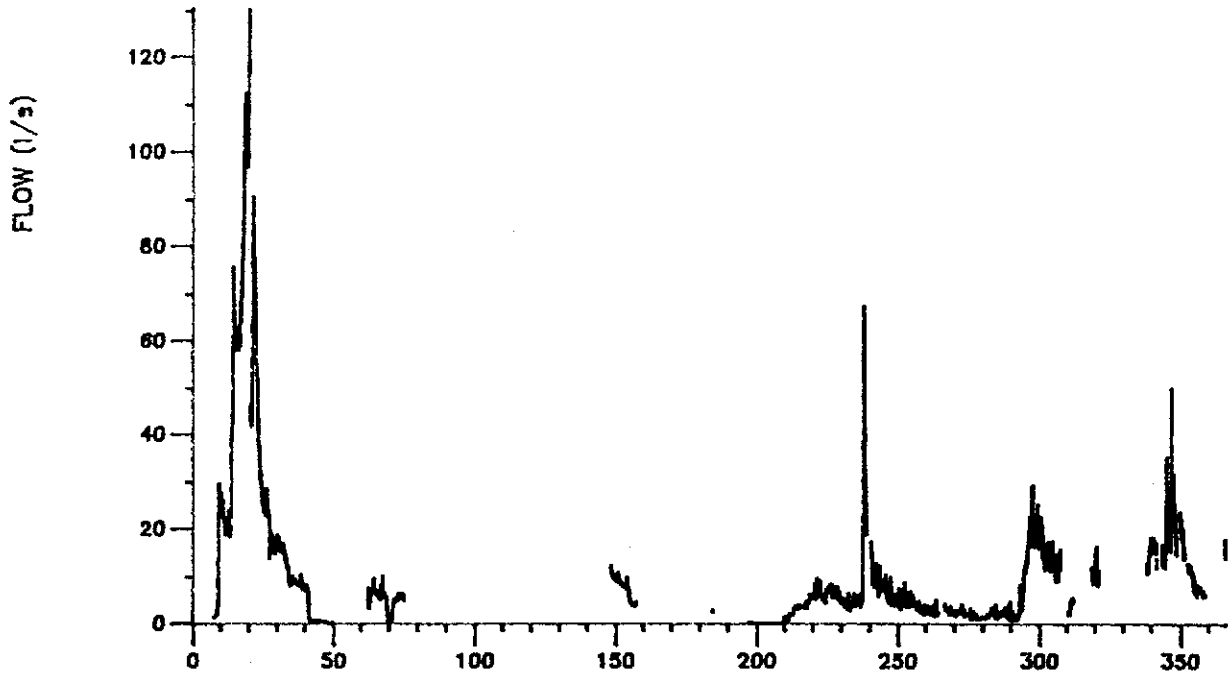
CI5 1986



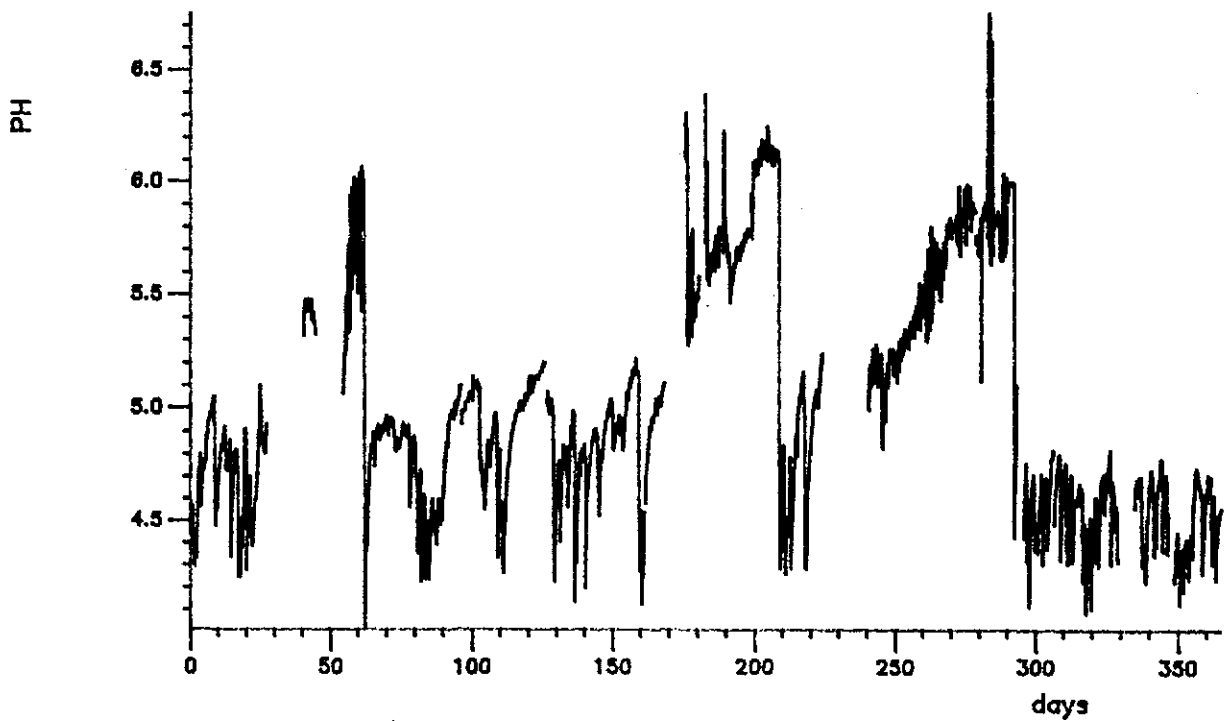
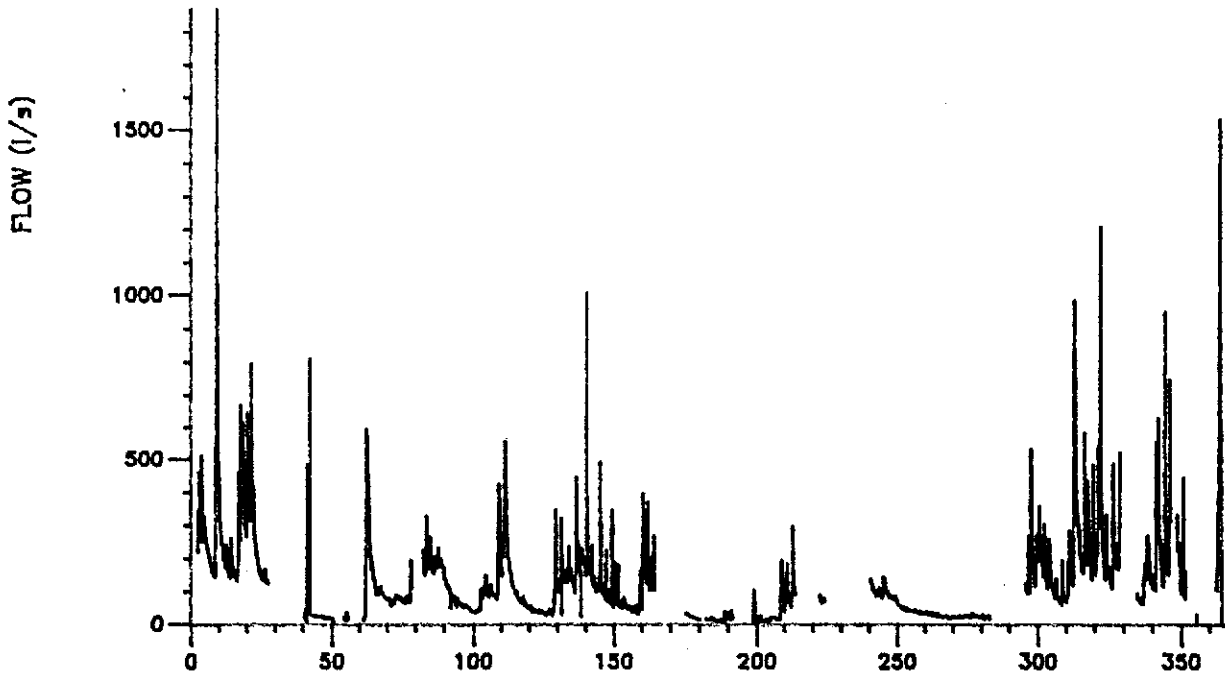
CI6 1986



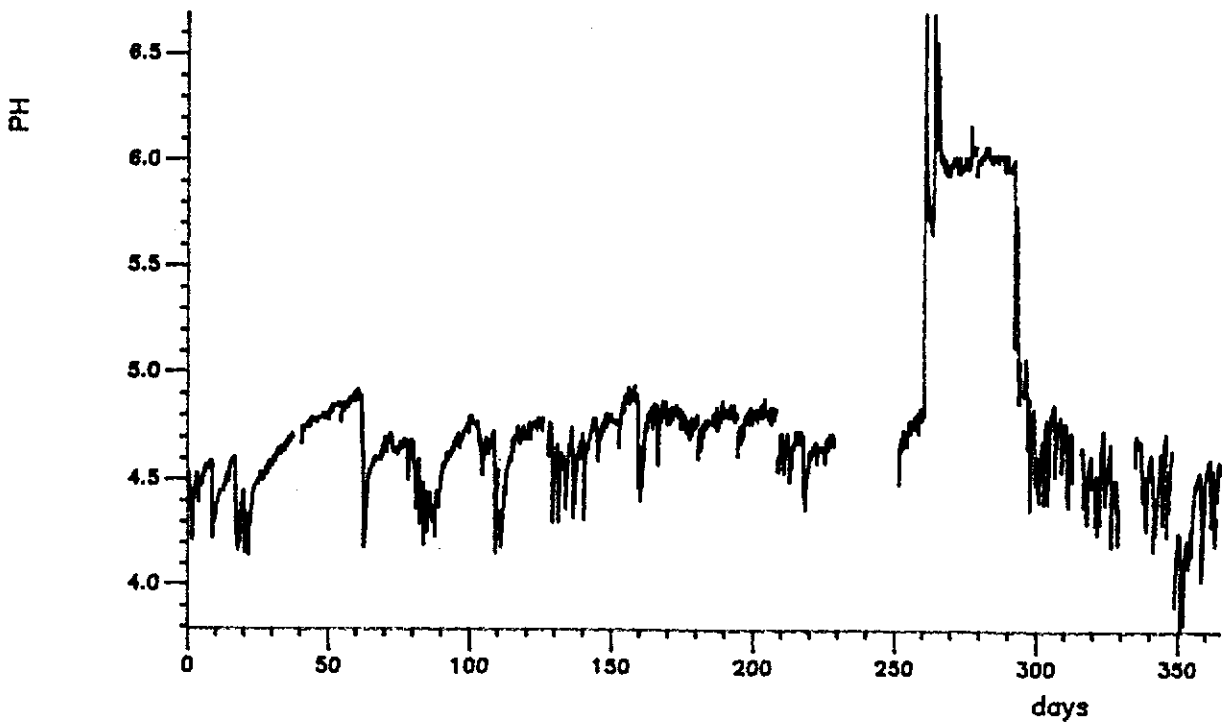
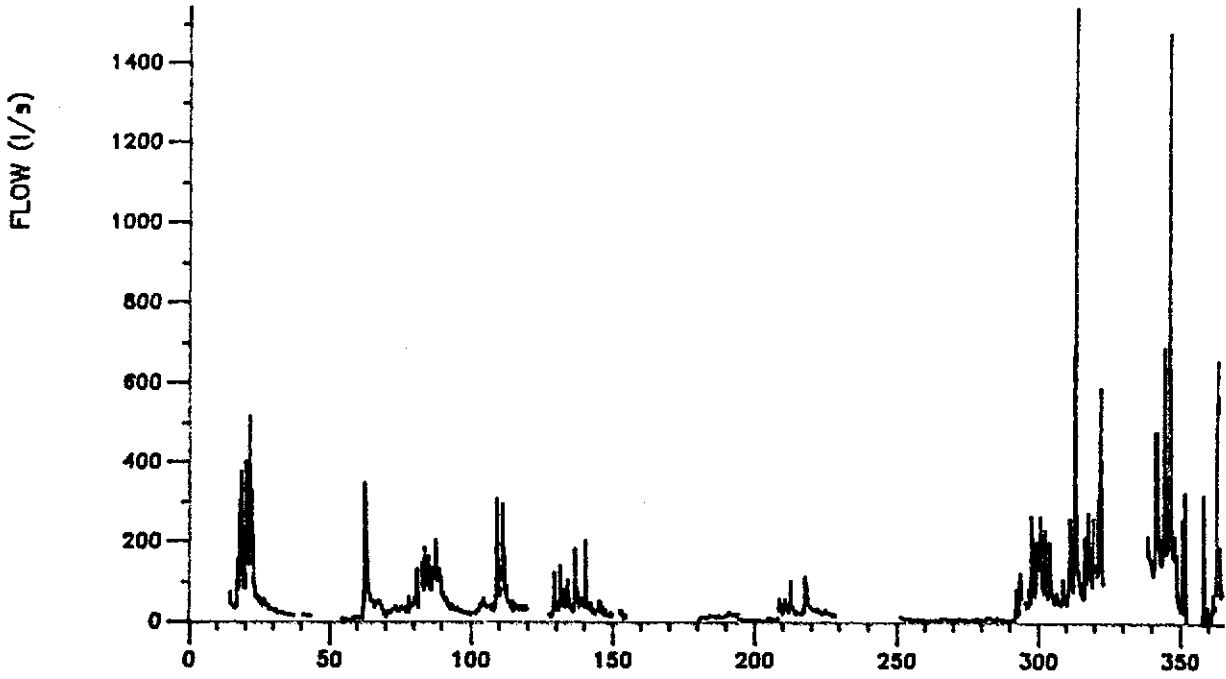
GI1 1986



