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Authors

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Bodvarsson, G S

Laky, C

et al.

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1989-08-01

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Lawrence Berkeley Laboratory

UNIVERSITY OF CALIFORNIA

EARTH SCIENCES DIVISION

The Ahuachapán Geothermal Field, El Salvador—Reservoir Analysis

Volume III: Appendices F through I

Z. Aunzo, G.S. Bodvarsson, C. Laky, M.J. Lippmann,
B. Steingrimsson, A.H. Truesdell, and P.A. Witherspoon

August 1989



1 LOAN COPY 1
1 CIRCULATES 1
1 FOR 2 WEEKS 1

Bldg. 50 Library. Copy 2

LBL-26612 3/3

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**The Ahuachapán Geothermal Field, El Salvador
— Reservoir Analysis —**

Volume III: Appendices F through I

by

Z. Aunzo, G. S. Bodvarsson,* C. Laky,* M. J. Lippmann,* B. Steingrímsson,†
A. H. Truesdell,‡ and P. A. Witherspoon**

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Lawrence Berkeley Laboratory
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Berkeley, California 94720

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108 Reykjavik, Iceland

‡U.S. Geological Survey
345 Middlefield Road
Menlo Park, California 94025

Principal Investigators

Gudmundur S. Bodvarsson and Marcelo J. Lippmann

prepared for

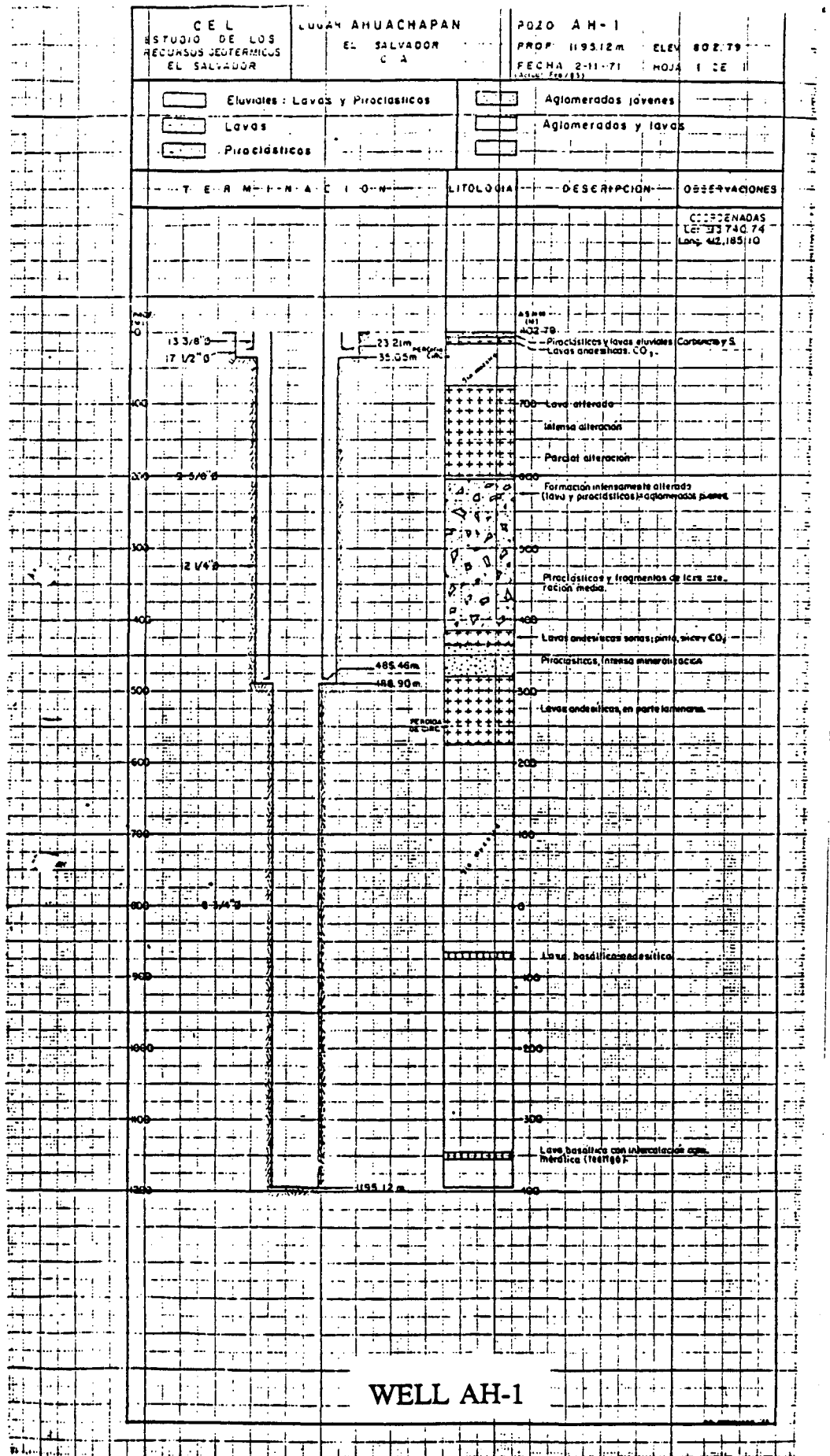
Earth and Space Science Division
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

August 1989

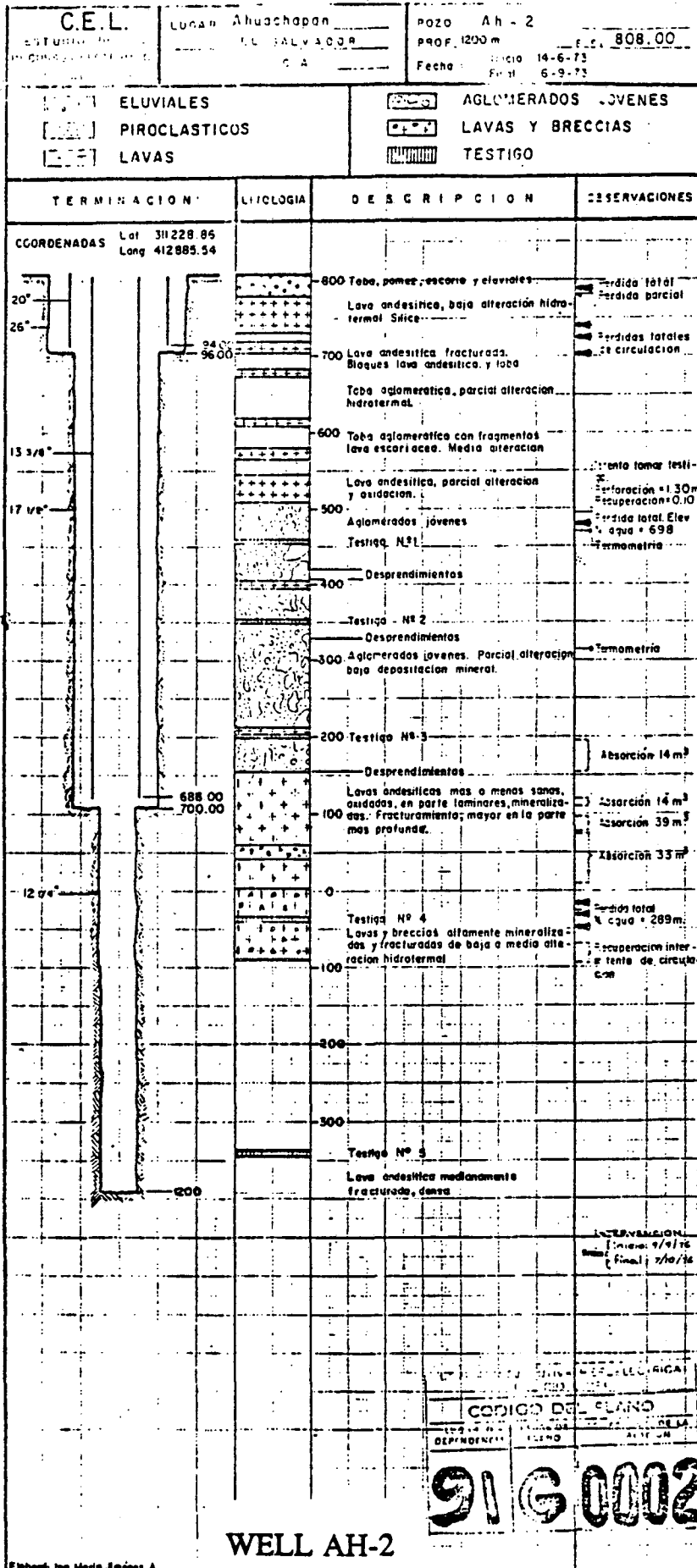
This work was supported by USAID through a subcontract from LANL and through US Department of Energy Contract No. DE-AC03-76SF00098.

APPENDIX F

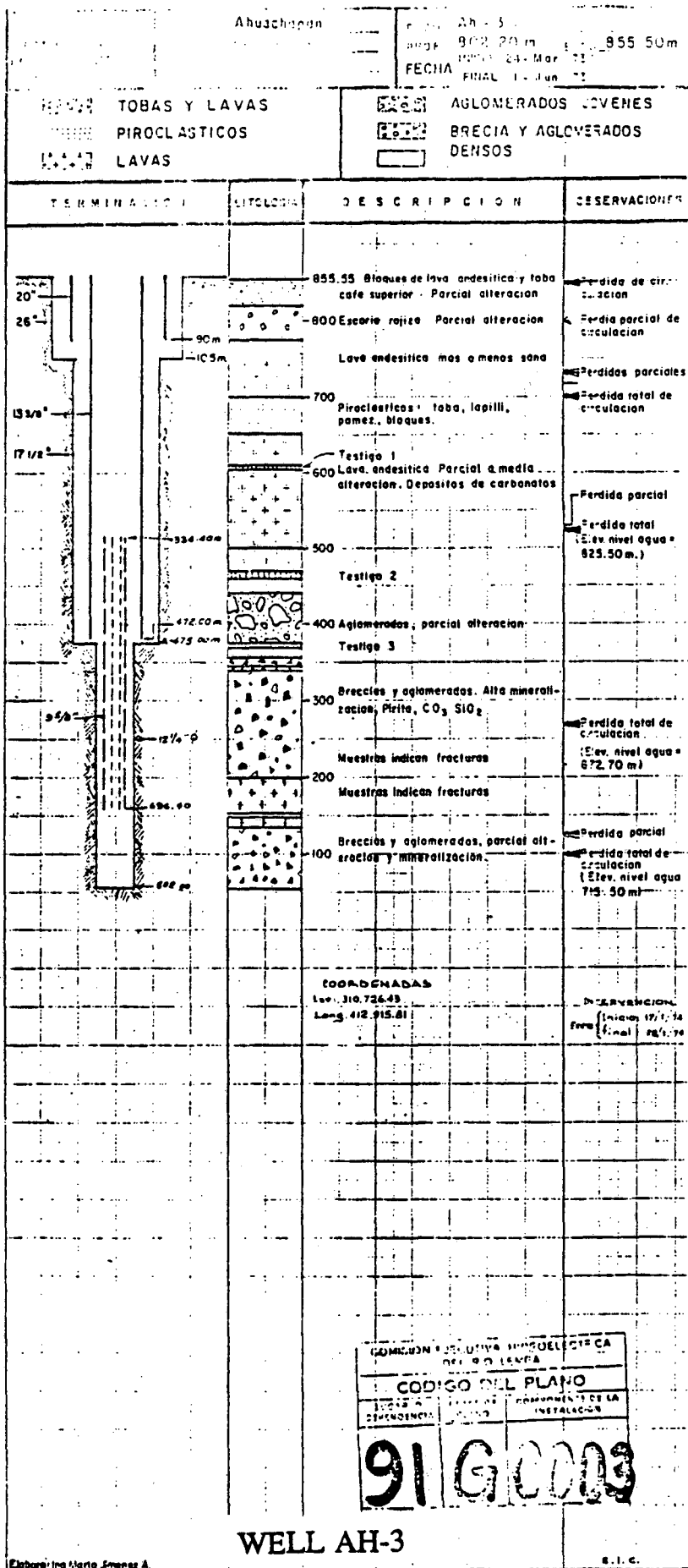
(Well Lithology Logs)



WELL AH-1



Elaborado por: Mario Jiménez A.

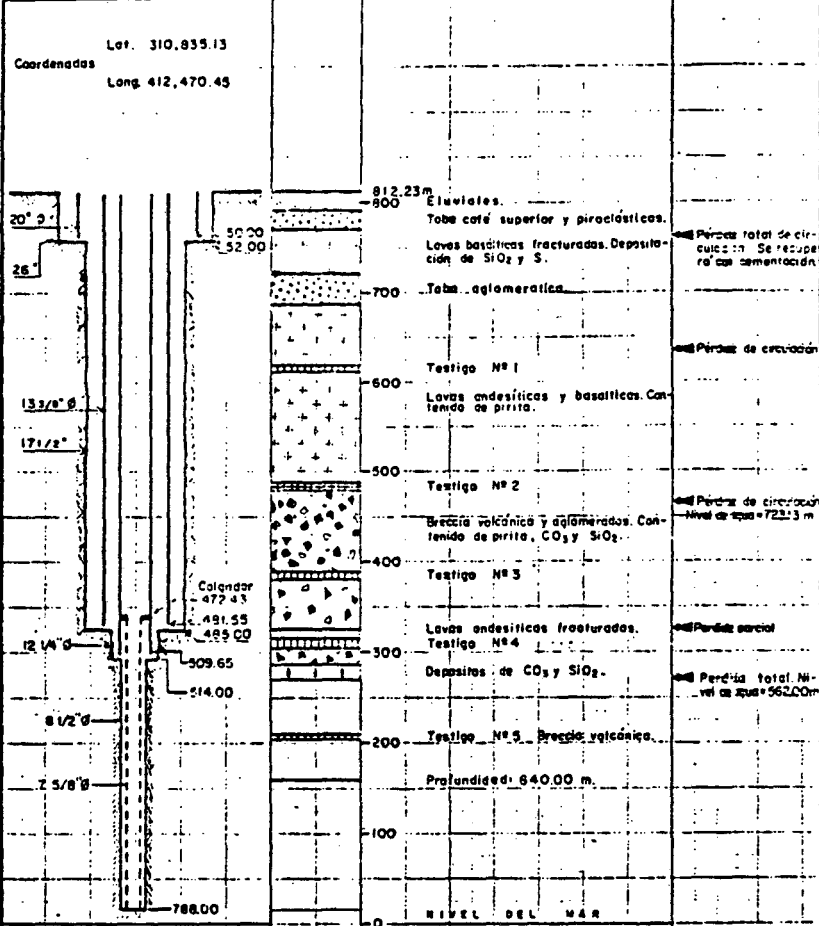


AHUACHAPAN

PROY. 788.000 m. E. 2.23 m.
 INICIO: 1972
 FECHA FINAL: 1972 HORA DE 1

| | | | |
|--|----------------------------|--|-------------------------|
| | Eluviales. | | Toba Aglomeratica. |
| | Toba Cafe y Piroclásticos. | | Breccias y Aglomerados. |
| | Lavas. | | Testigo. |

| TERMINACION | LITOLOGIA | DESCRIPCION | OBSERVACIONES |
|-------------|-----------|-------------|---------------|
|-------------|-----------|-------------|---------------|

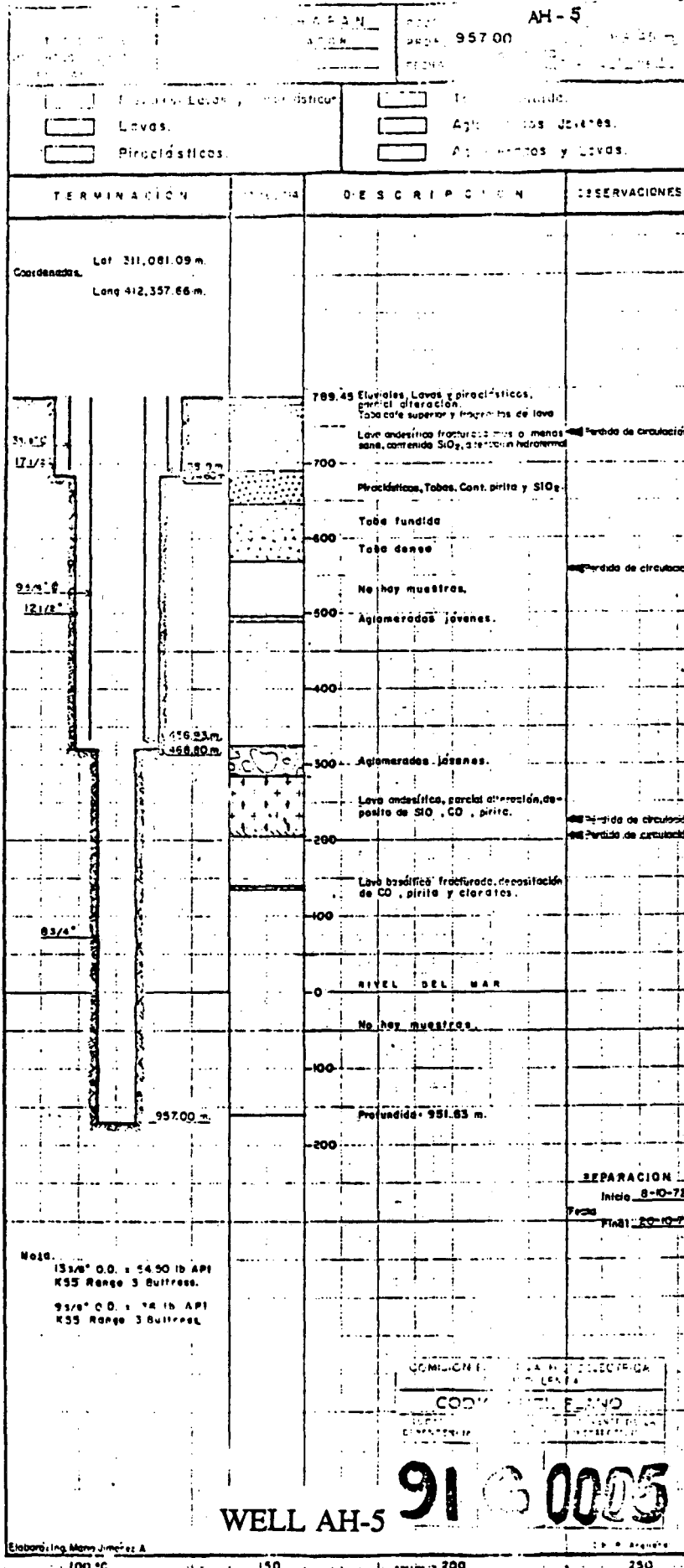


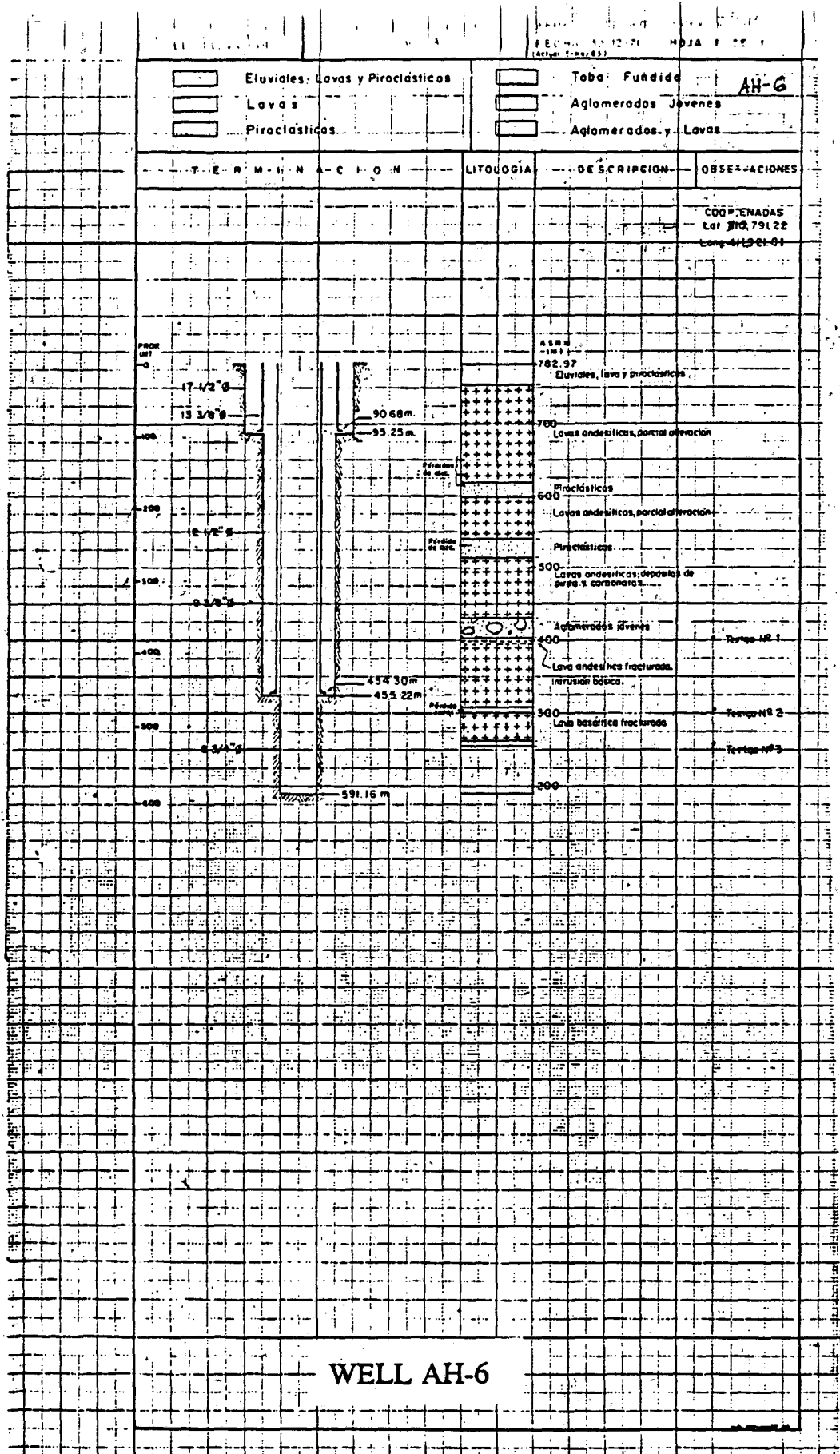
| | | | |
|-----|--|--|--|
| 100 | | | |
| 200 | | | |
| 300 | | | |
| 400 | | | |
| 500 | | | |
| 600 | | | |
| 700 | | | |
| 800 | | | |

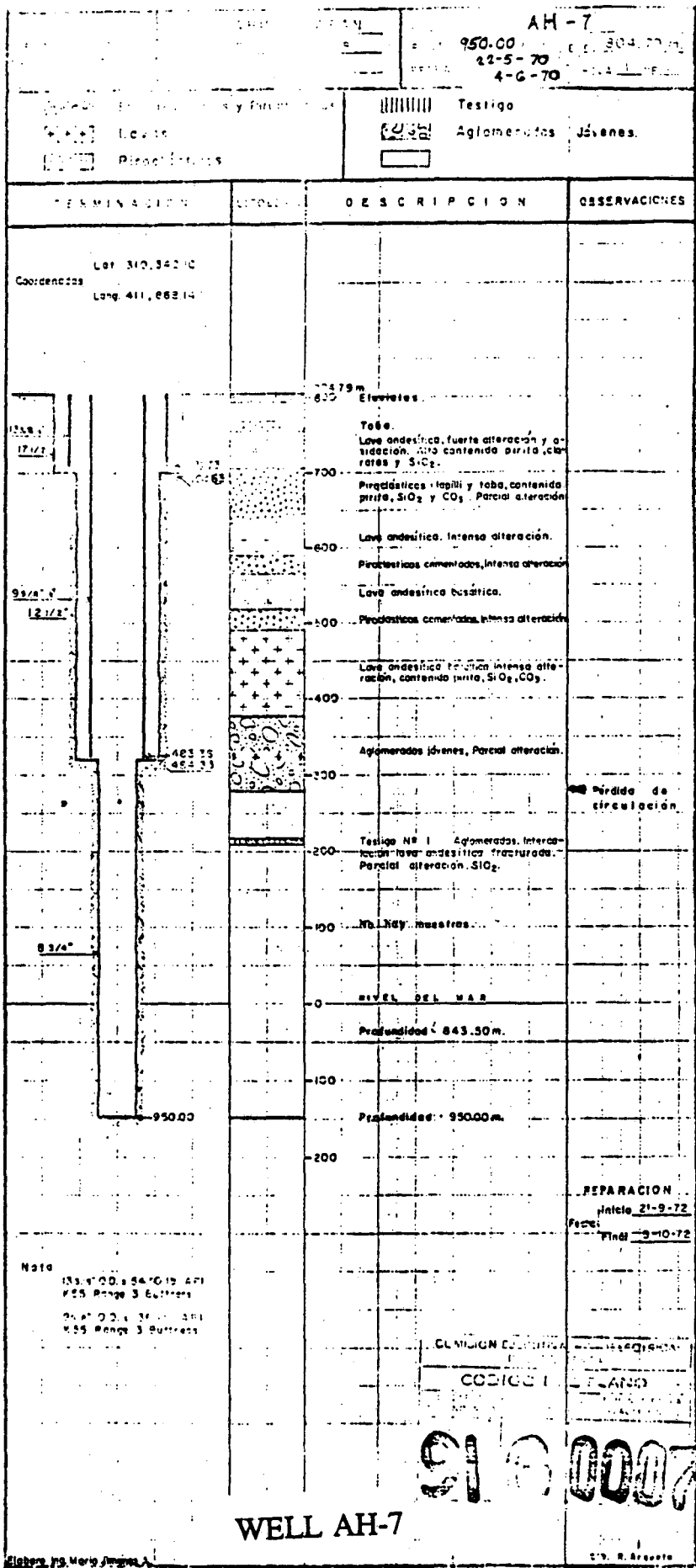
Note.
 20" O.D. x 94 lb. API
 T8C Range 3 Buttress.
 13 3/8" O.D. x 54 50 lb API
 K55 Range 3 Buttress.

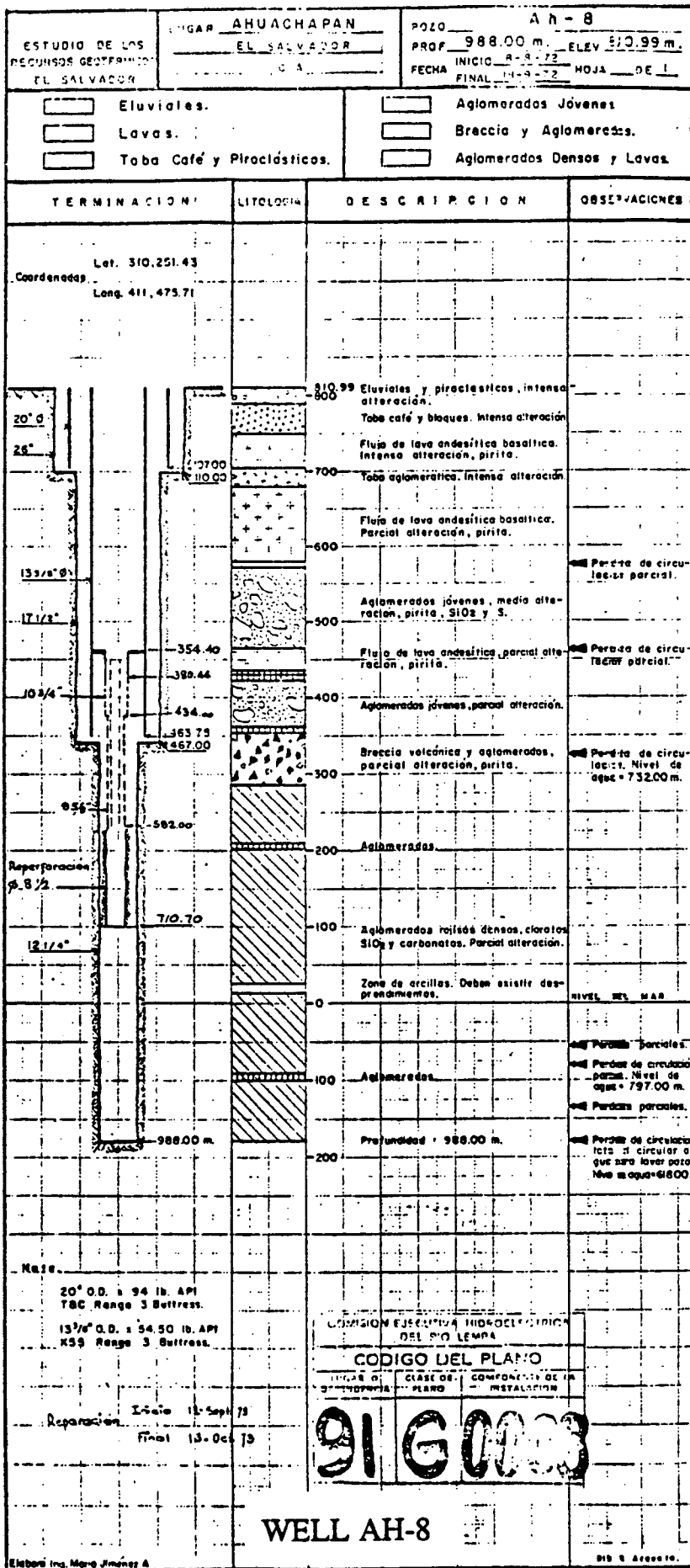
916 0000

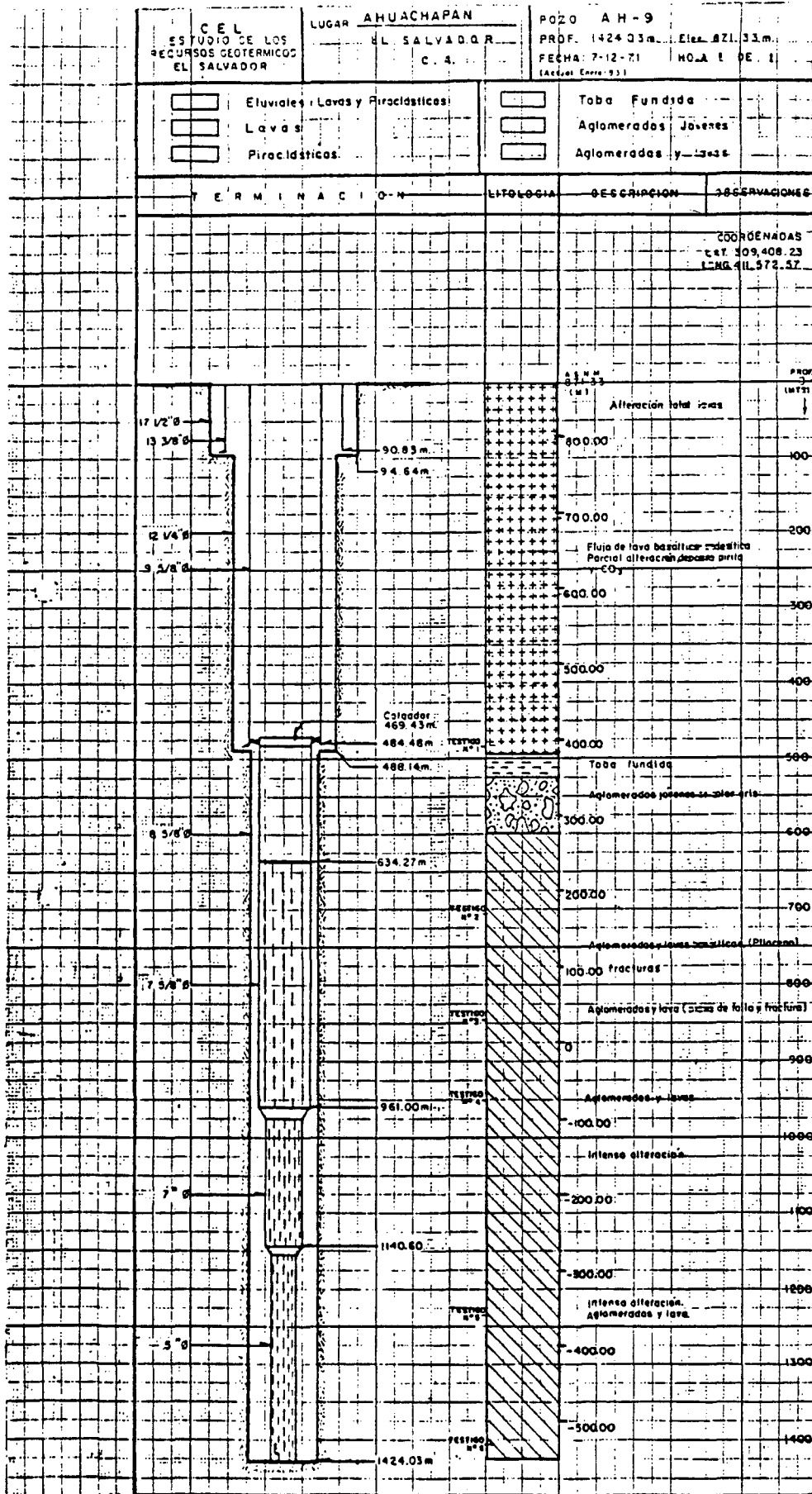
WELL AH-4



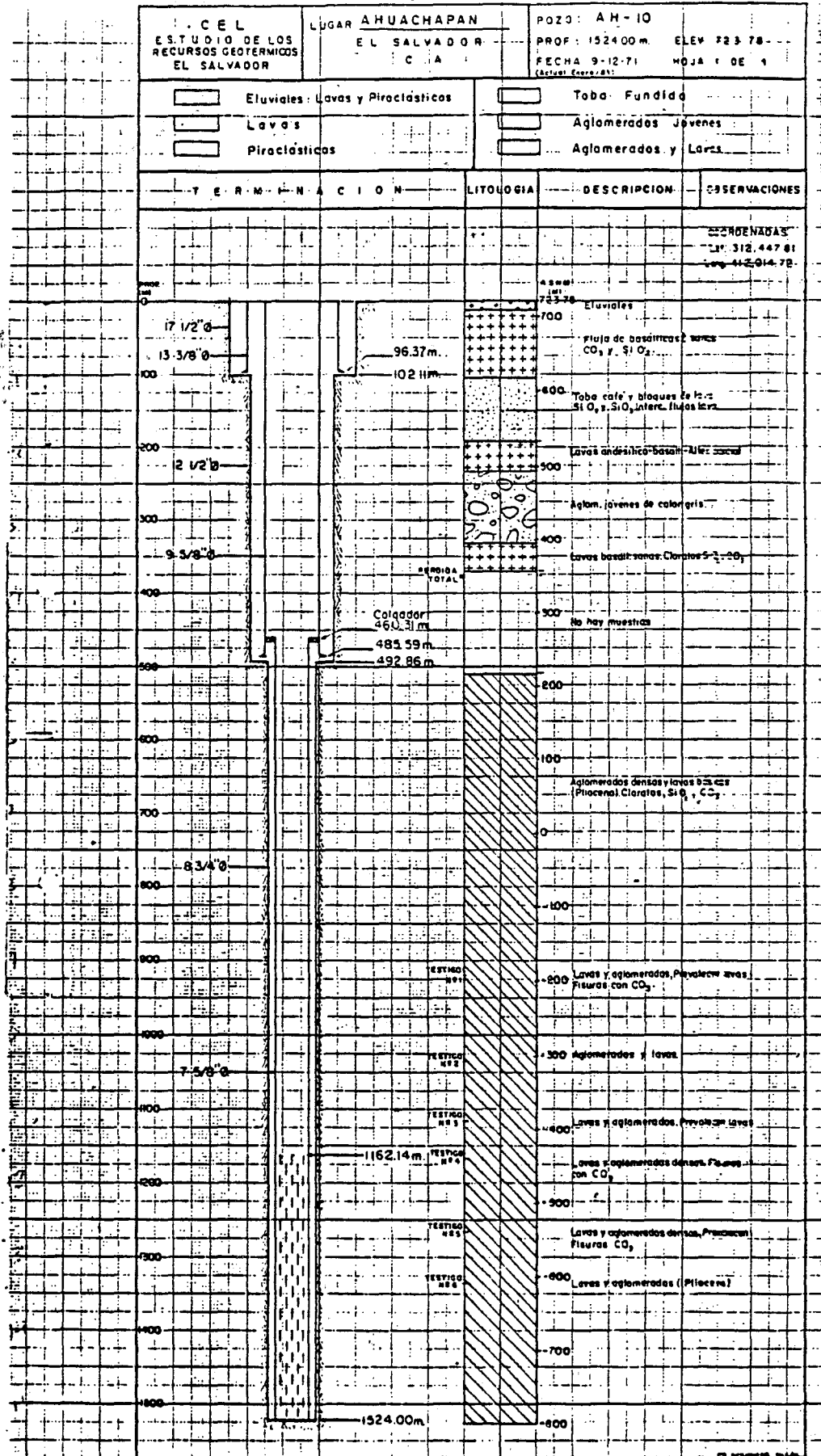




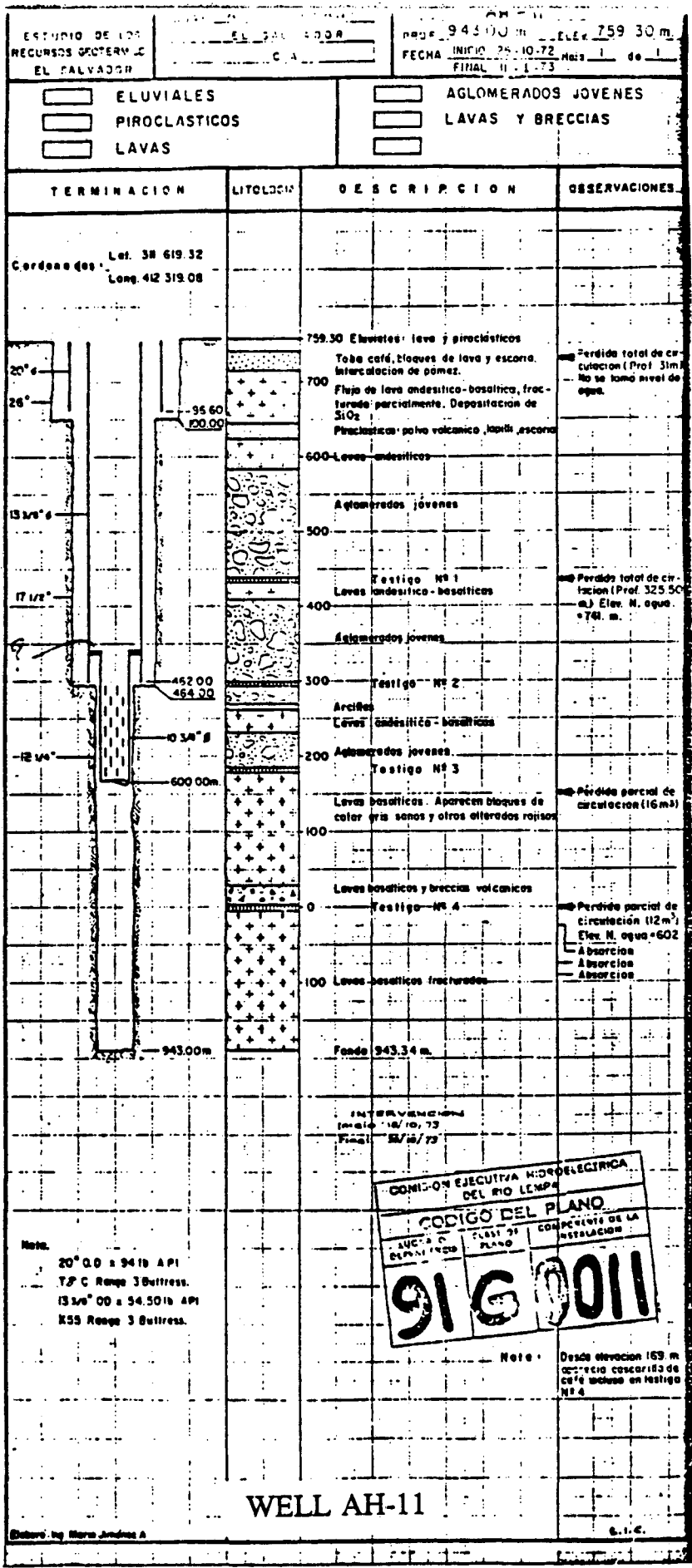




WELL AH-9



WELL AH-10



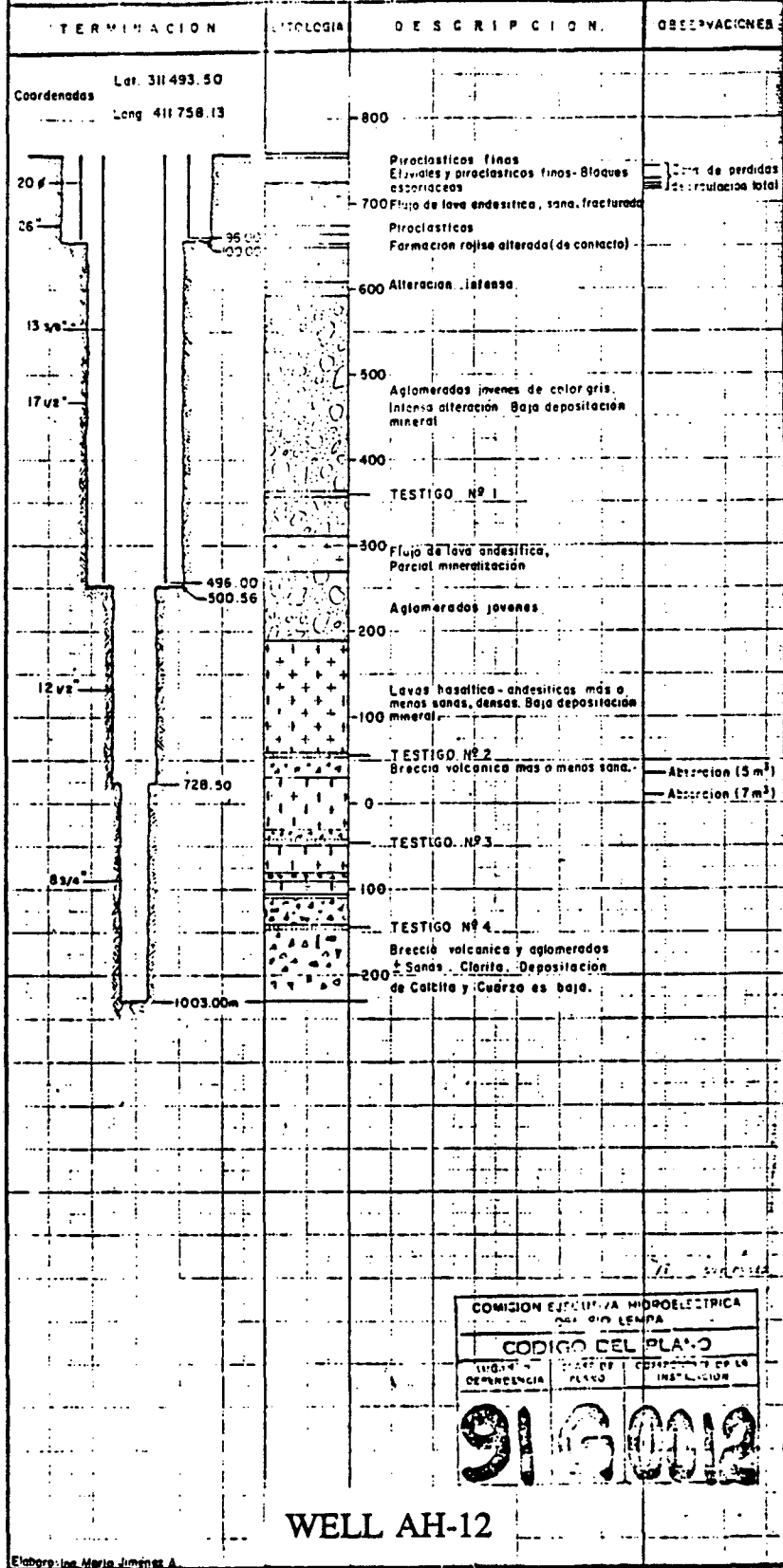
WELL AH-11

Elaborado por: Marco Antonio A.