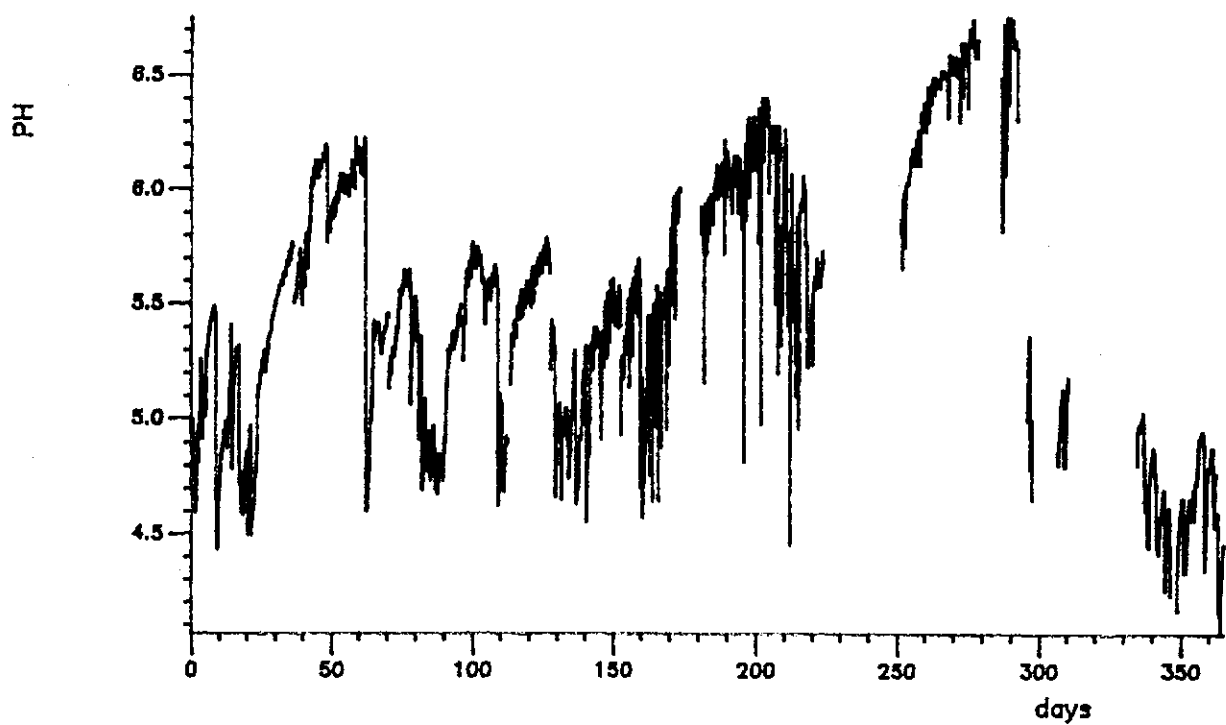
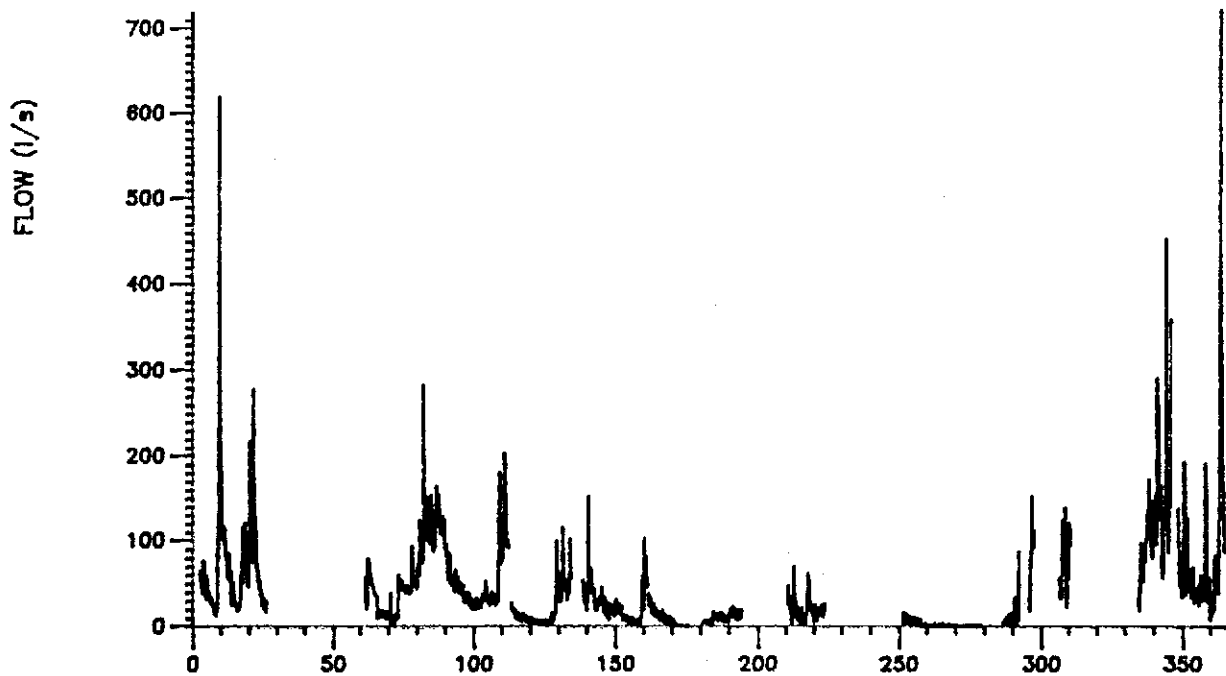
LI1 1986



LI2 1986

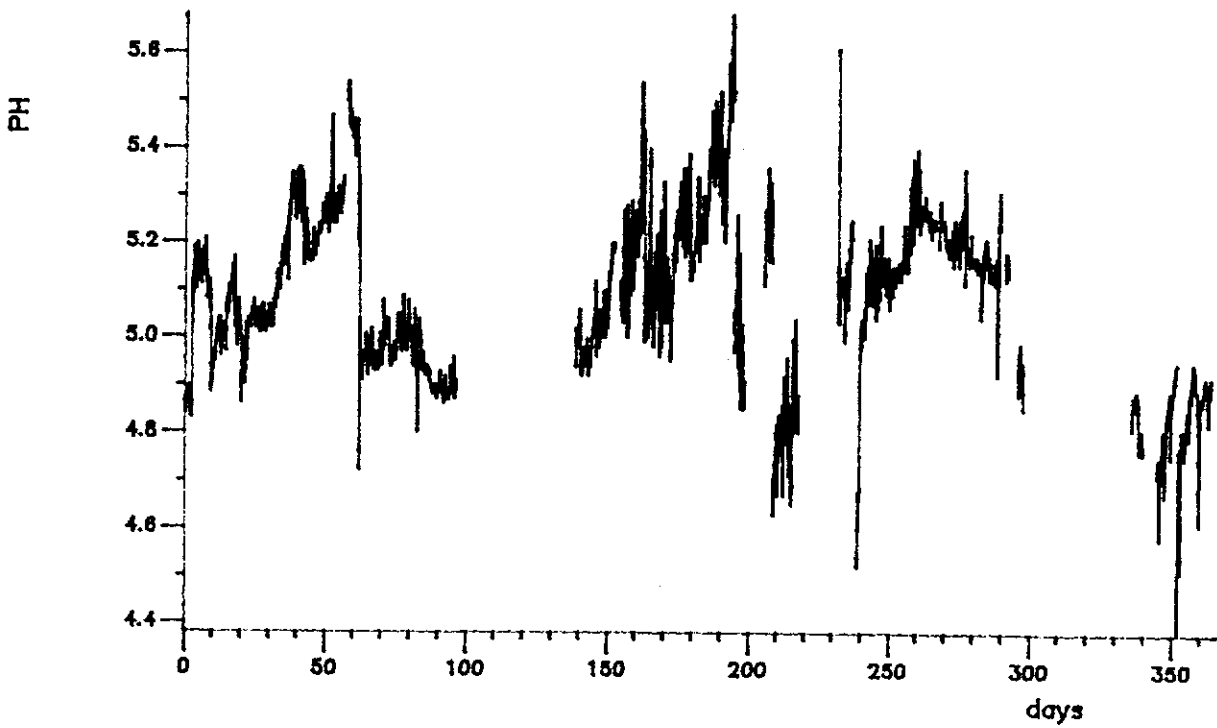
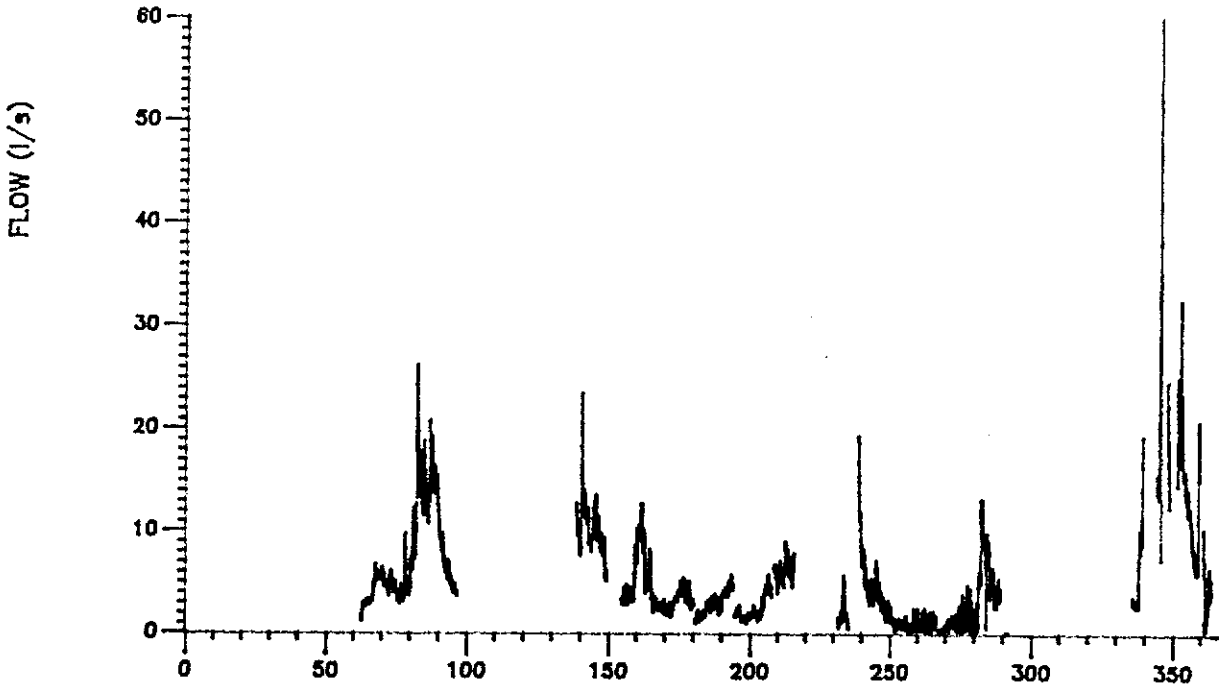


L13 1986

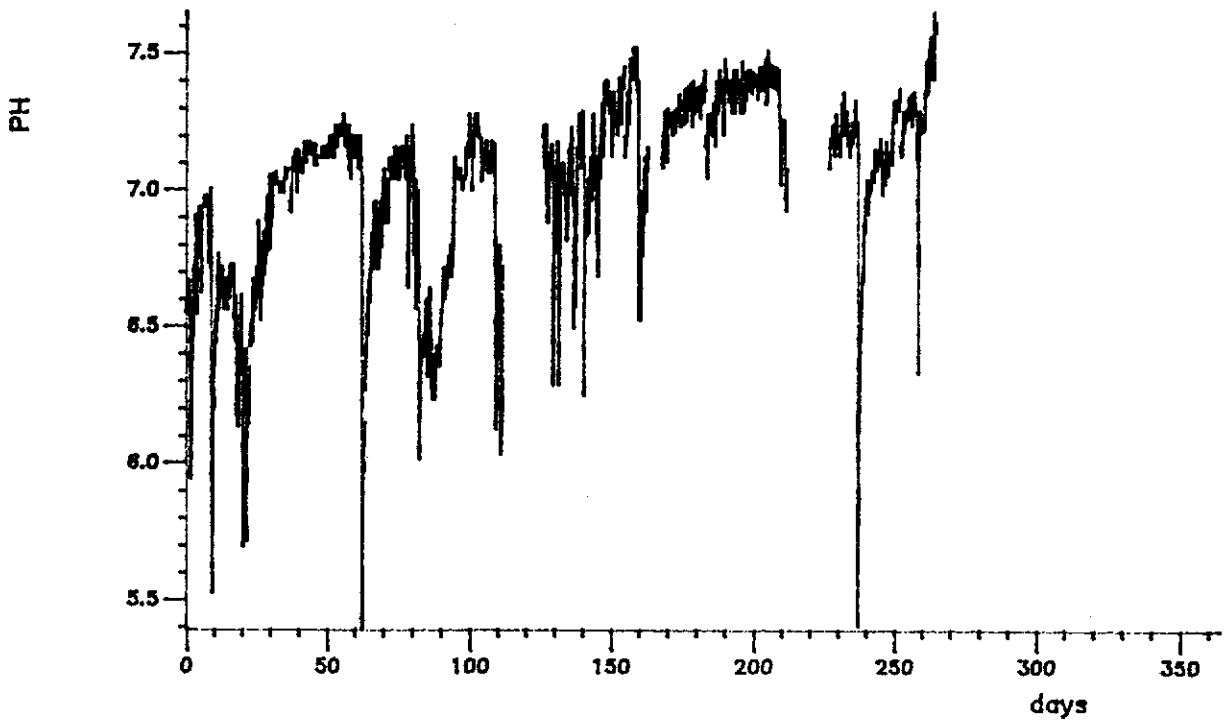
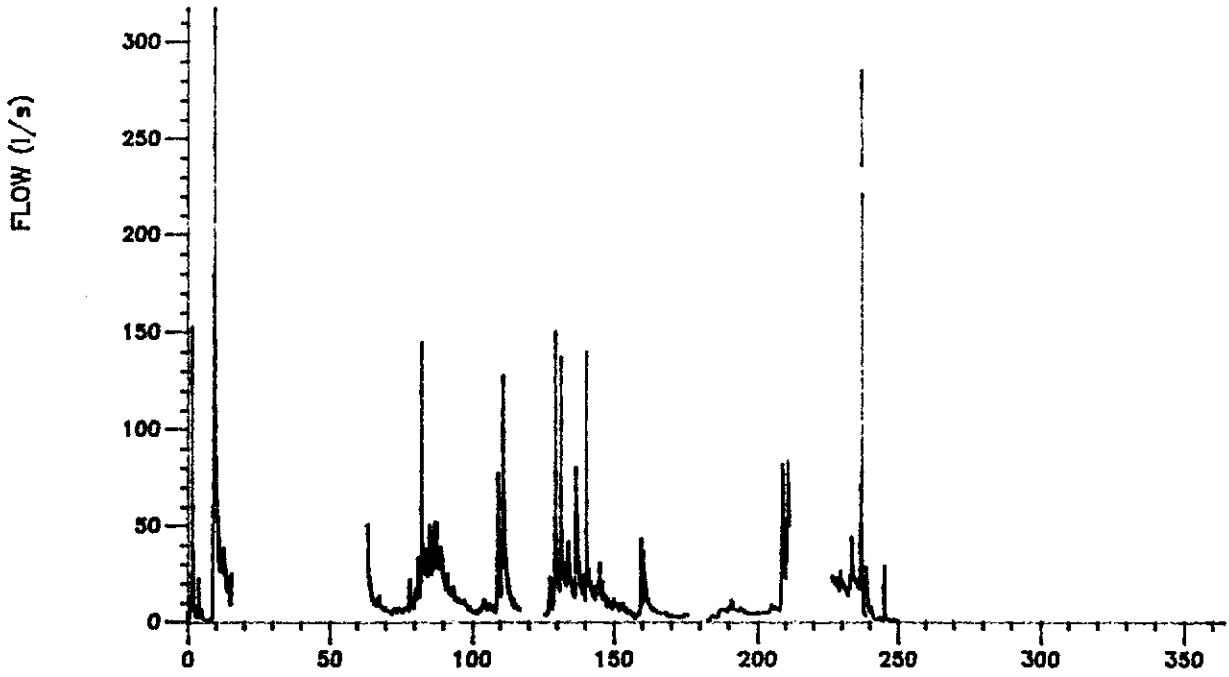




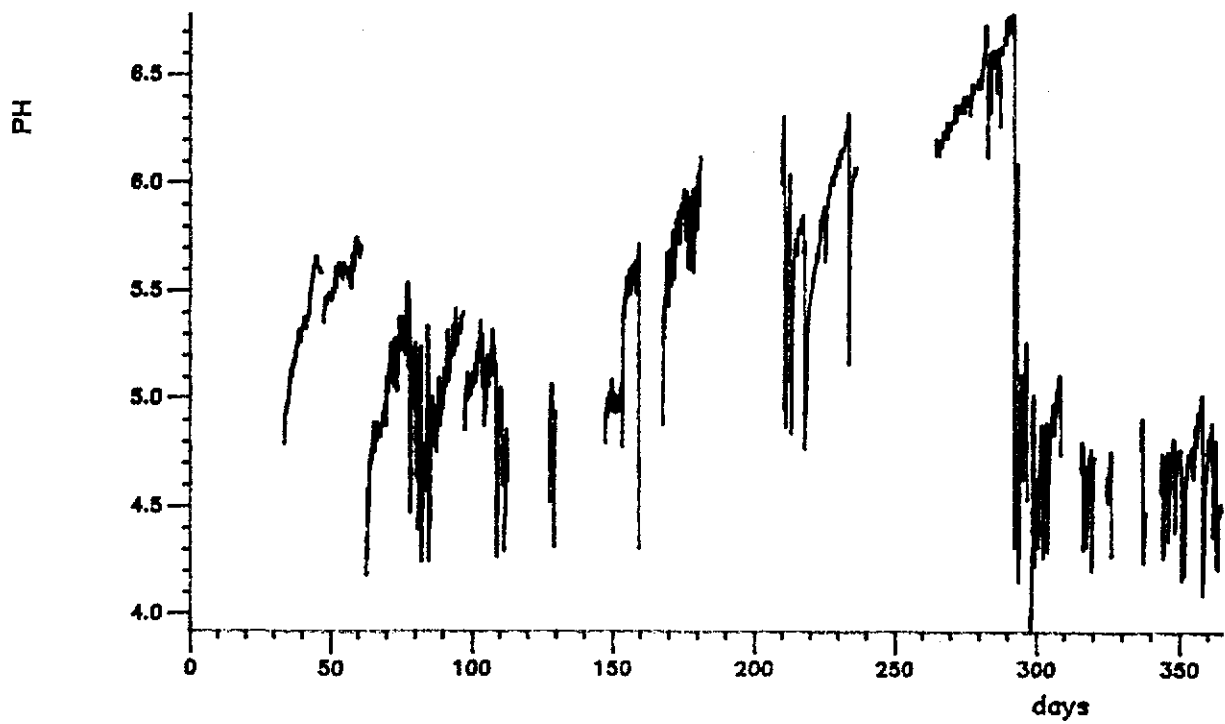
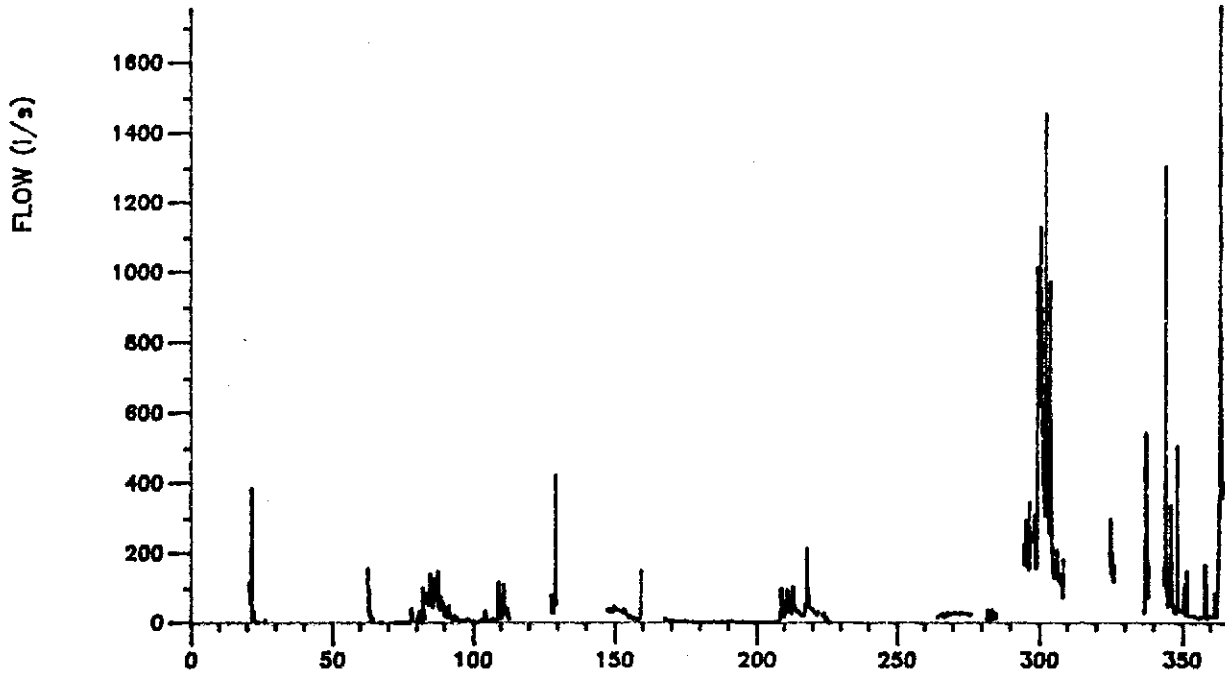
LI4 1986



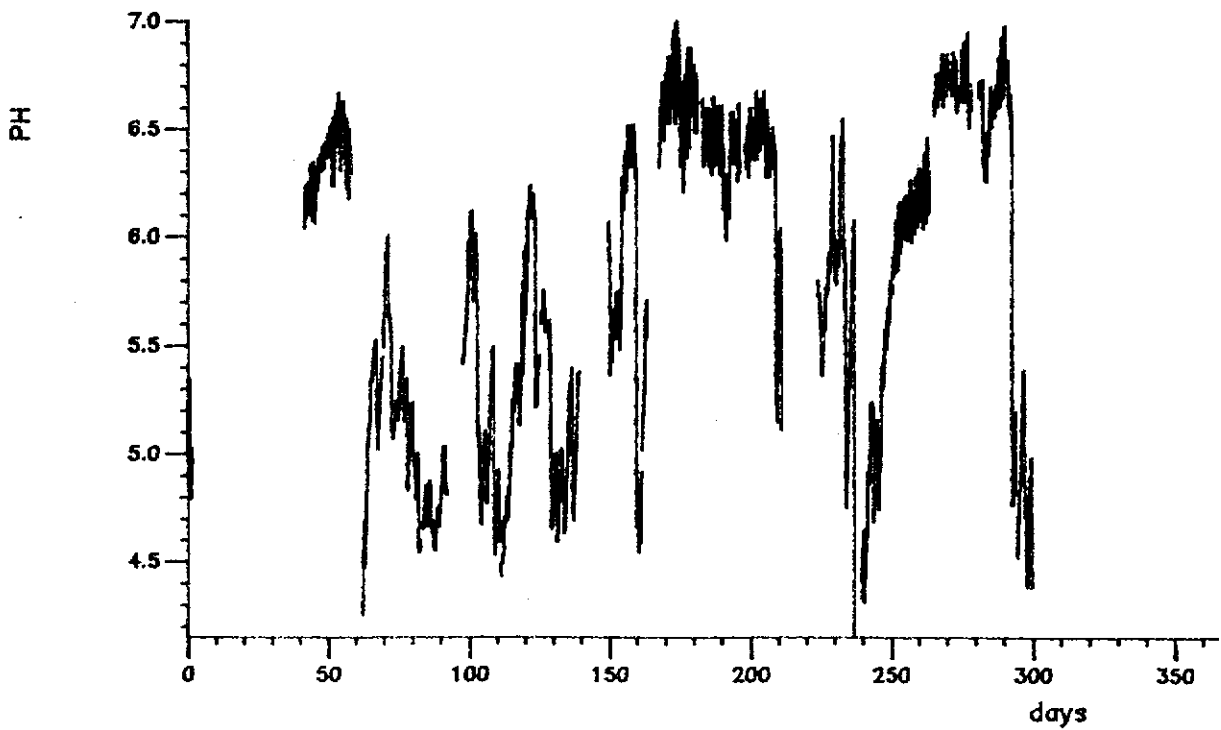
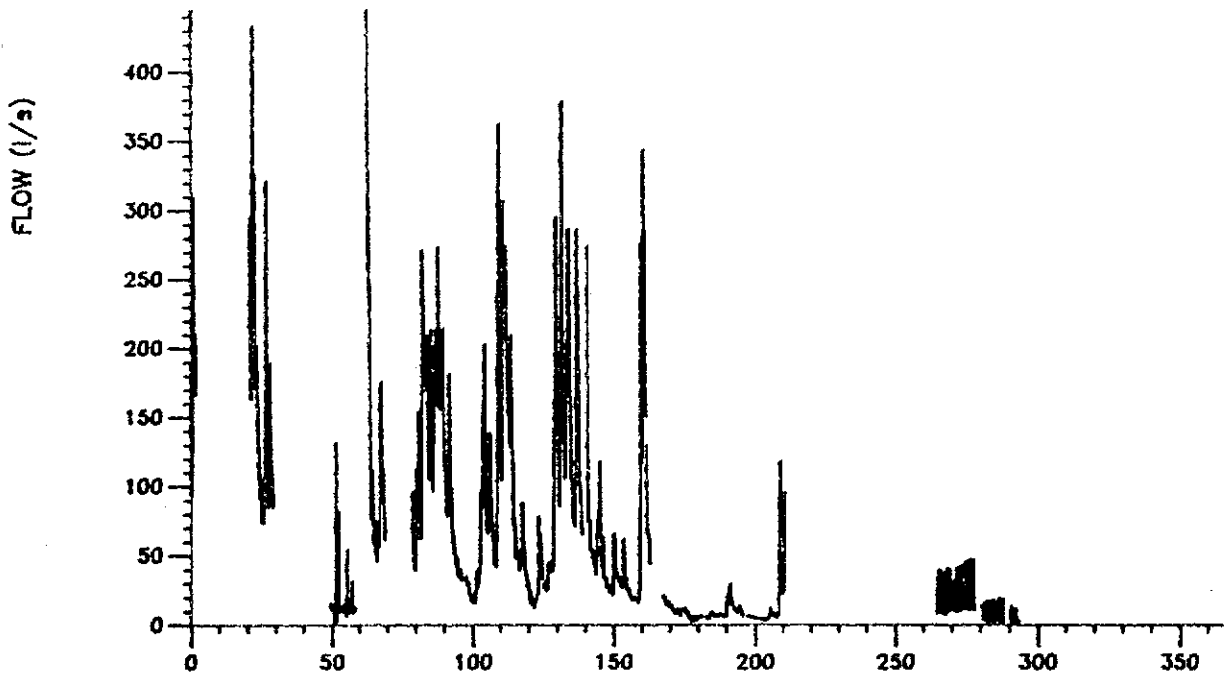
LI6 1986