G. I. C.

C. E. L. E. AH-12
 RECURSOS GEOLÓGICOS 1003 m. ELEV. 758.80
 EL 1973 INICIO: 1º Ene 73
FINAL: 1º Mar 73

- | | | | |
|--|--------------------------------|--|---------------------|
| | Piroclásticos | | Aglomeradas Jóvenes |
| | Eluvijs | | Breccia volcanica |
| | Lavas Andesíticas y Basálticos | | |

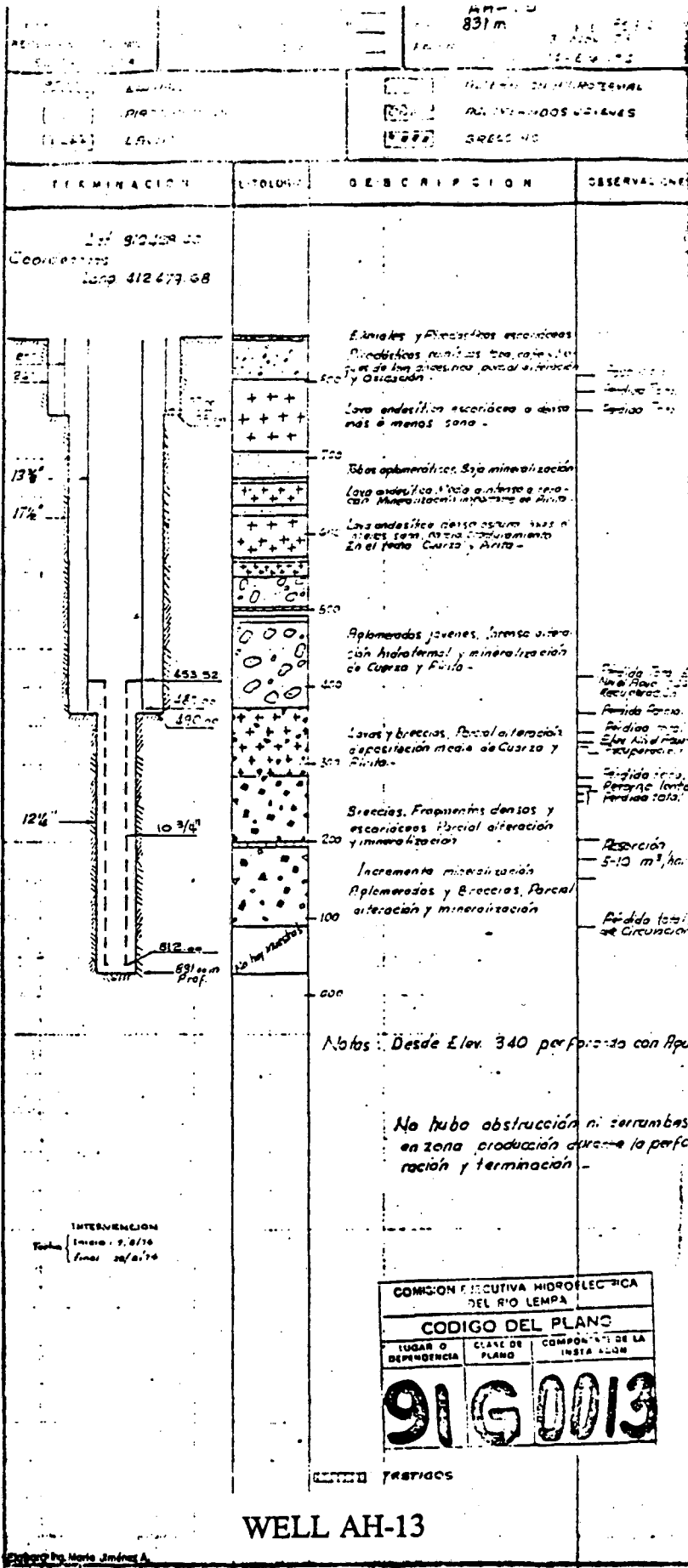


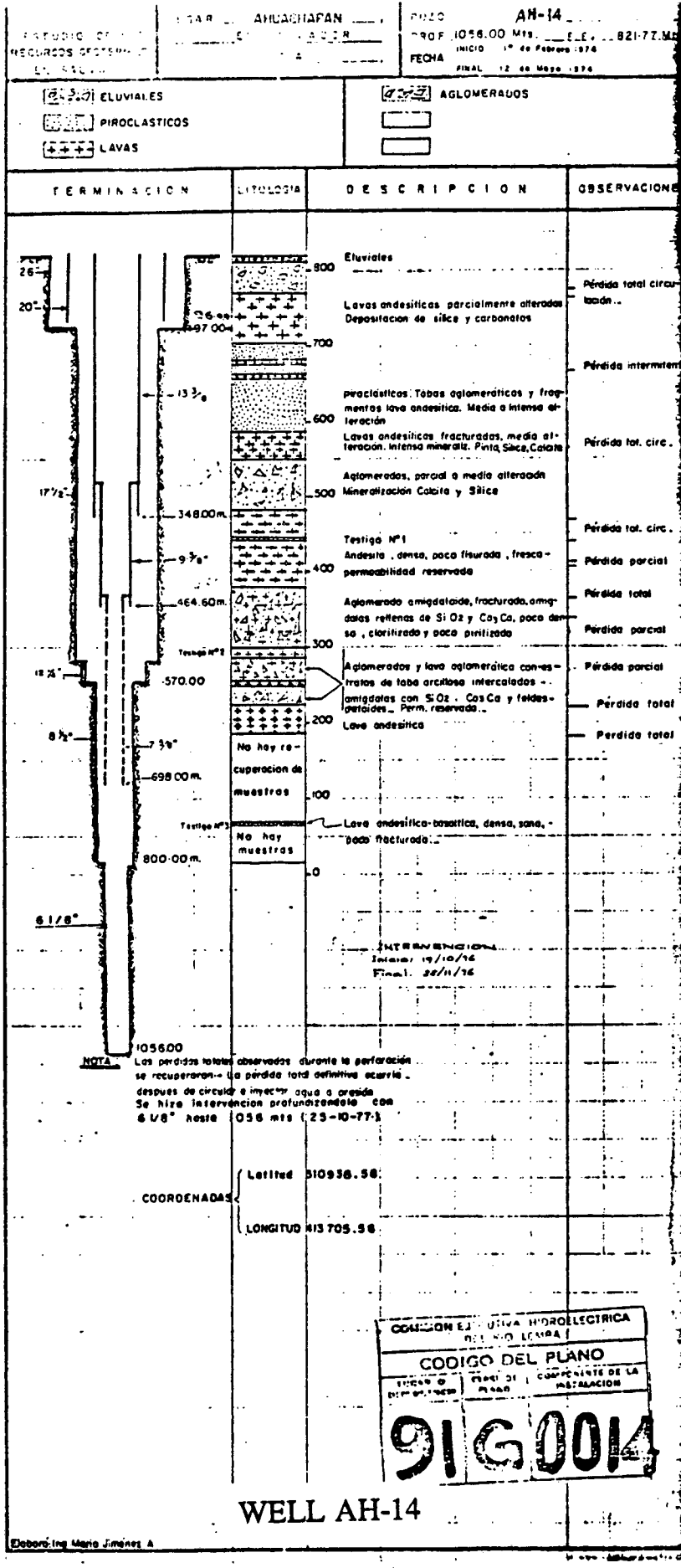
COMISION EJECUTIVA HIDROELECTRICA
 DEL RIO Lempa
CODIGO DEL PLANO
 INSTITUCION DE LA
 INSPECCION

9160012

WELL AH-12

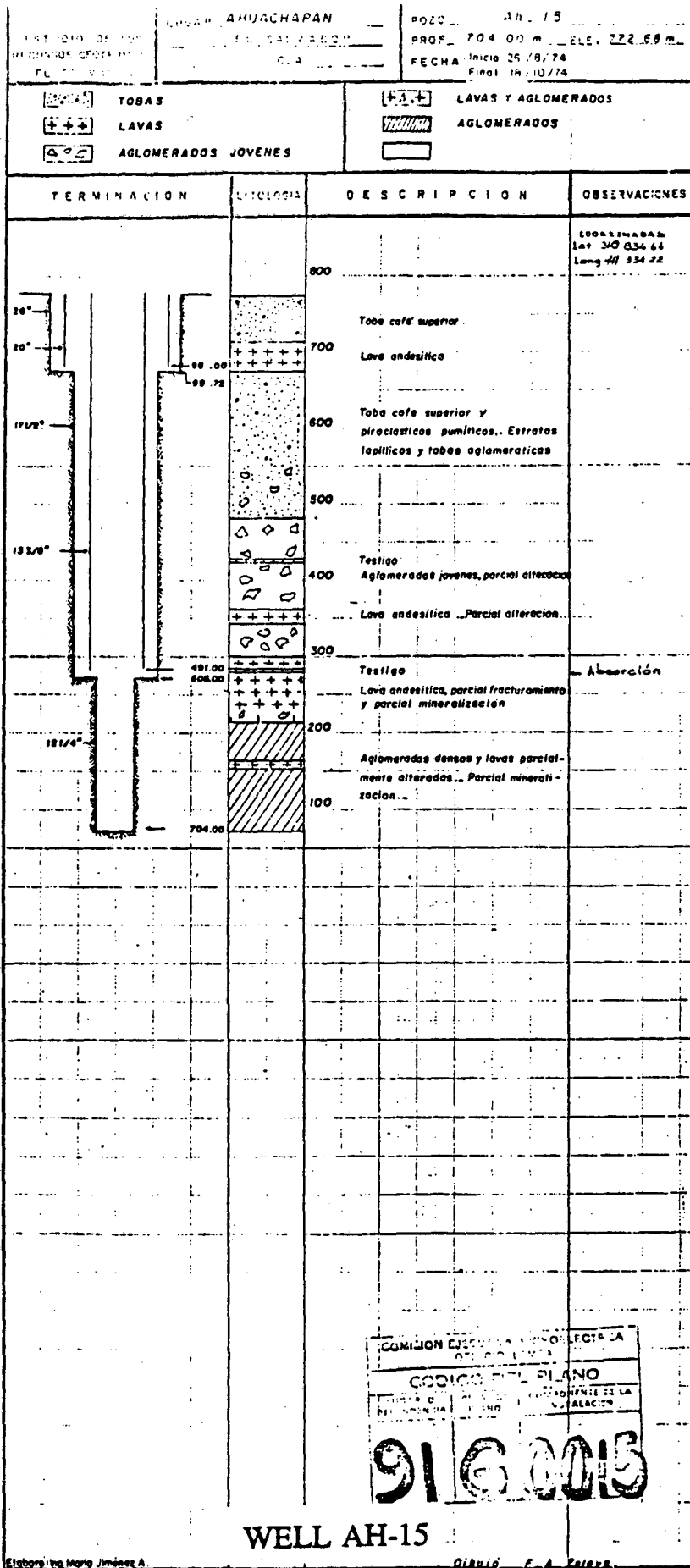
Elaborado por: Maria Jimenez A.

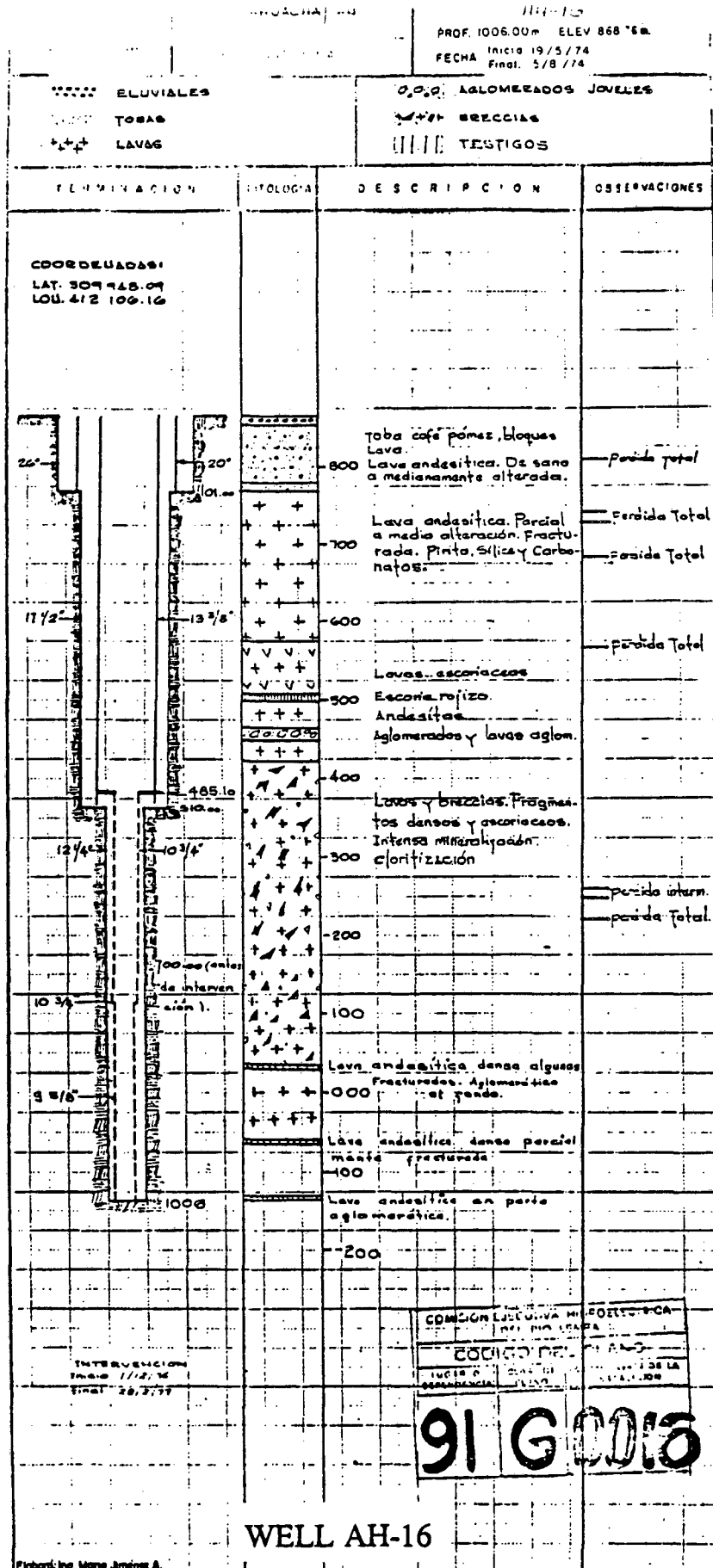


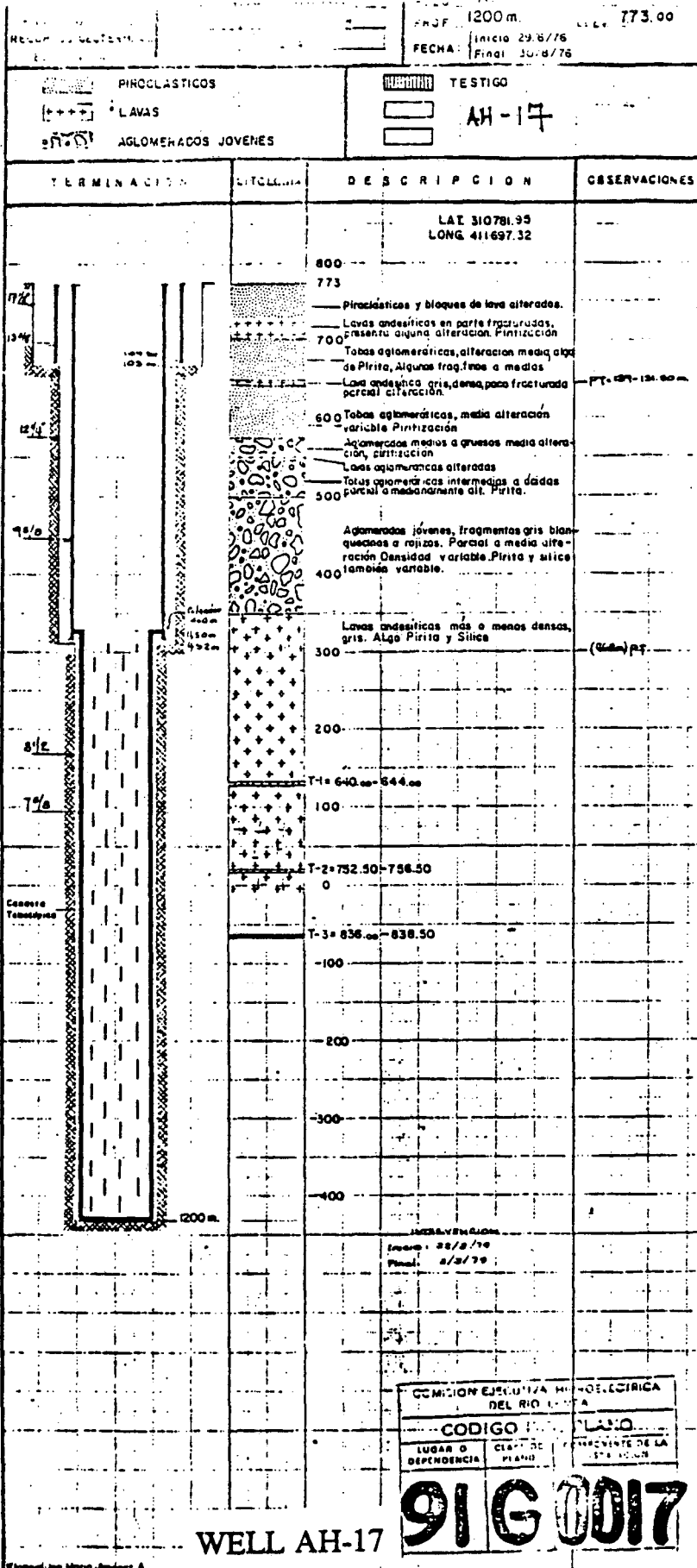


COMISION EJECUTIVA HIDROELECTRICA DEL NO. LONRA
 CODIGO DEL PLANO
 TIPO DE PLANO DE COMPONENTE DE LA INSTALACION
 91G0014

WELL AH-14



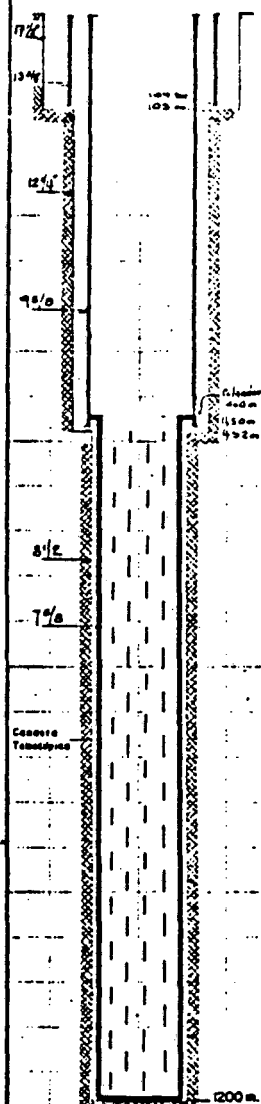




PROF. 1200 m. COT. 773.00
FECHA: Inicio 29/8/76 Final 30/8/76

PIROCLASTICOS
LAVAS
AGLOMERADOS JOVENES

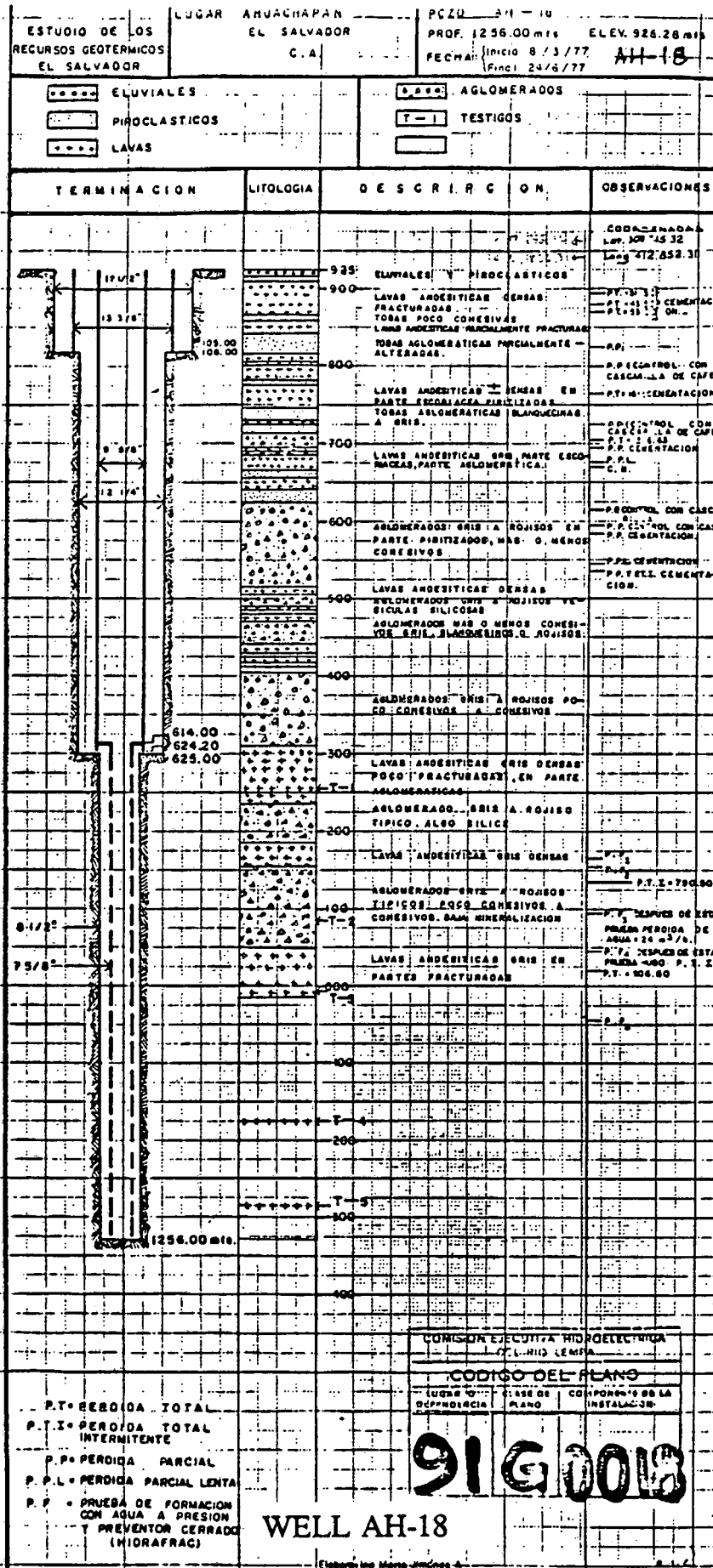
TESTIGO
AH-17



INVESTIGACION
Inicio: 28/8/76
Final: 8/9/76

| | |
|--|----------------|
| COMISION EJECUTIVA HIDROELECTRICA DEL RIO LATA | |
| CODIGO | PLANO |
| LUGAR O DEPENDENCIA | CLASE DE PLANO |

WELL AH-17 **91G0017**



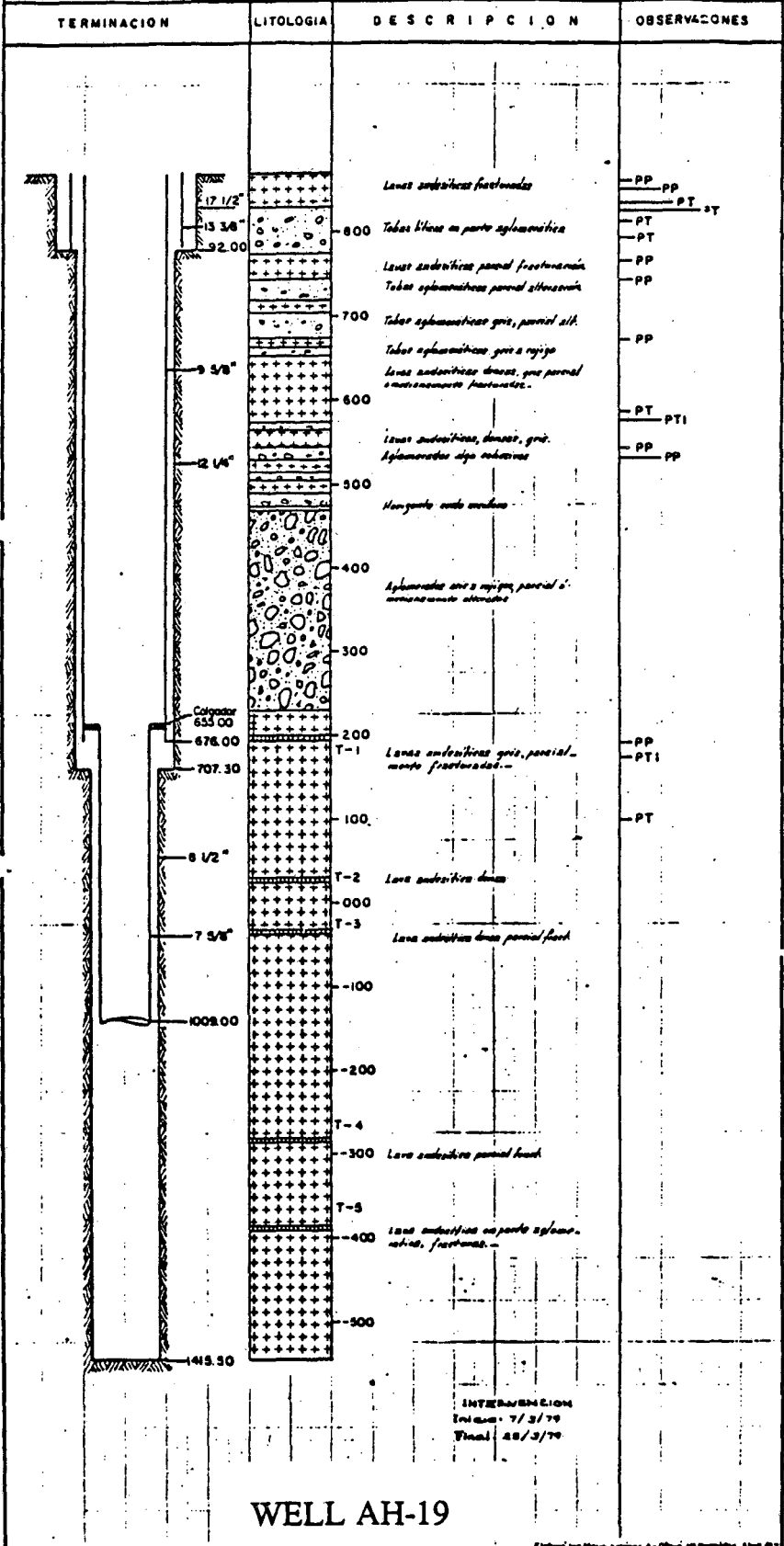
EL SALVADOR

LONG. 812.759 49

PROF. 1415.50 M. ELEV. 873.30 M.
 FECHA DE INICIO 20/10/77
 TERMINACION 28/2/78

| | | | |
|--|---------------------|--|--|
| | PIROCLÁSTICOS | | AGLOMERADOS |
| | TOBAS AGLOMERÁTICAS | | TESTIGO |
| | LAVAS | | PERDIDA DE CIRCULACION PARCIAL O TOTAL |

AH-19



INTERVENCIÓN
 Inicio 7/3/77
 Final 28/2/78

WELL AH-19

| ESTUDIO DE LOS RECURSOS NEUMATICOS | | LUGAR: <u>AMURMADAN</u> EL SALVADOR CA | POZO: <u>AH-20</u> PROF: <u>850.00m</u> (LEV: <u>272.83m</u>) |
|--|-----------|--|---|
| [] <i>Araolíticos</i> [] <i>Levas</i> [] <i>Aglomerados jóvenes</i> | | | |
| TERMINACION | LITOLOGIA | DESCRIPCION | OBSERVACIONES |
| COORDENADAS: Lot: <u>310986.62</u> Long: <u>512.087.67</u> | | | |
| Profundidad: <u>Inicio 20-10-76</u> <u>Fin 20-12-76</u> | | | |
| 26 | | <i>Eluvios y piroclásticos</i> | |
| 20 | | <i>Levas andesíticas</i> | <i>Marcas</i> <i>Marcas</i> |
| 175 | | <i>Tobos, y tobas aglomeráticas. Parcial a media alteración</i> | |
| 155 | | <i>Levas andesíticas</i> | |
| 135 | | <i>Tobos y tobas aglomeráticas. Parcial a media alteración. Mezcla de Dinta, Círcos, y carbonatos.</i> | |
| 115 | | <i>Aglomerados jóvenes, parcial alteración y mineralización</i> | |
| 95 | | <i>Levas andesíticas</i> | <i>Medida de 5m</i> |
| 75 | | <i>Levas andesíticas fracturadas</i> | |
| 55 | | <i>Levas andesíticas fracturadas</i> | |
| 35 | | | |
| 15 | | | |
| 0 | | | |
| Profundidad: <u>Inicio 27-9-78</u> <u>Fin 2-6-80</u> | | | |
| | | COMISION EJECUTIVA DE RECERCA | INSTITUTO NACIONAL DE GEOLÓGICA |
| | | CODIGO DEL POZO | CLASIFICACION DEL POZO |
| 9160019 | | | |
| WELL AH-20 | | | |

AH-21

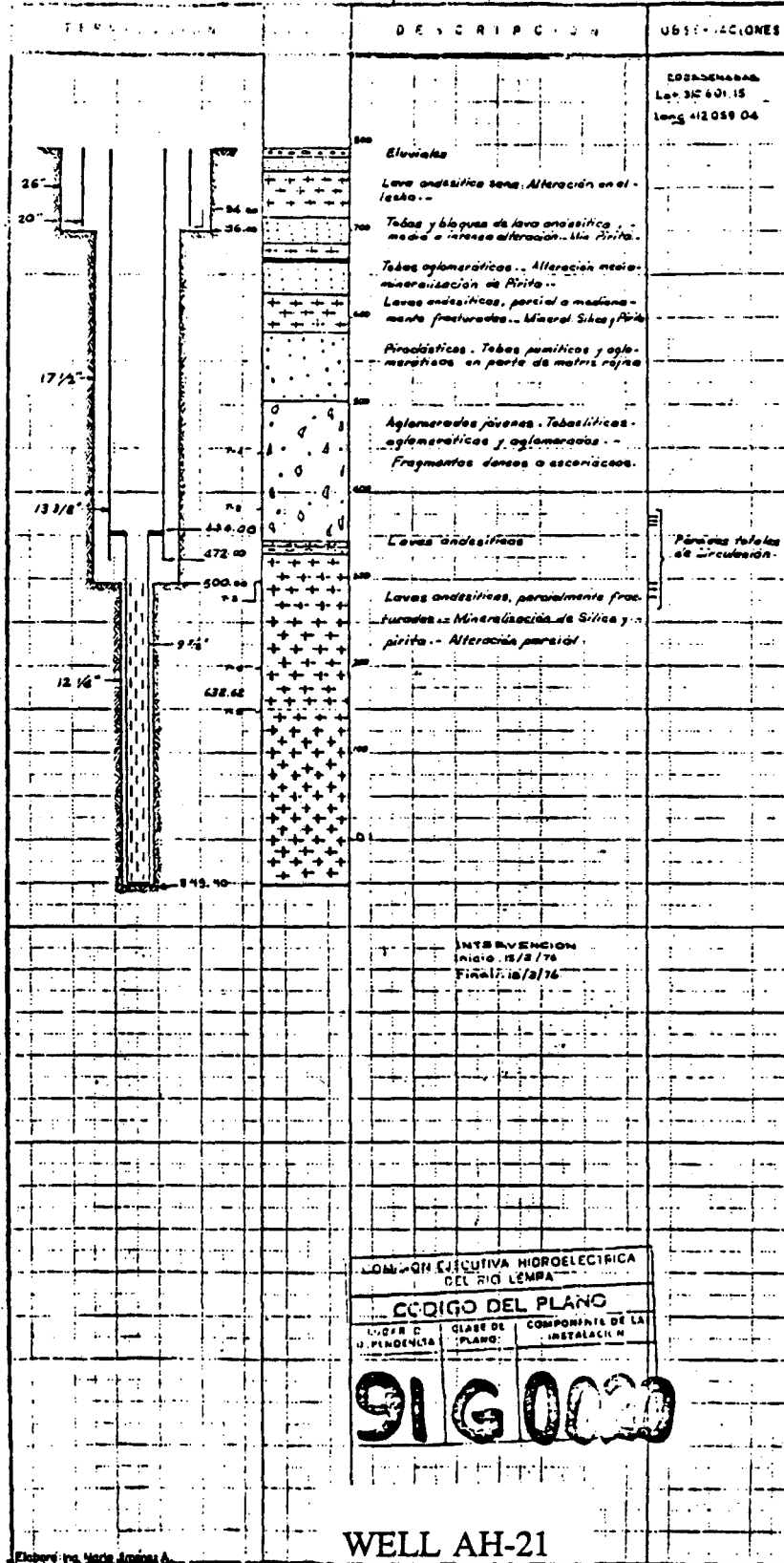
843.40

733.00

Eluviales
Proclásticas
Lavas

Suelo
Testigo

AH-21



659 50

842.00

Dir. Geol. y Min. Dir. Geol. y Min. Dir. Geol. y Min.
Lava Lava
Aglomerados arenos

No hay muestras
Testigo AH-22
Aglomerados densos

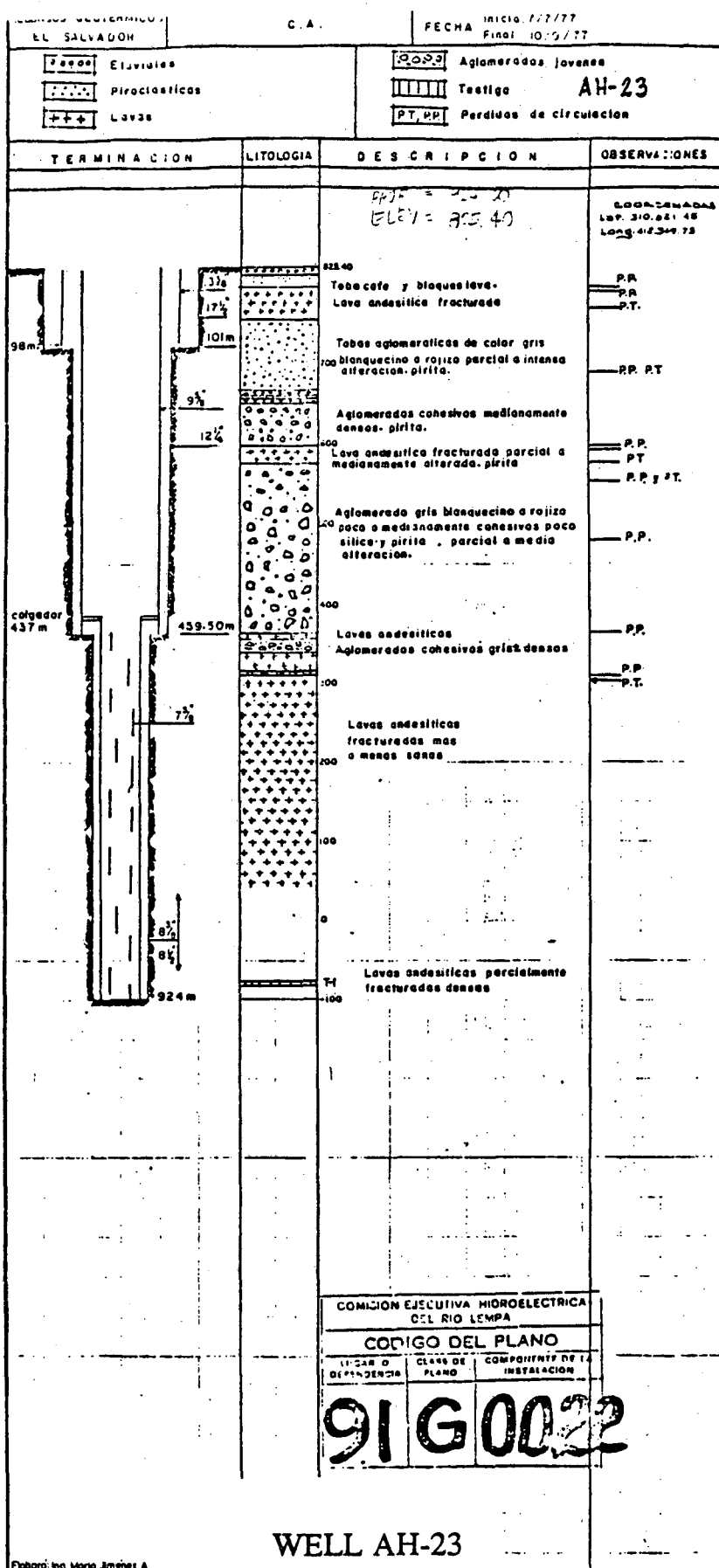
| PROFUNDIDAD | DESCRIPCION | OBSERVACIONES |
|---|---|-----------------|
| Coordenadas { Lat. 31642.21 Long. 32553.65 | | |
| 17' 13" | Tabas café y bloques Lava andesítica sana. | Parcial total |
| 39.50 53.00 | Lava andesítica escoriada. Café rajada sana. | Parcial |
| 700 | Tabas aglomeradas, más o menos alteradas. Lavas andesíticas fracturadas. Parcial a media alteración. Part. S. Salcila. | Parcial |
| 600 | Lavas andesíticas, gris banas, no fracturadas. | Parcial parcial |
| 500 | Aglomerados y tabas aglomeradas, partículas grises y rajadas. Baje mineralización. | Parcial parcial |
| 400 | Testigo N° 1 | Parcial parcial |
| 300 | Lavas andesíticas fracturadas parcial alteración. | Parcial total |
| 200 | Aglomerados densos y lavas Lava andesítica fracturada con intercalación aglomerática. | |
| 100 | | |

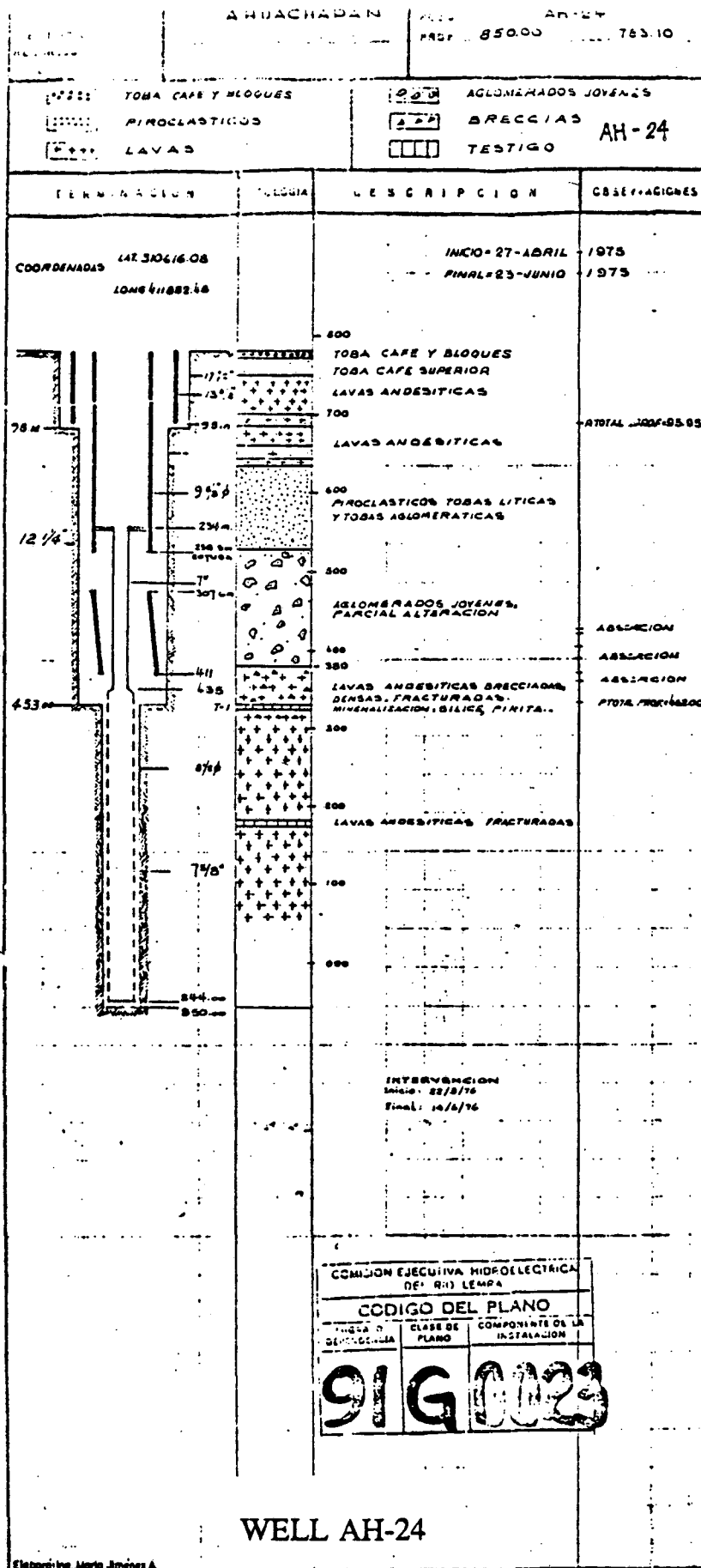
COMISION EJECUTIVA HIDROELECTRICA DEL RIO LEMMA
CODIGO DEL PLANO
LUGAR O DEPENDENCIA CLASE DE PLANO COMPONENTE DE INTERACCION