LI8 1986

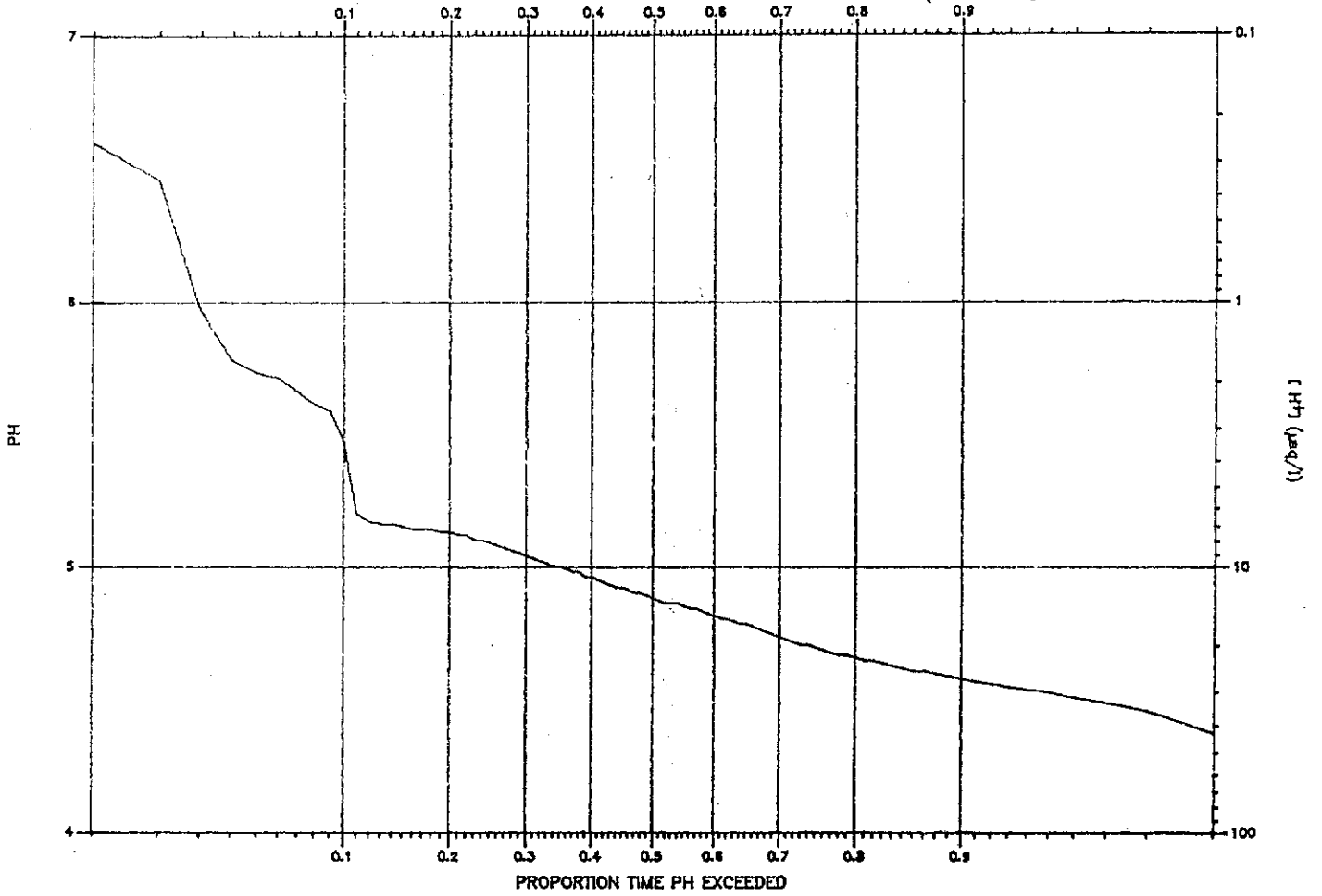


UC4 1986



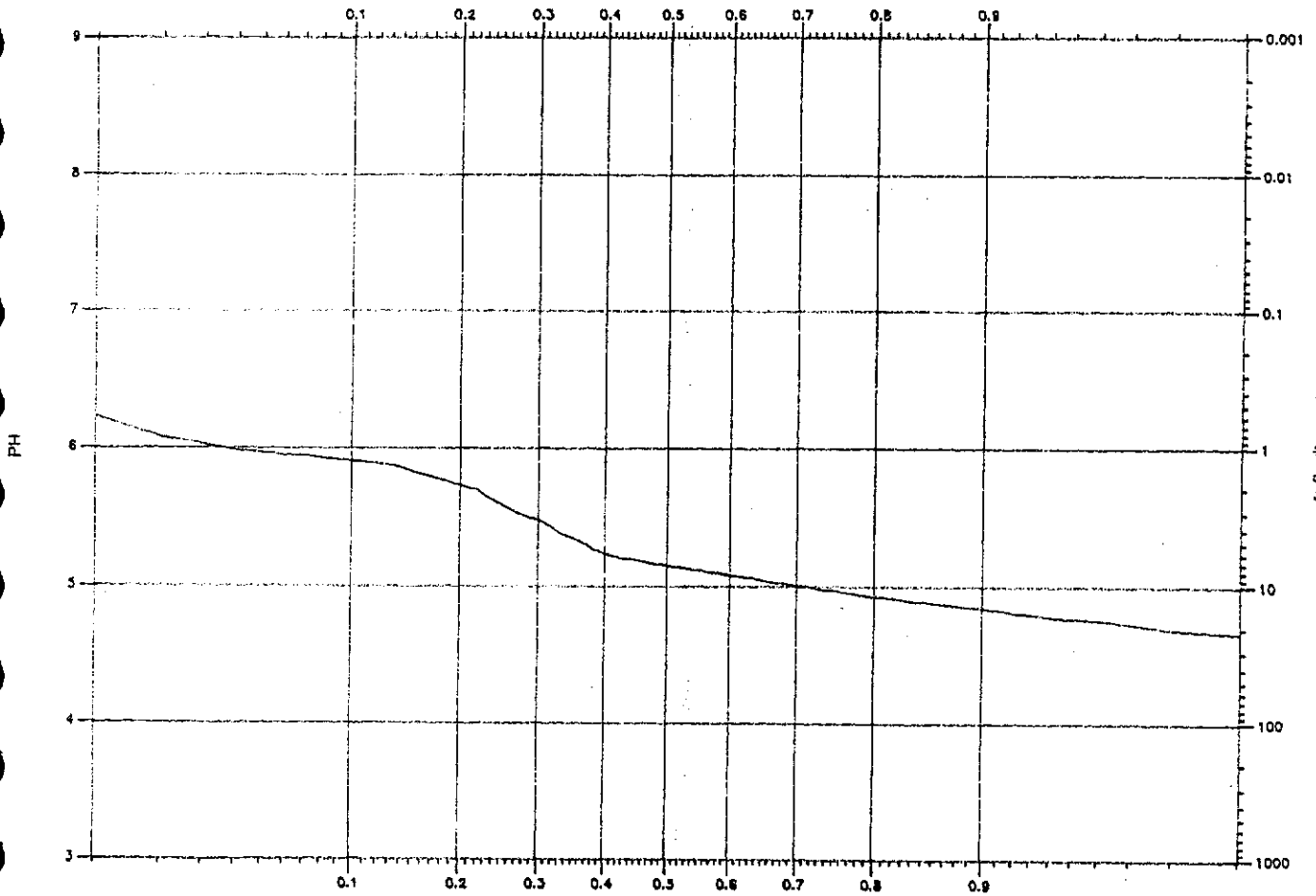
PH DURATION CURVE, 5X

(58%)

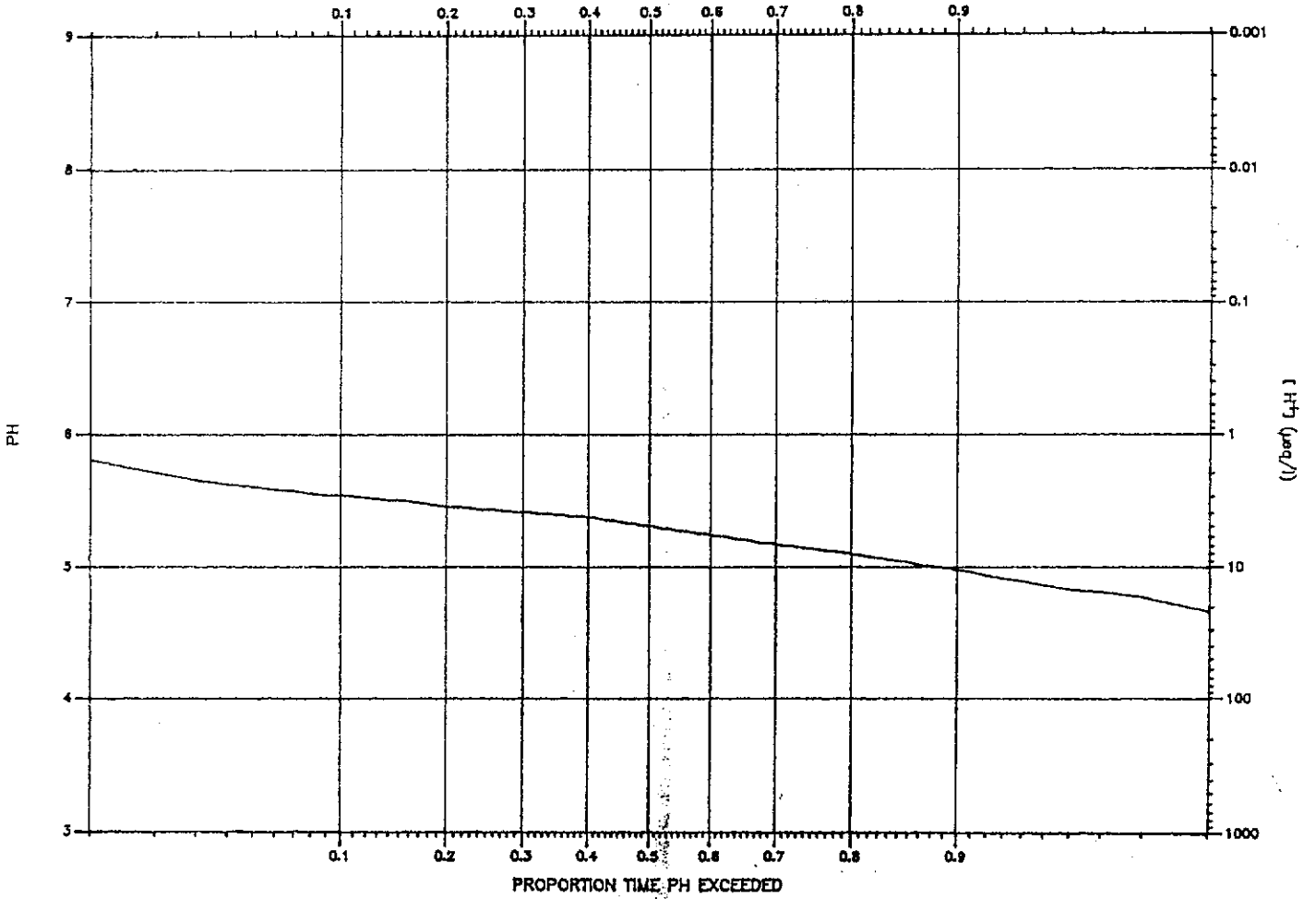


PH DURATION CURVE, C13

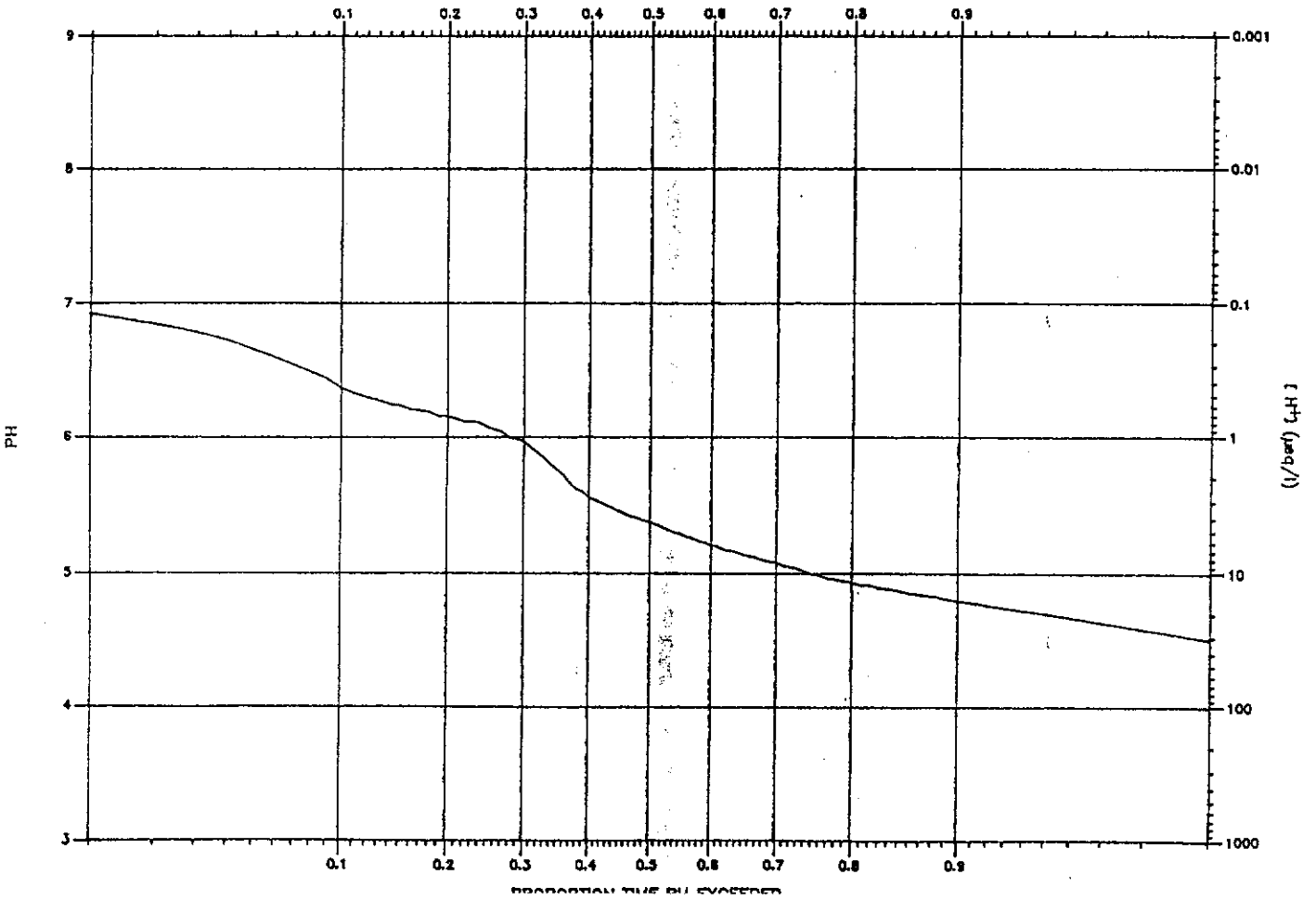
(82%)



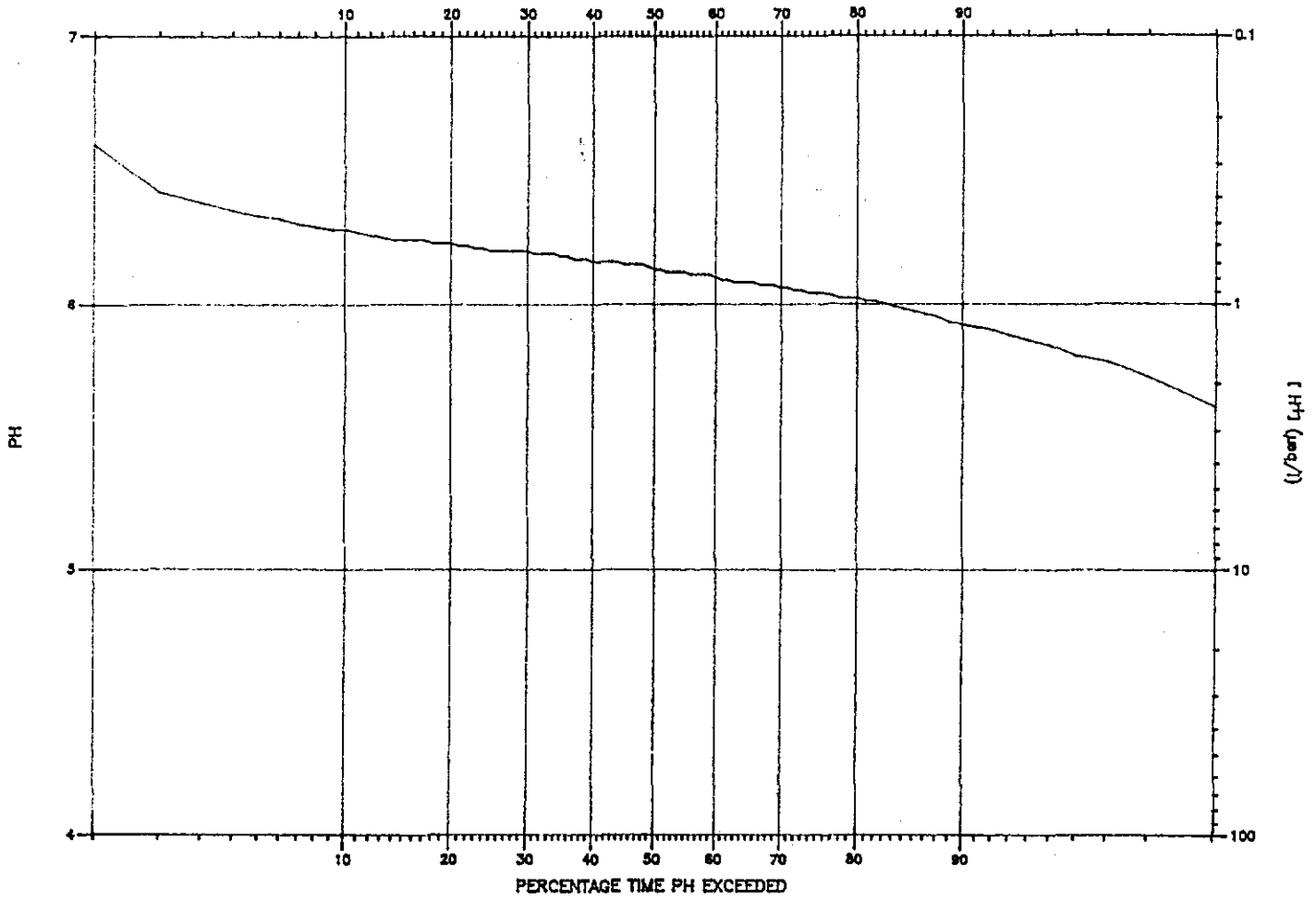
PH DURATION CURVE, C15 (76%)