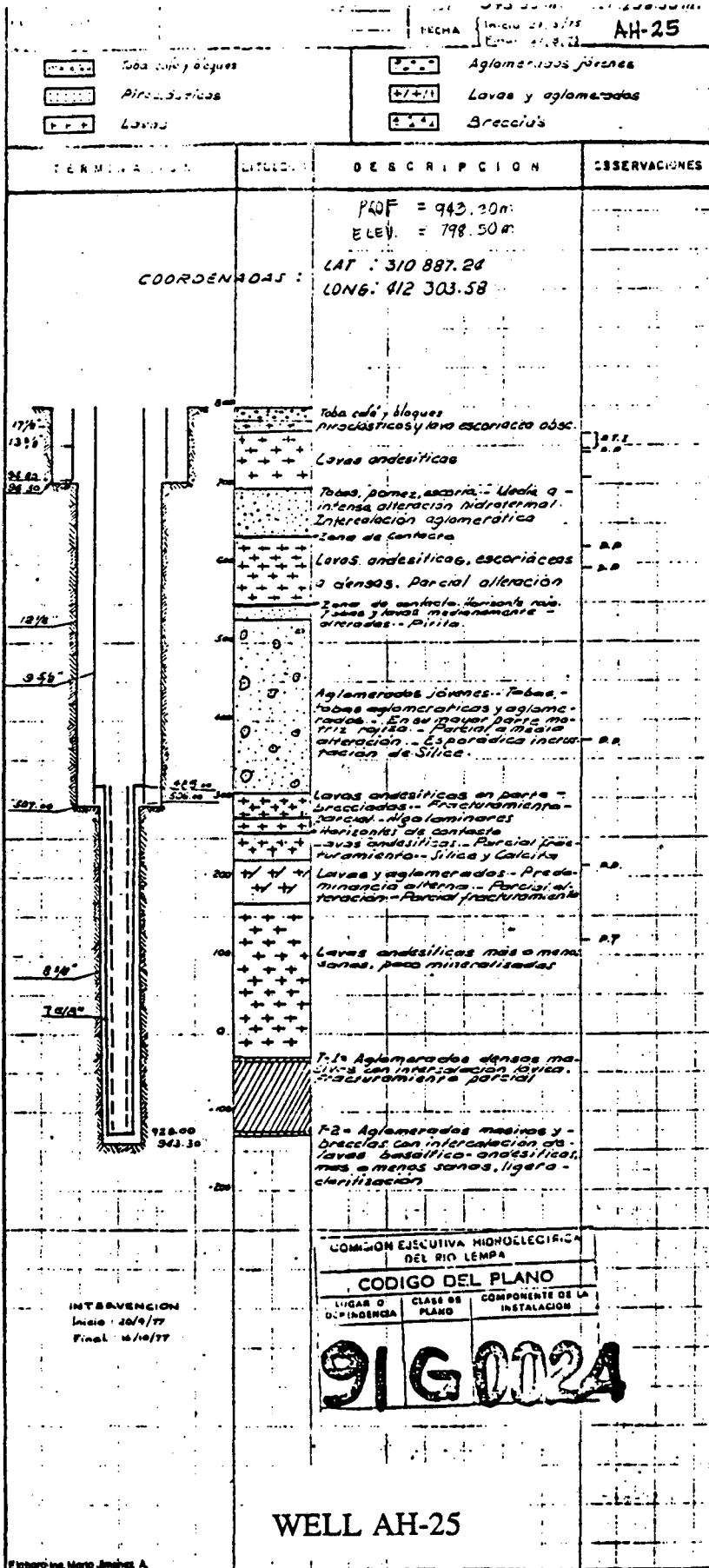
91G0021

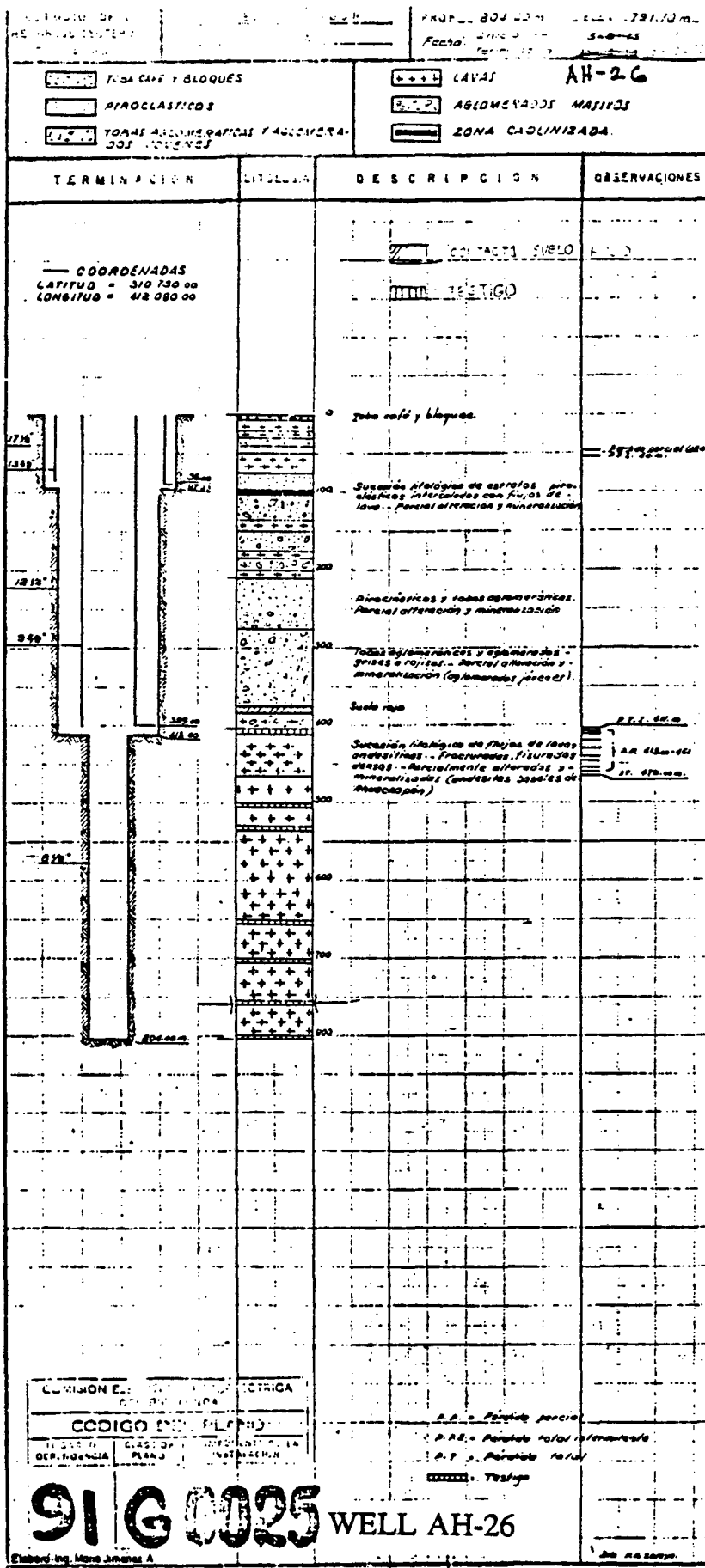
WELL AH-22

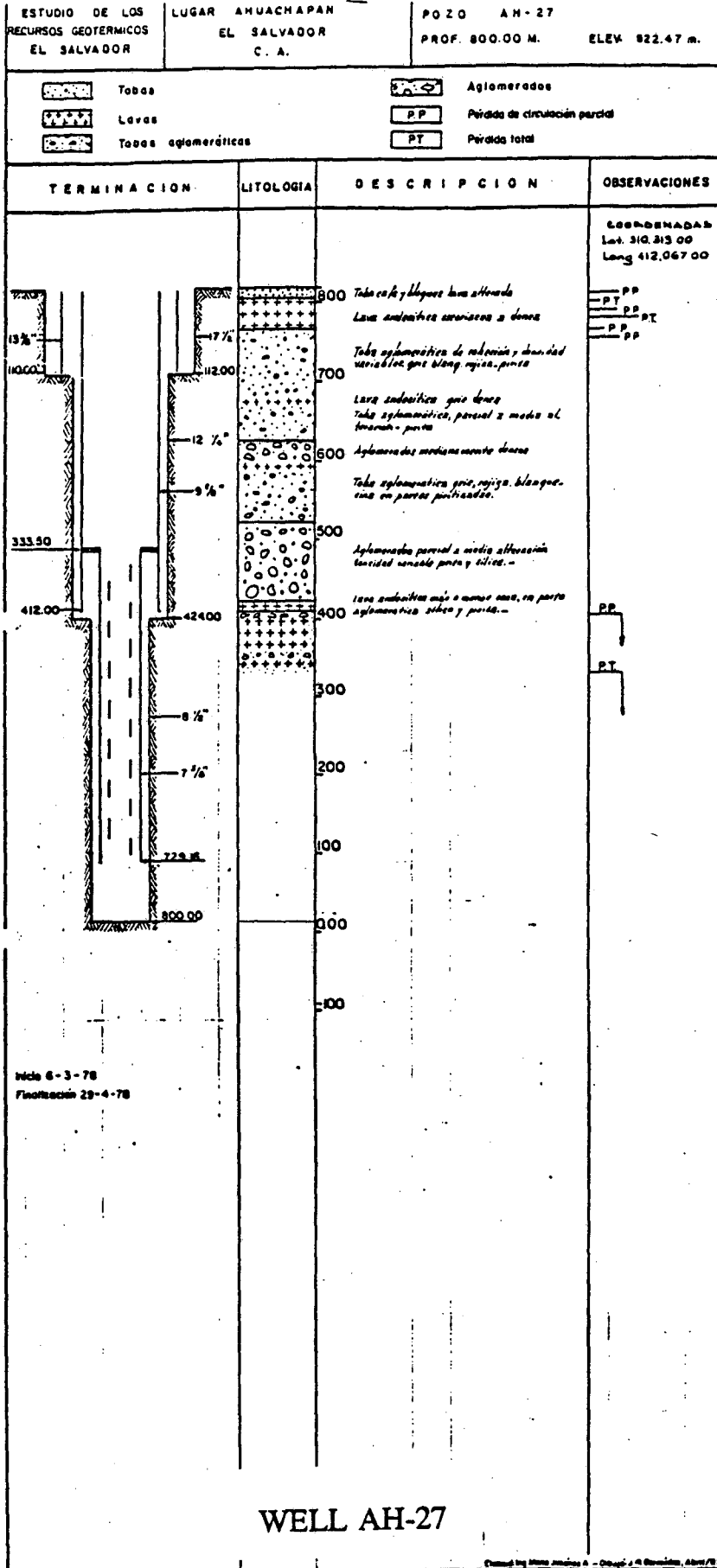
Elaborado por Mario Jimenez

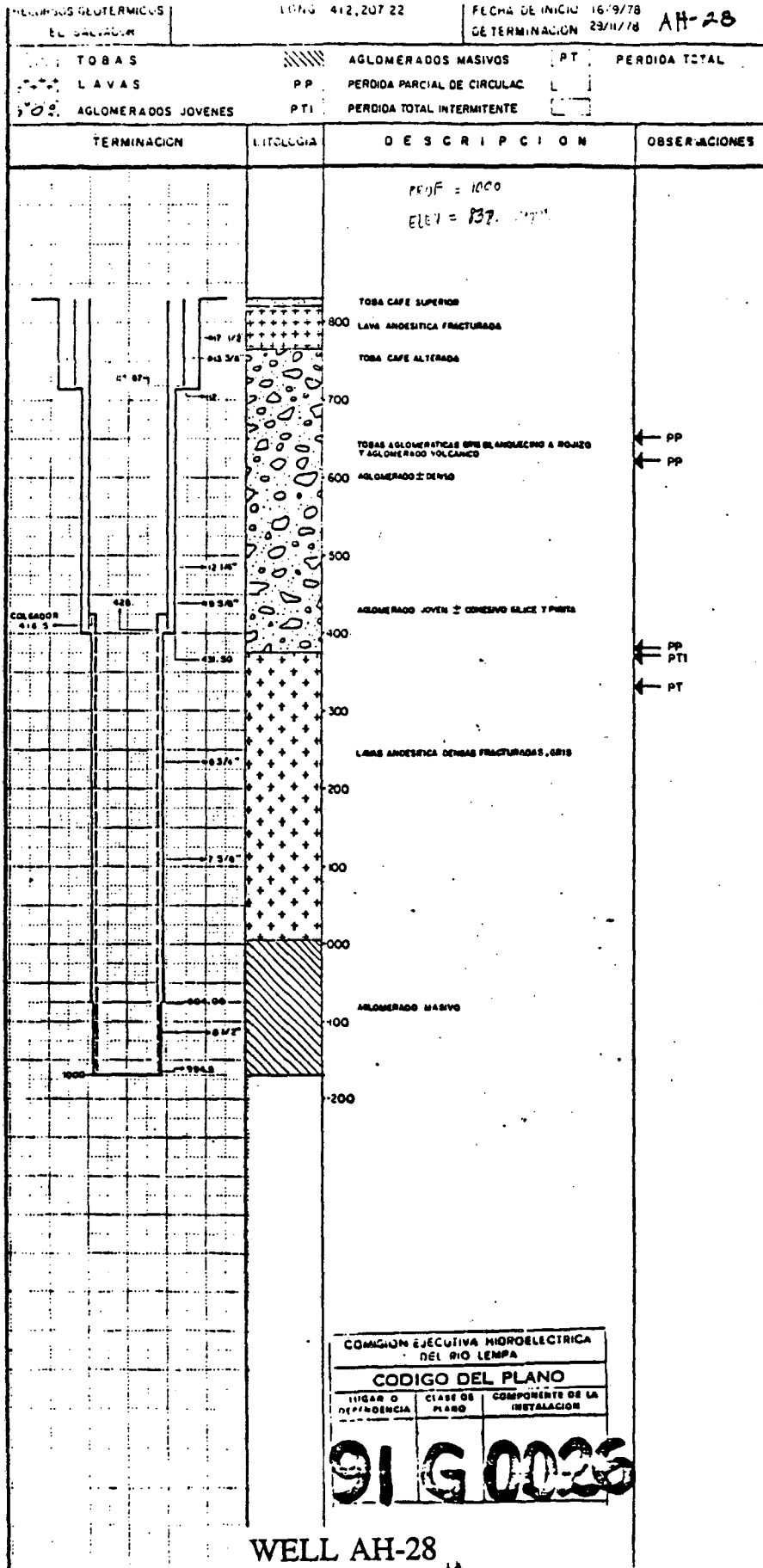


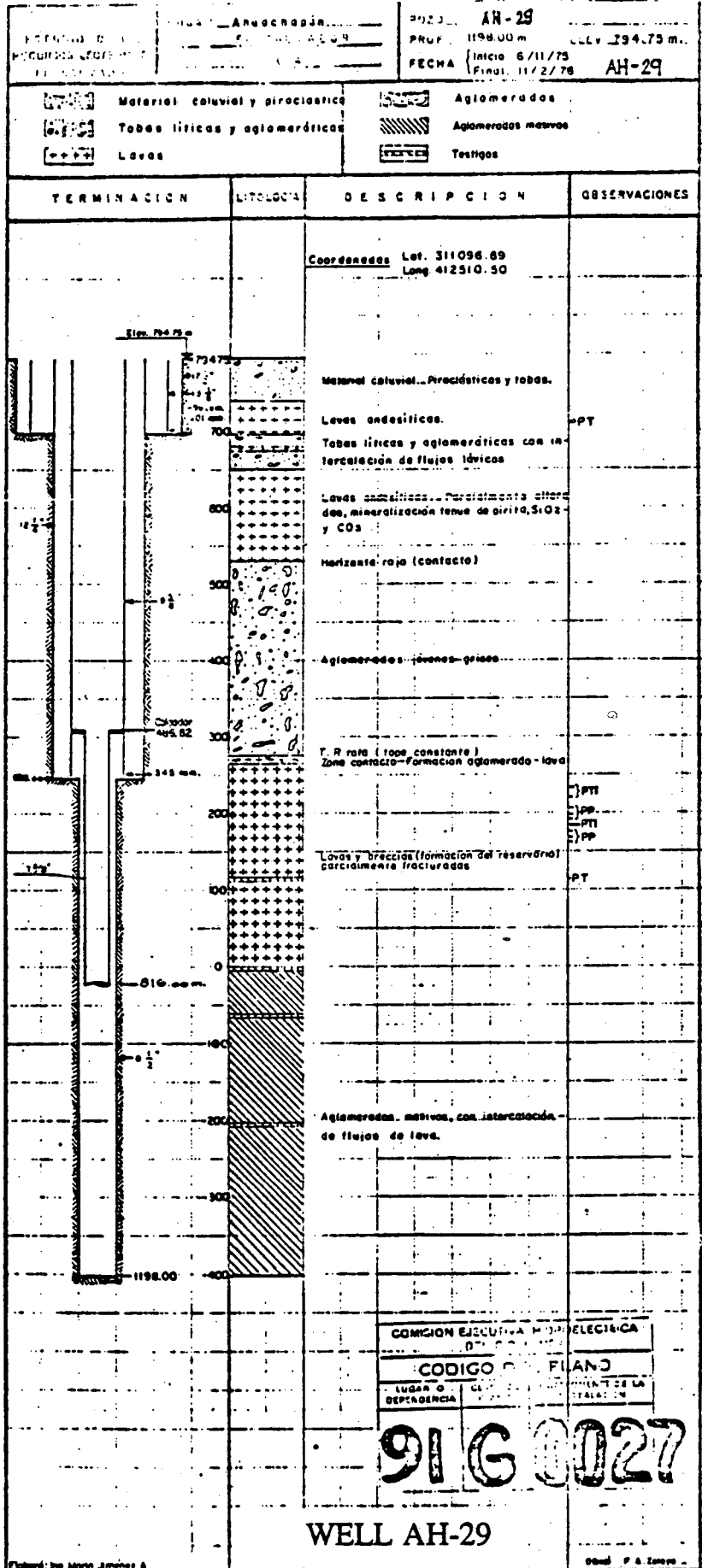












ANILINDO

310,461.03
411,989.53

AH - 30

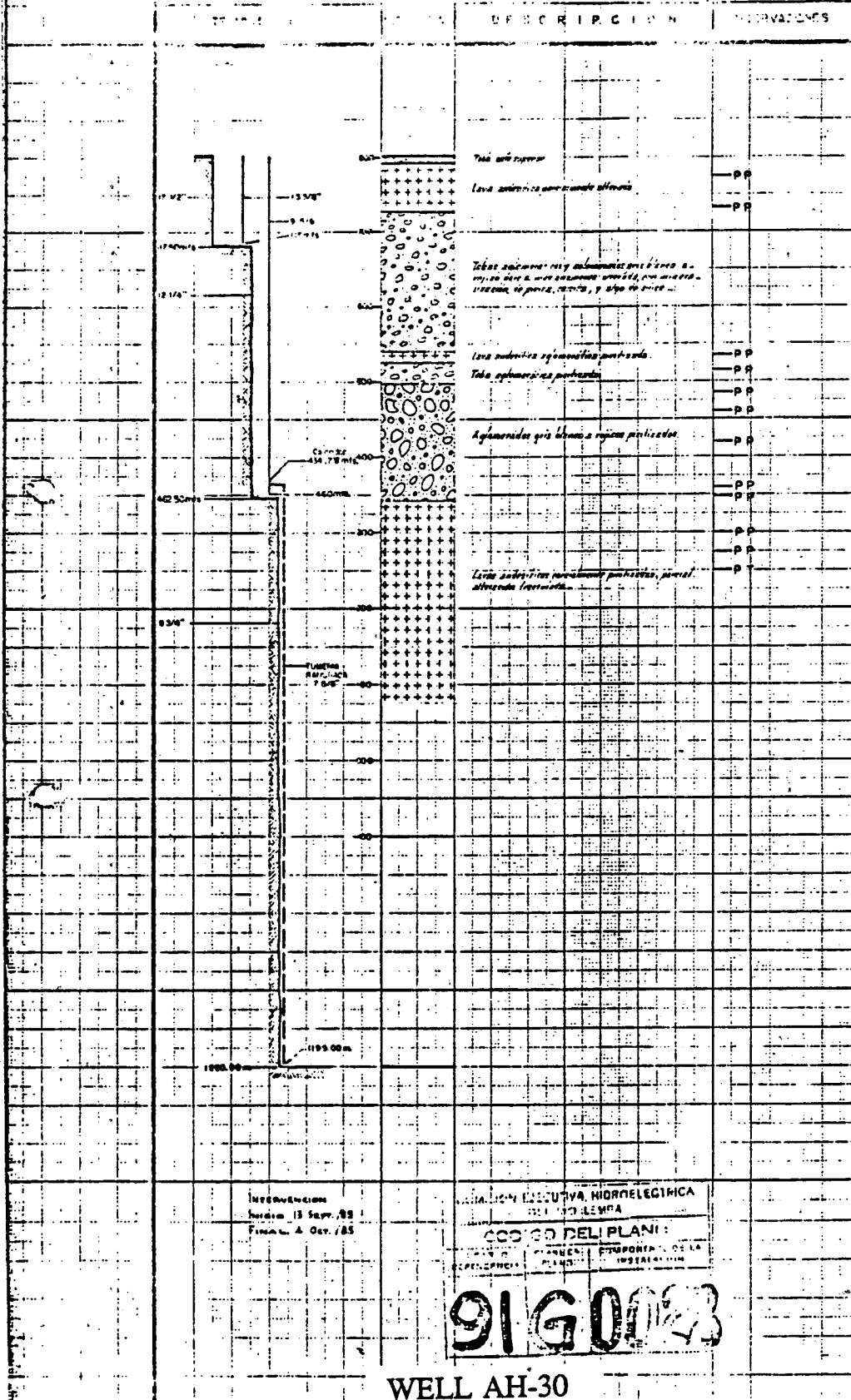
17/2/79
17/2/79

Toba Cofa

Lava Andesita

+++ Lava Andesita

••• Toba Aglomerada y aglomeradas



Introducción
Sección 13 Sept. 85
Finca 4 Oct. 85

COMISION EJECUTIVA HIDROELECTRICA
DEL GOBIERNO
CORPO DEL PLAN
PLANIFICACION Y PROMOCION DE LA
ELECTRICIDAD

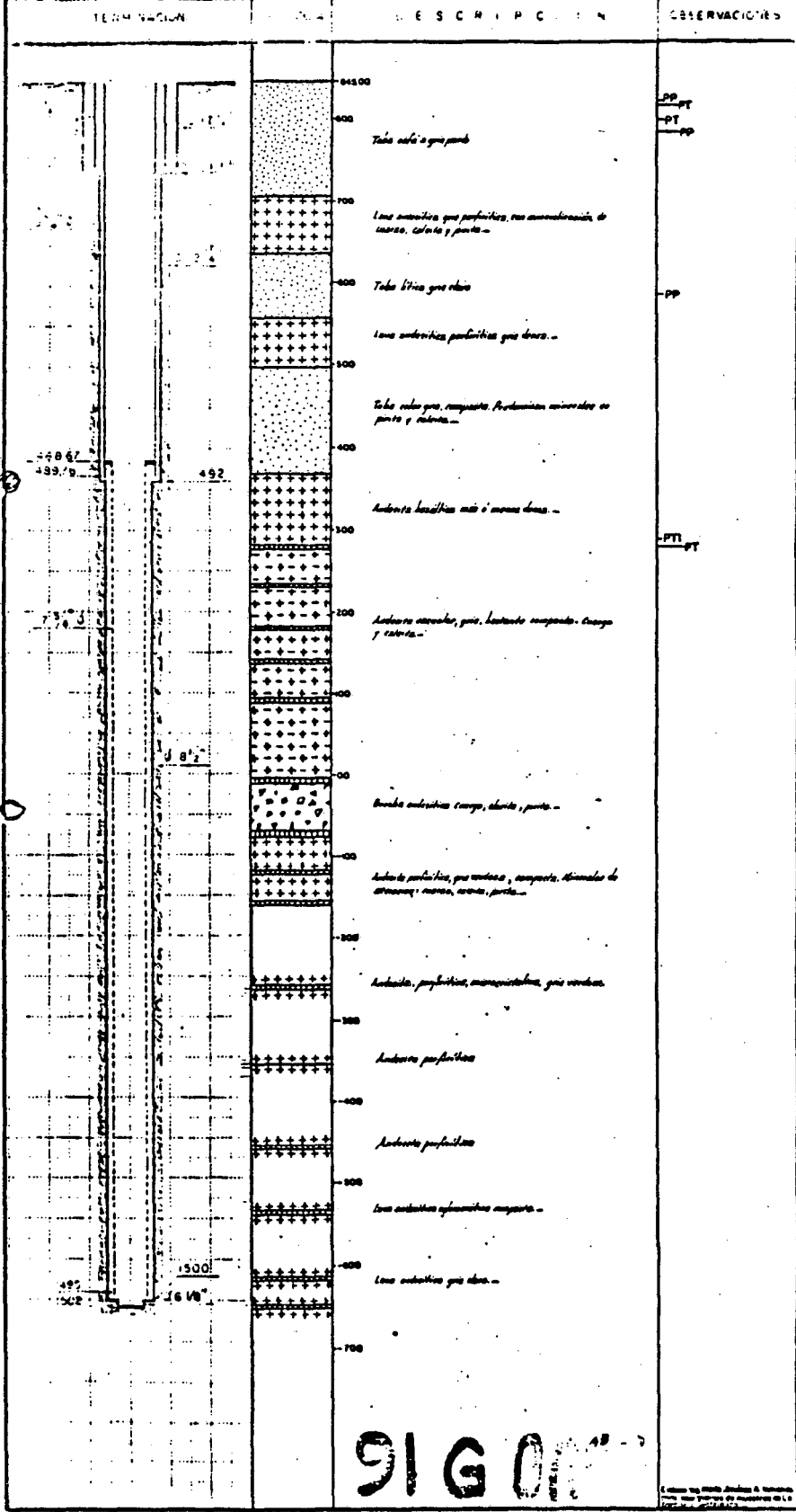
91G0023

WELL AH-30

AH-31
1500

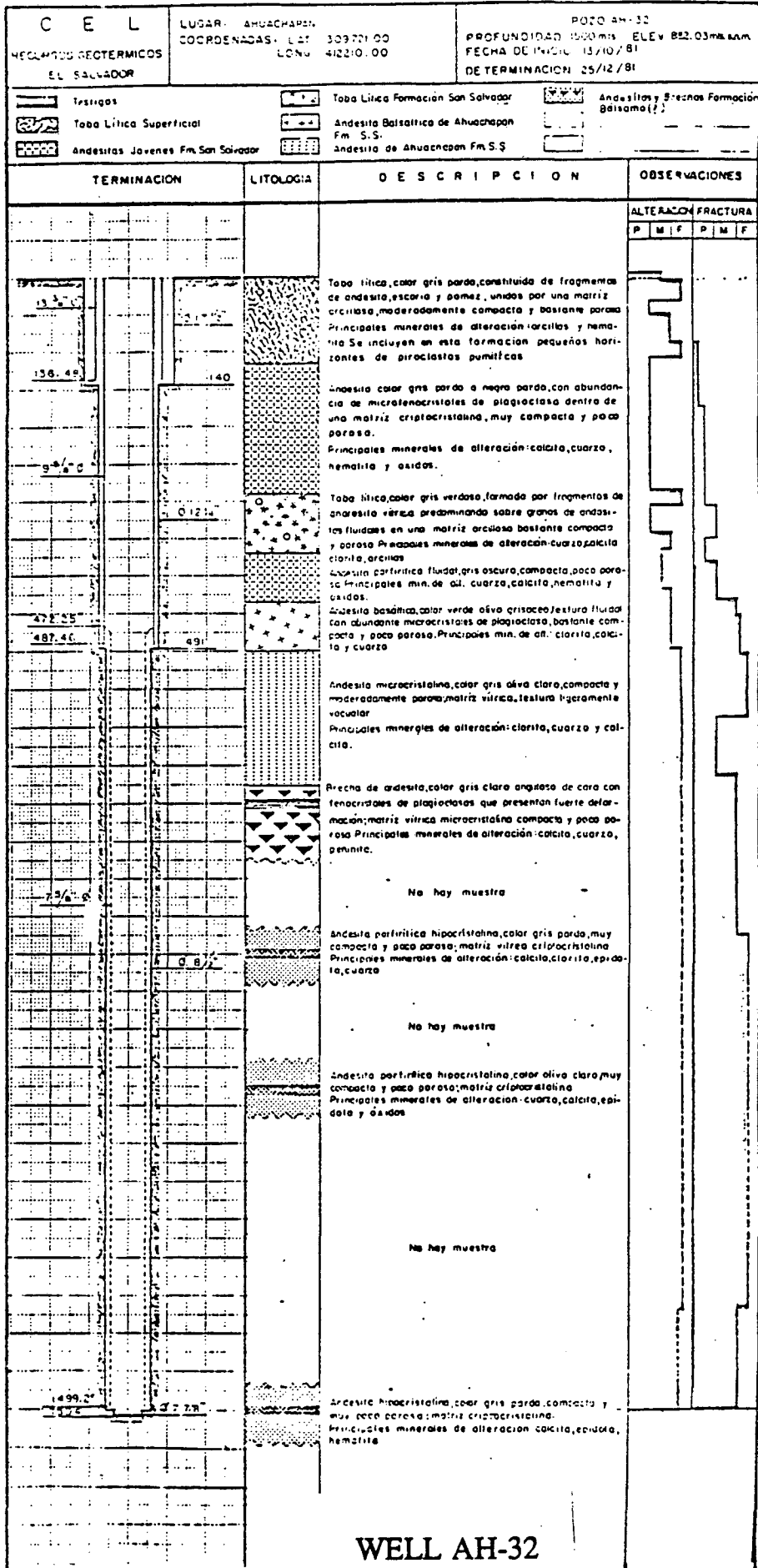
31
445 mts. s.n.m.
1961
30 (1961)

| | | |
|----------|-----------------------------------|------------------|
| TOBAS | TESTIGO | PT PERDIDA TOTAL |
| LAVAS | PP PERDIDA PARCIAL DE CIRCULACION | |
| BRECCIAS | PTI PERDIDA TOTAL INTERMITENTE | |

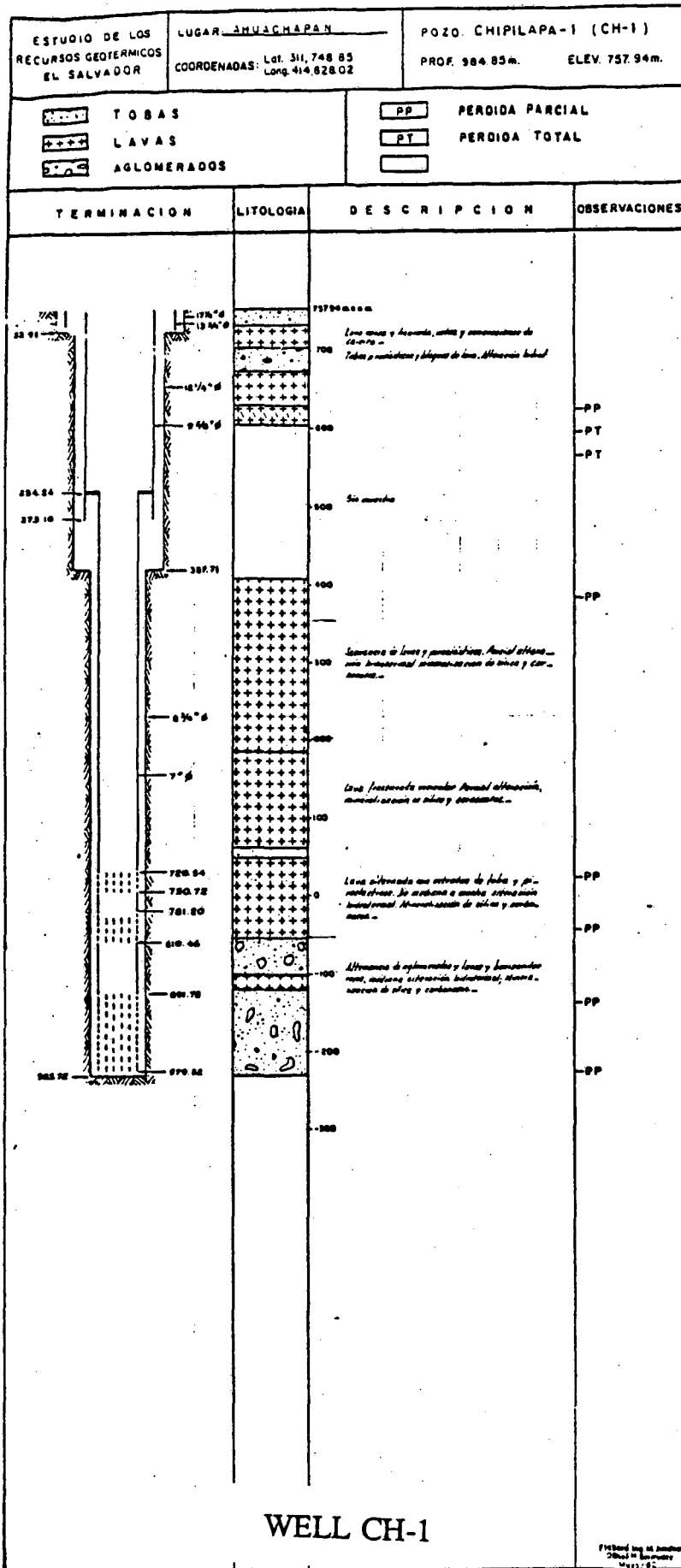


91 G O

WELL AH-31



WELL AH-32



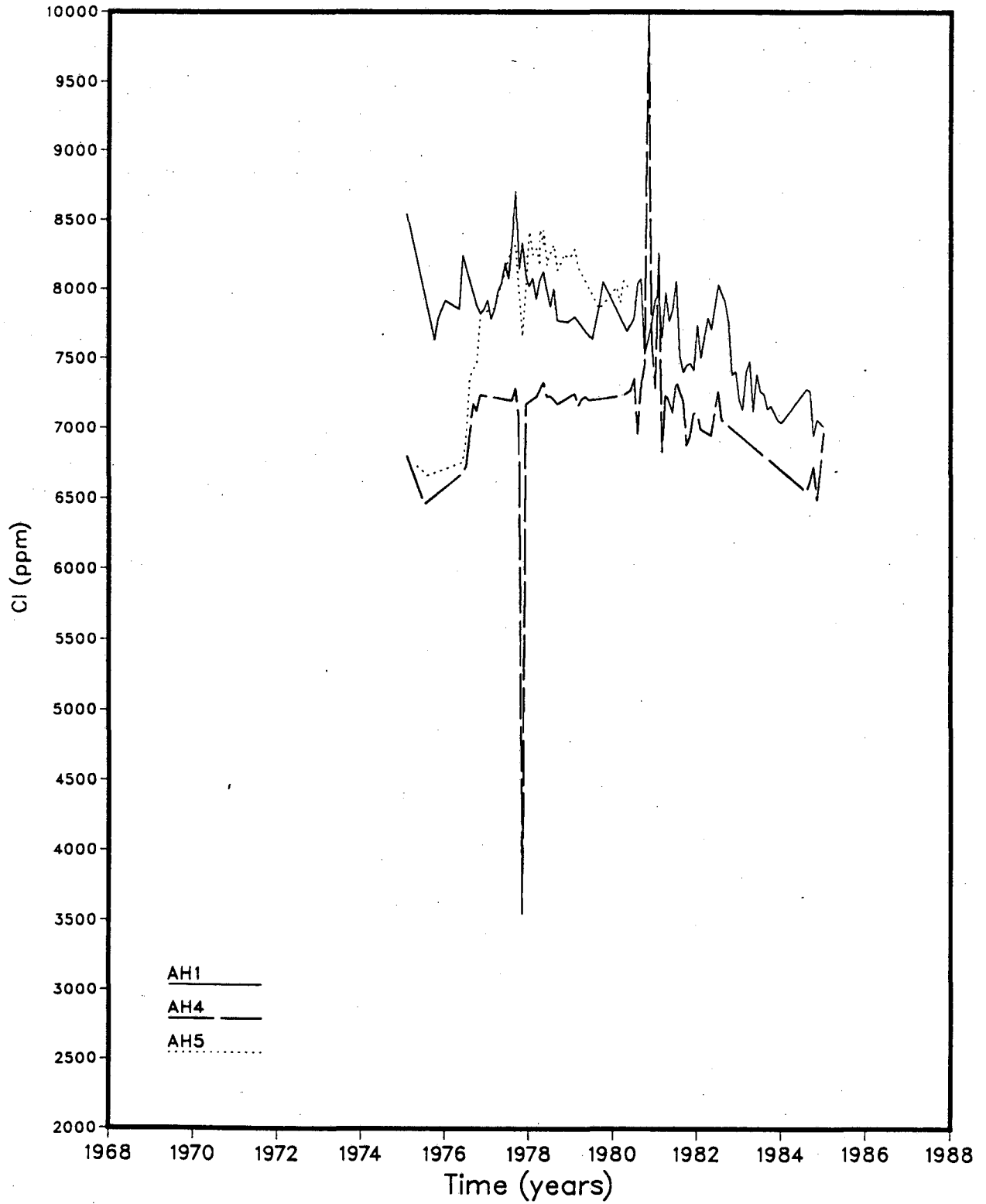
WELL CH-1

Elaborado por el autor
 Ciudad de Guatemala
 1961-62

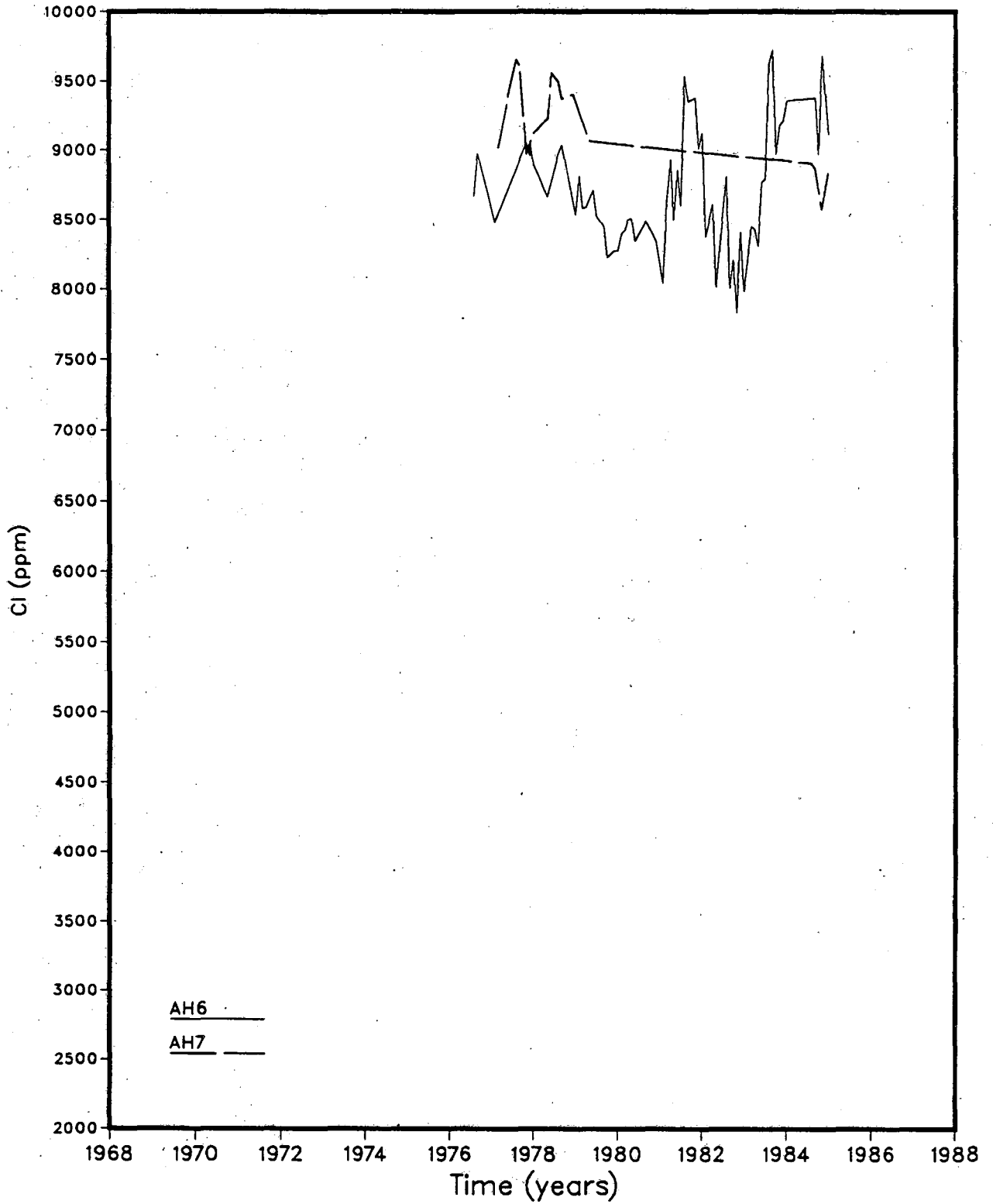
APPENDIX G

(Water and Gas Chemistry Plots)

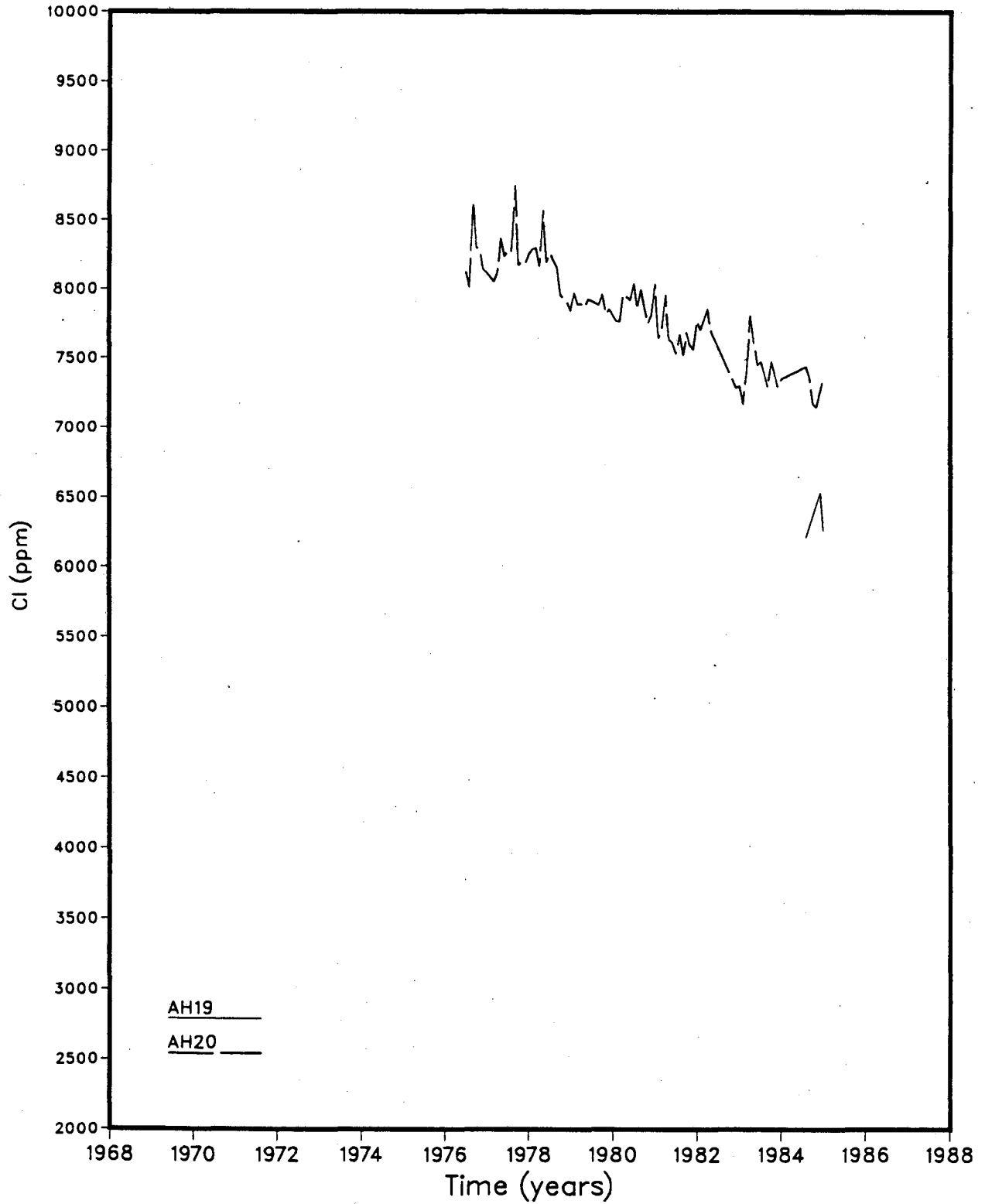
Water Chemistry (Cl Reservoir)



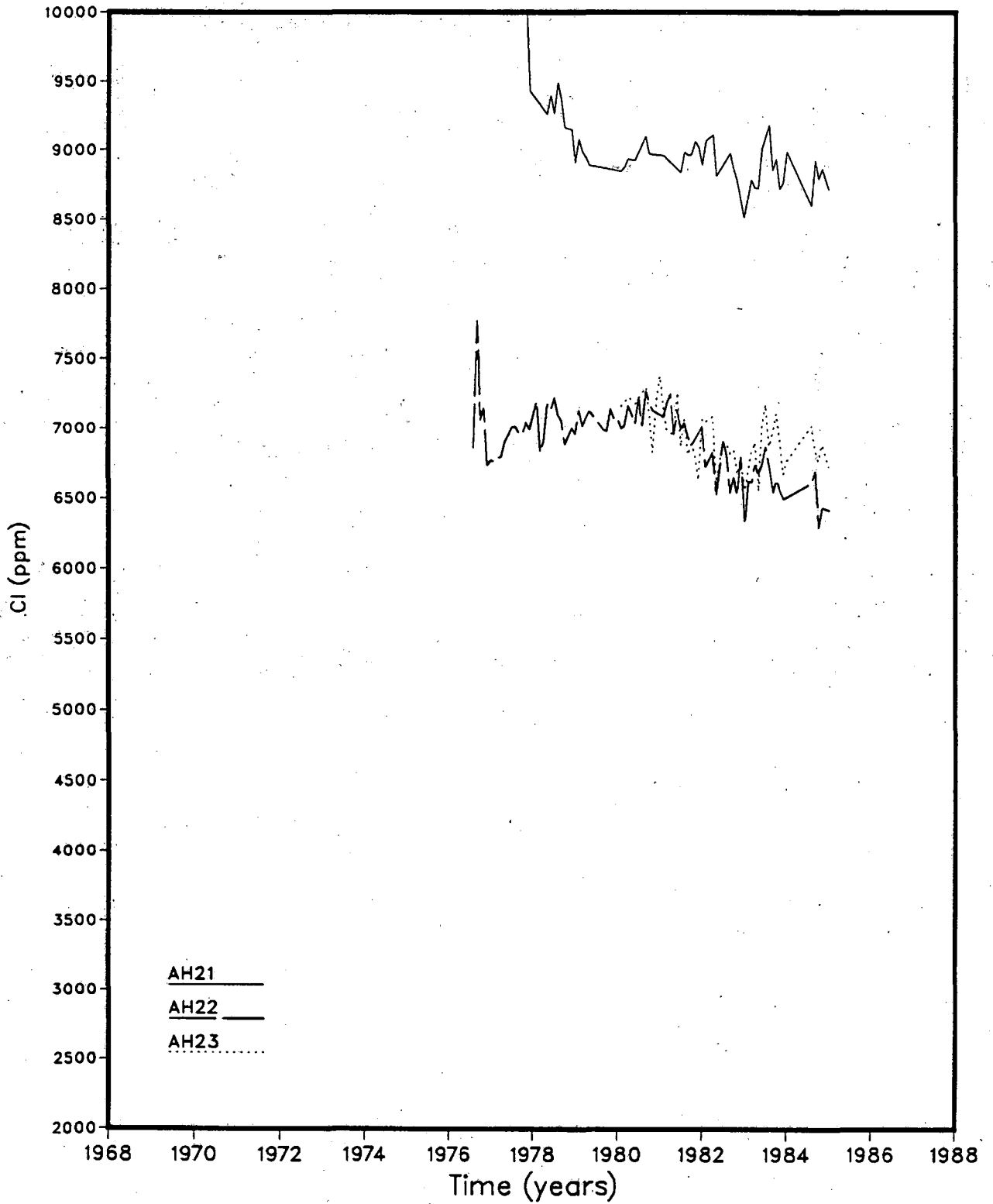
Water Chemistry (Cl Reservoir)



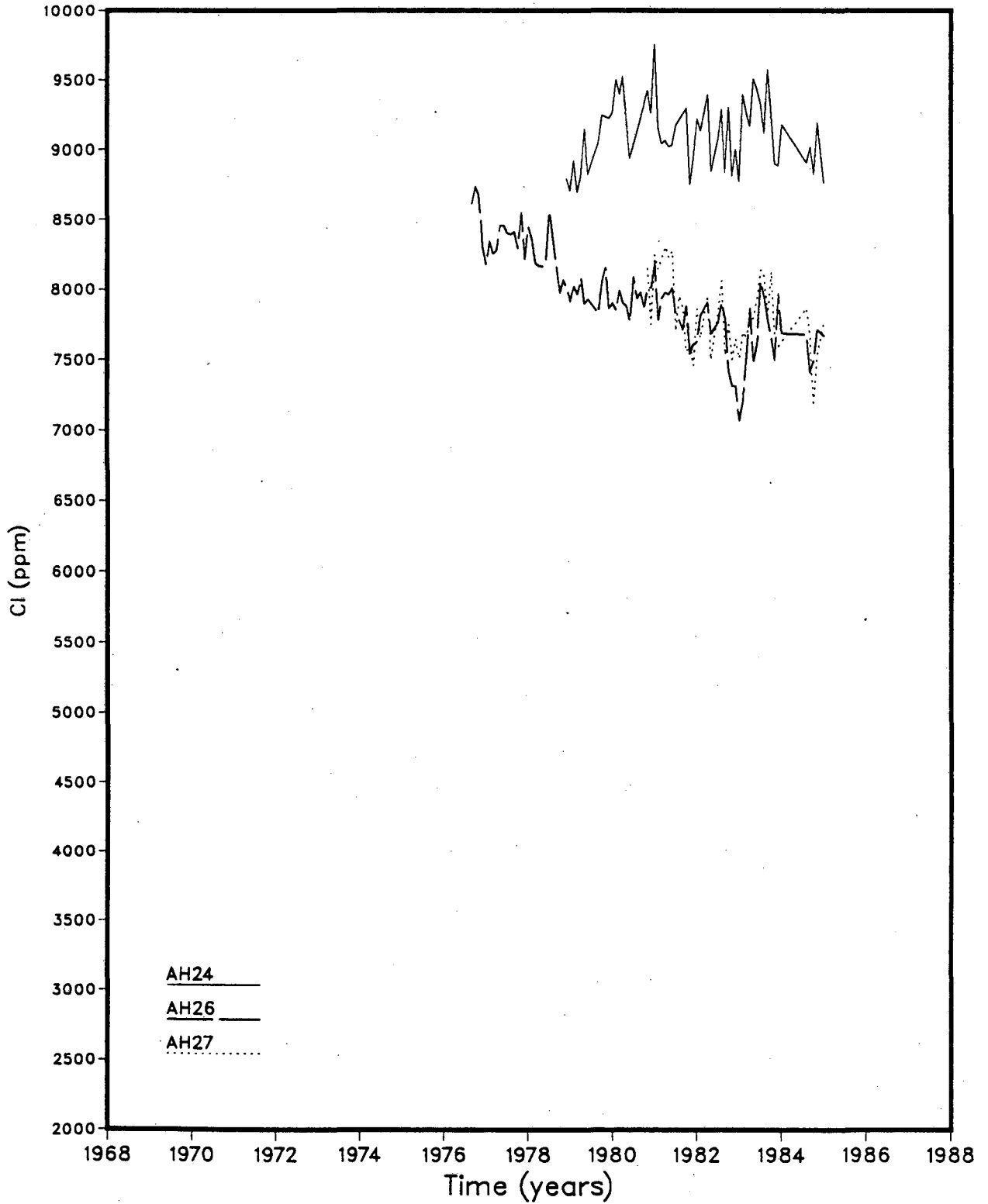
Water Chemistry (Cl Reservoir)



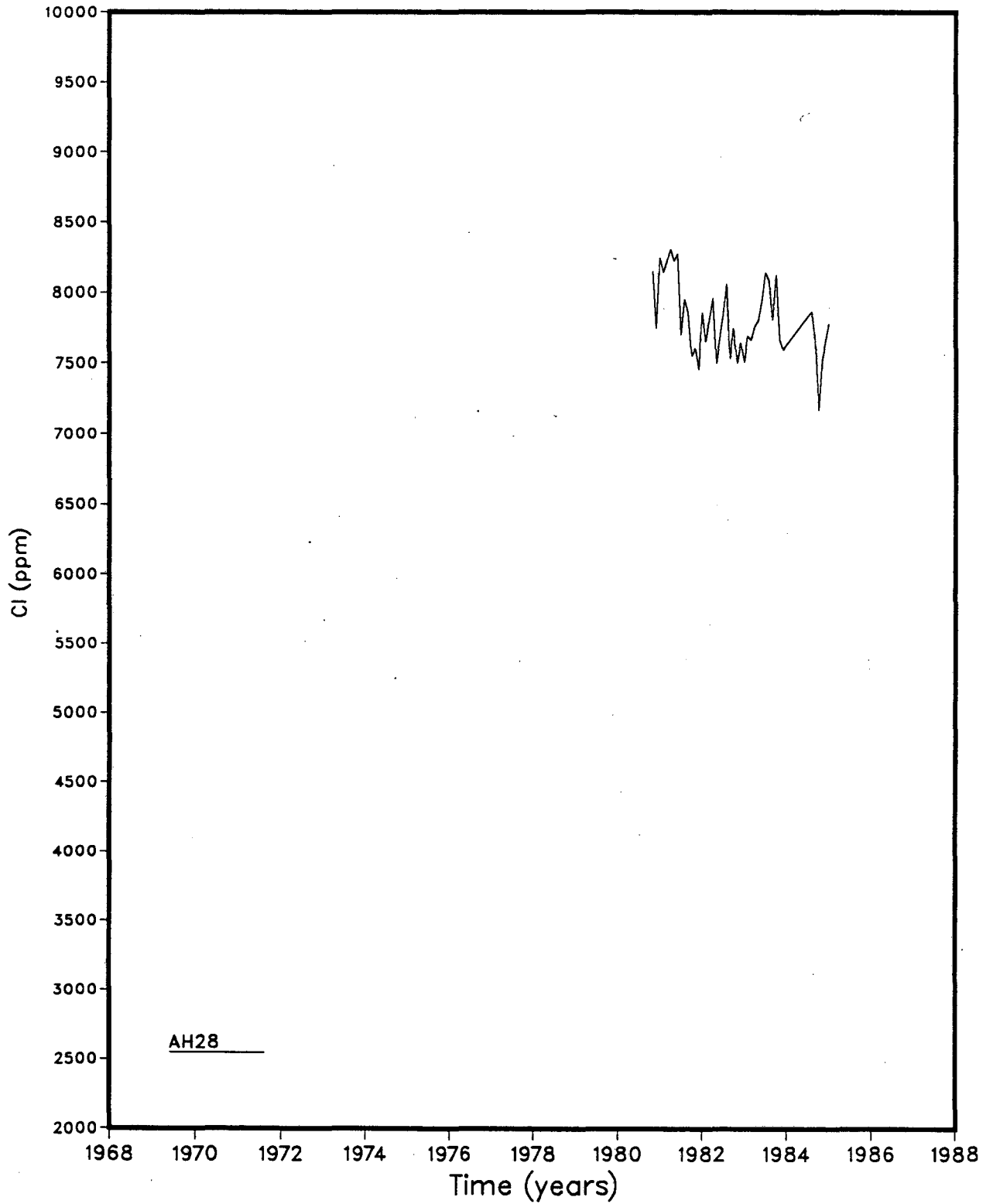
Water Chemistry (Cl Reservoir)



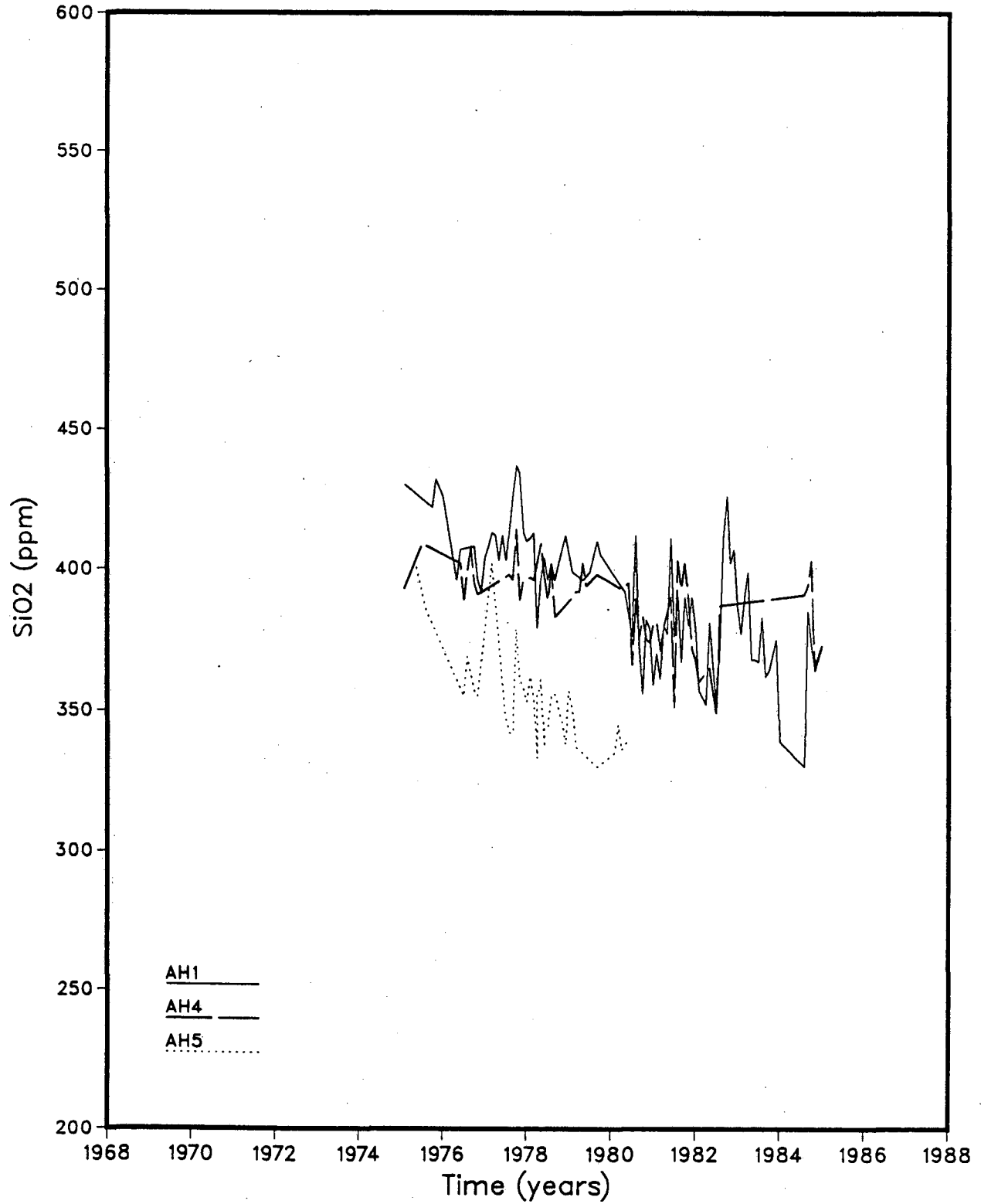
Water Chemistry (Cl Reservoir)



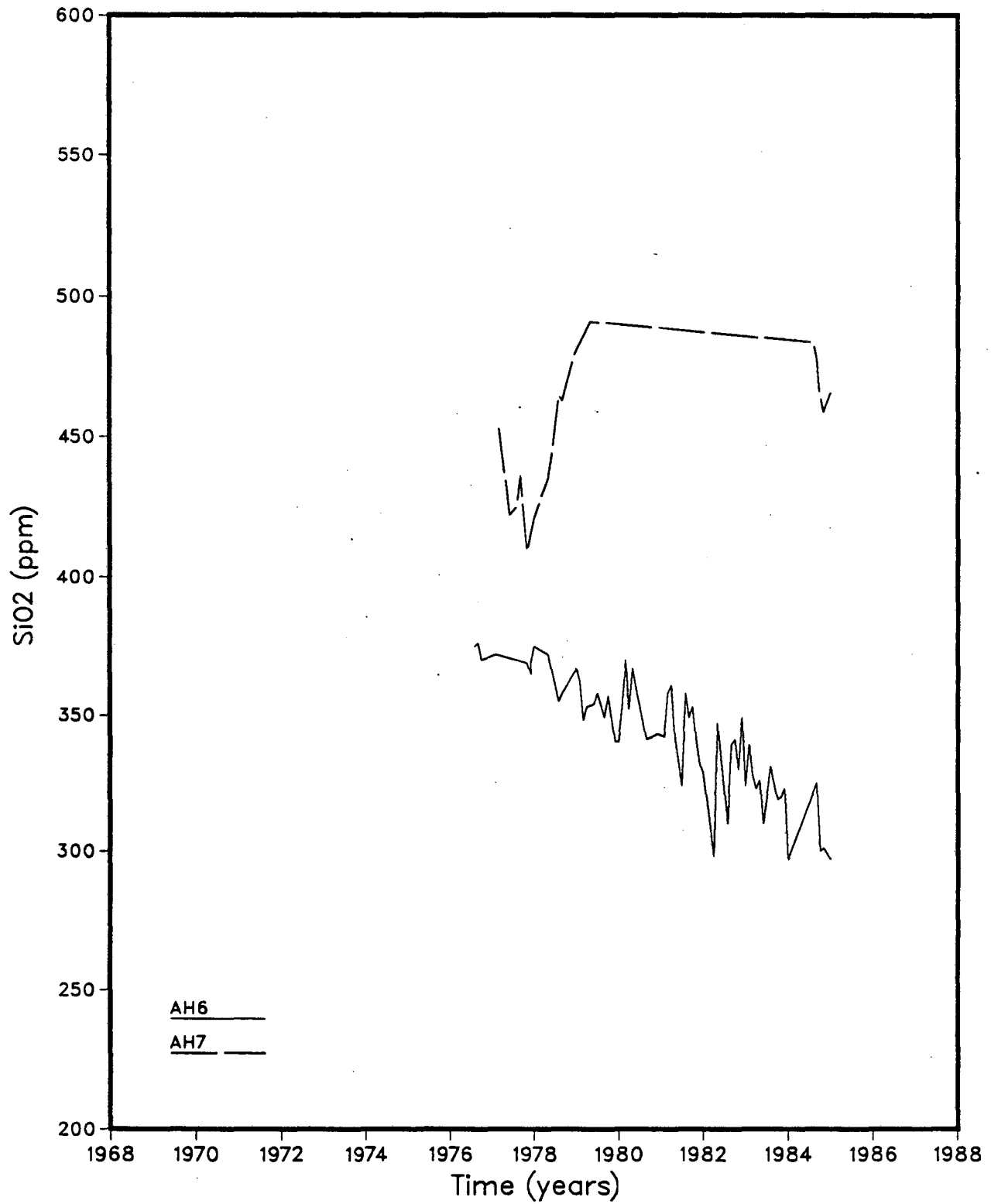
Water Chemistry (Cl Reservoir)



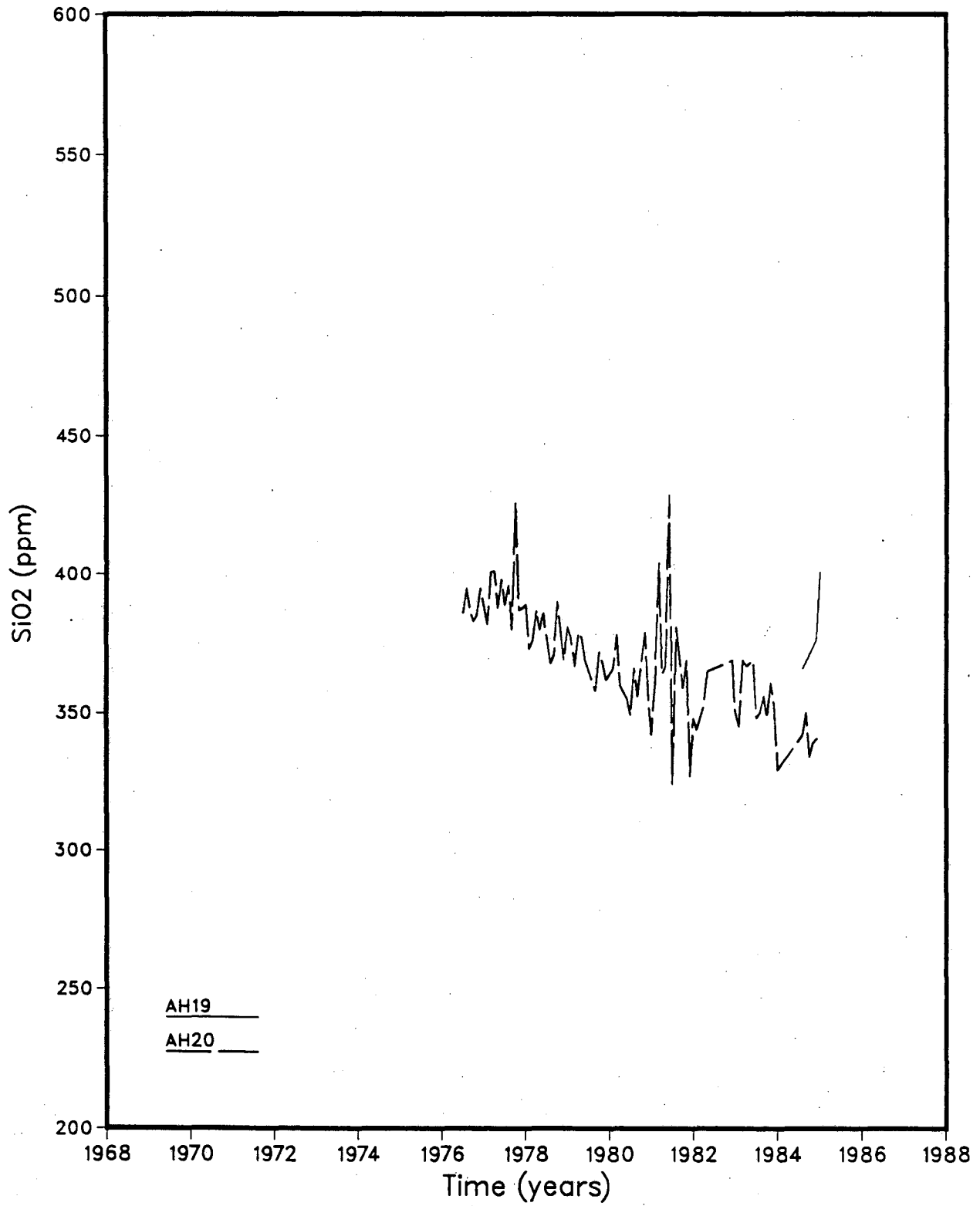
Water Chemistry (SiO₂ Reservoir)



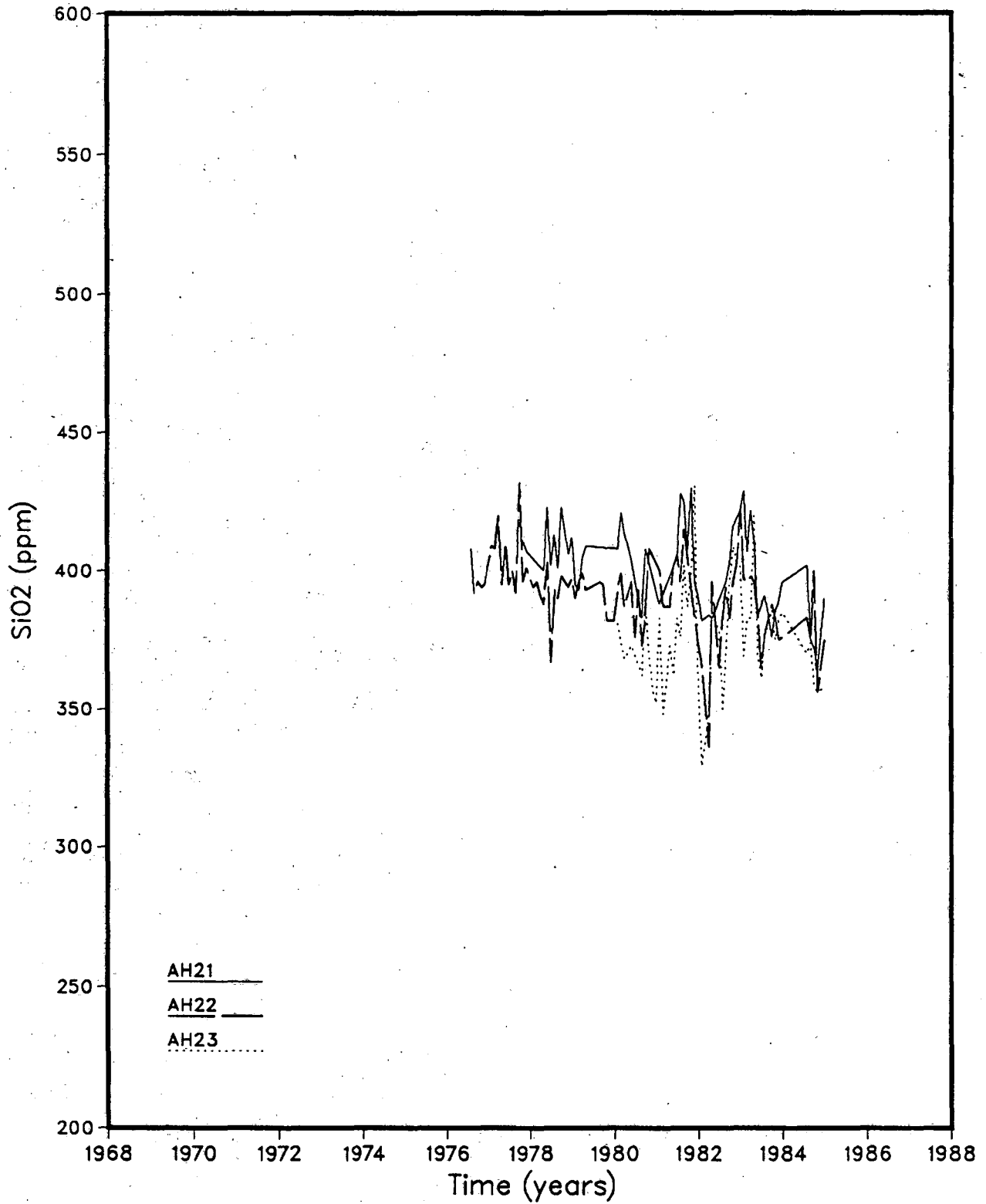
Water Chemistry (SiO₂ Reservoir)



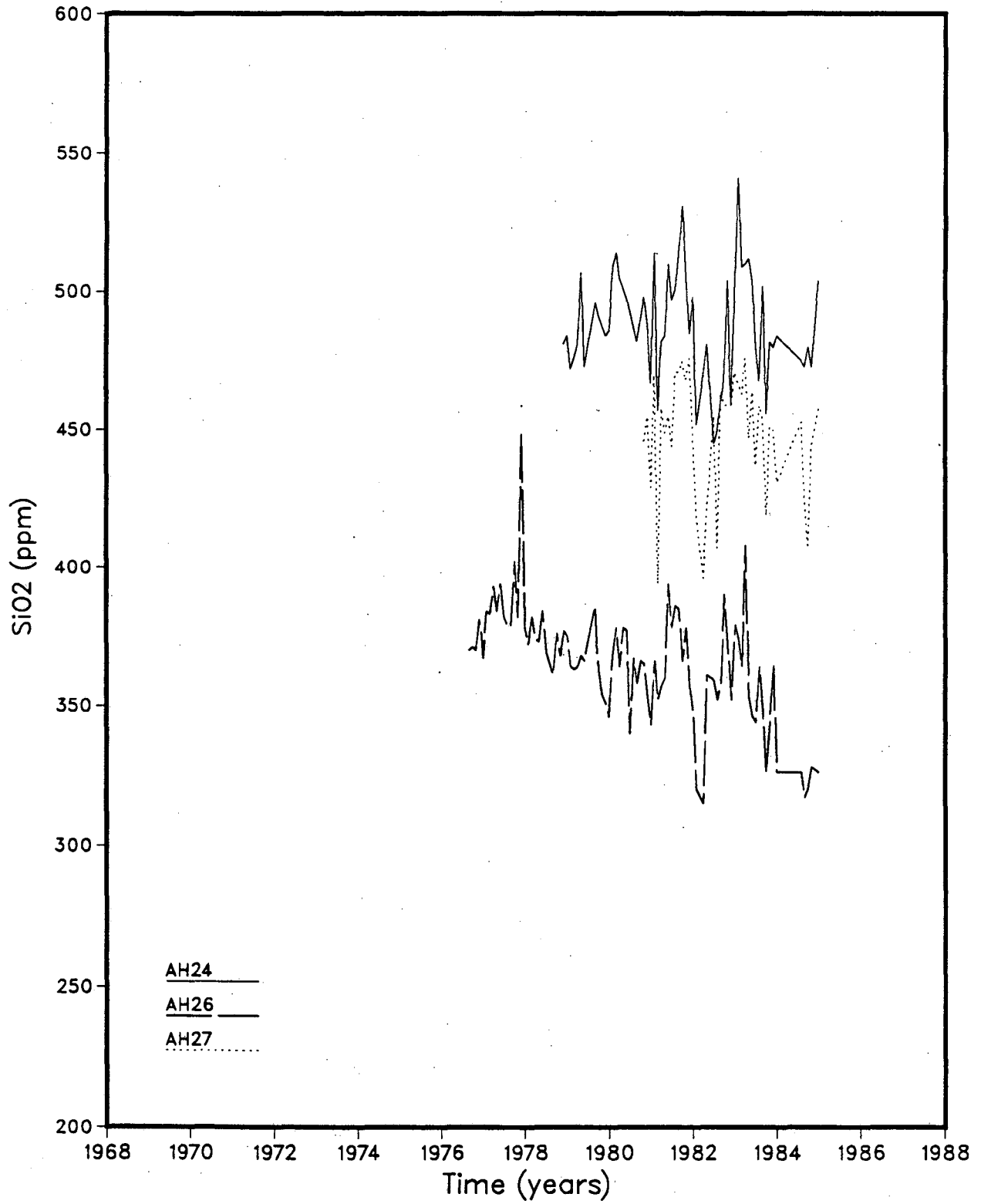
Water Chemistry (SiO₂ Reservoir)



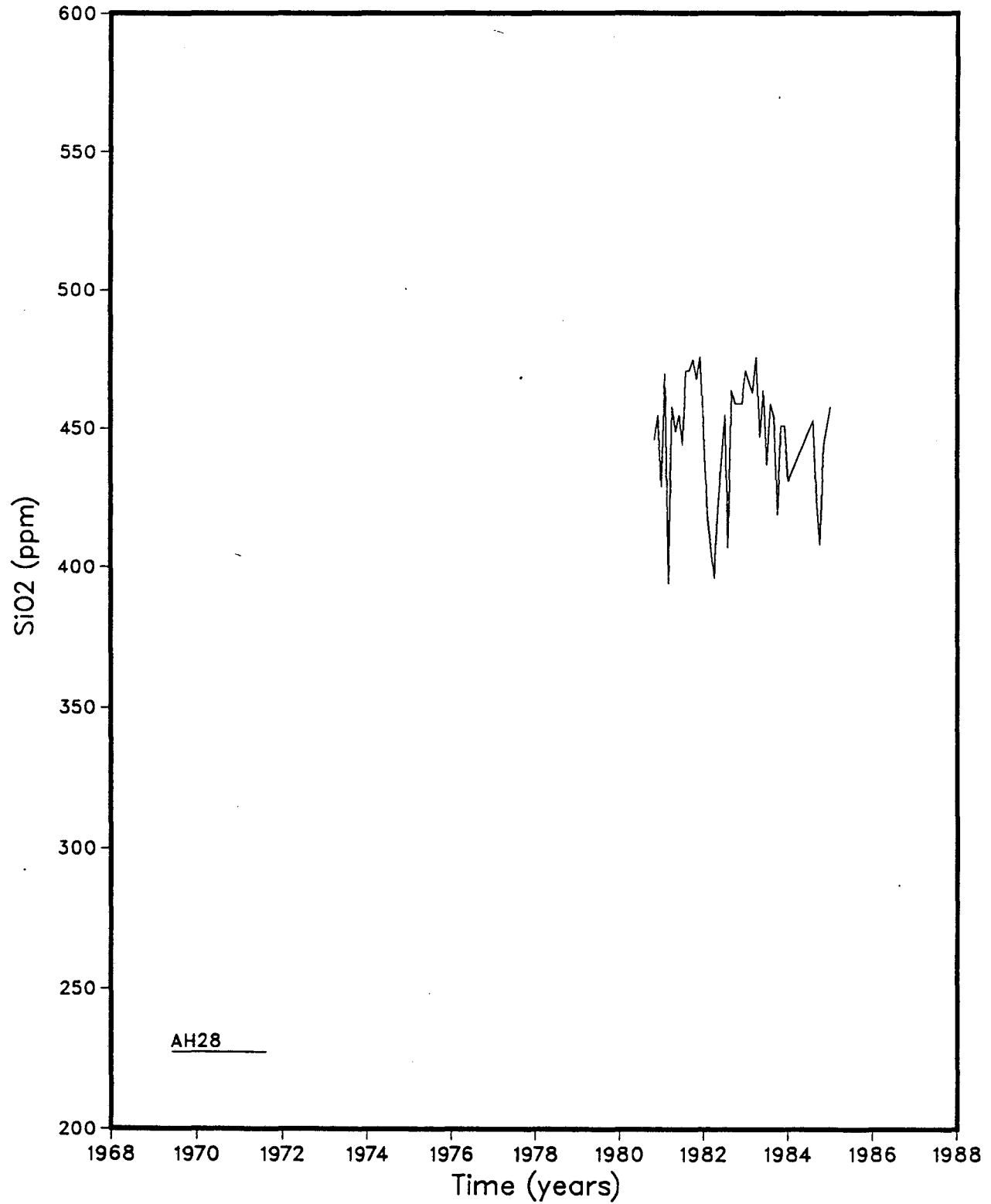
Water Chemistry (SiO₂ Reservoir)



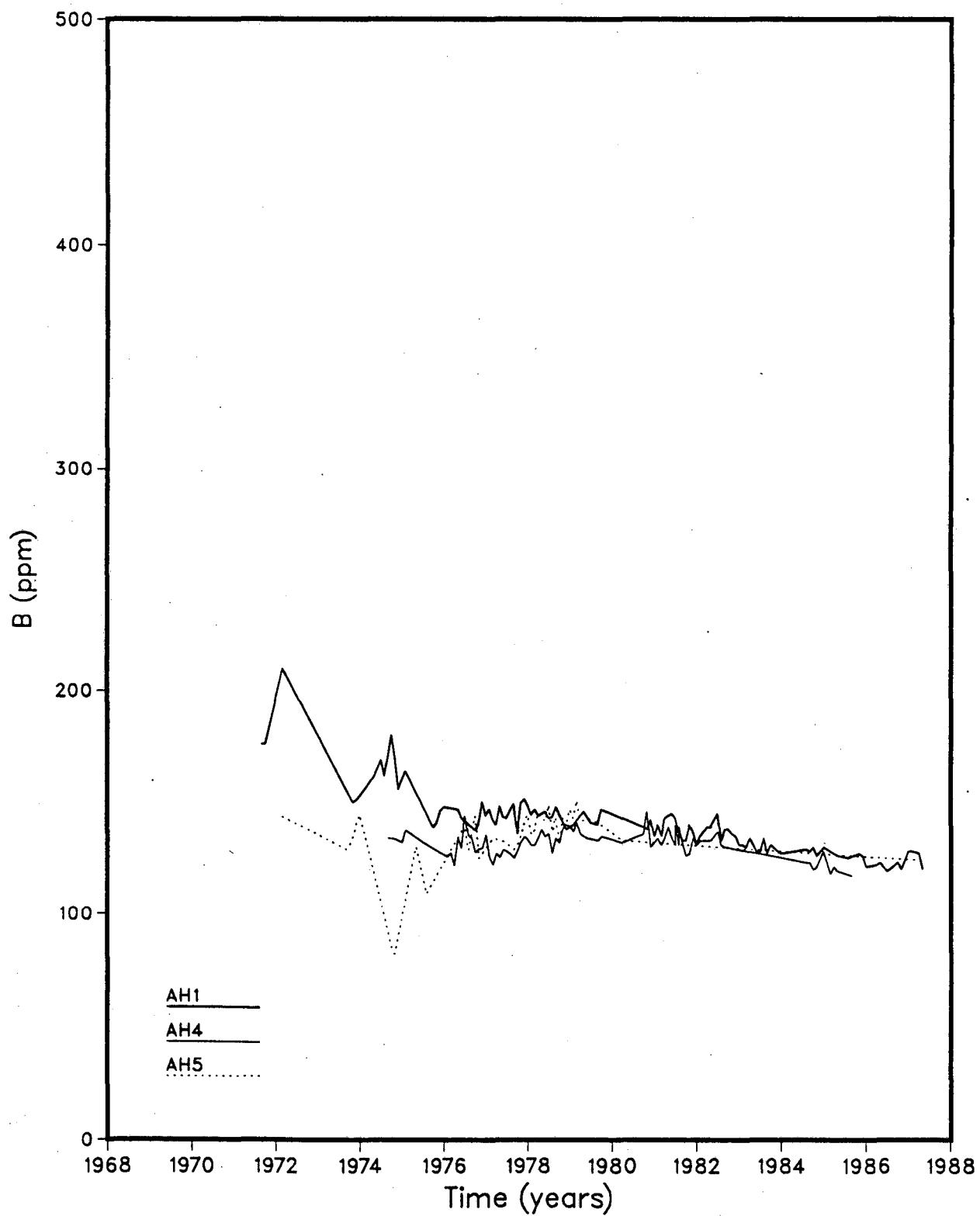
Water Chemistry (SiO₂ Reservoir)