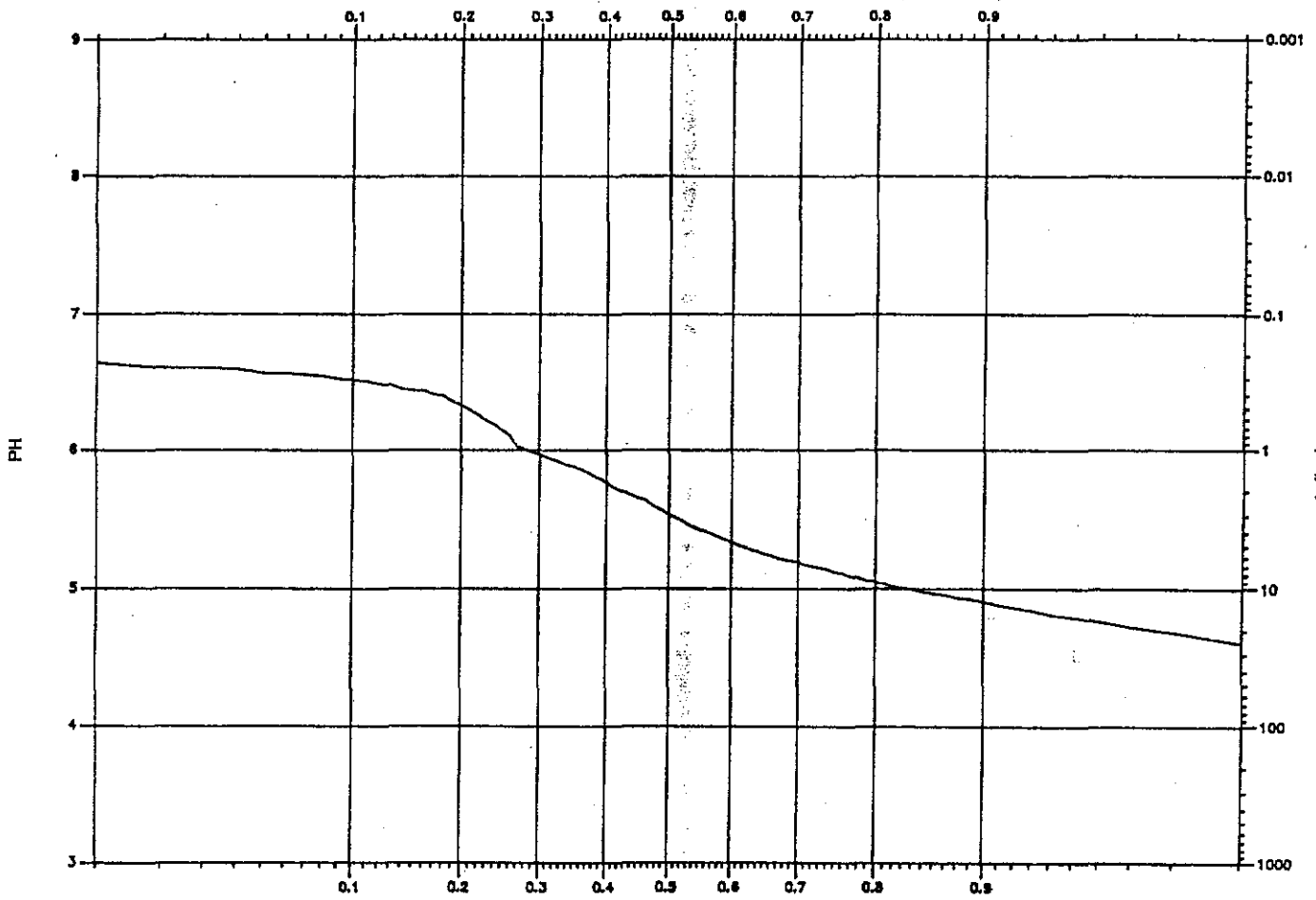
PH DURATION CURVE, C14 (77%)



PH DURATION CURVE, G11 (61%)

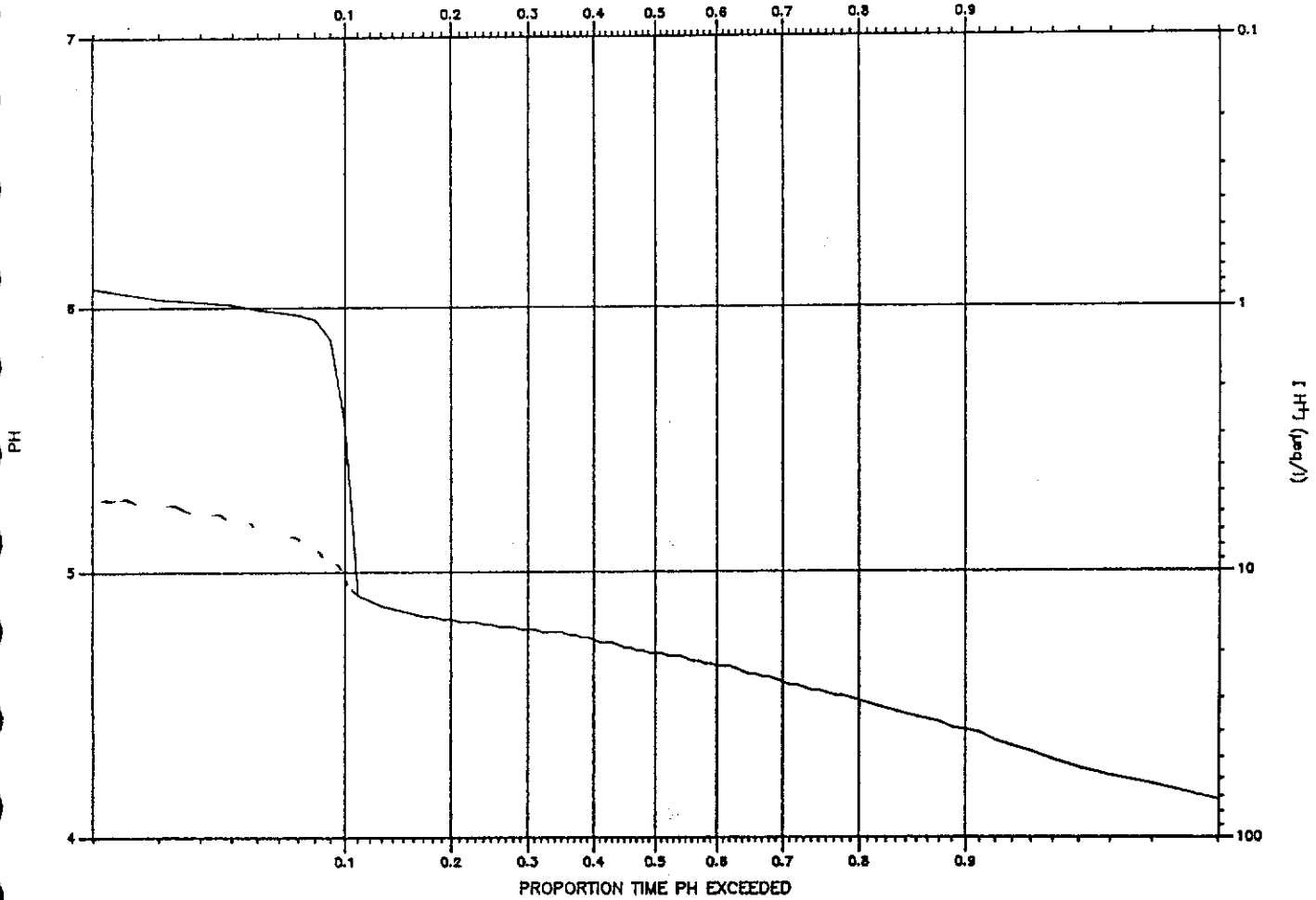


PH DURATION CURVE, C16 (51%)



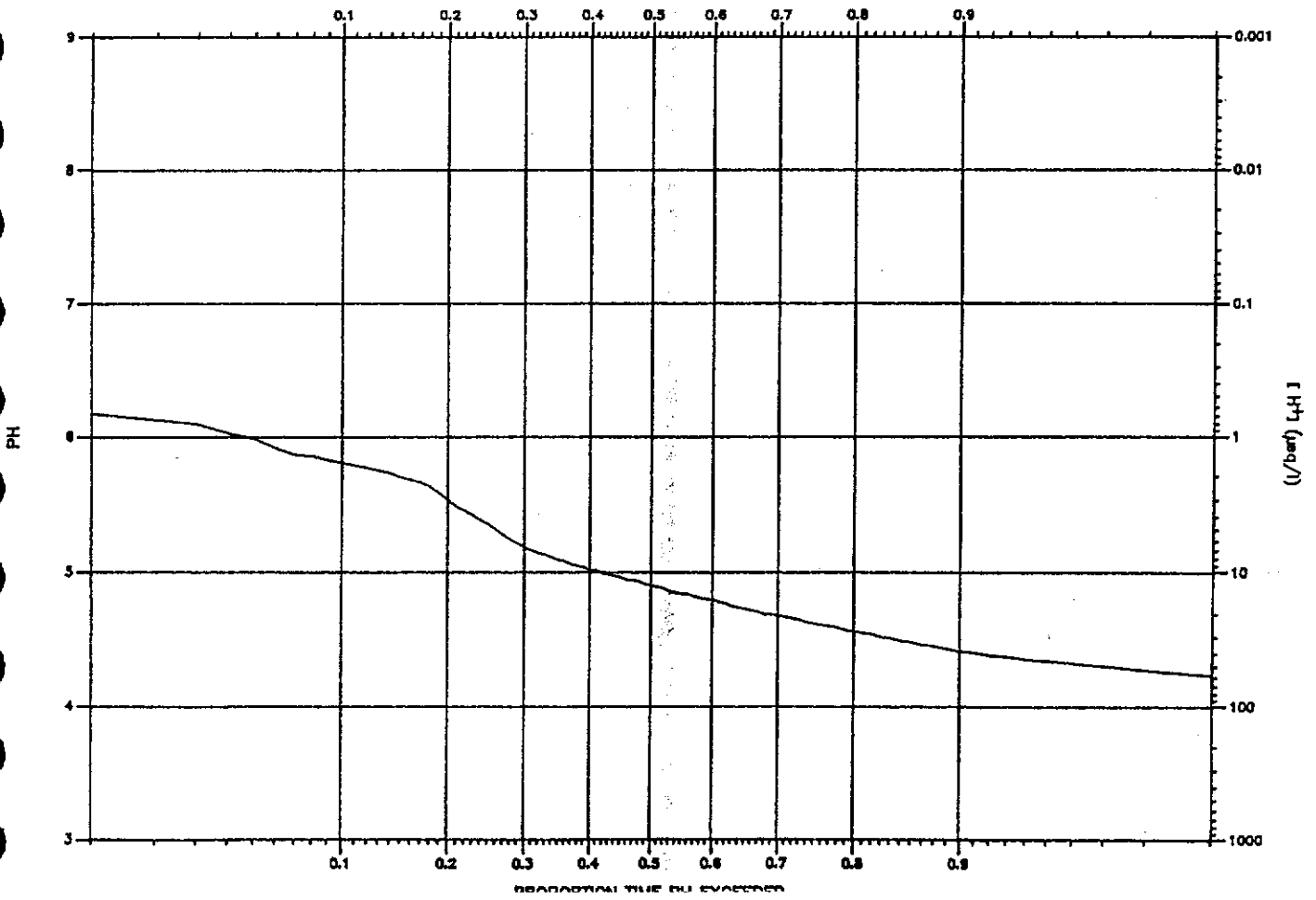
PH DURATION CURVE, LI2

(88%)