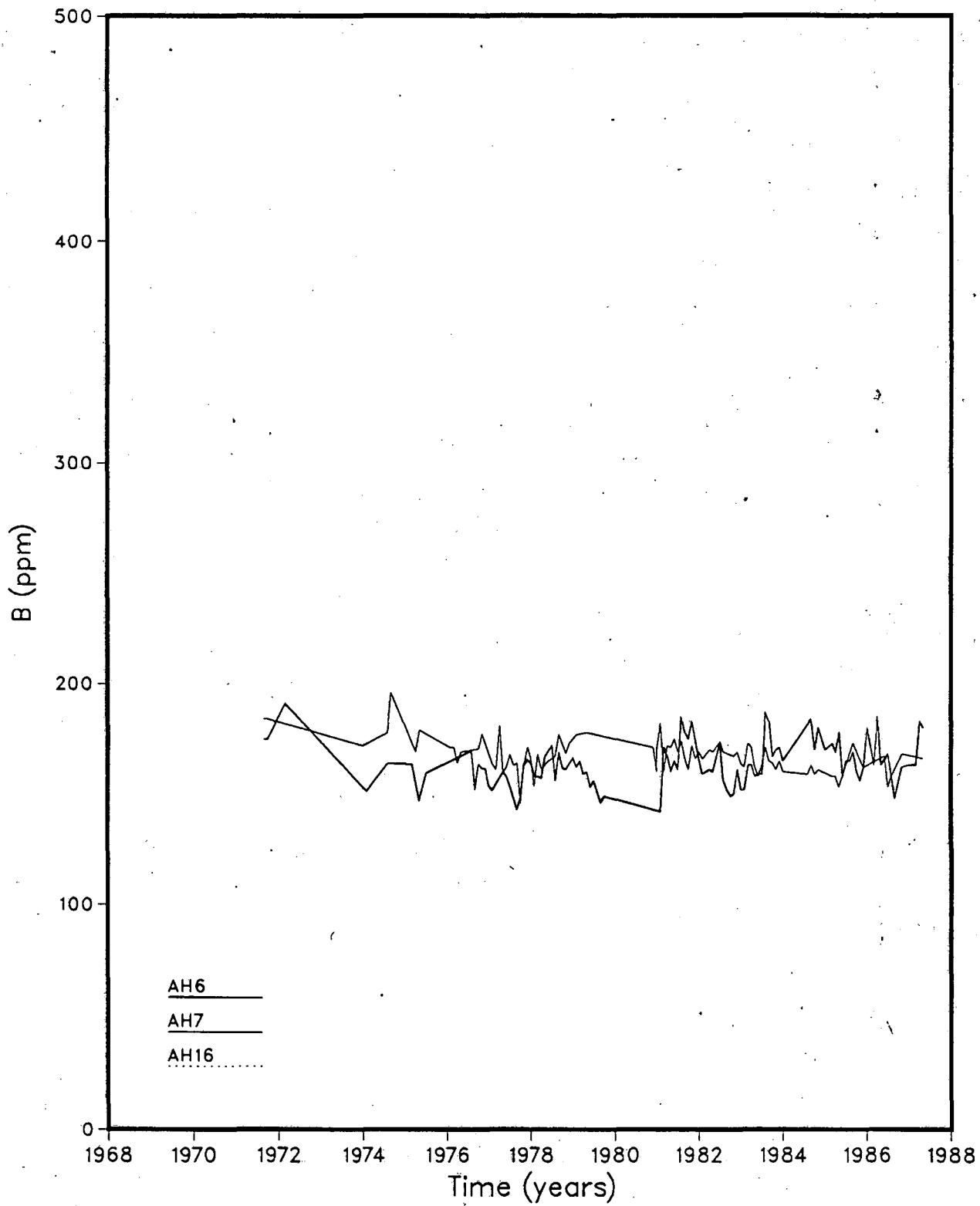
Water Chemistry (SiO₂ Reservoir)



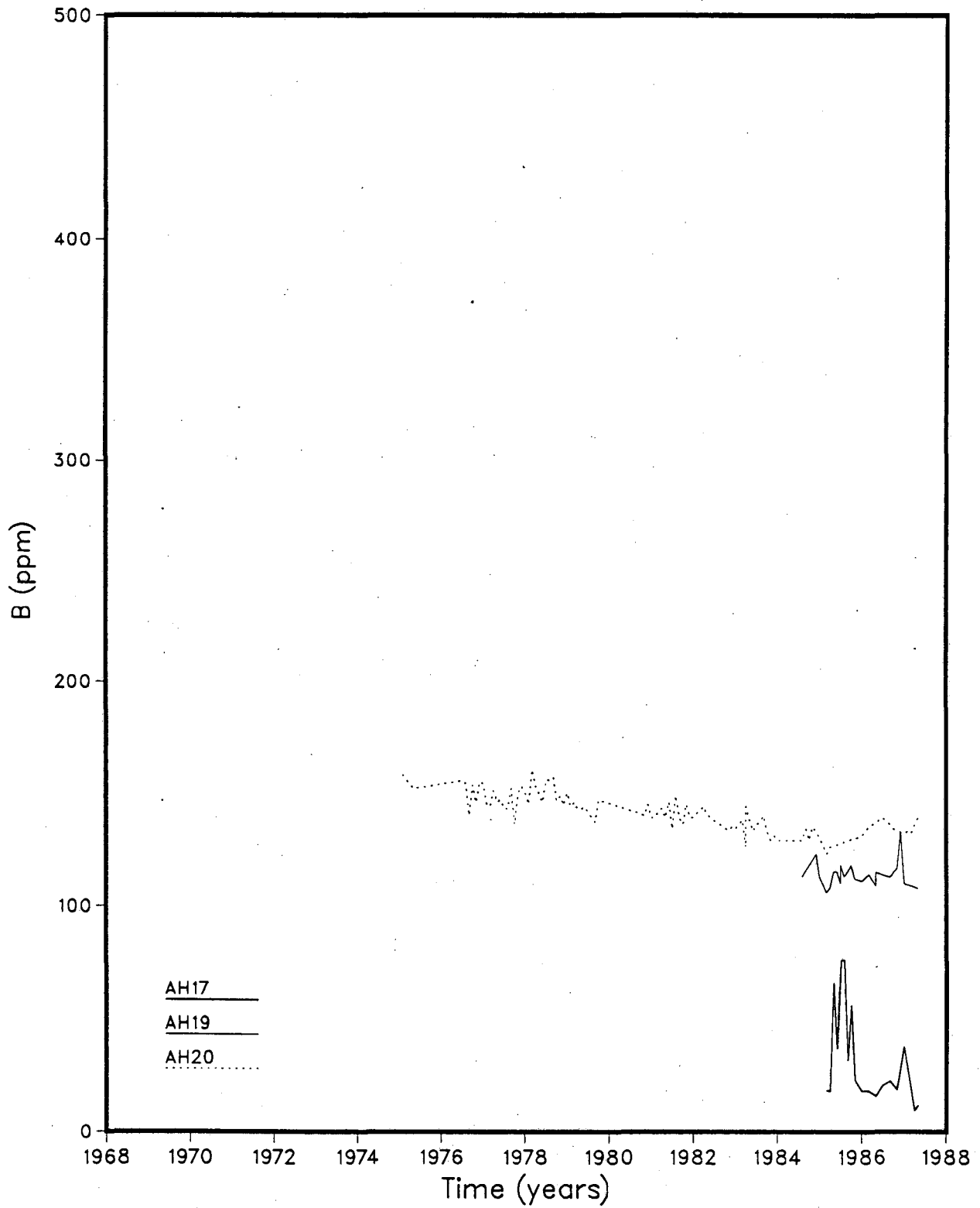
Water Chemistry (B)



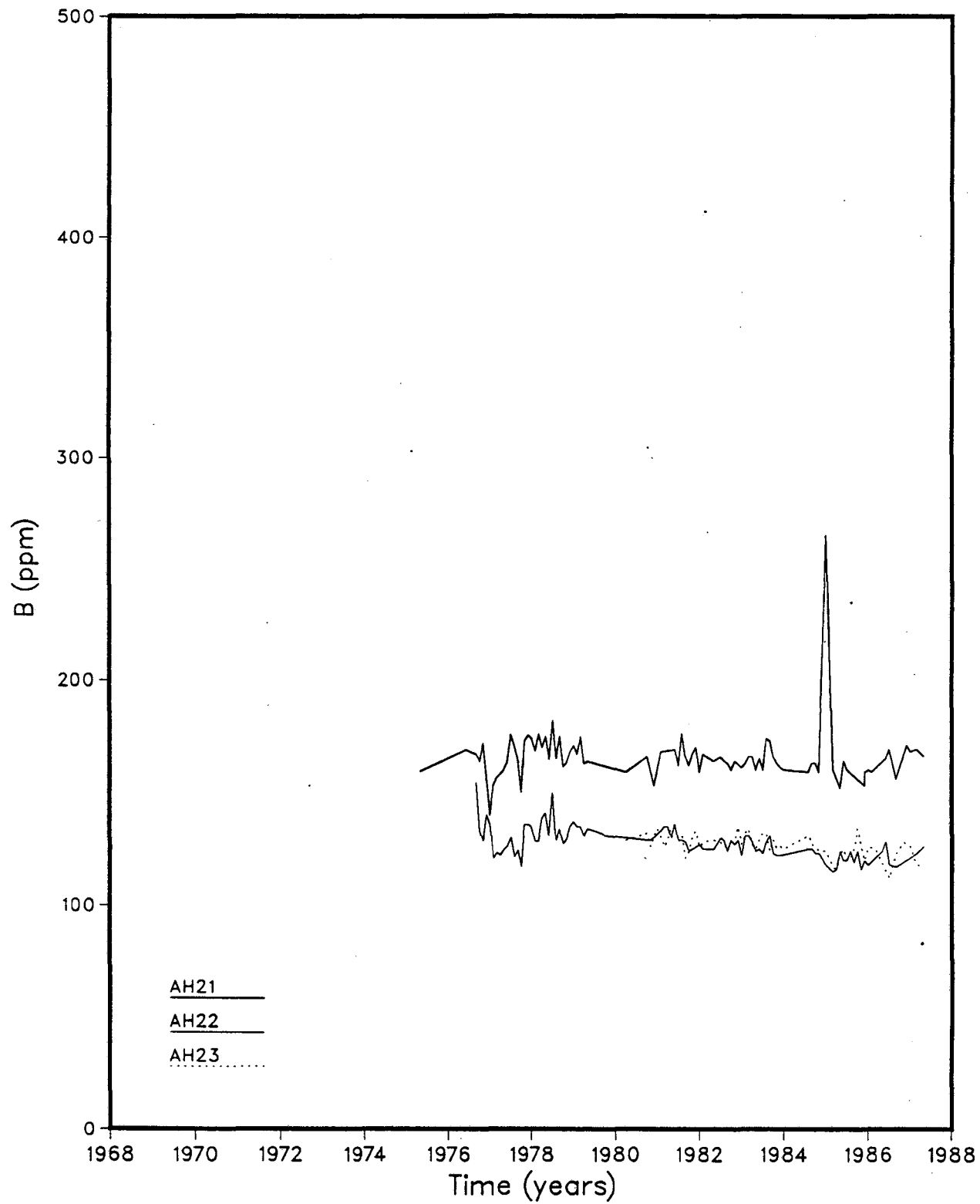
Water Chemistry (B)



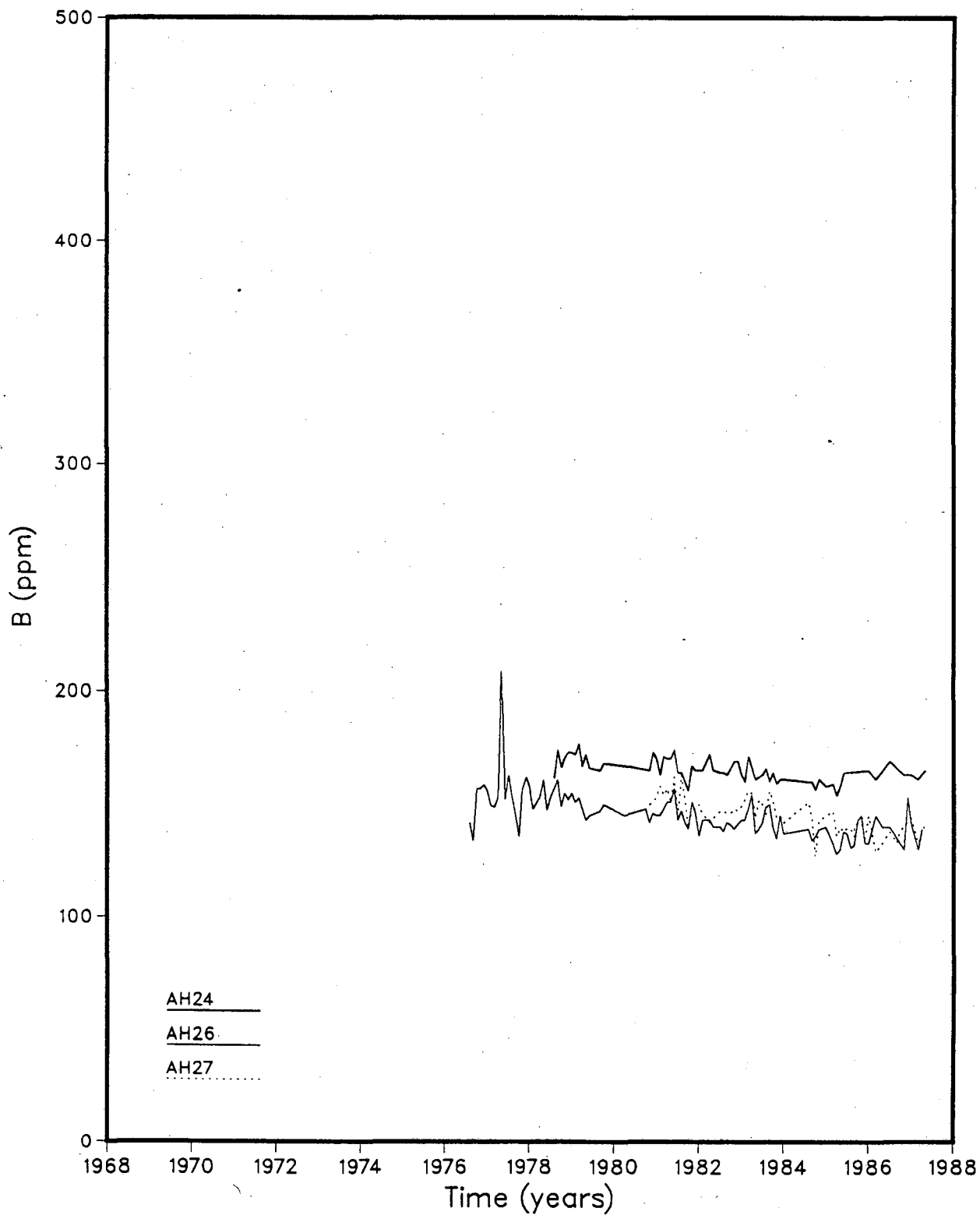
Water Chemistry (B)



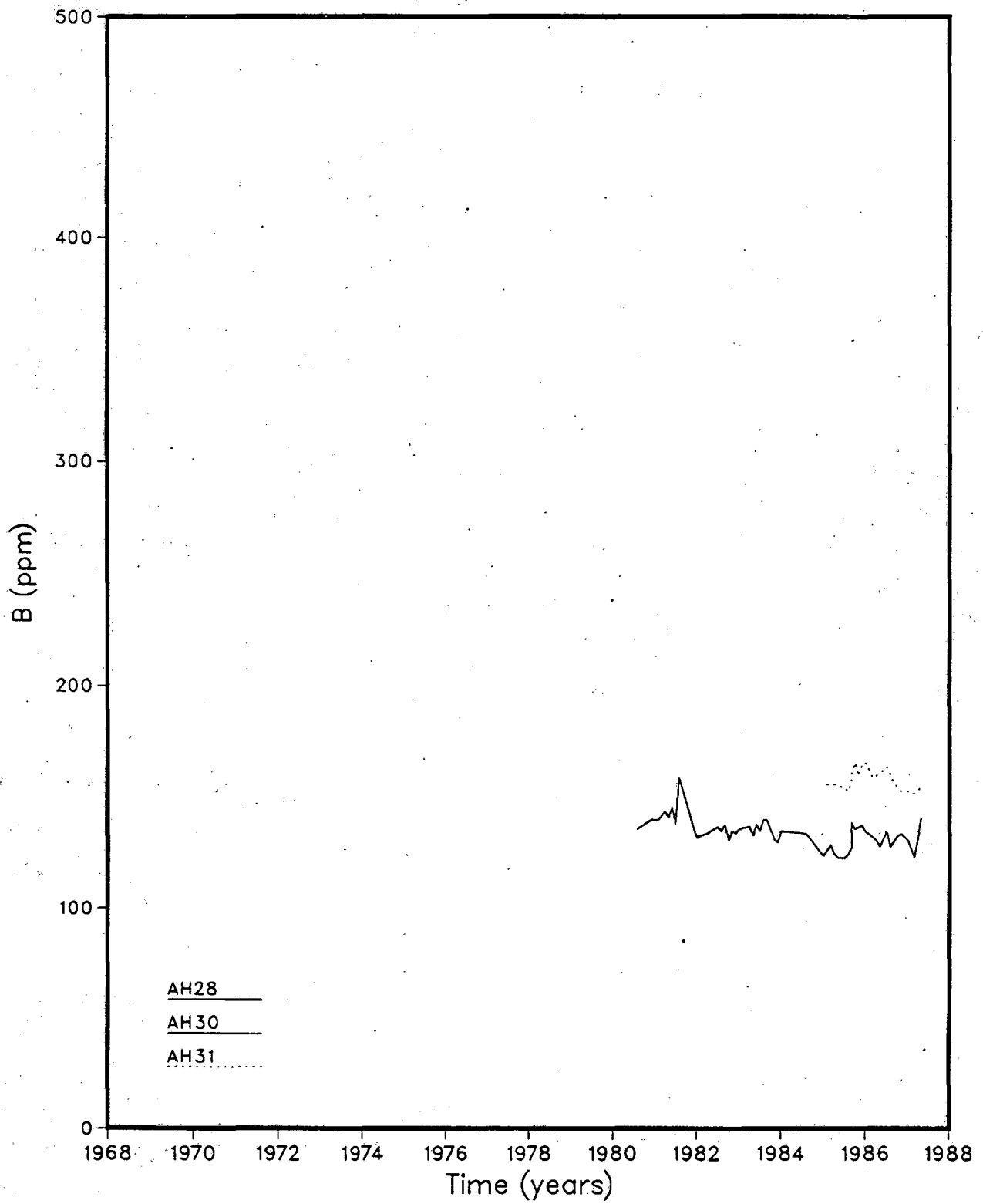
Water Chemistry (B)



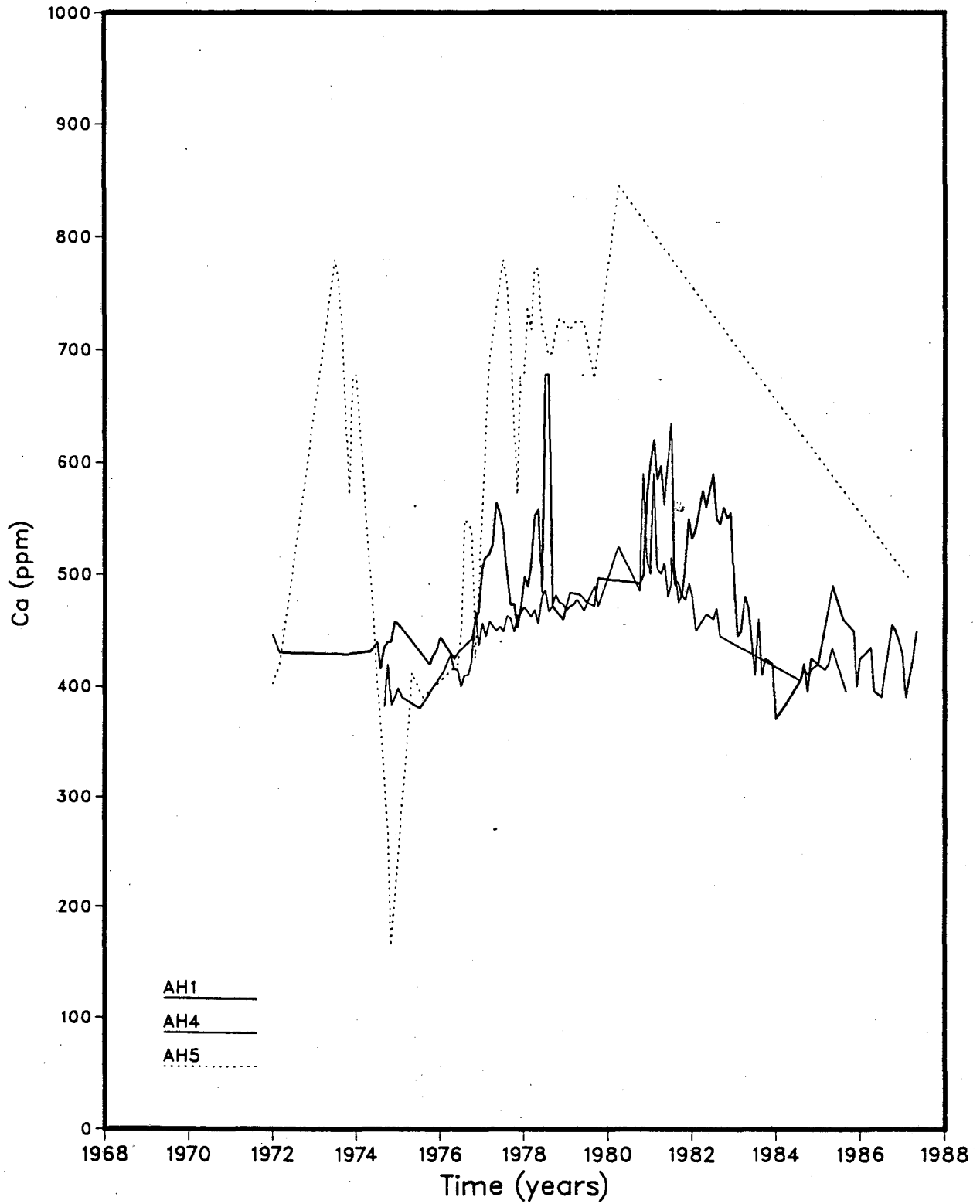
Water Chemistry (B)



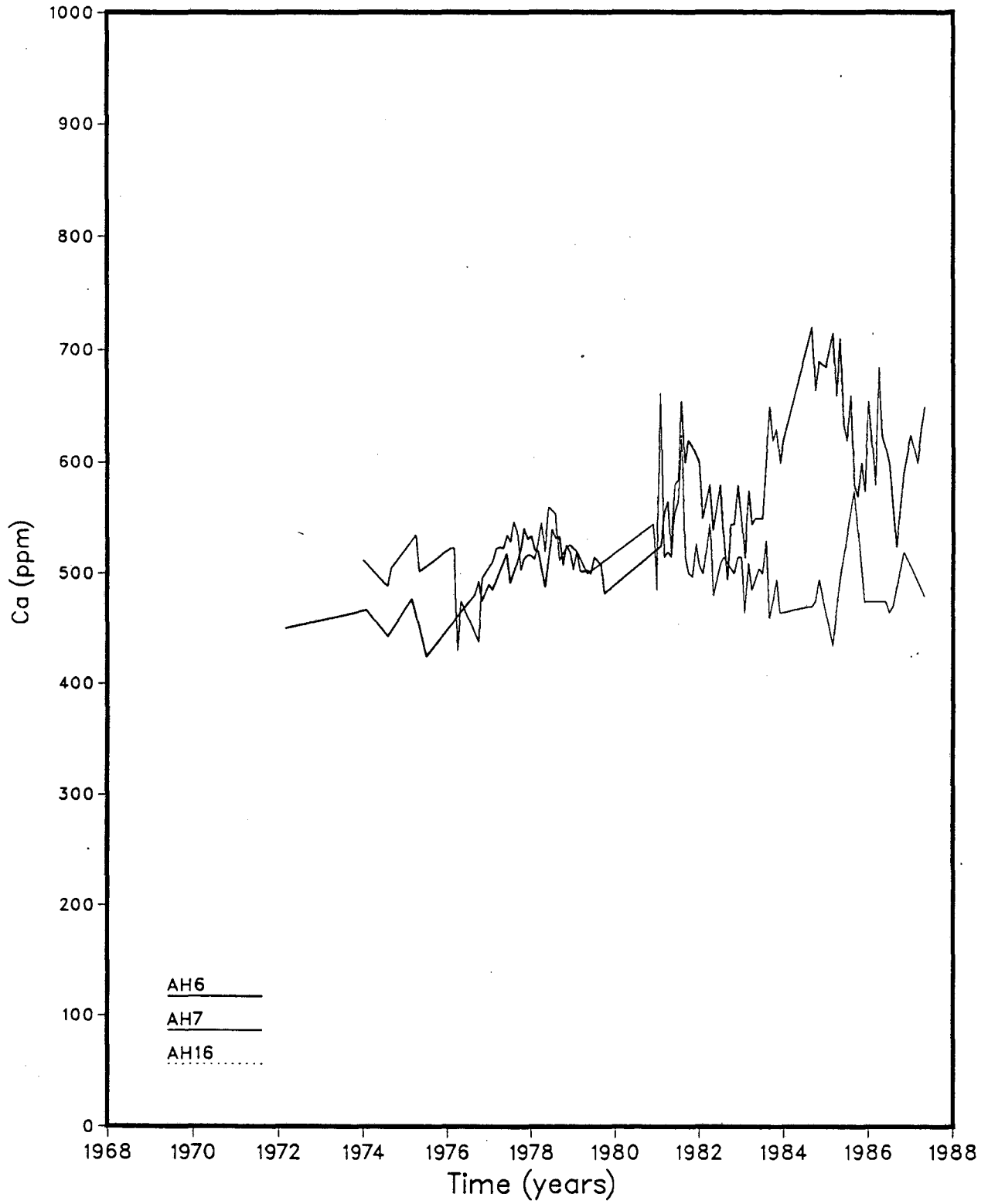
Water Chemistry (B)



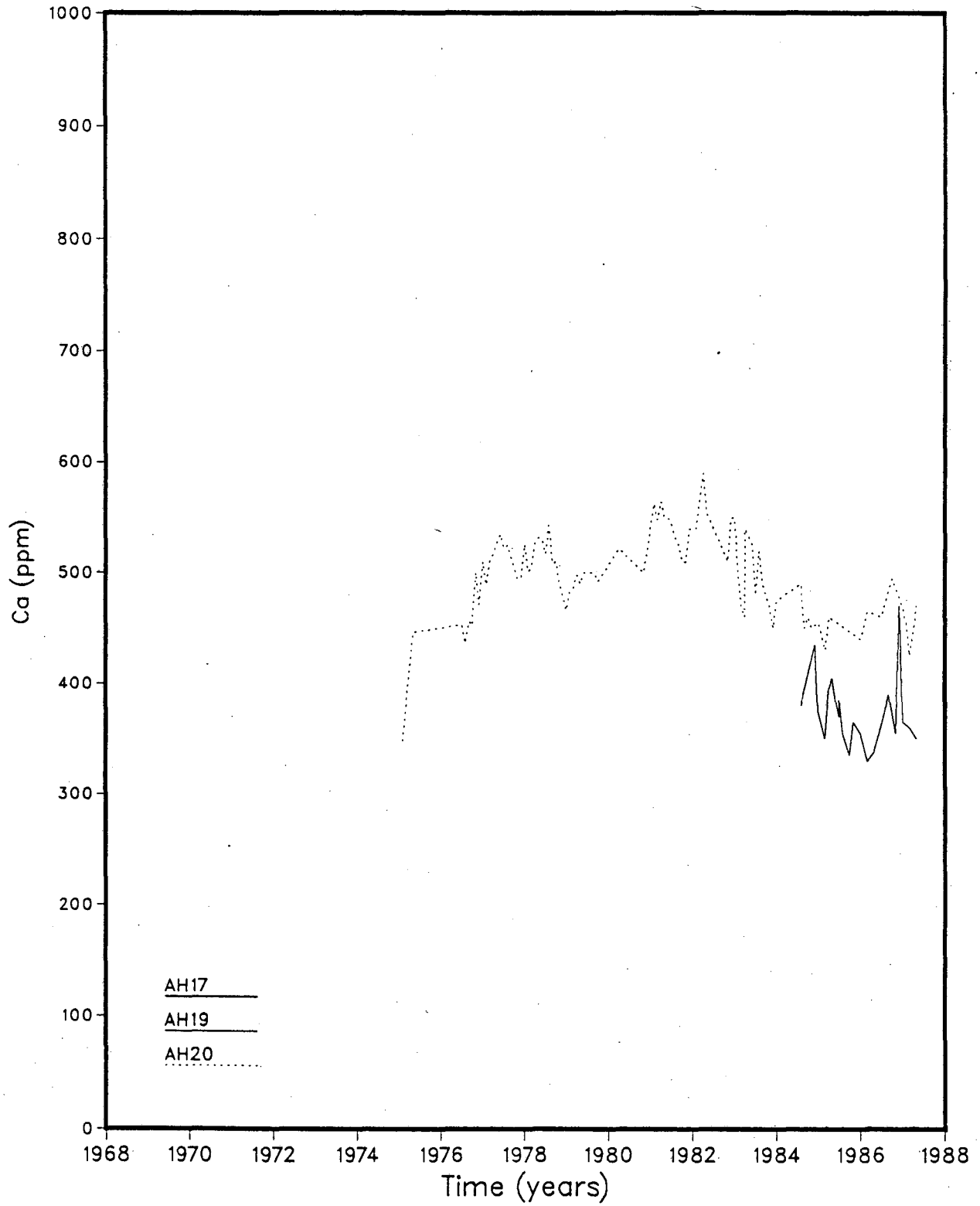
Water Chemistry (Ca)



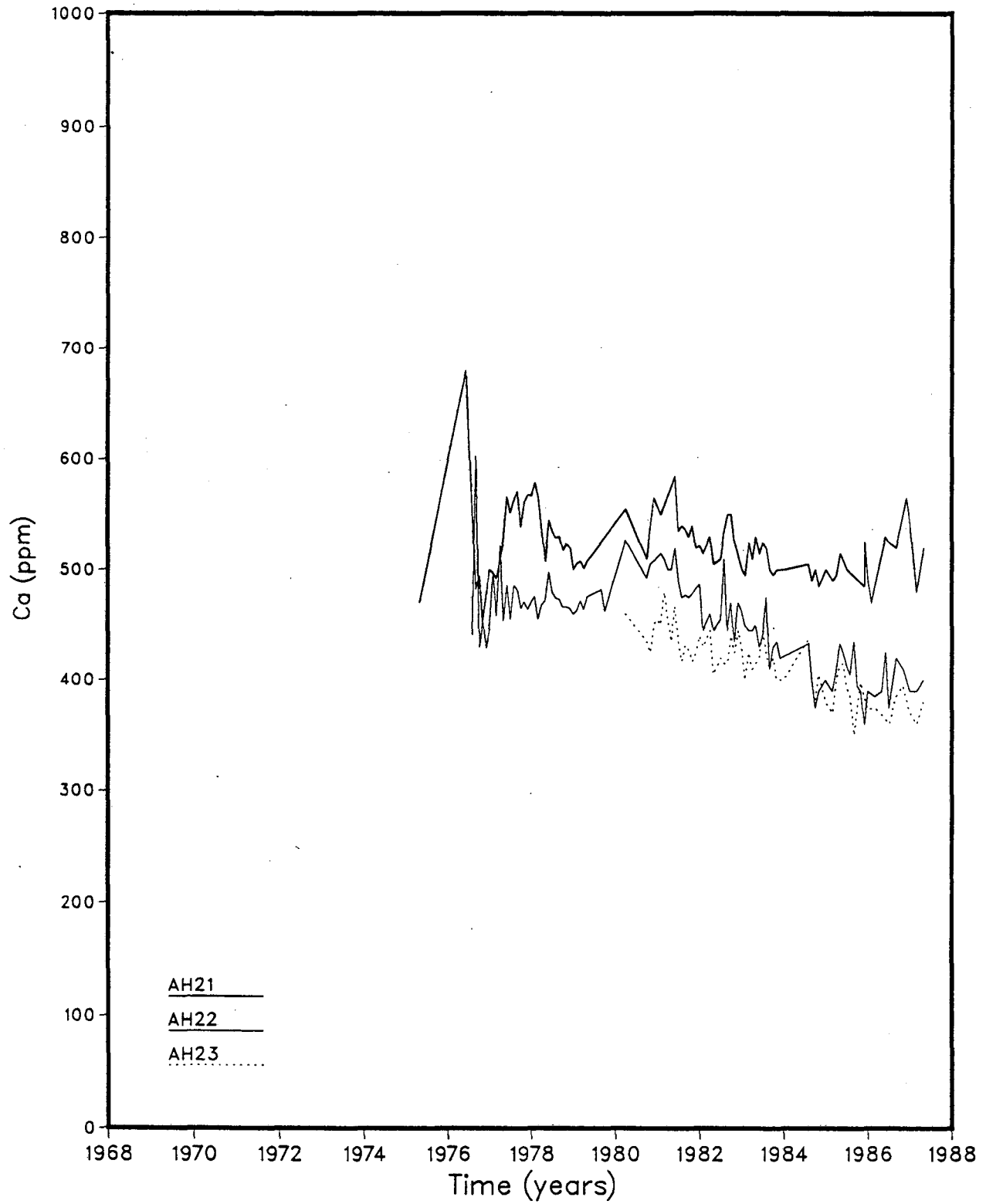
Water Chemistry (Ca)



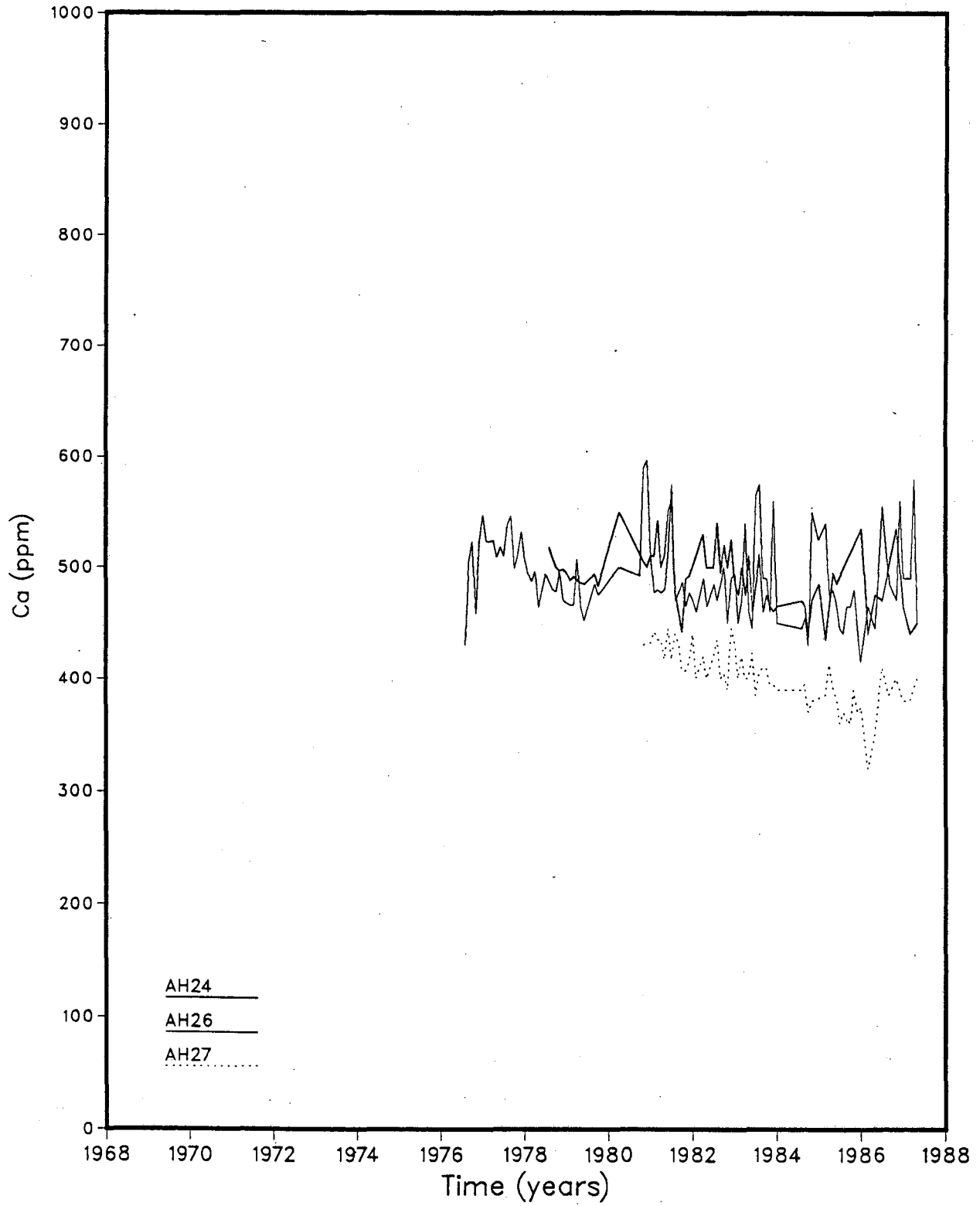
Water Chemistry (Ca)



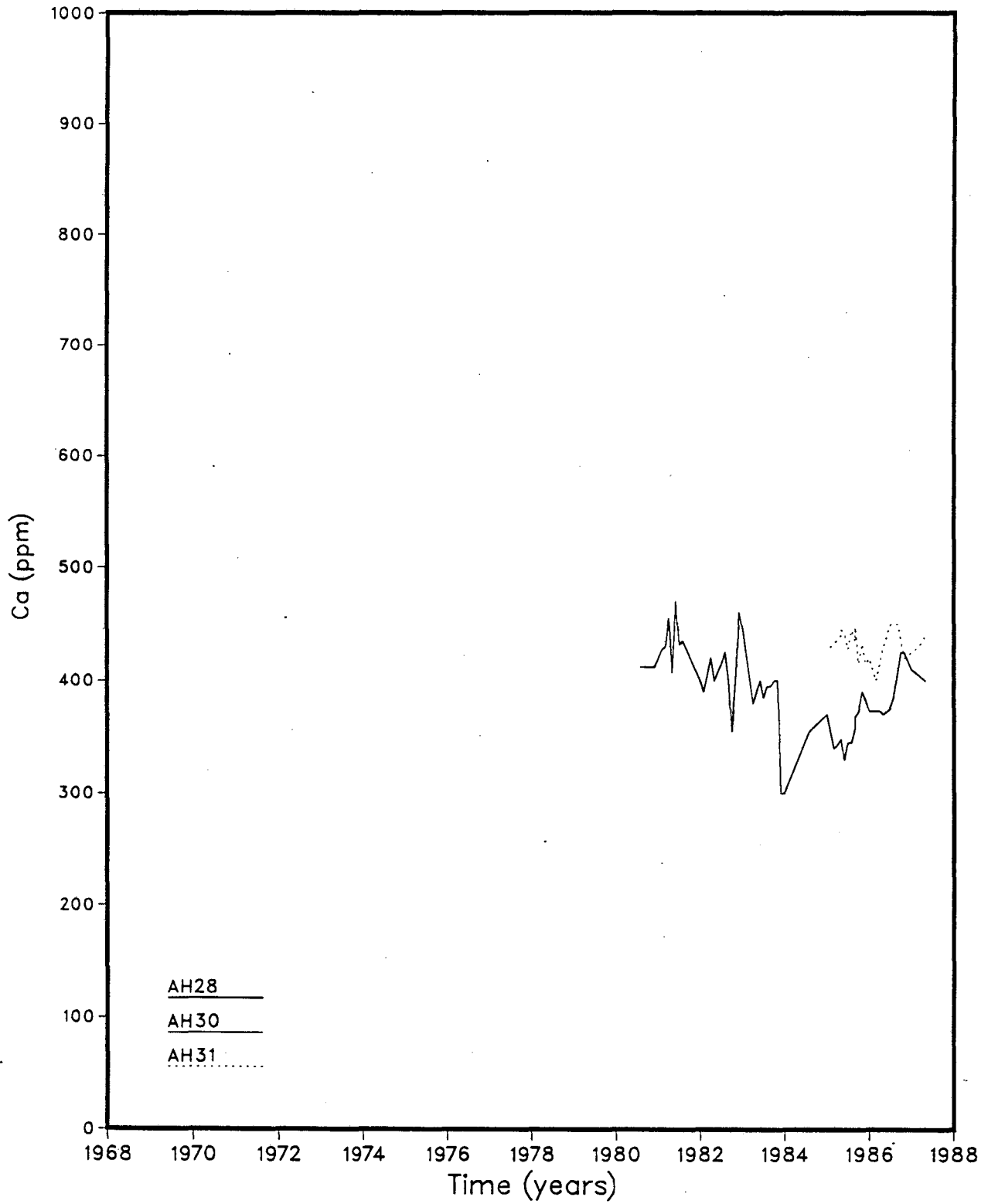
Water Chemistry (Ca)



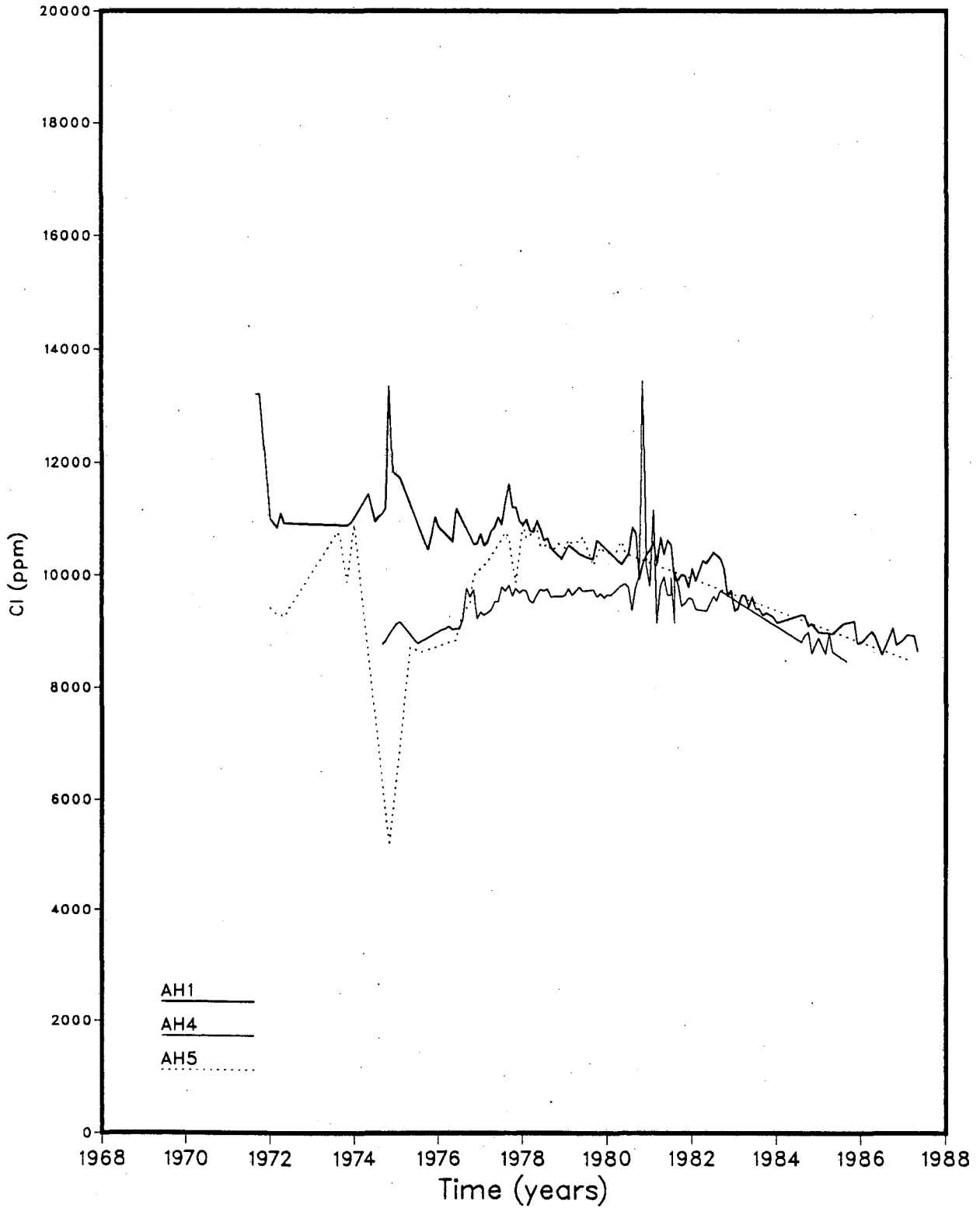
Water Chemistry (Ca)



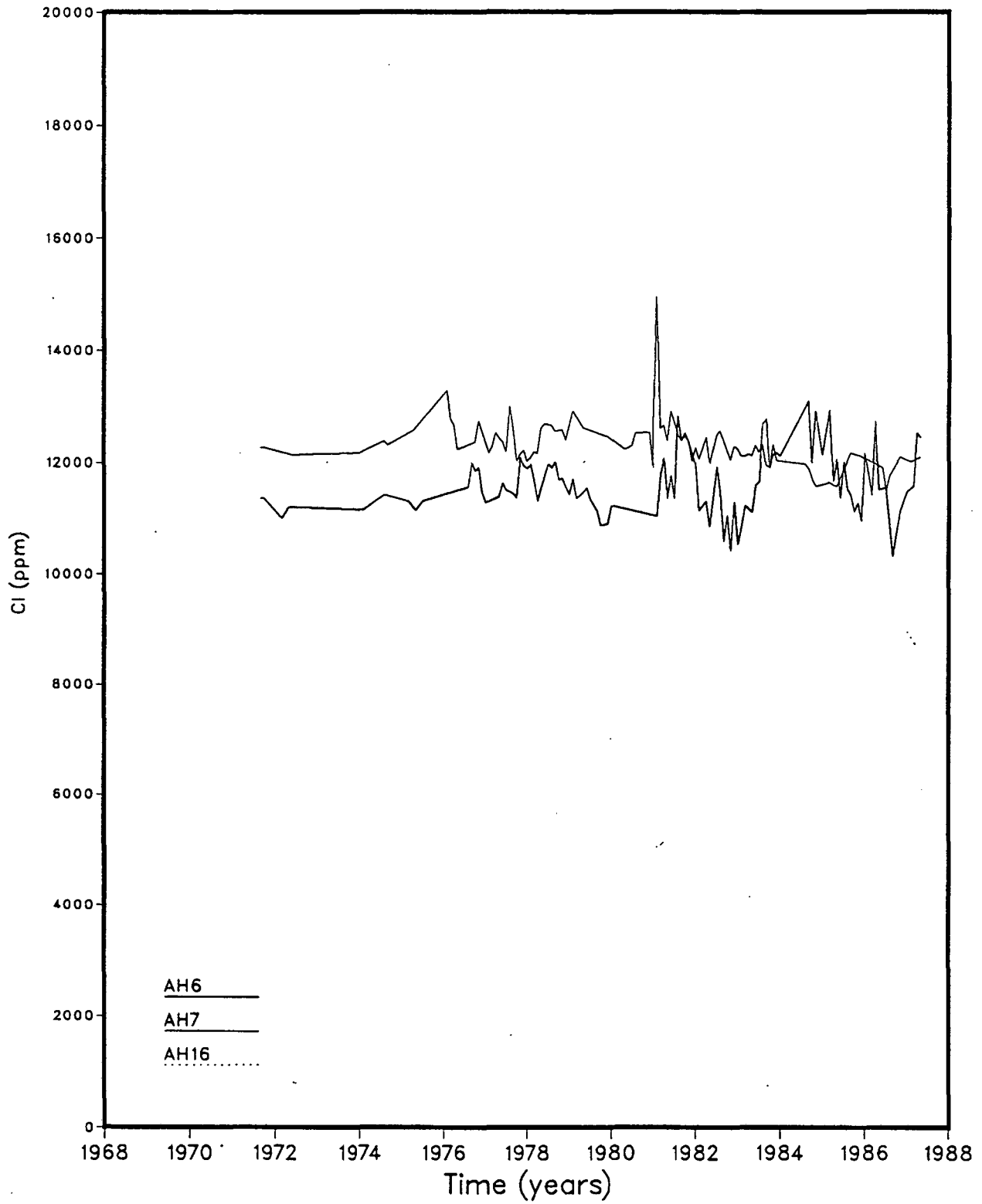
Water Chemistry (Ca)



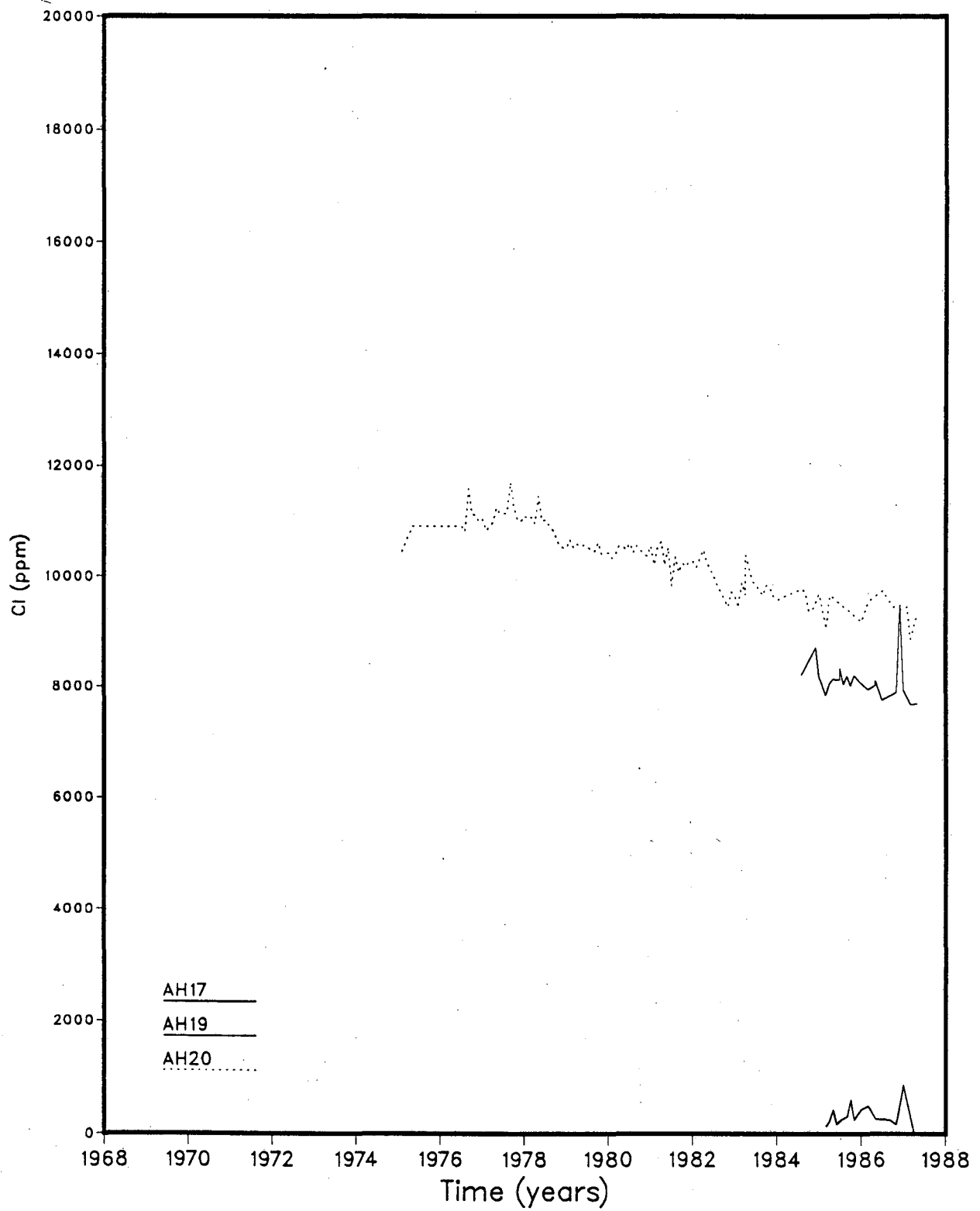
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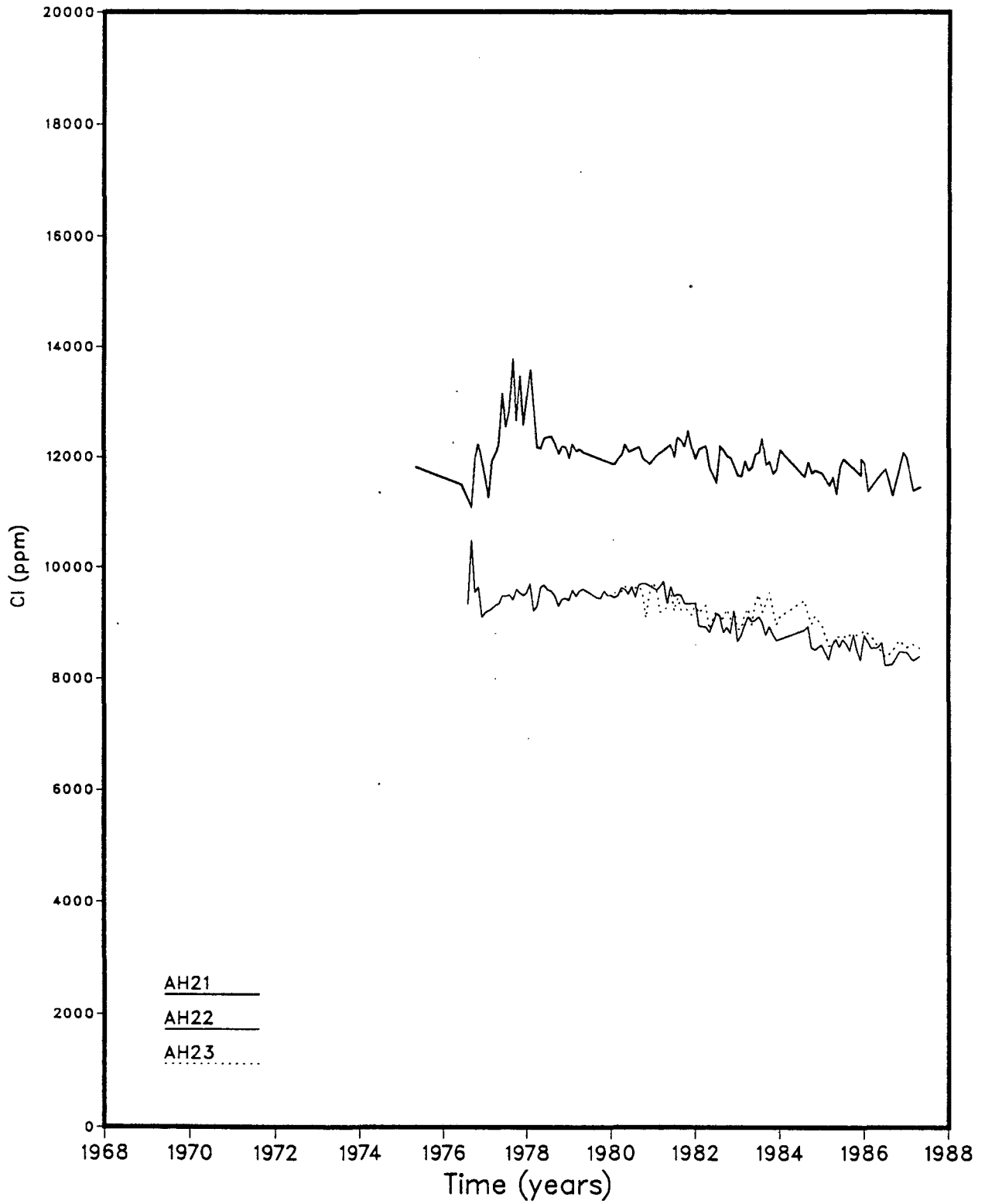
Water Chemistry (Cl)



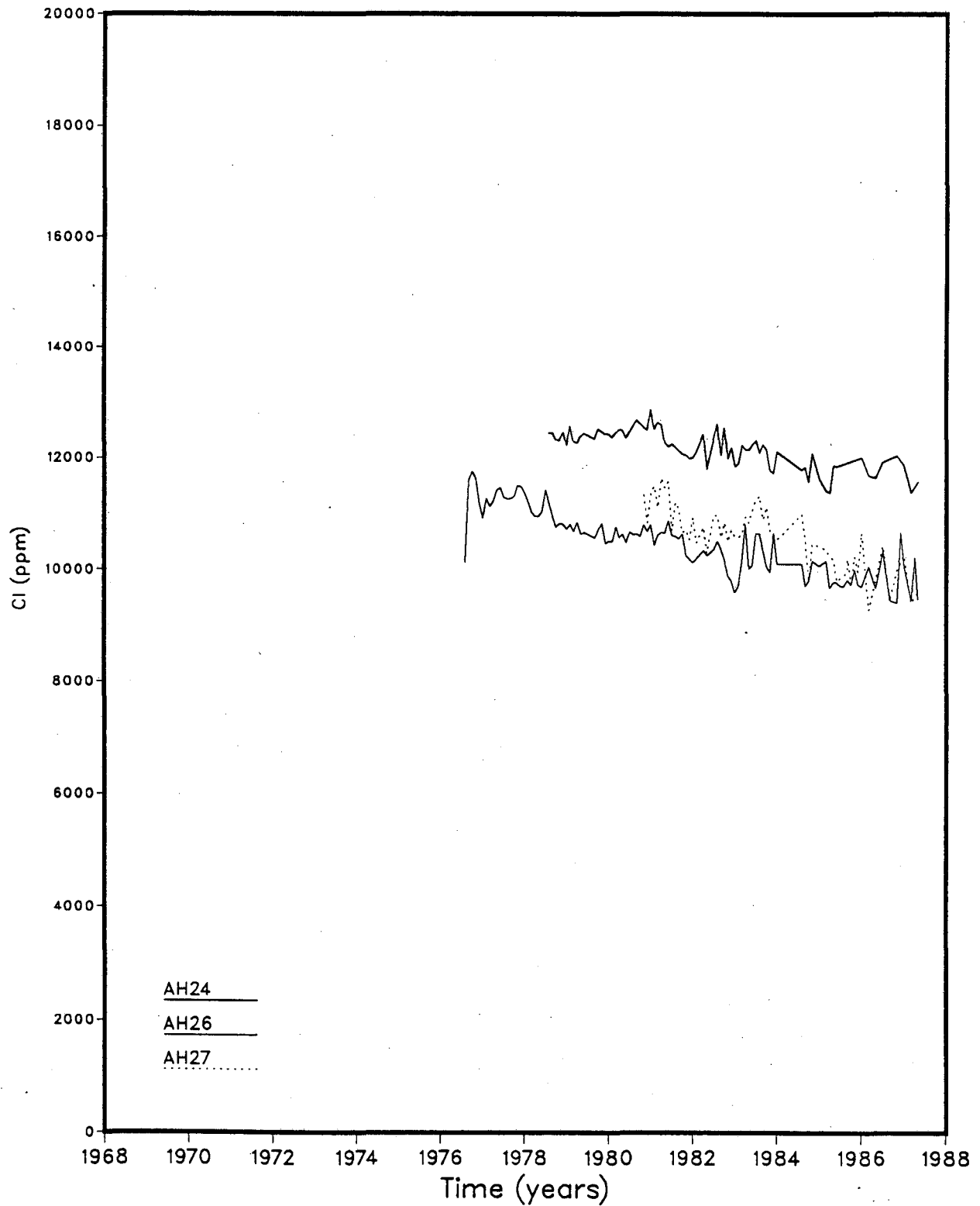
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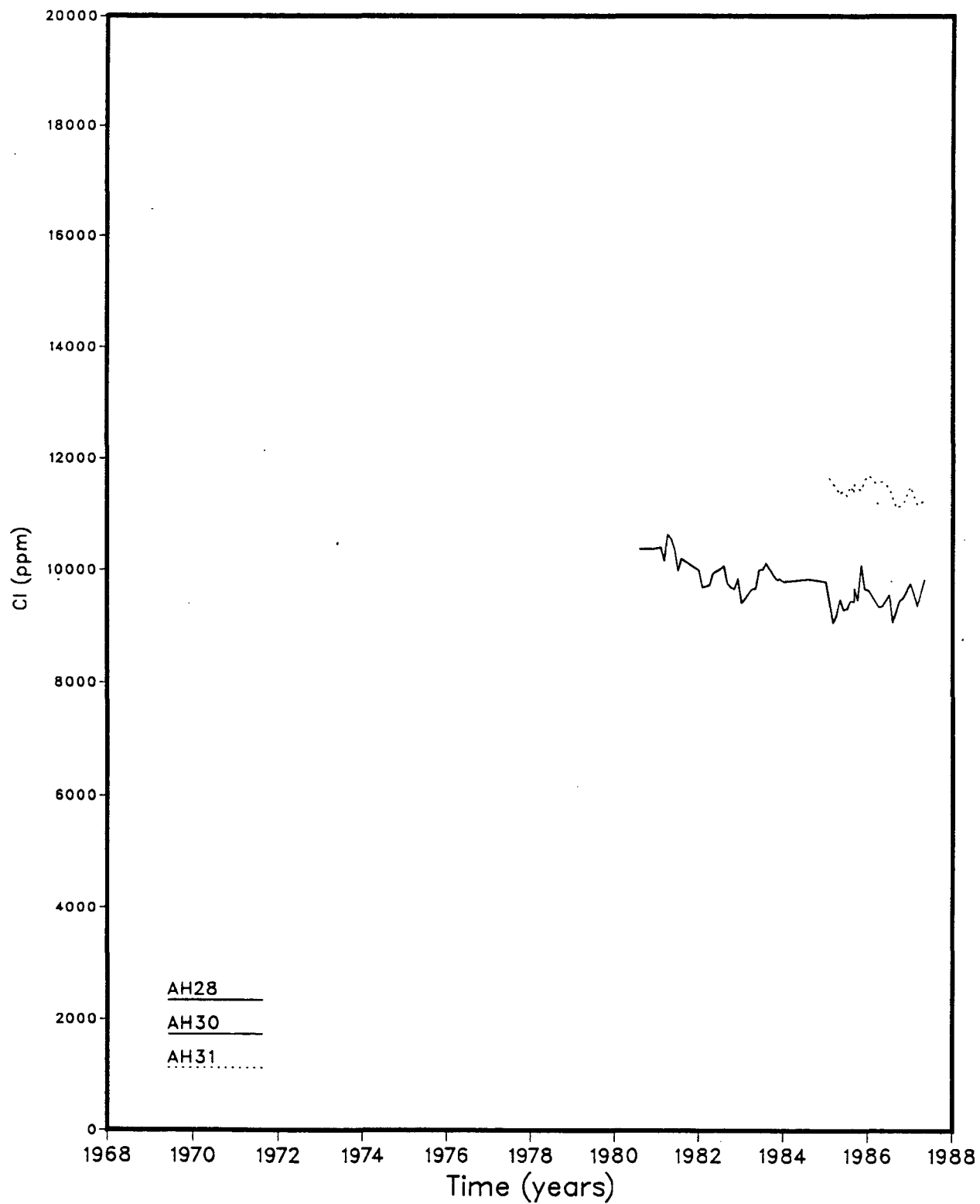
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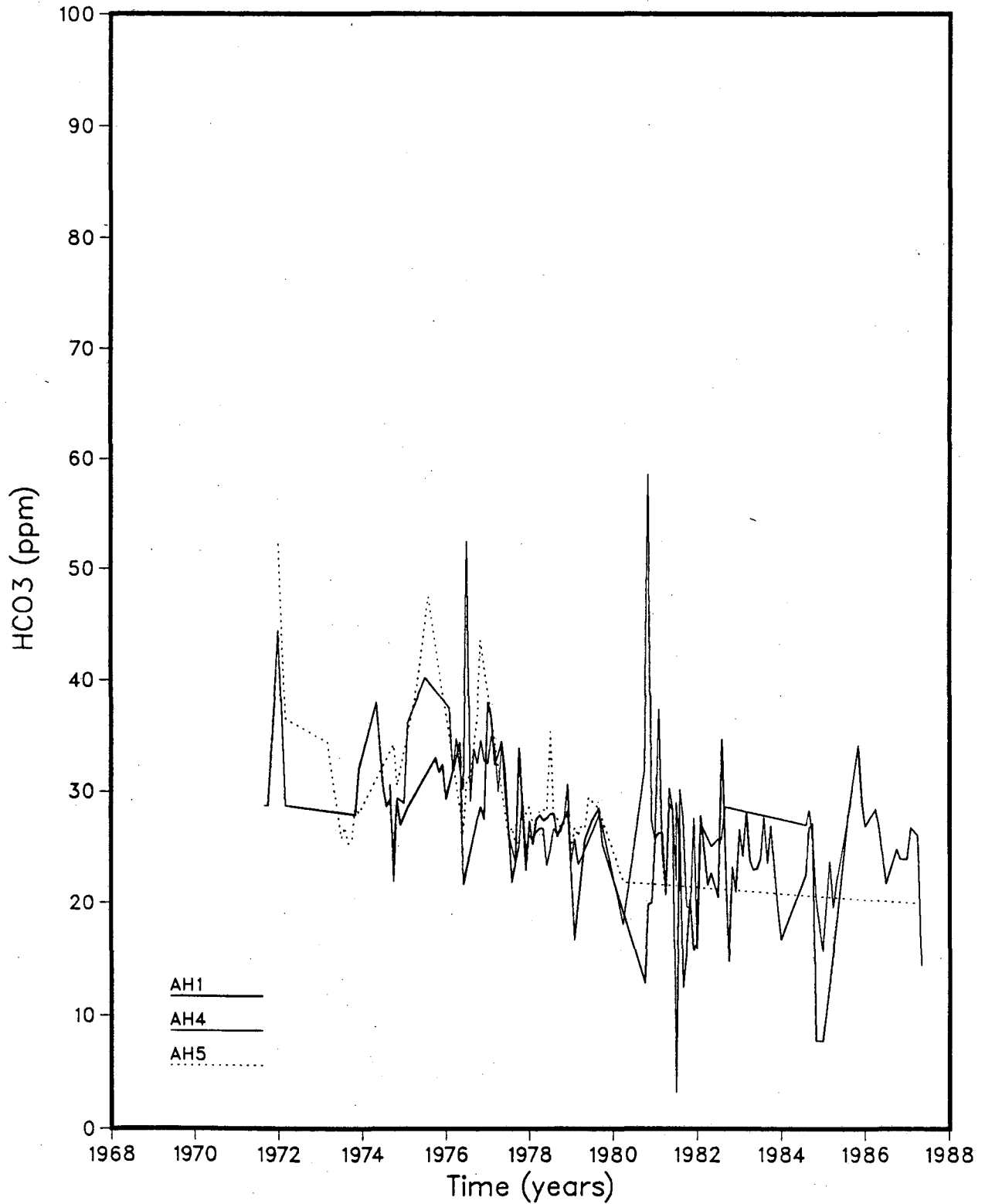
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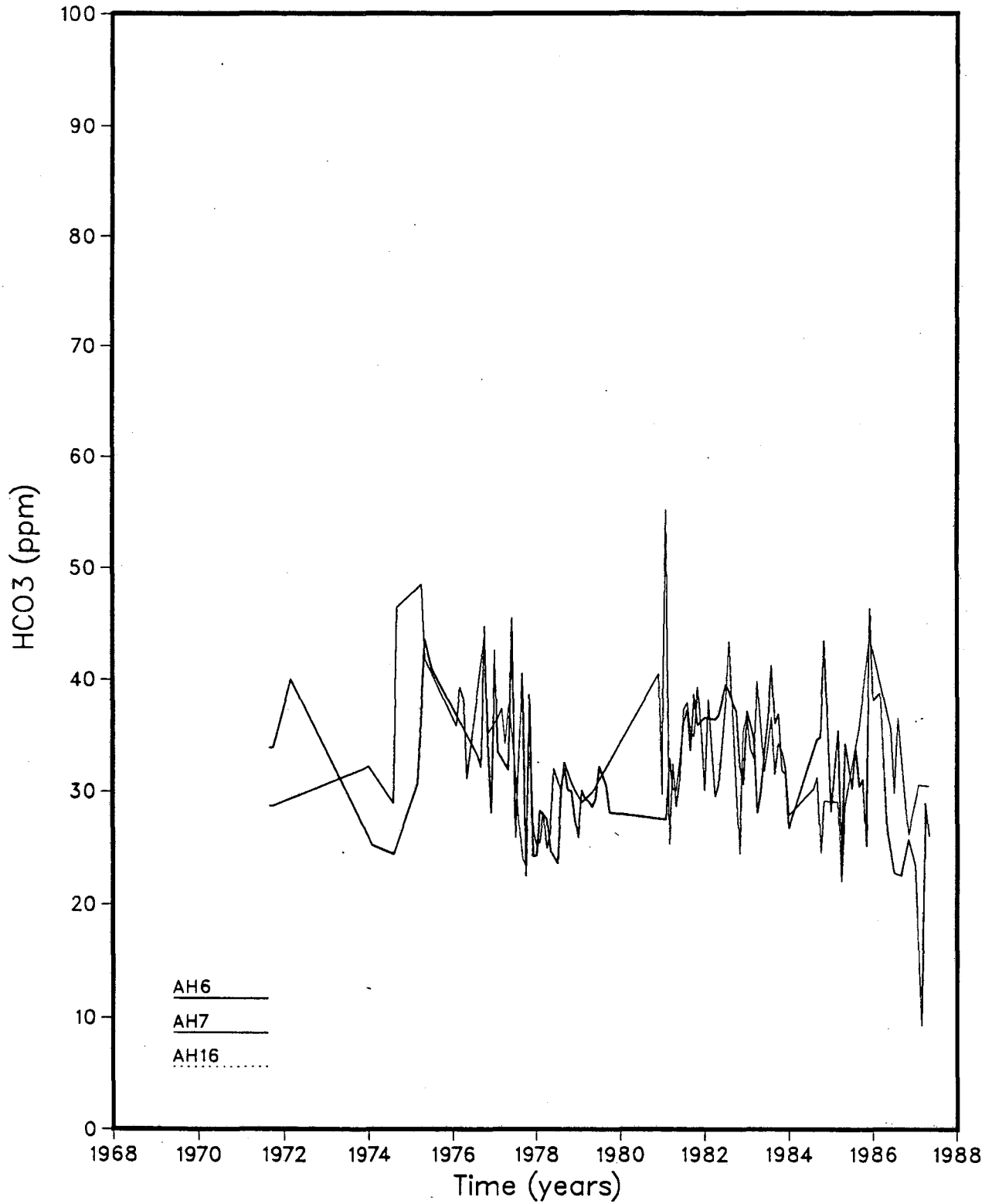
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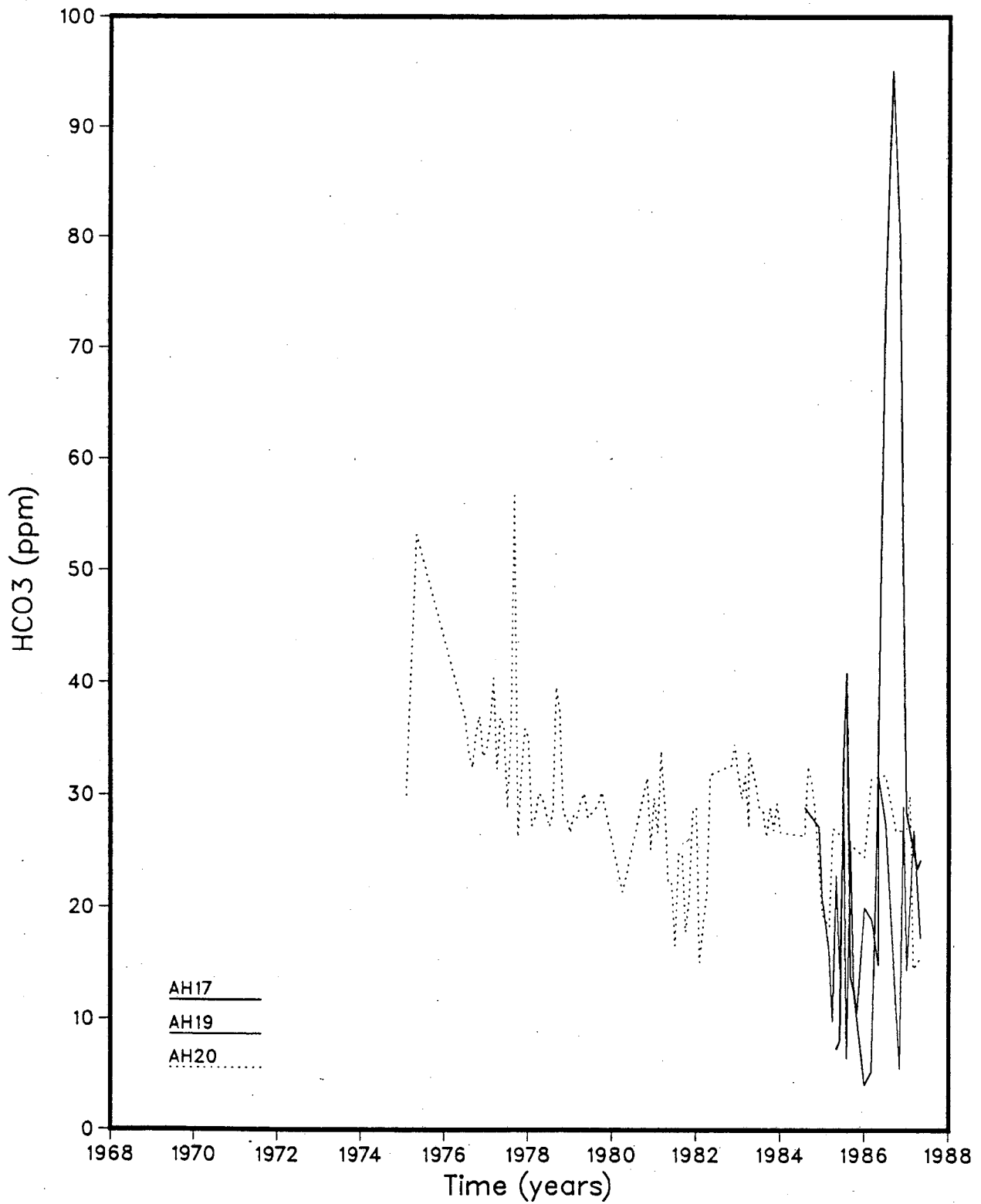
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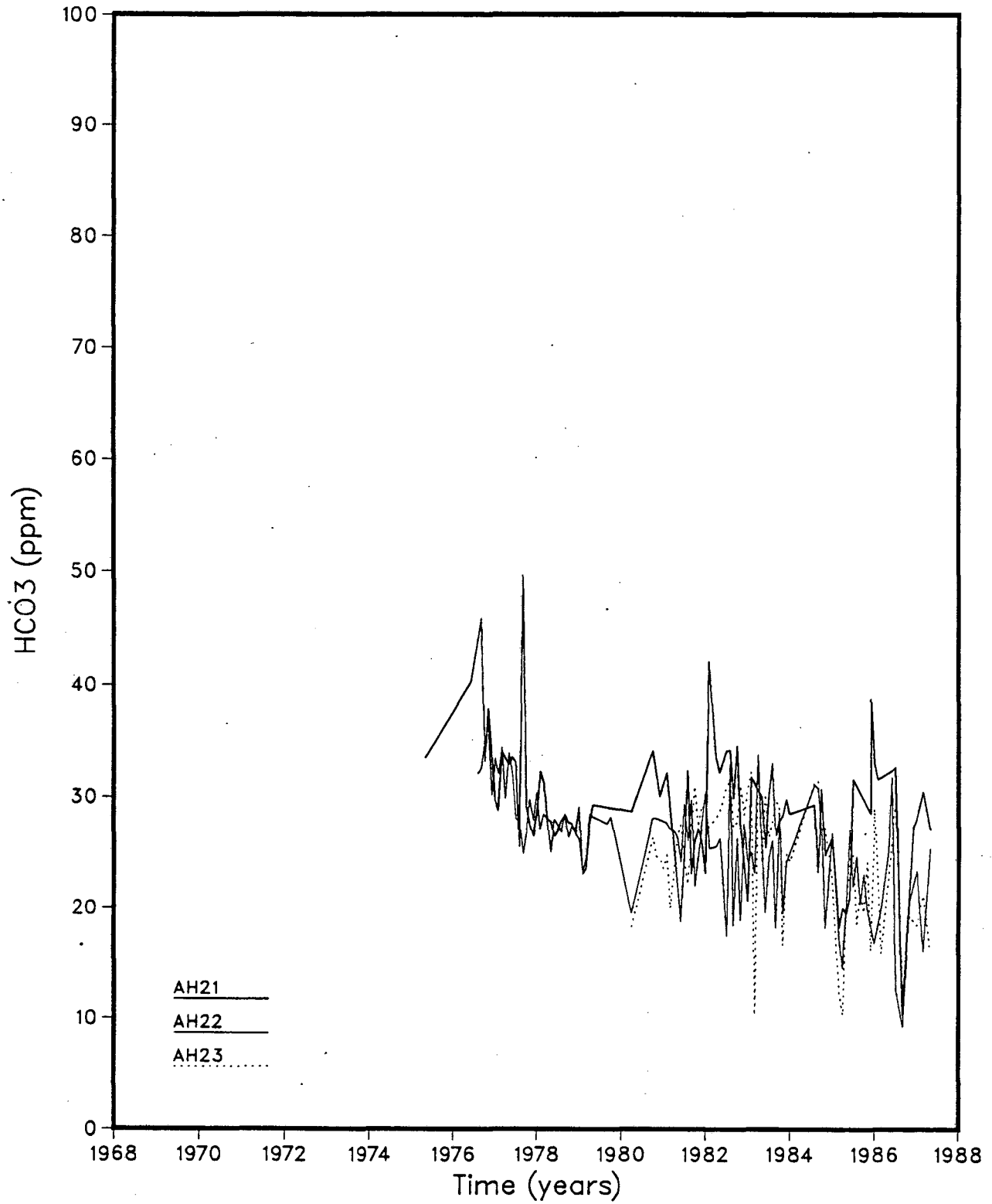
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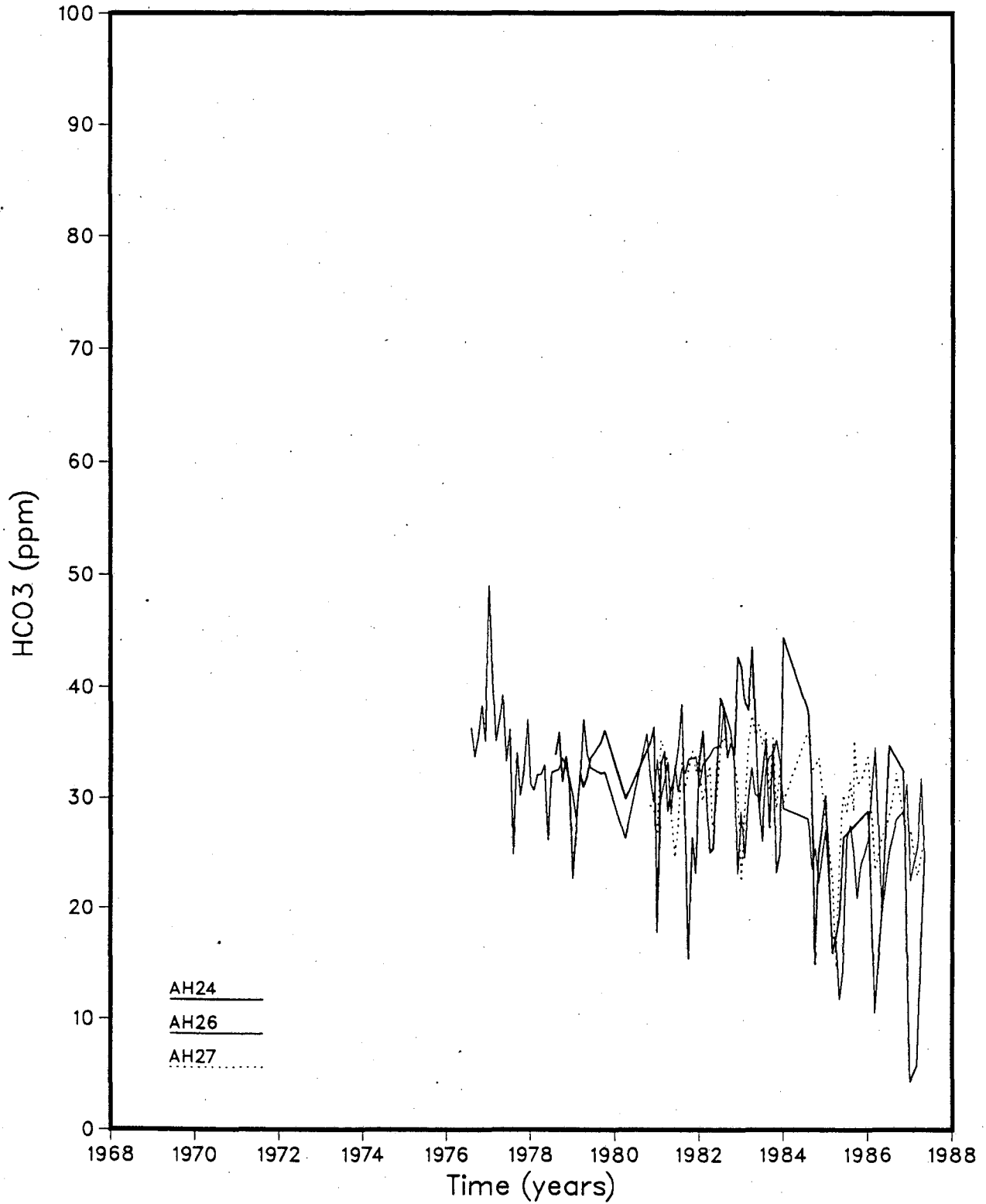
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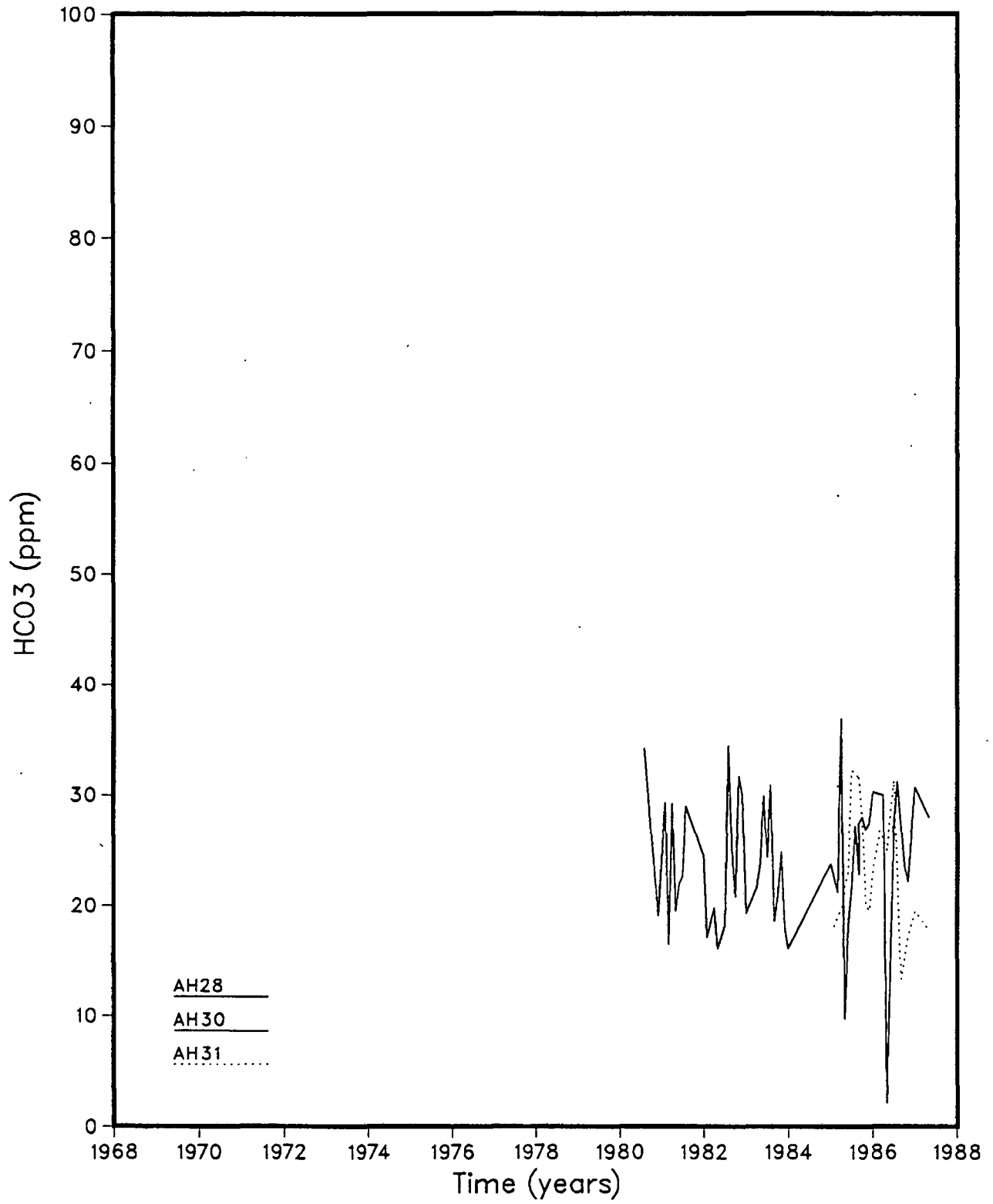
Water Chemistry (HCO₃)