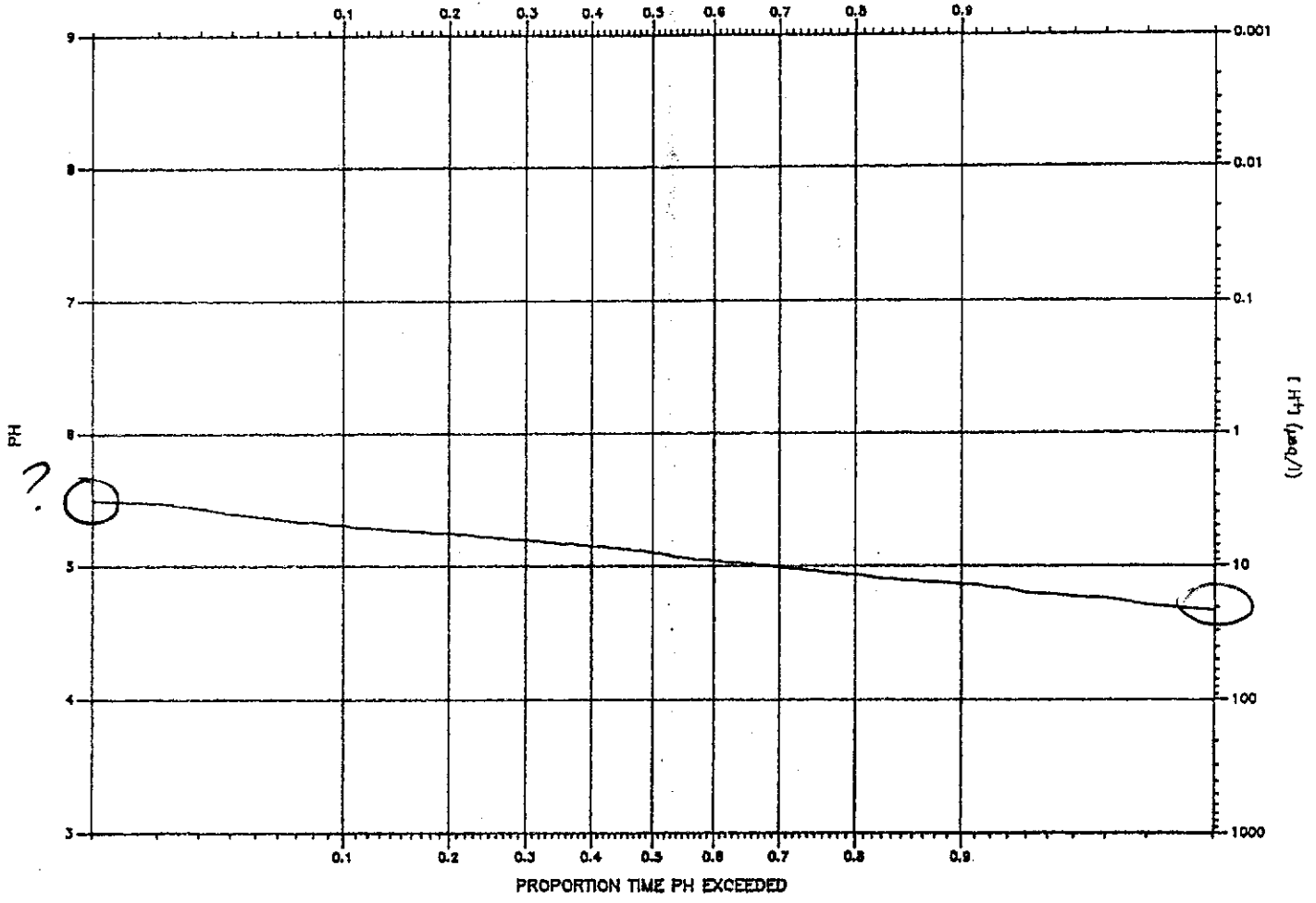
PH DURATION CURVE, LI1

(83%)

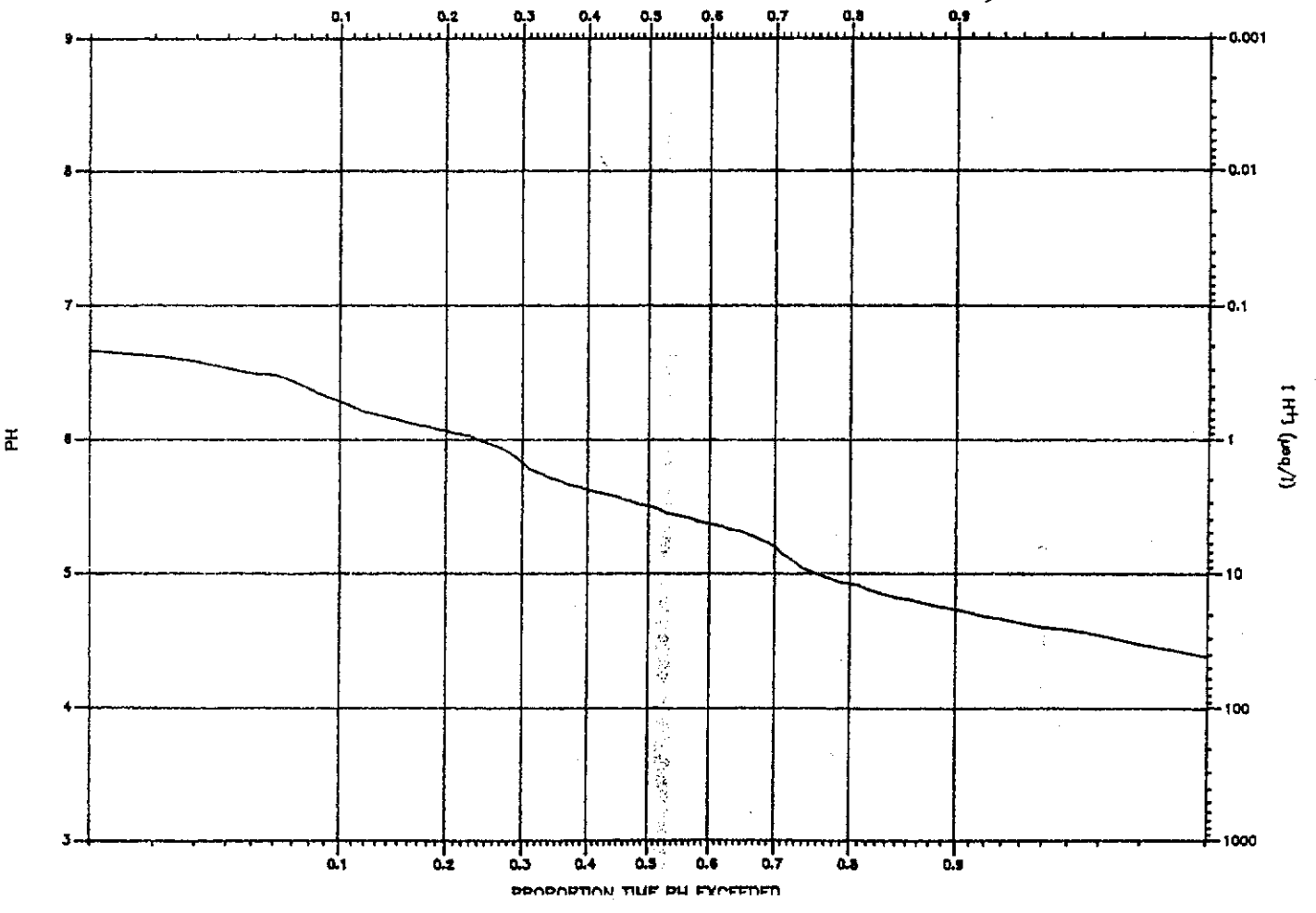




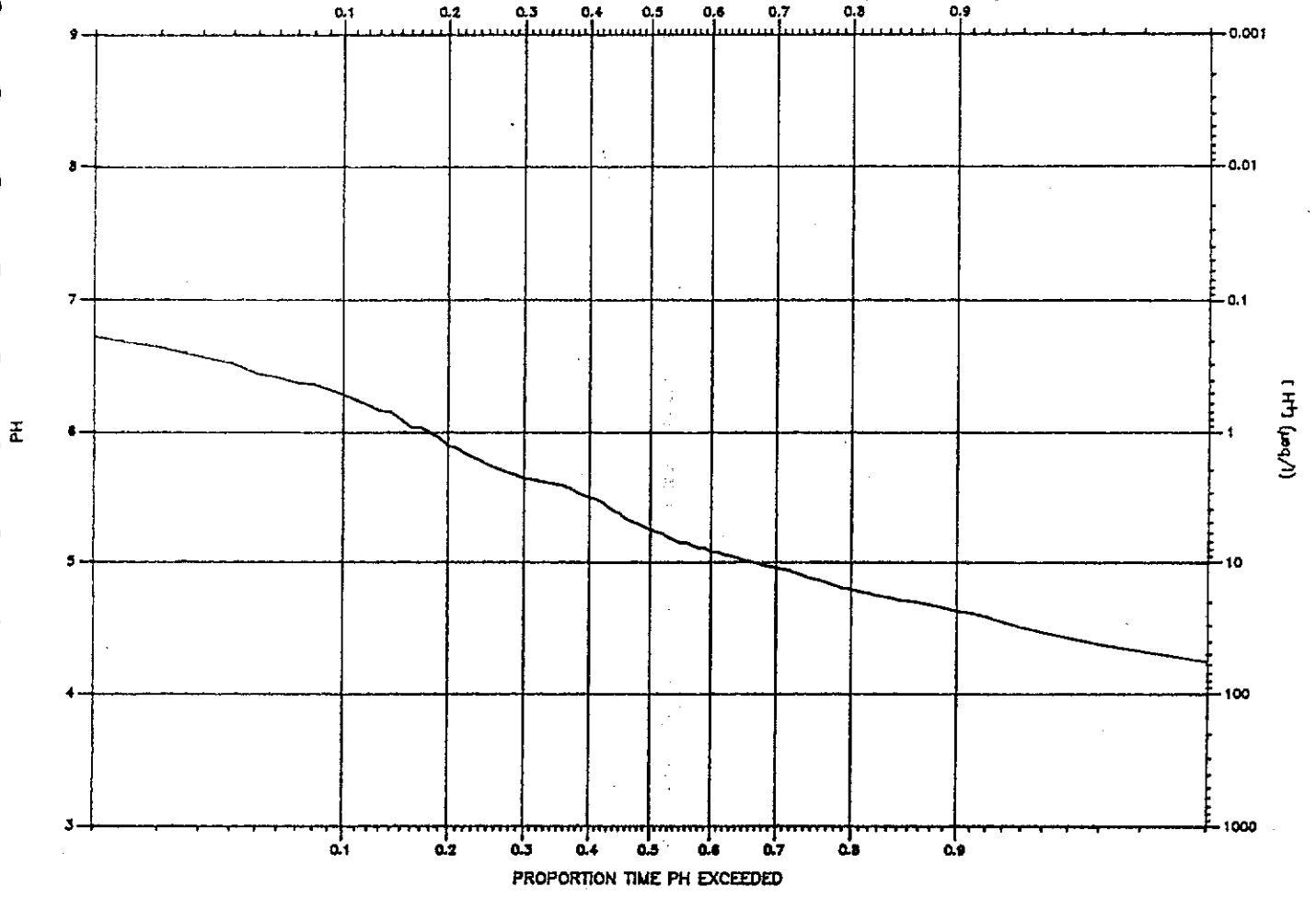
PH DURATION CURVE, LI4 (67%)



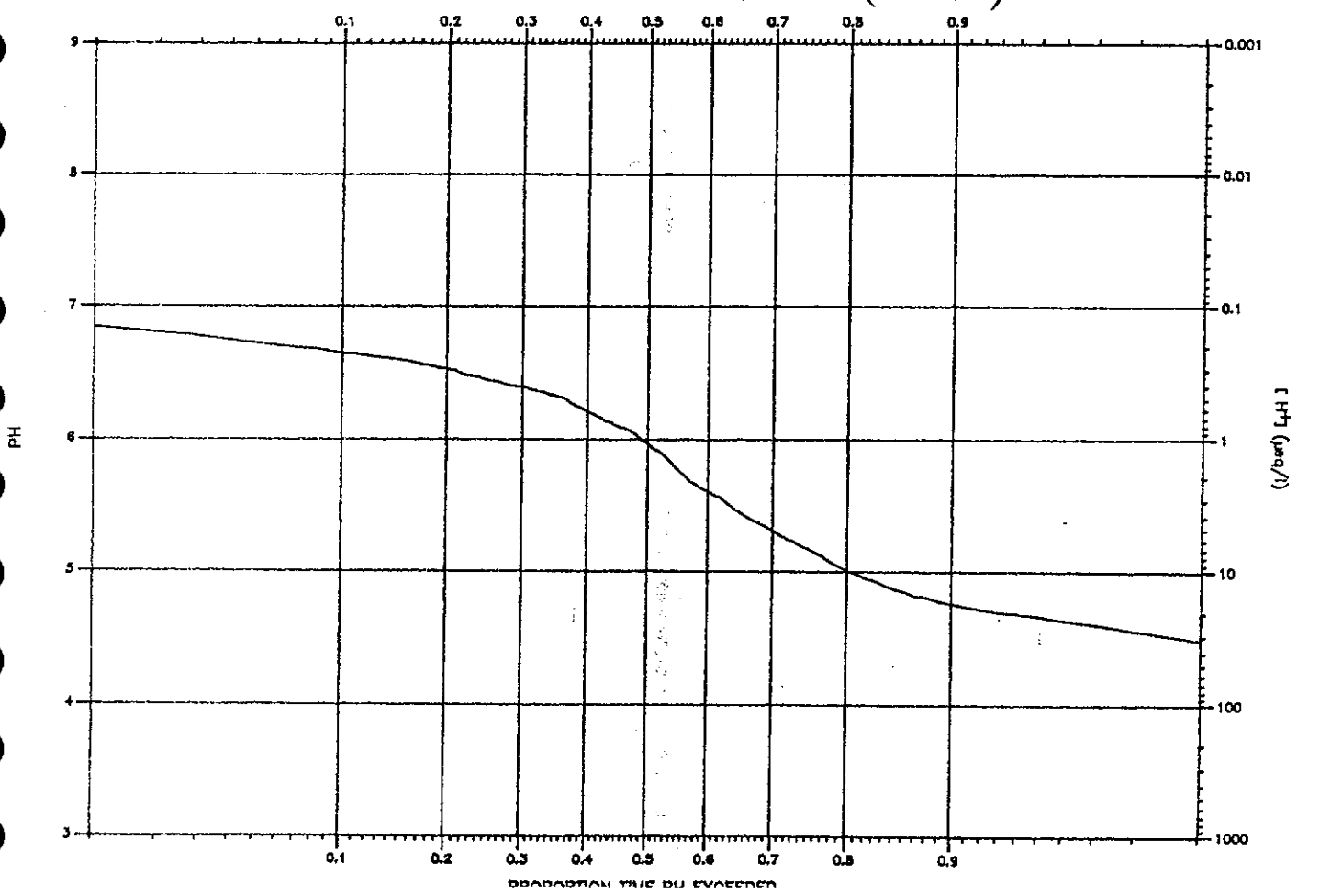
PH DURATION CURVE, LI3 (76%)



PH DURATION CURVE, LI8 (55%)