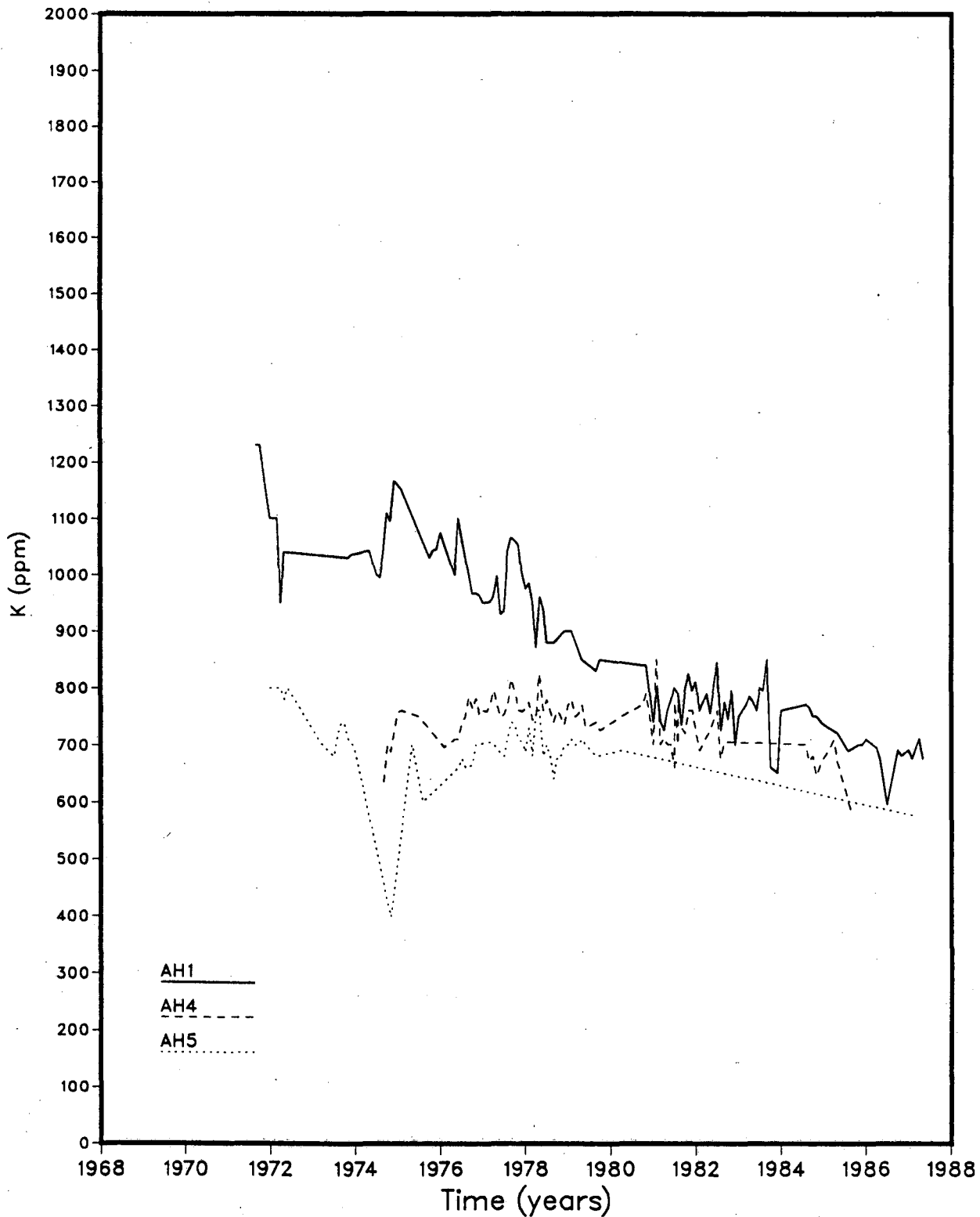
Water Chemistry (HCO₃)



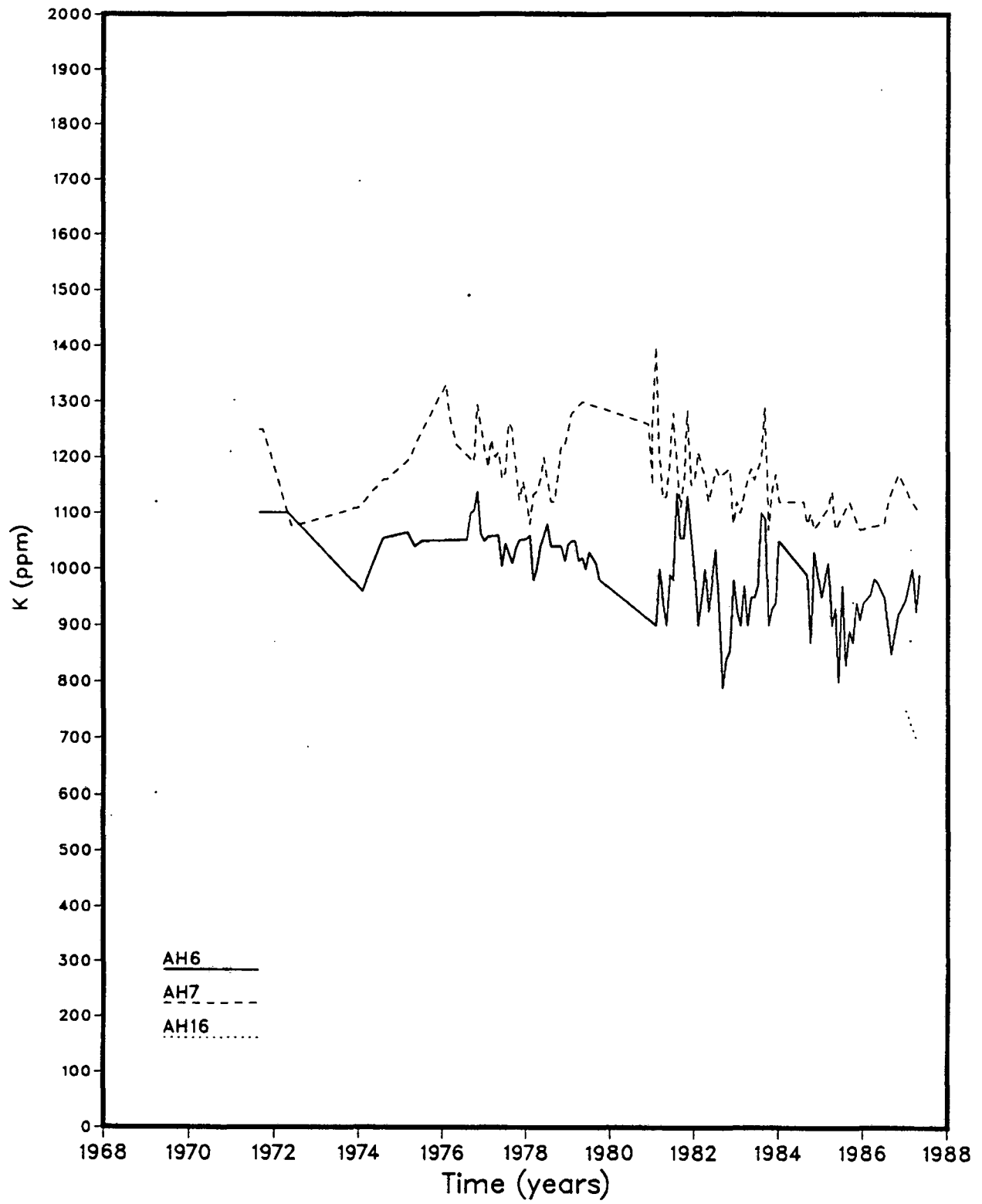
Water Chemistry (HCO₃)



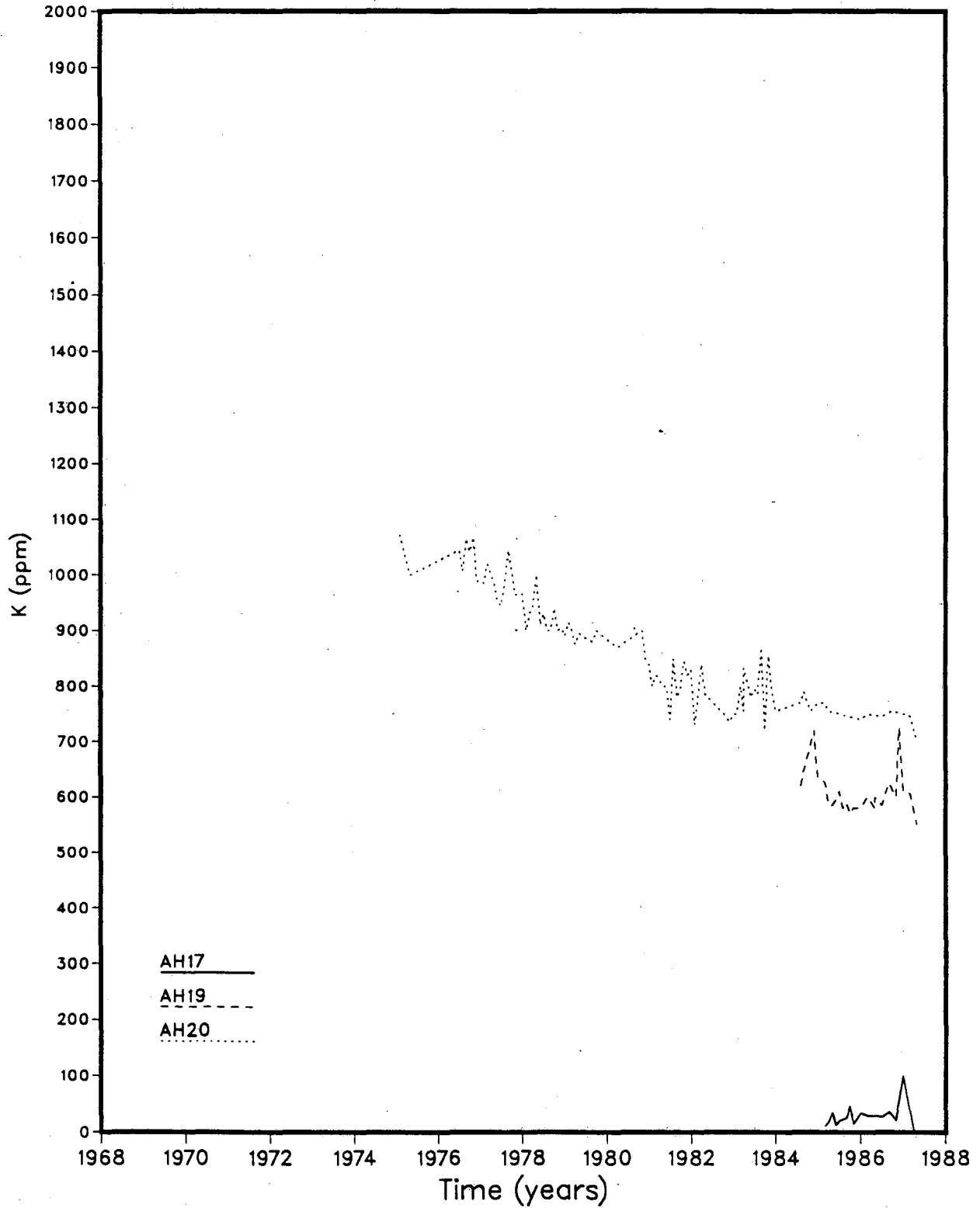
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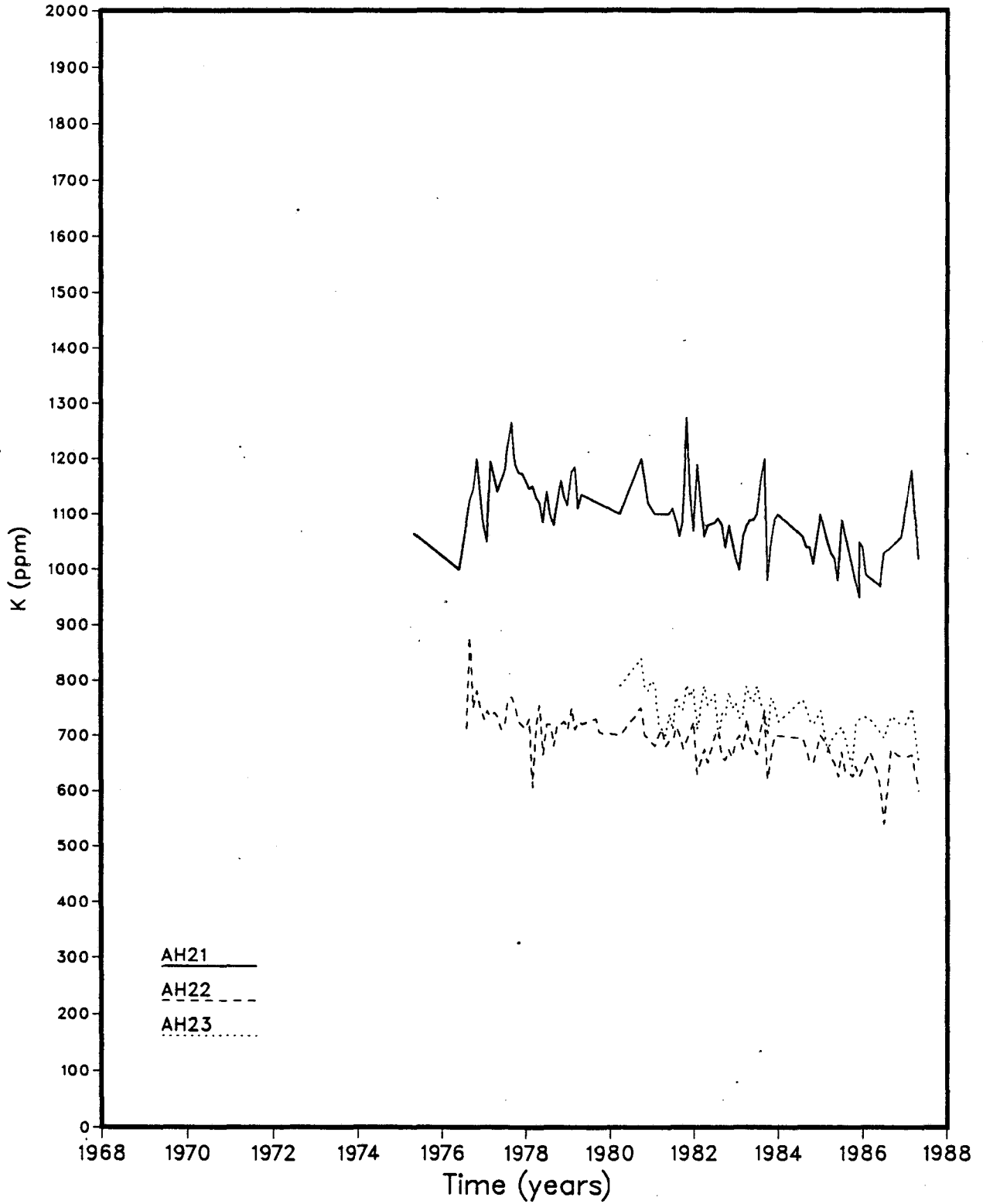
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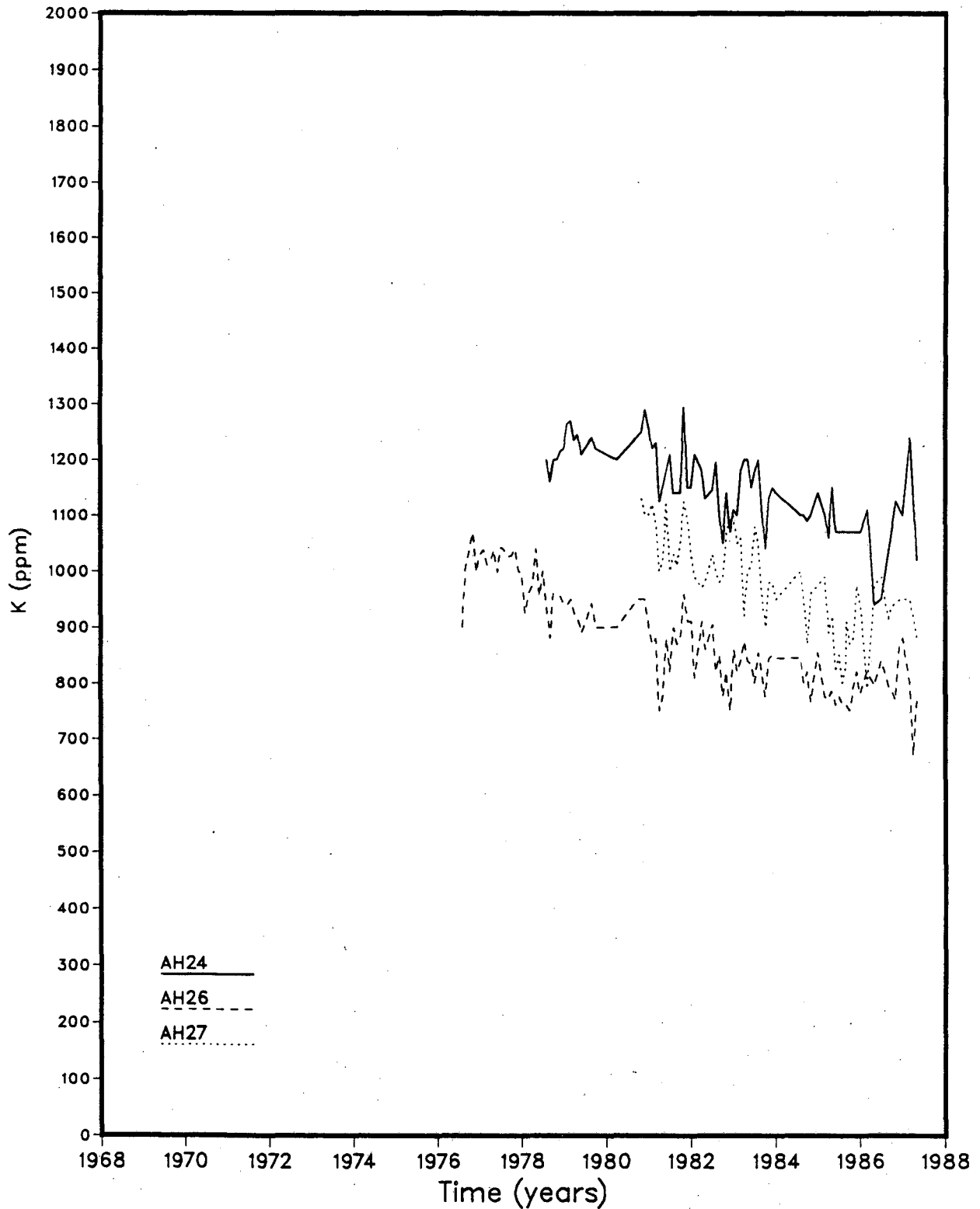
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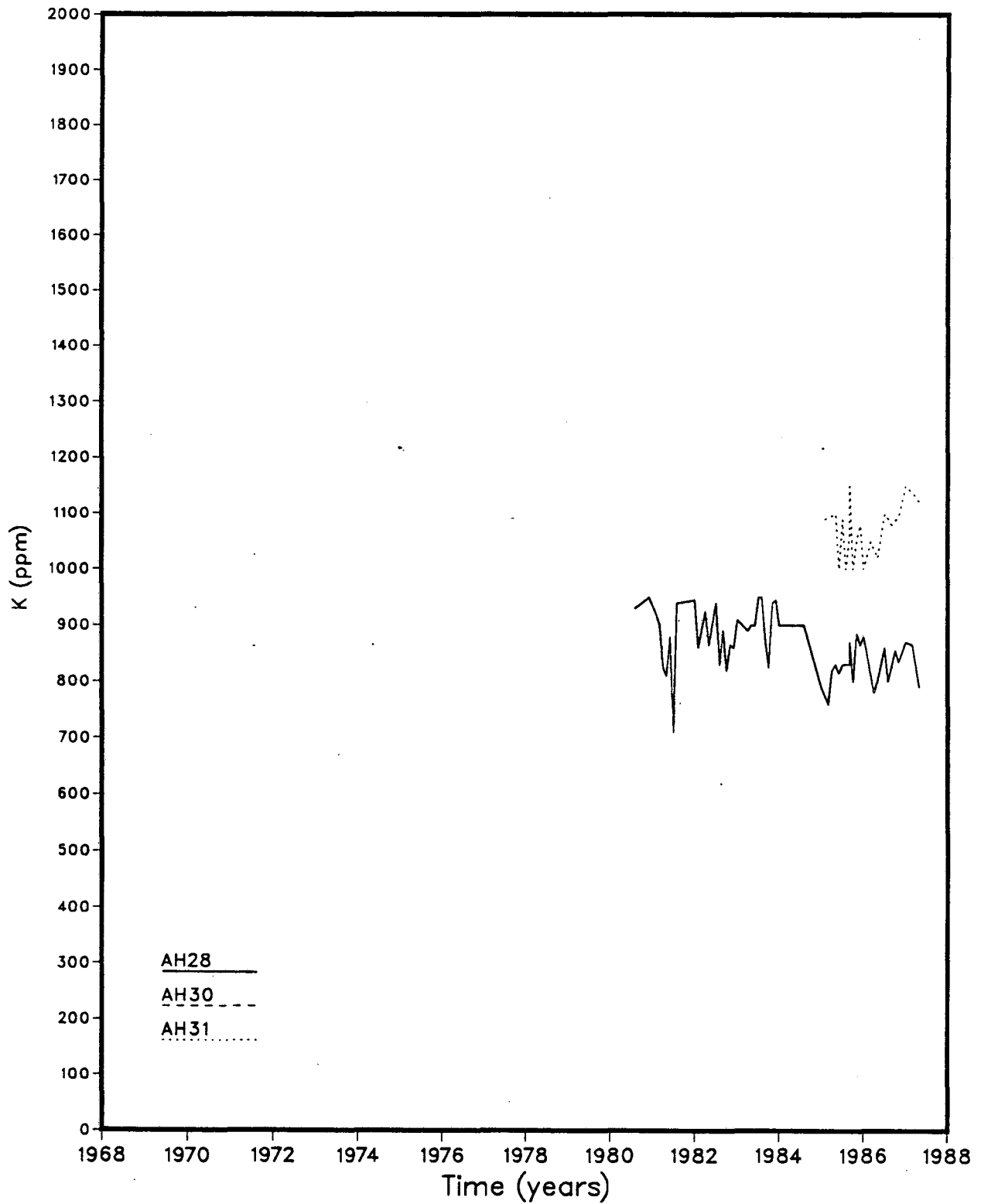
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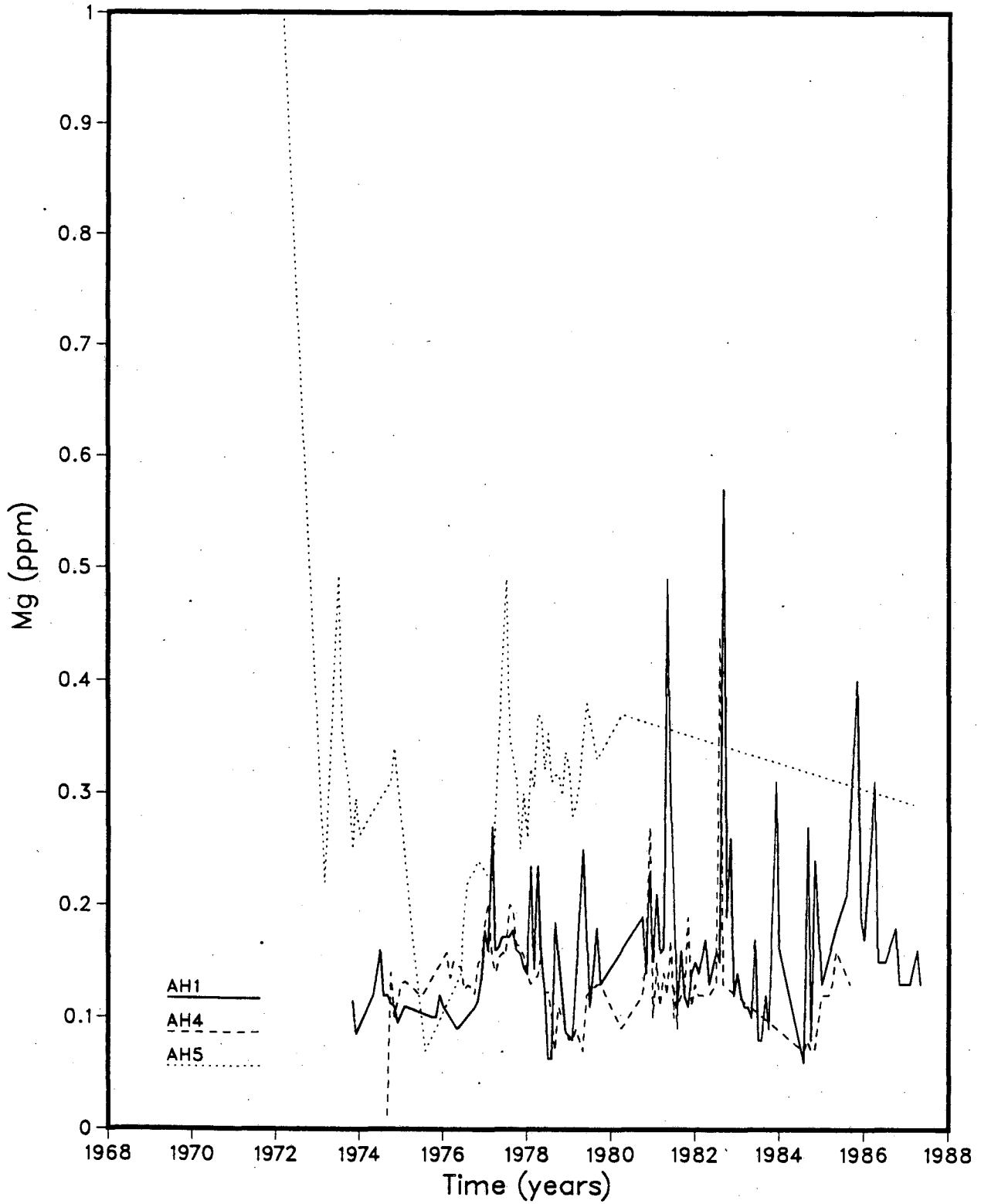
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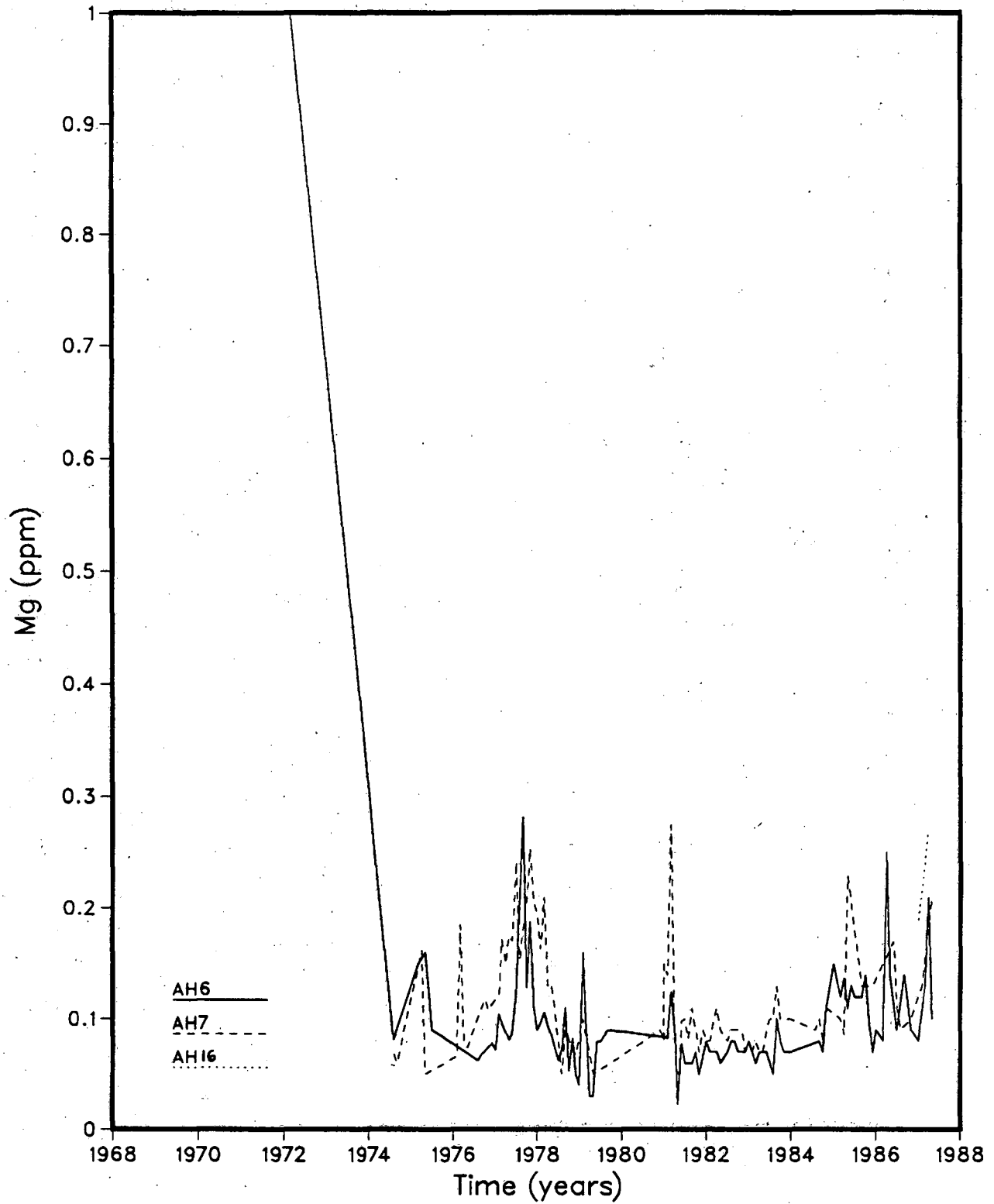
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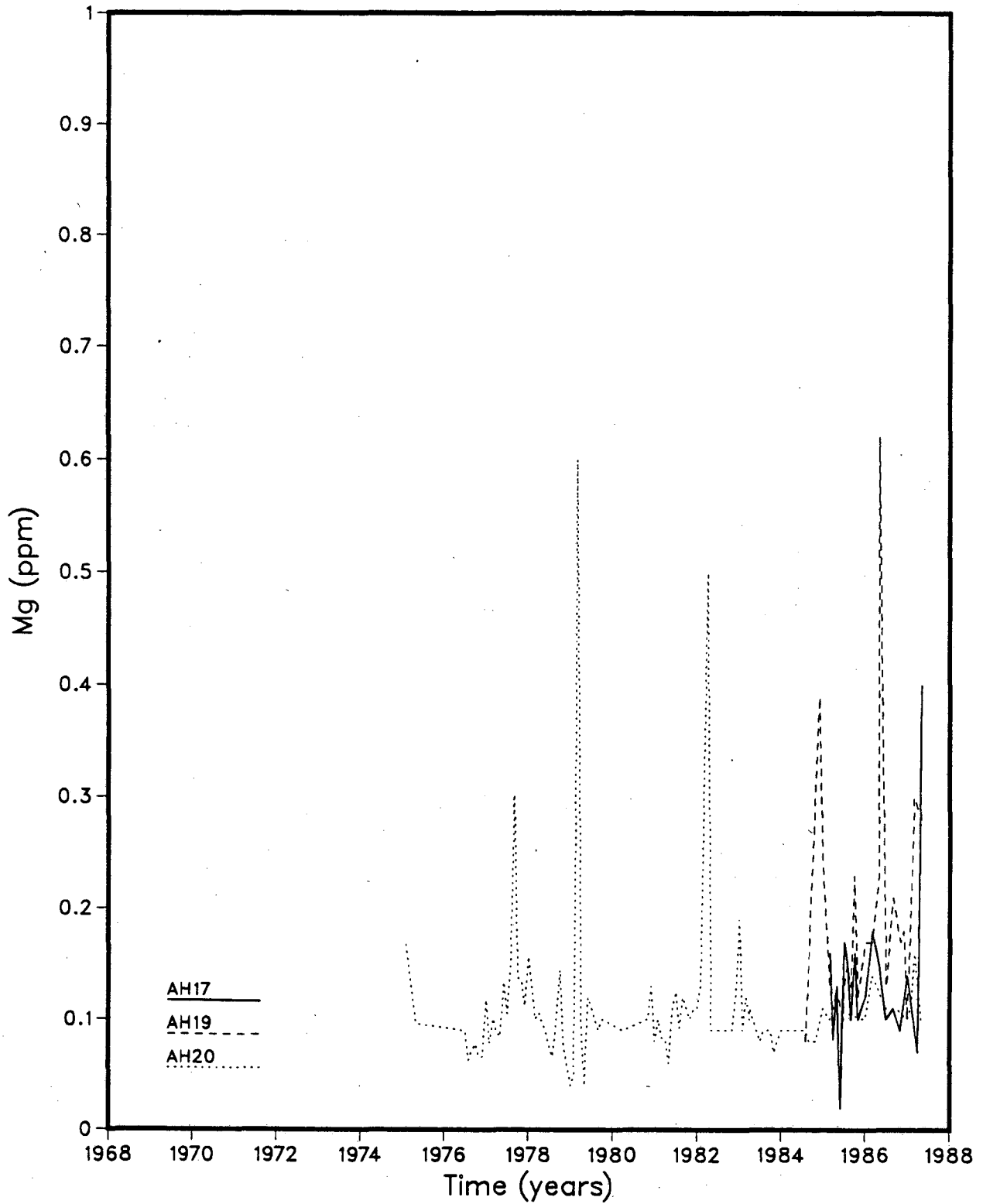
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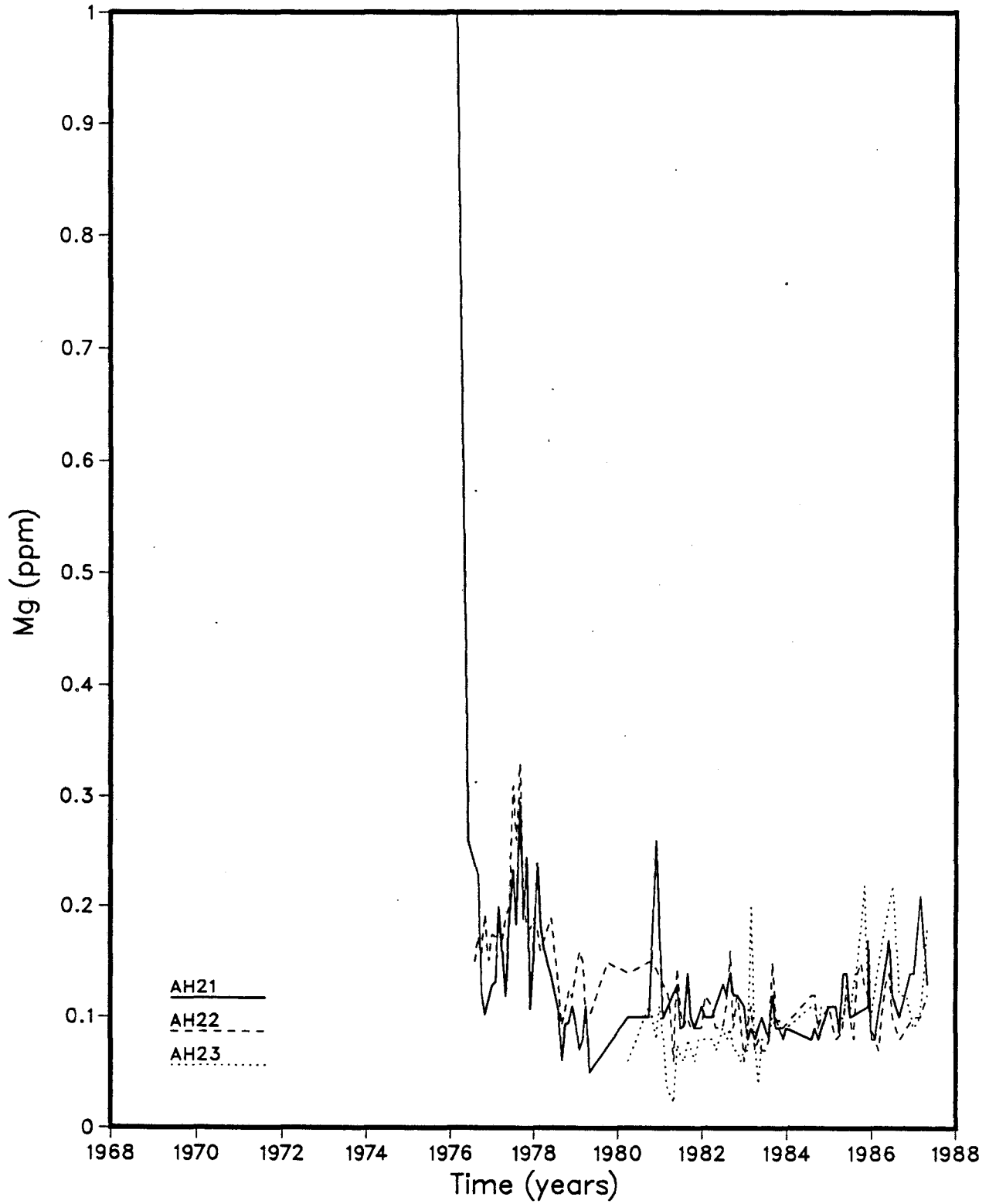
Water Chemistry (Mg)



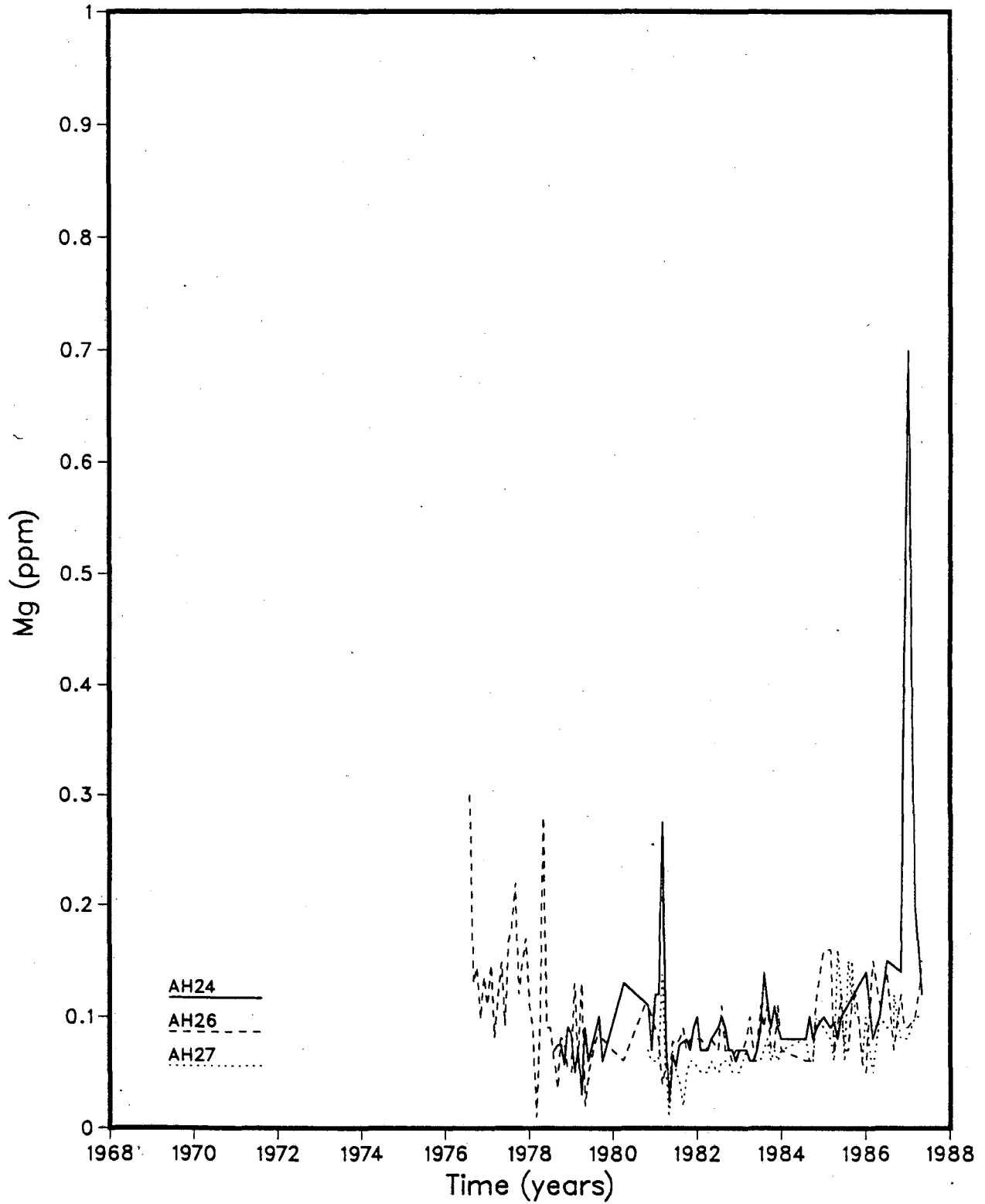
Water Chemistry (Mg)