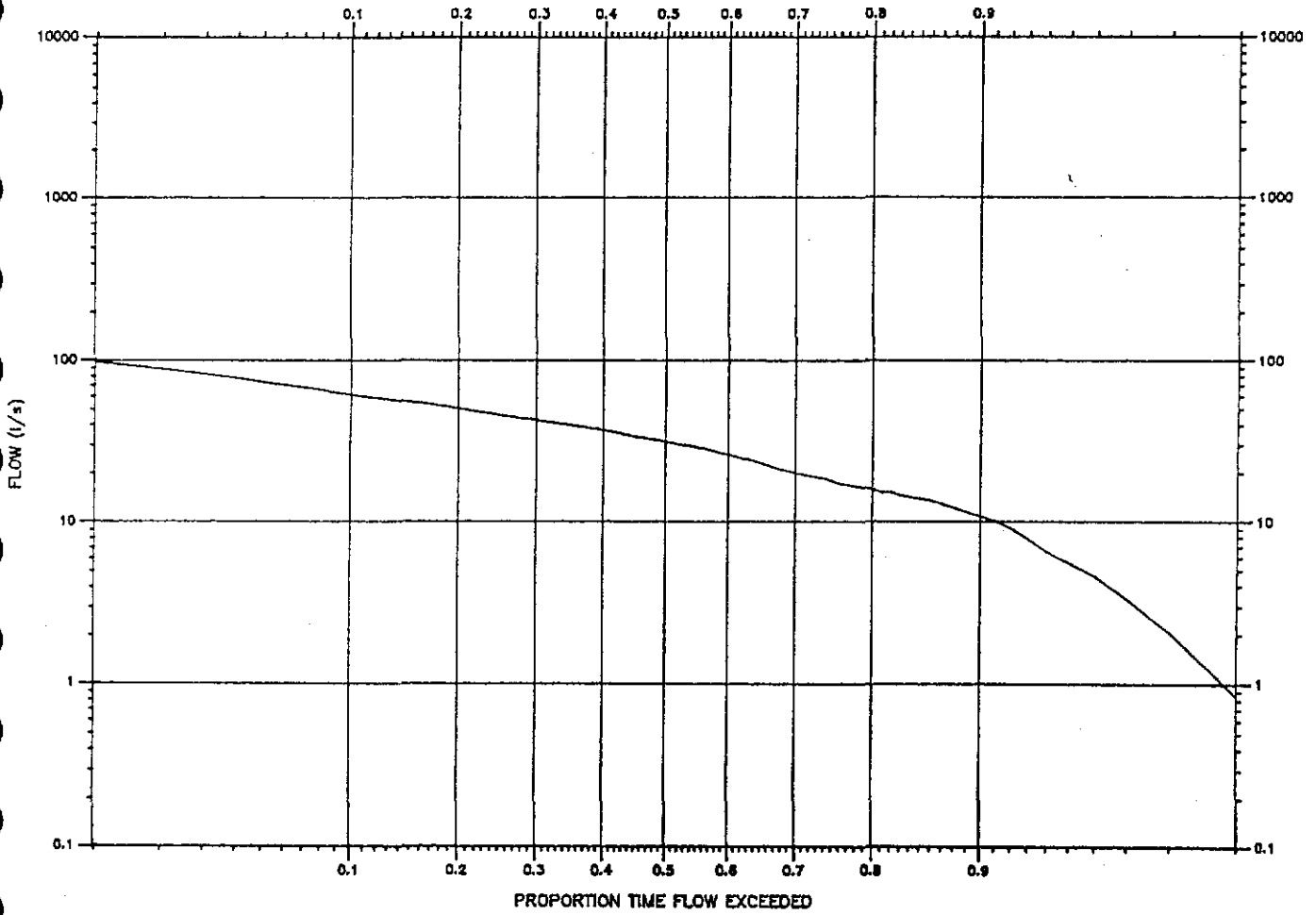


PH DURATION CURVE, UC4 (57%)



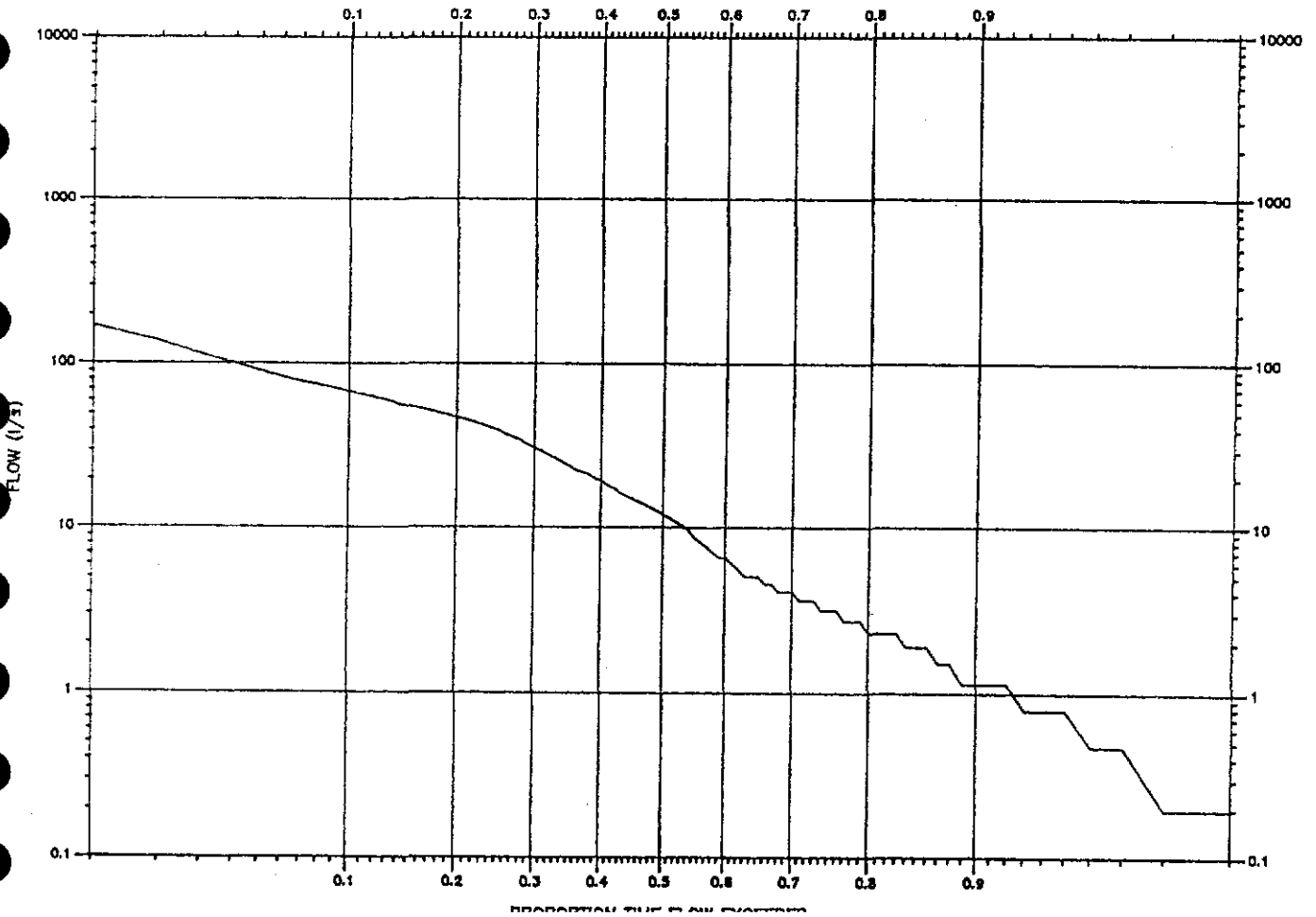
FLOW DURATION CURVE, CI3

*Handwritten signature*

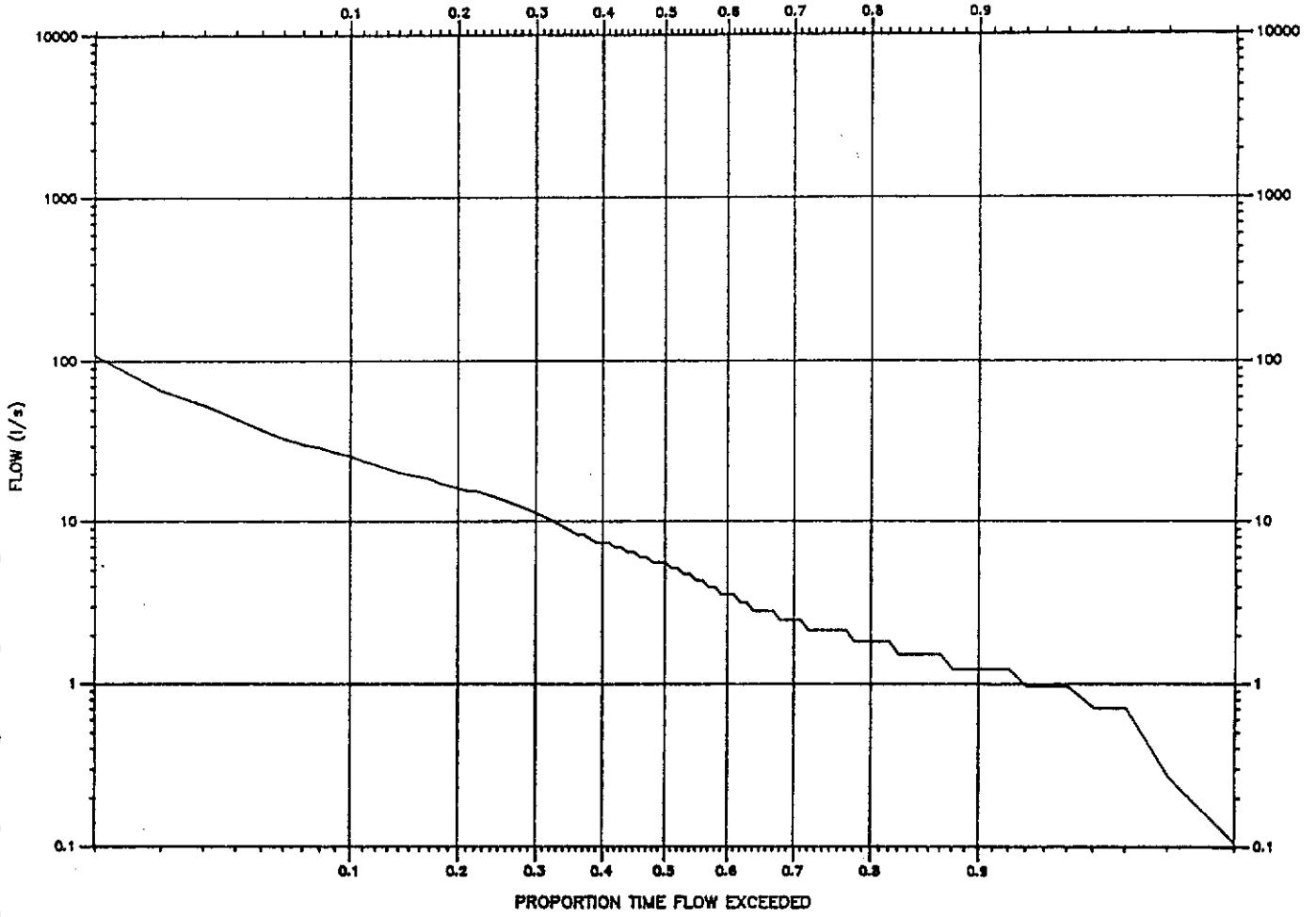


FLOW DURATION CURVE, CI4

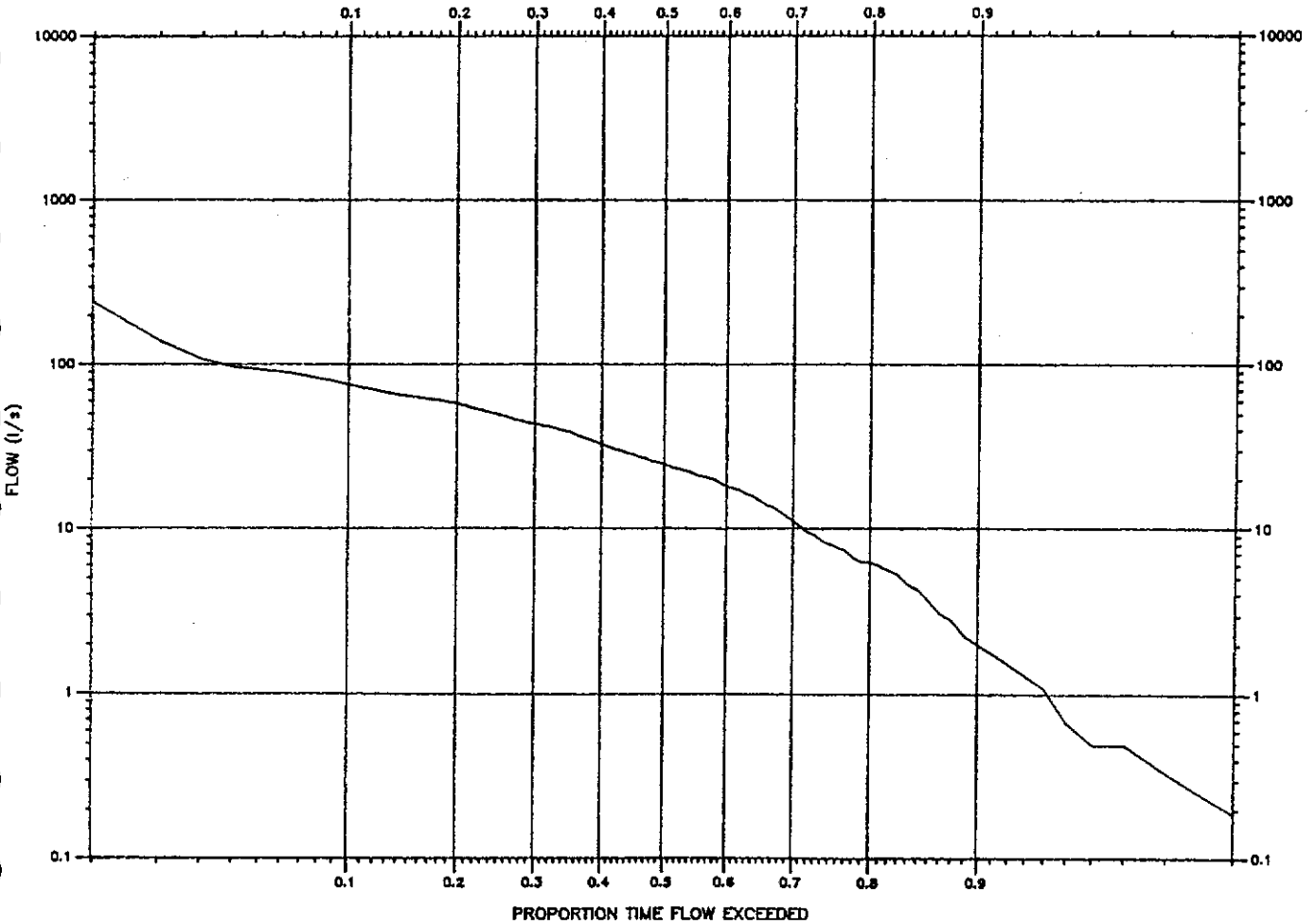
*Handwritten signature*



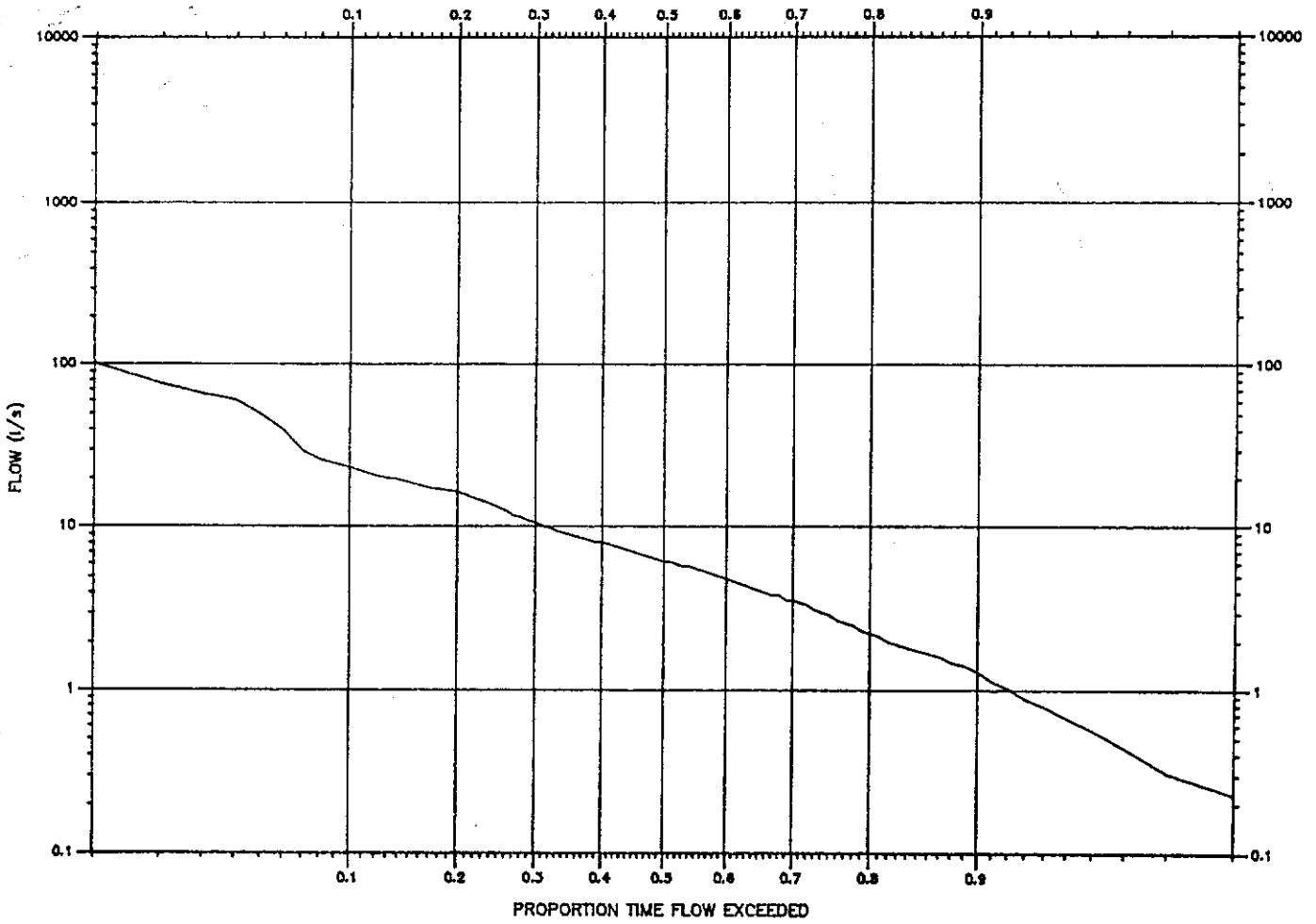
FLOW DURATION CURVE, C15



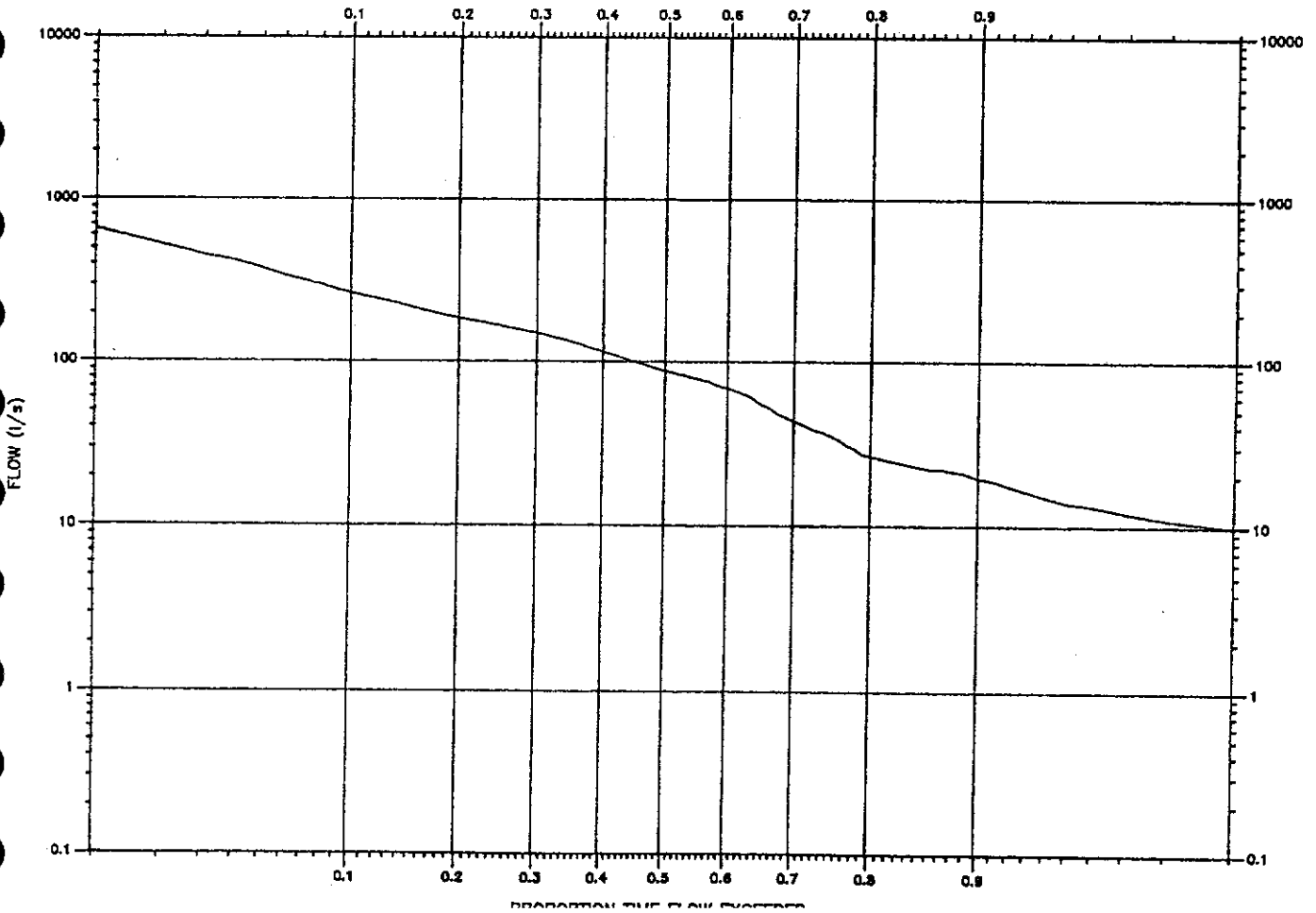
FLOW DURATION CURVE, C16



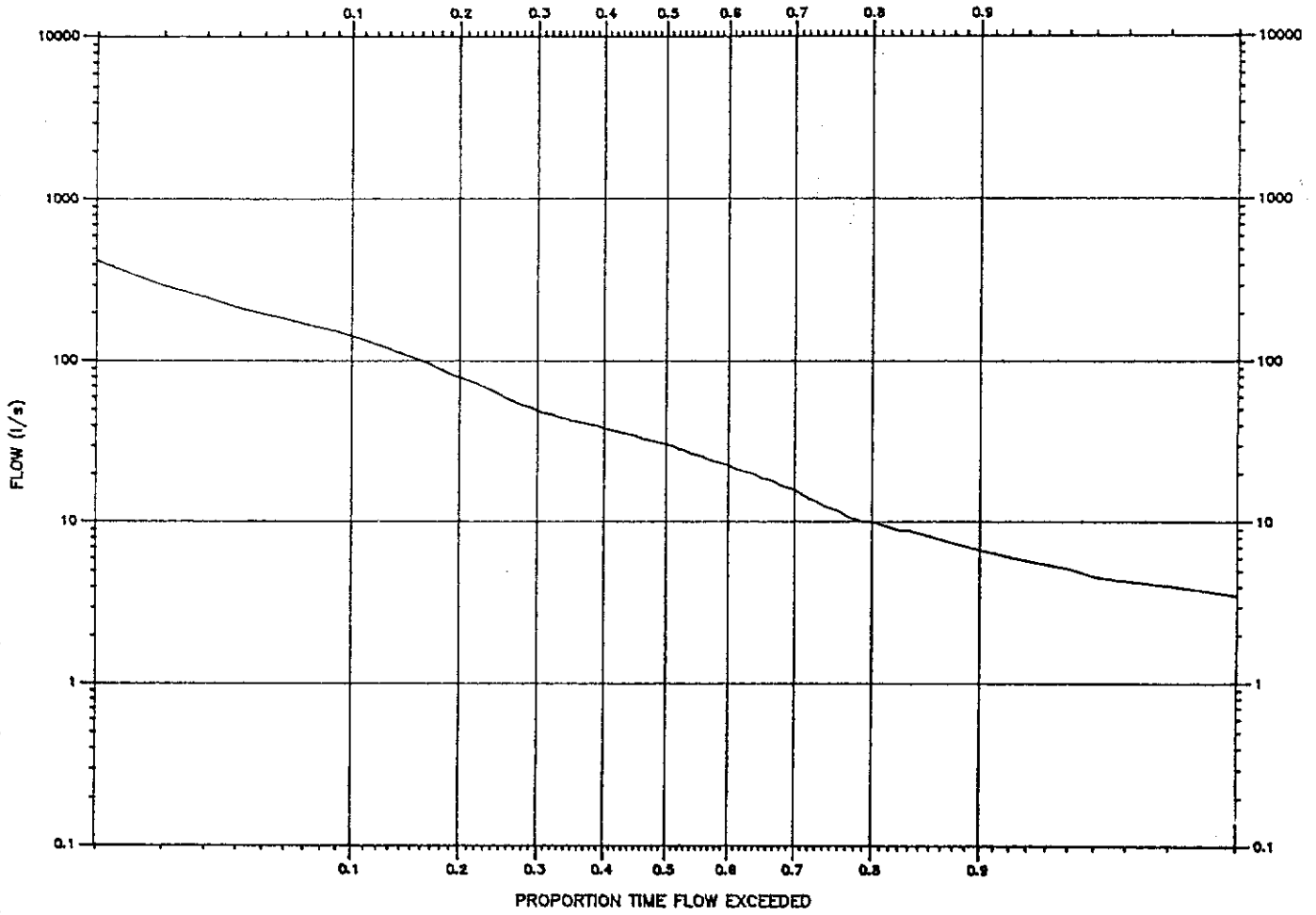
FLOW DURATION CURVE, G11



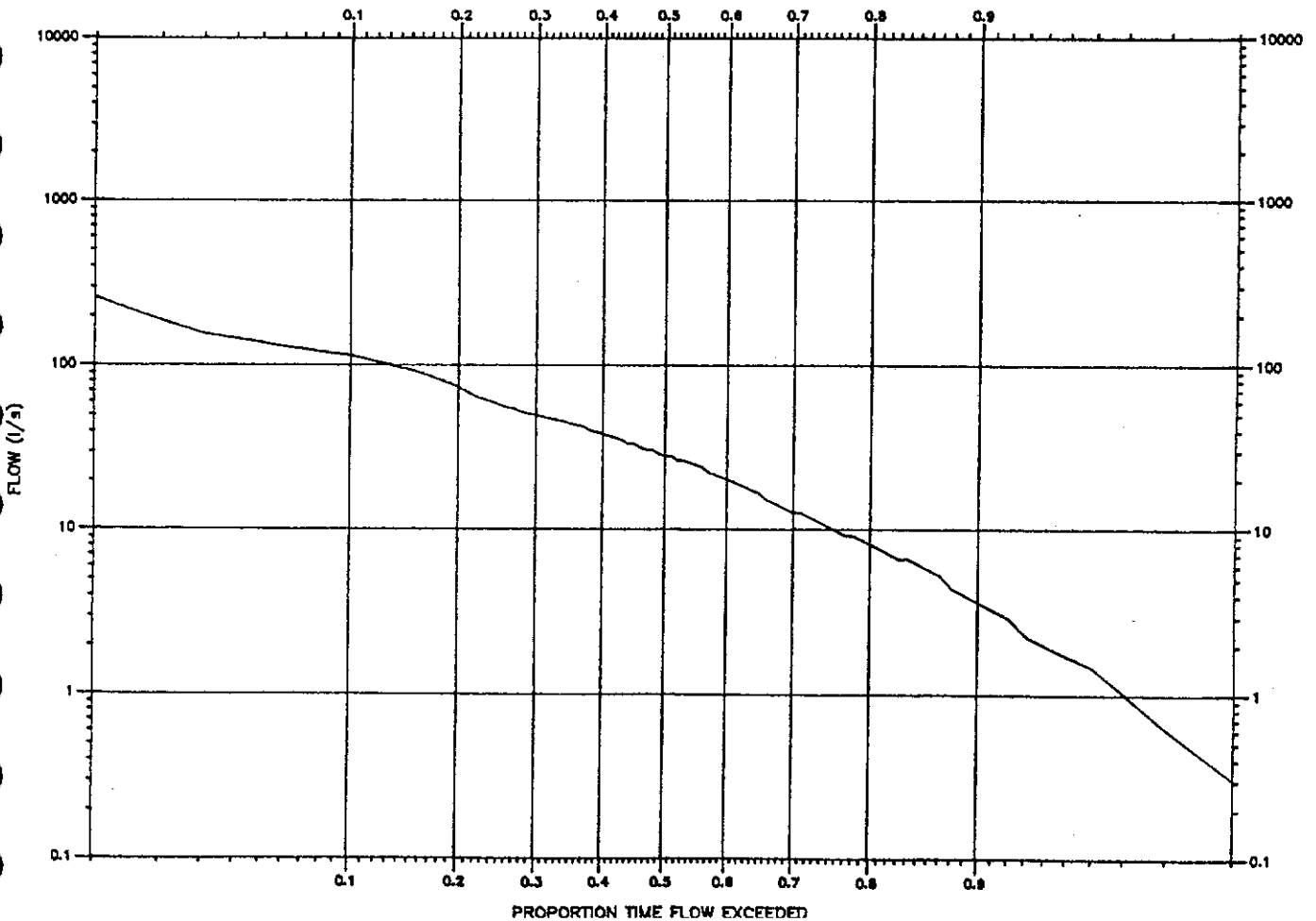
FLOW DURATION CURVE, L11



FLOW DURATION CURVE, LI2



FLOW DURATION CURVE, LI3



FLOW DURATION CURVE, LIB