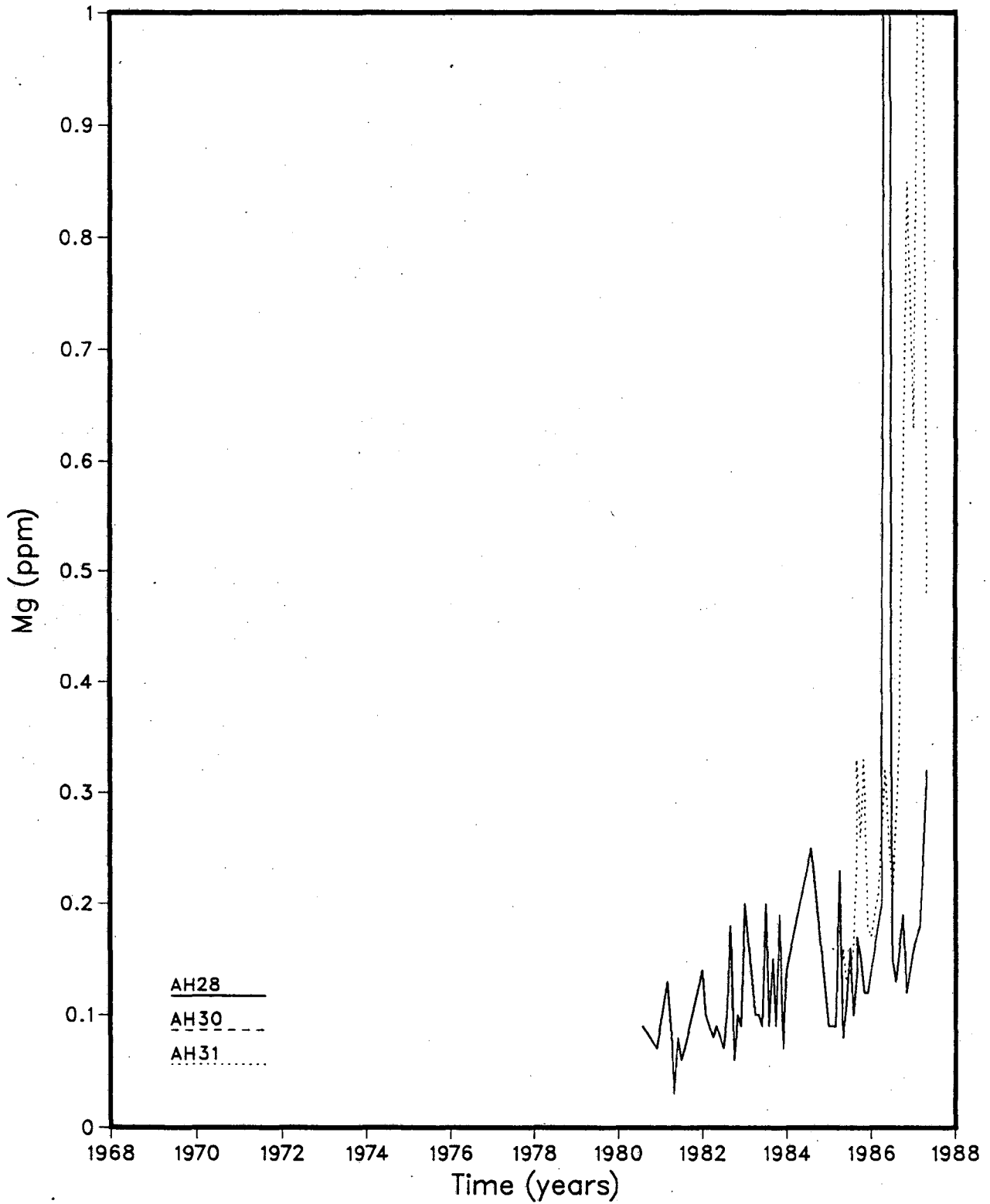
Water Chemistry (Mg)



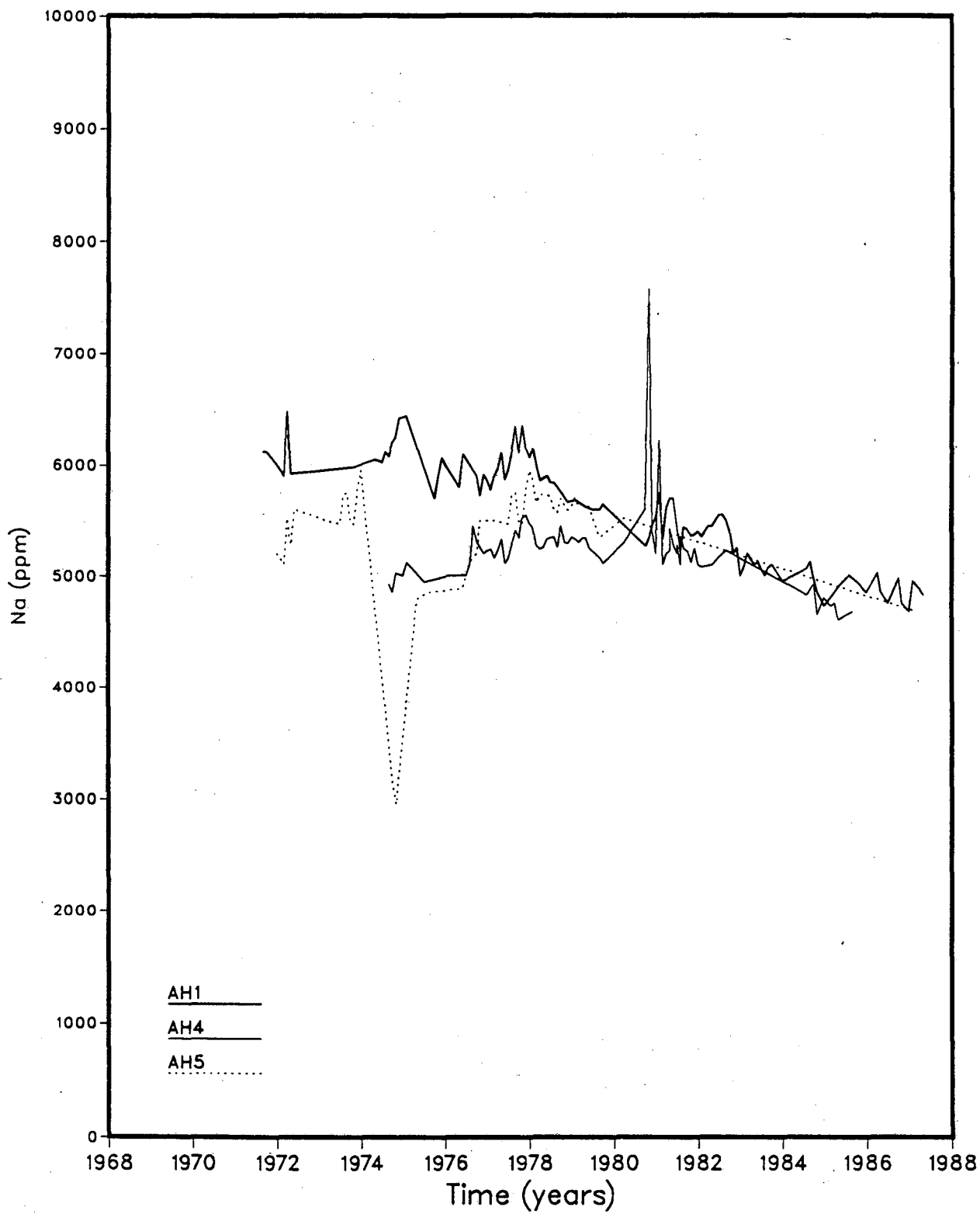
Water Chemistry (Mg)



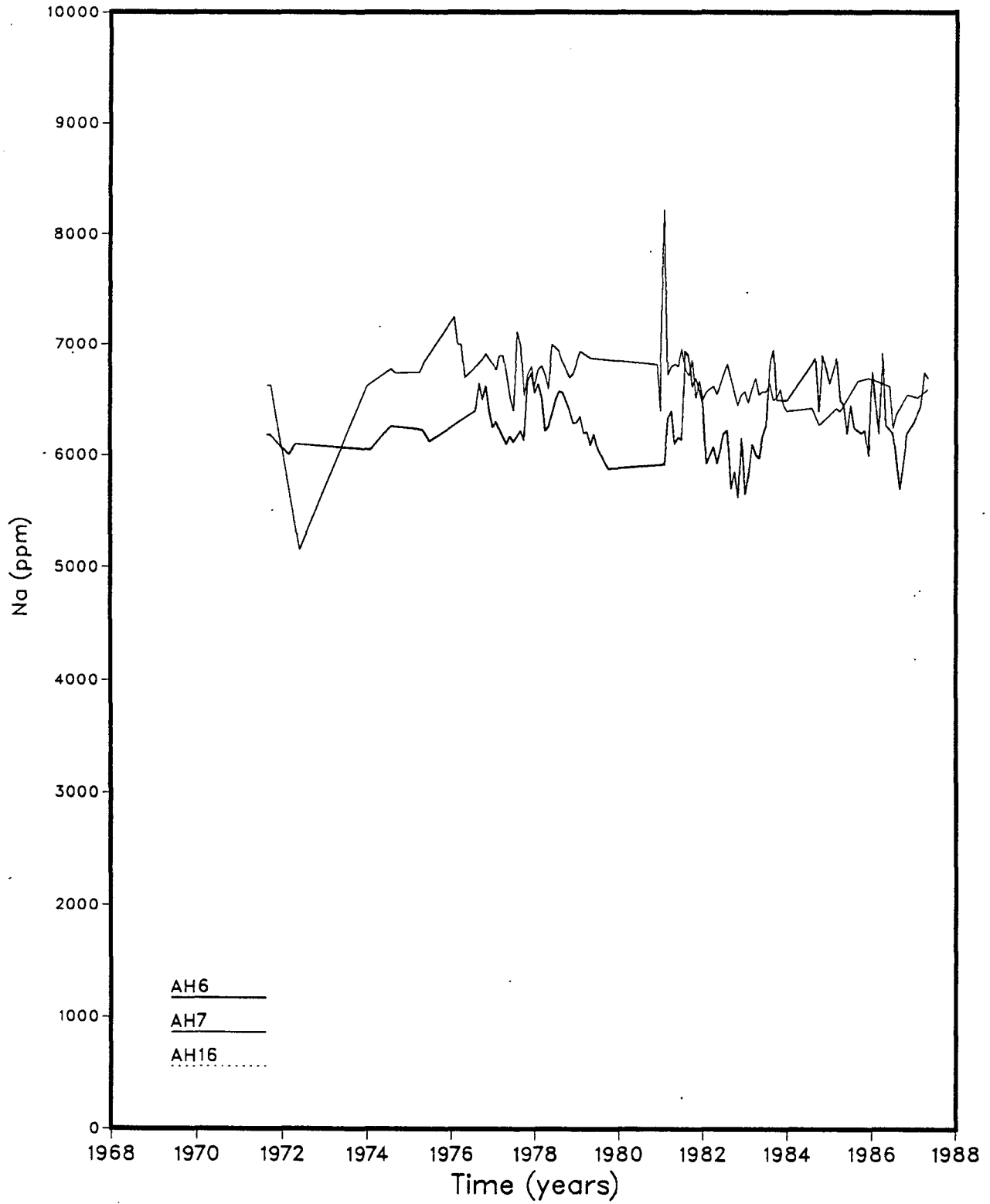
Water Chemistry (Mg)



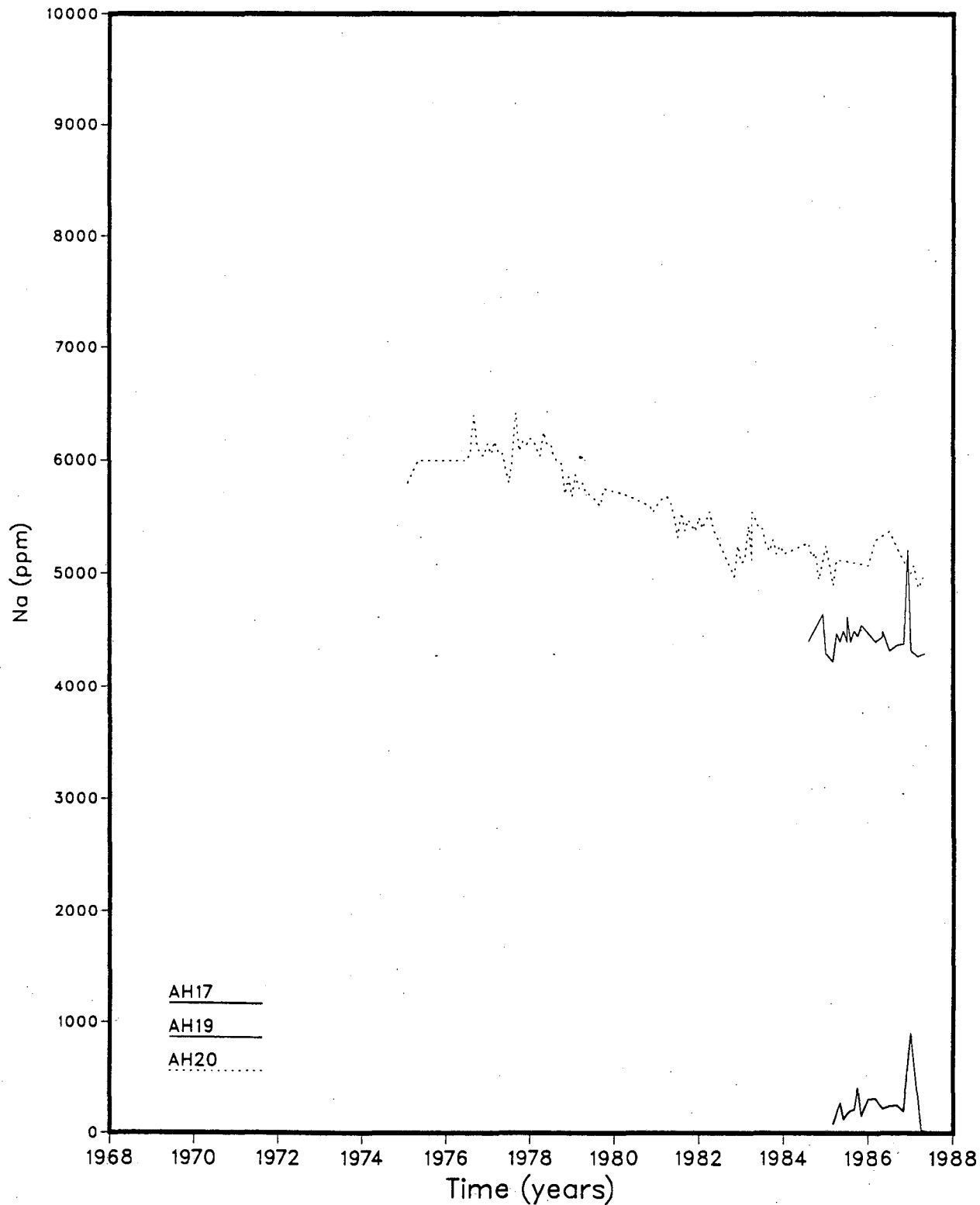
Water Chemistry (Na)



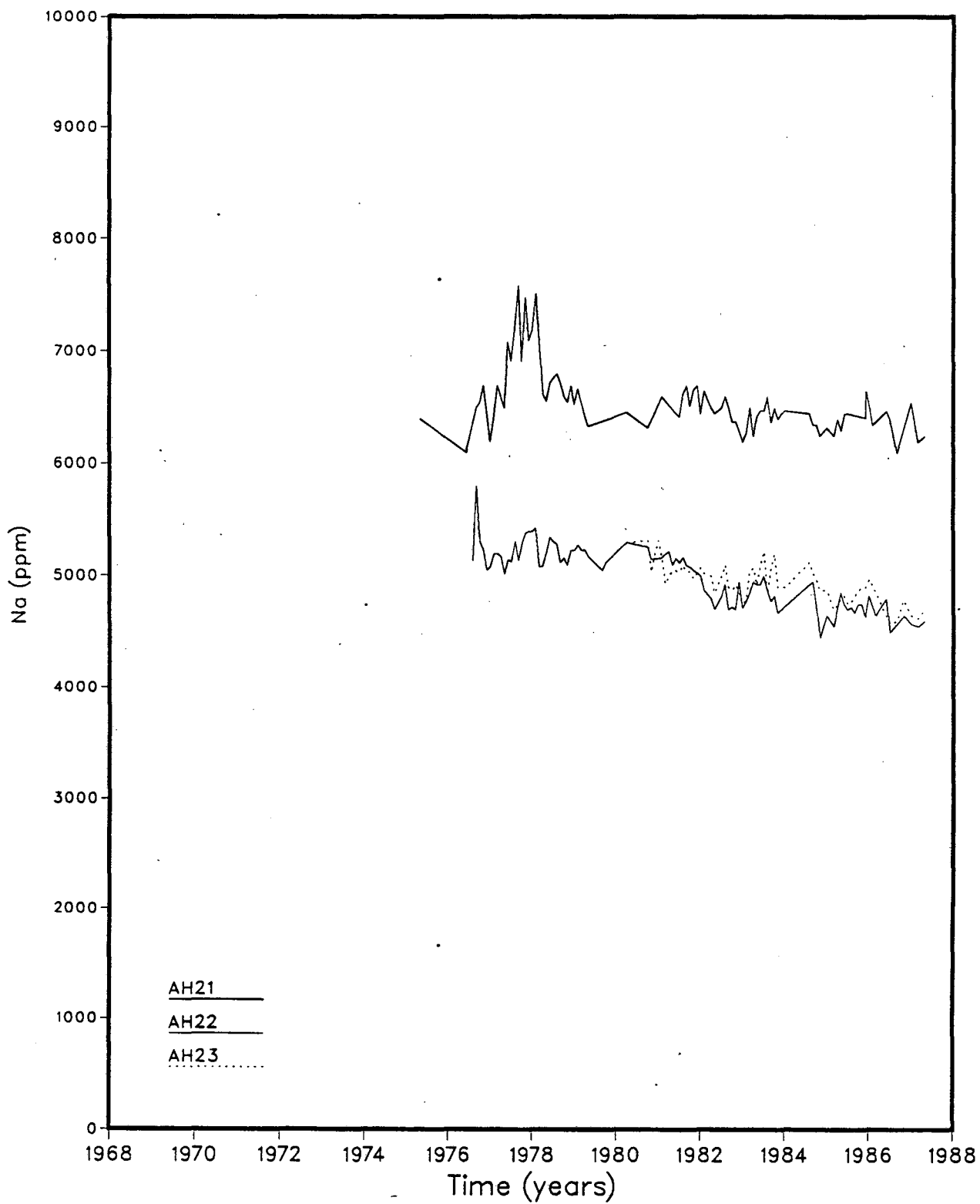
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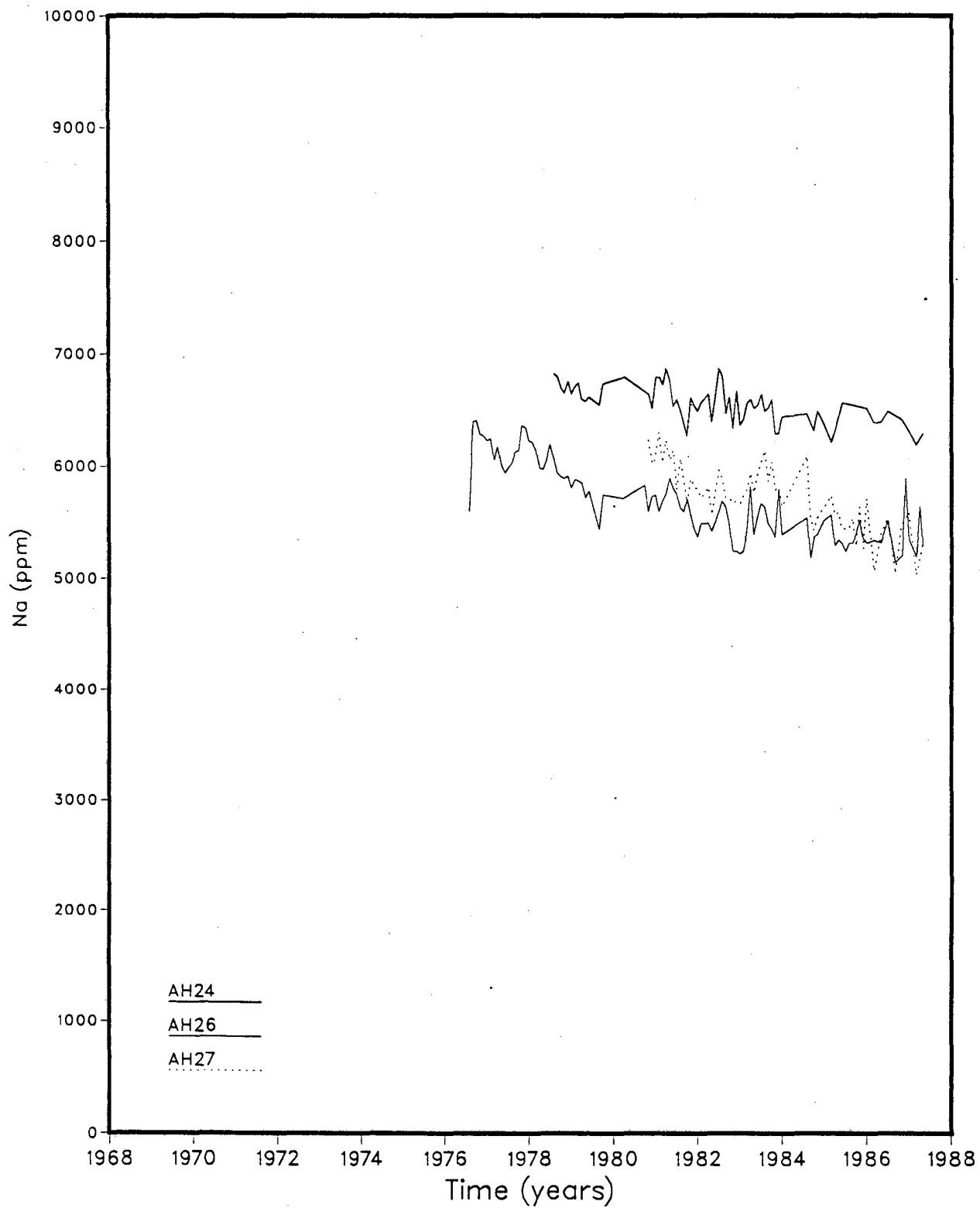
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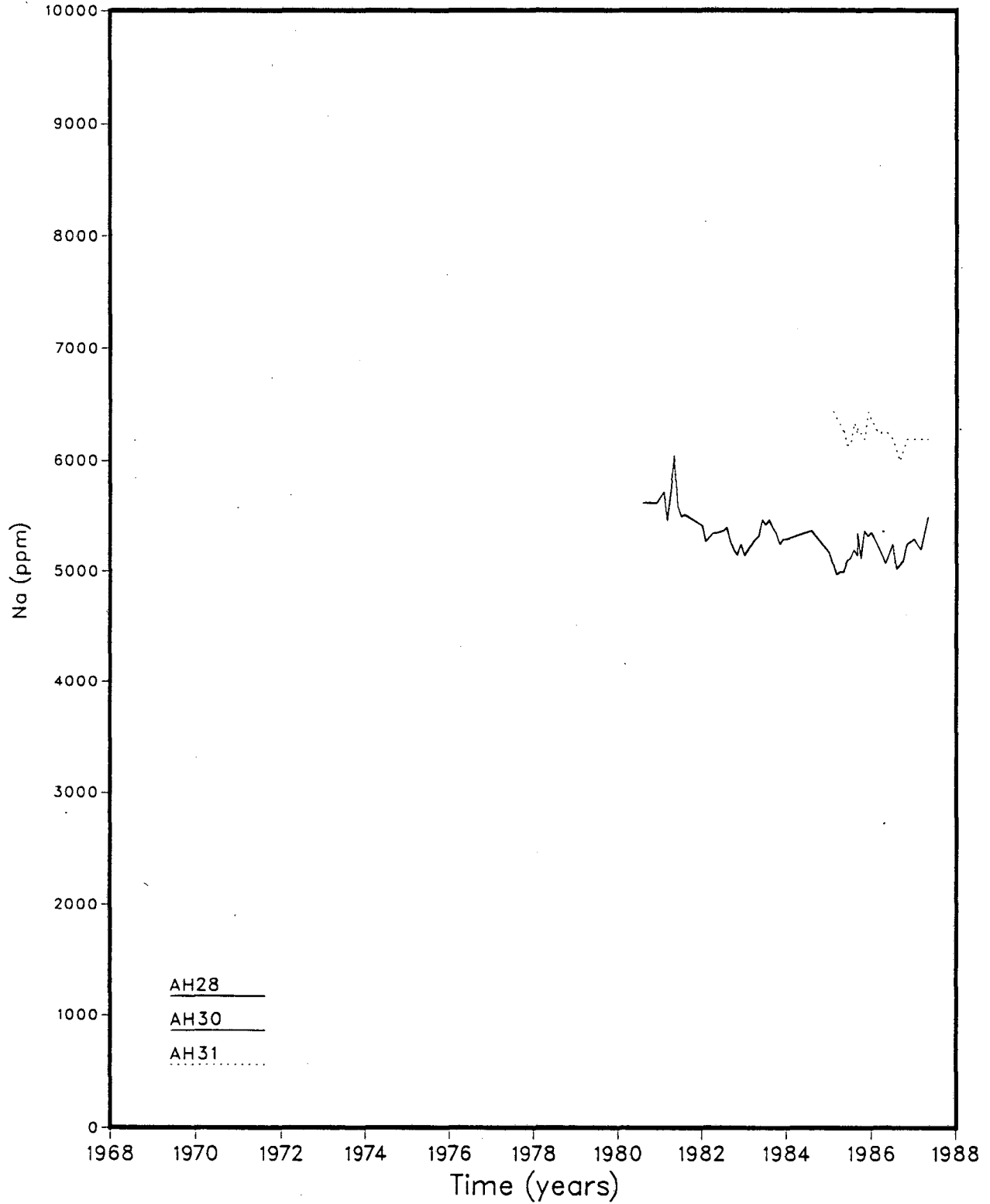
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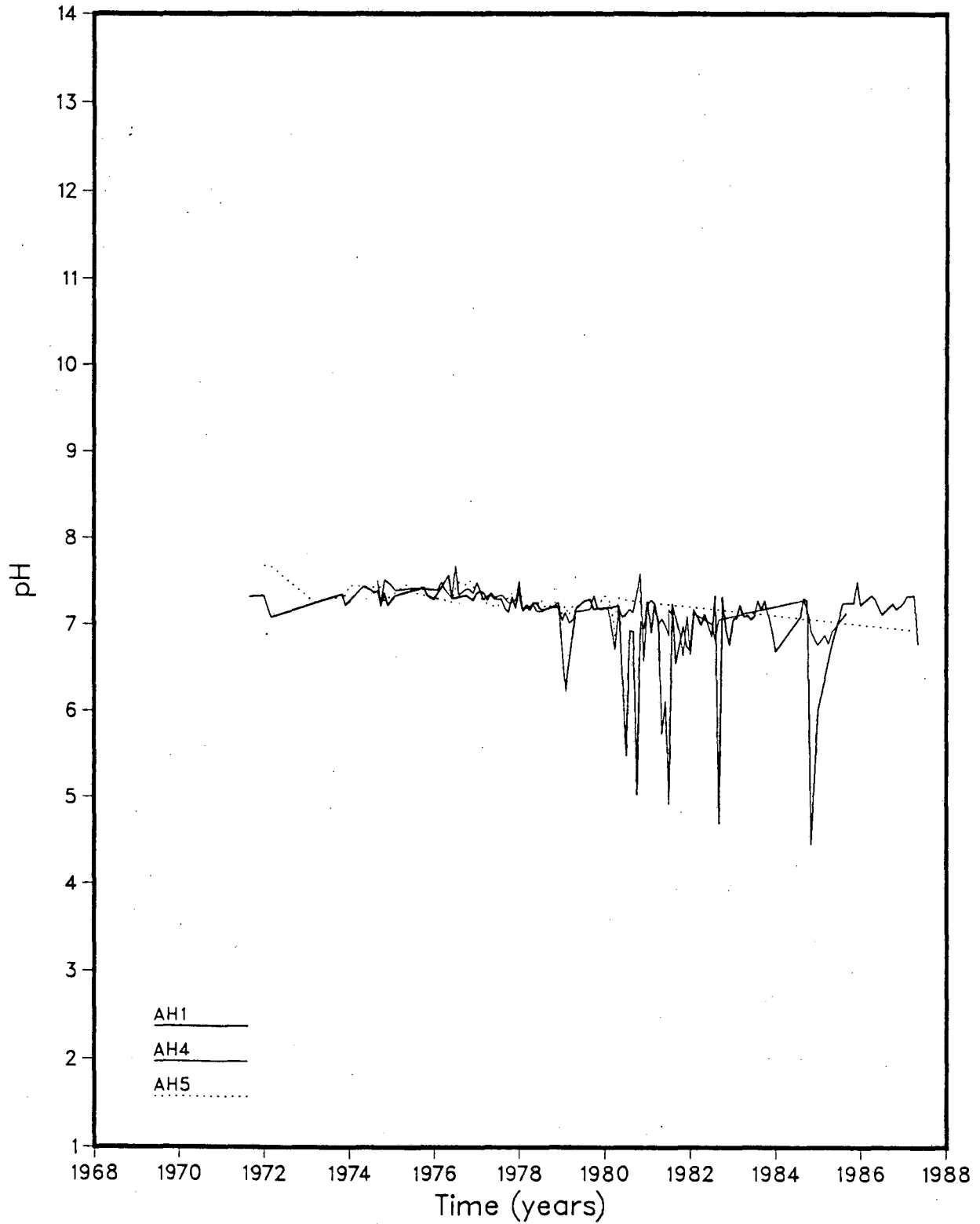
Water Chemistry (Na)



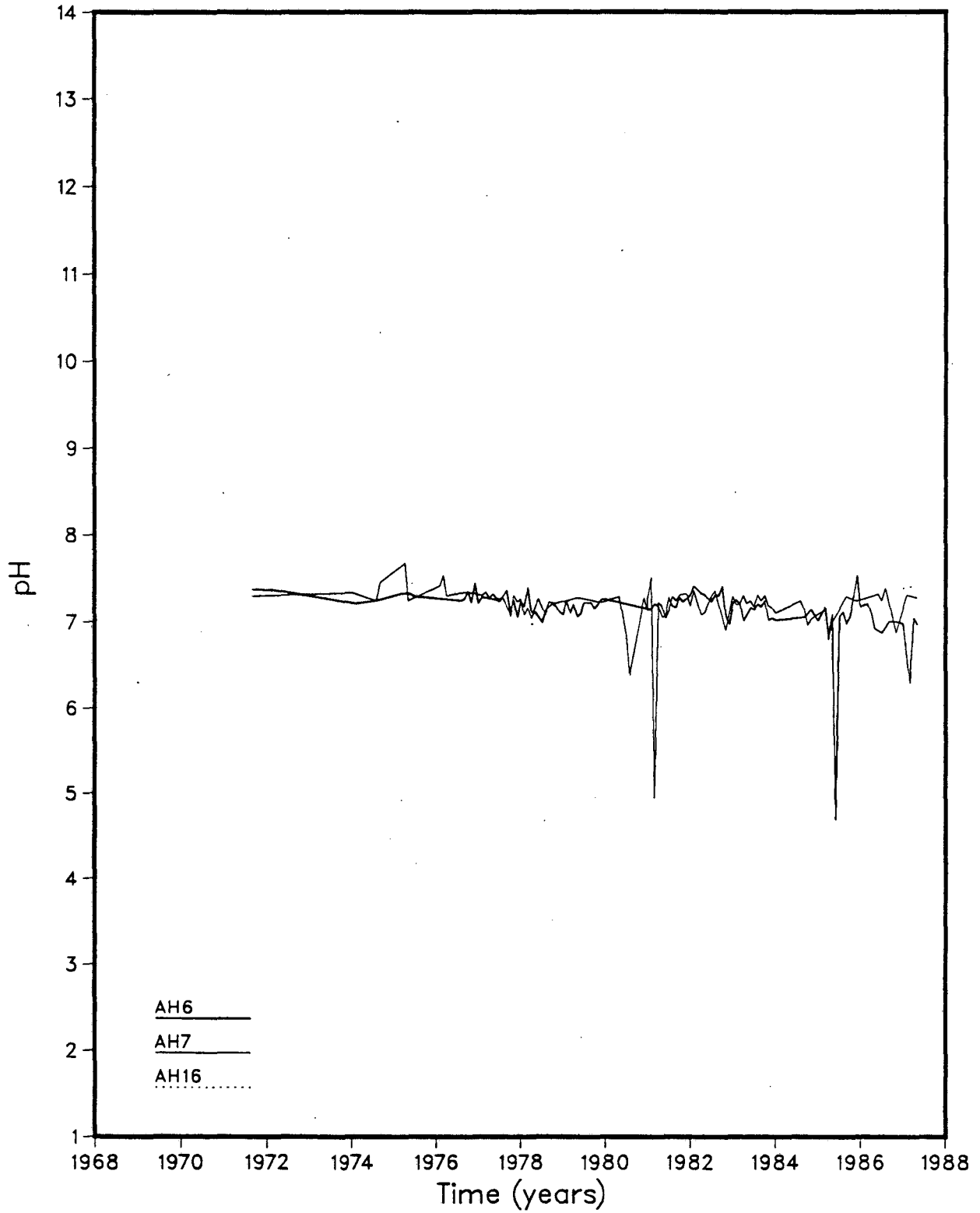
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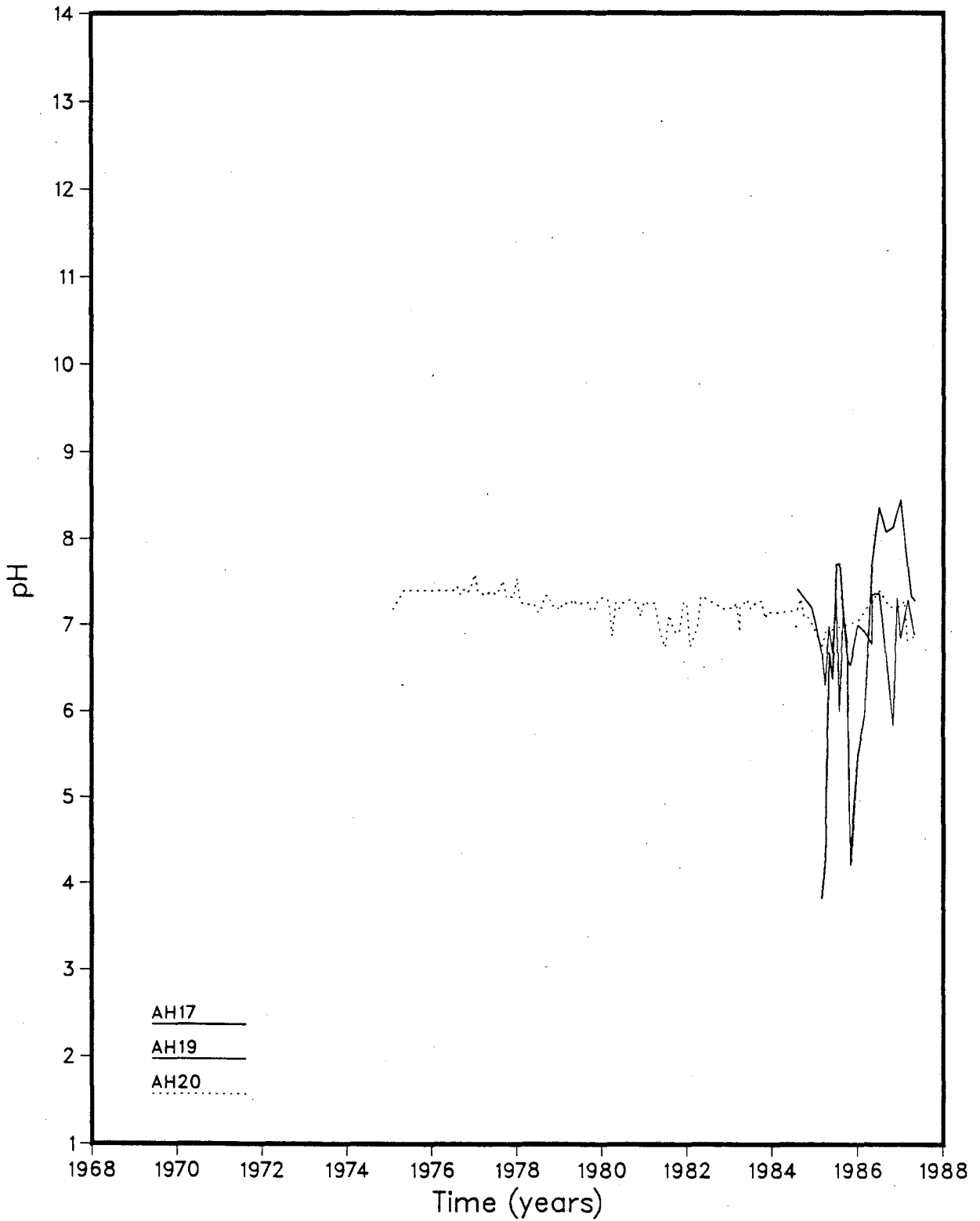
Water Chemistry (pH)



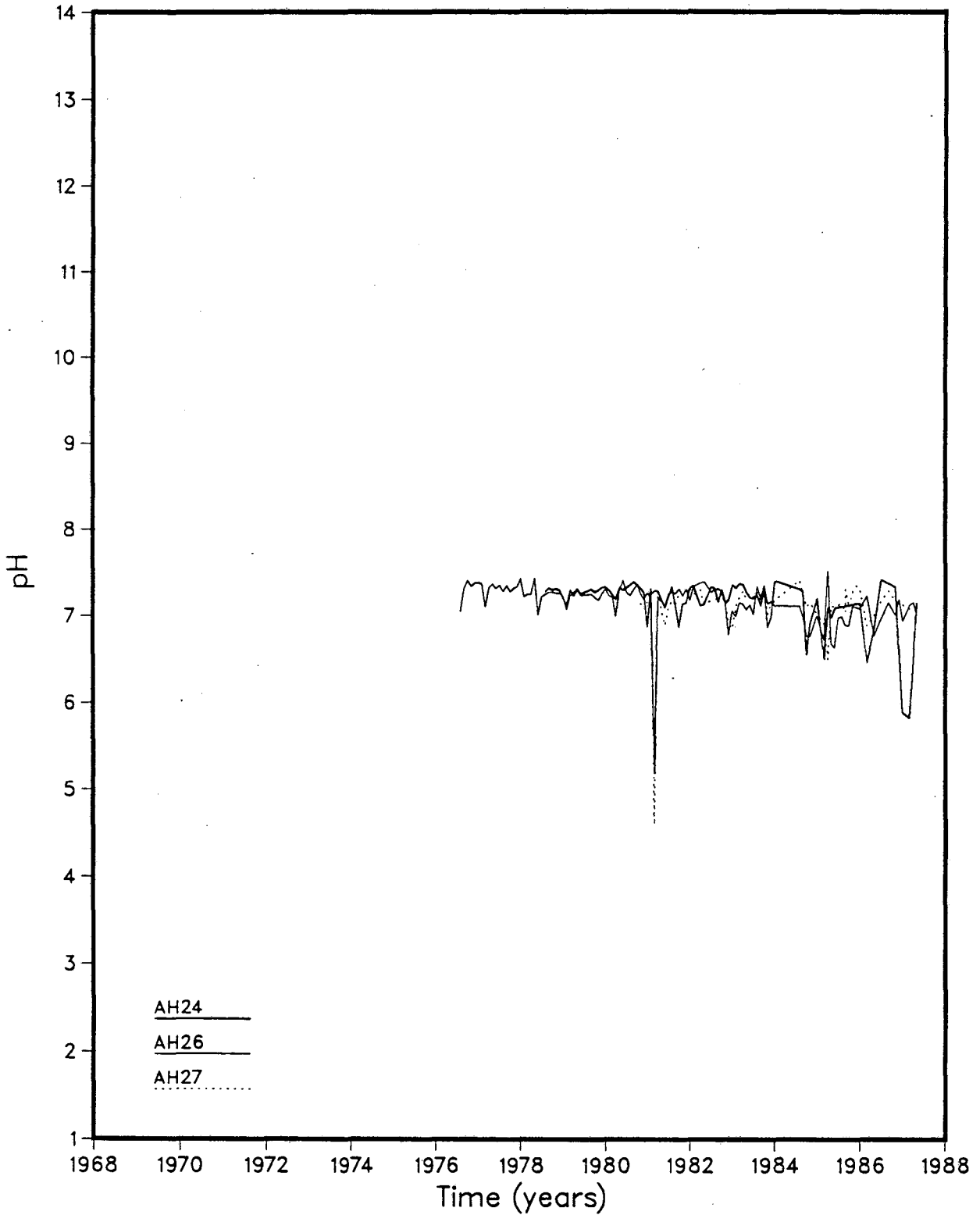
Water Chemistry (pH)



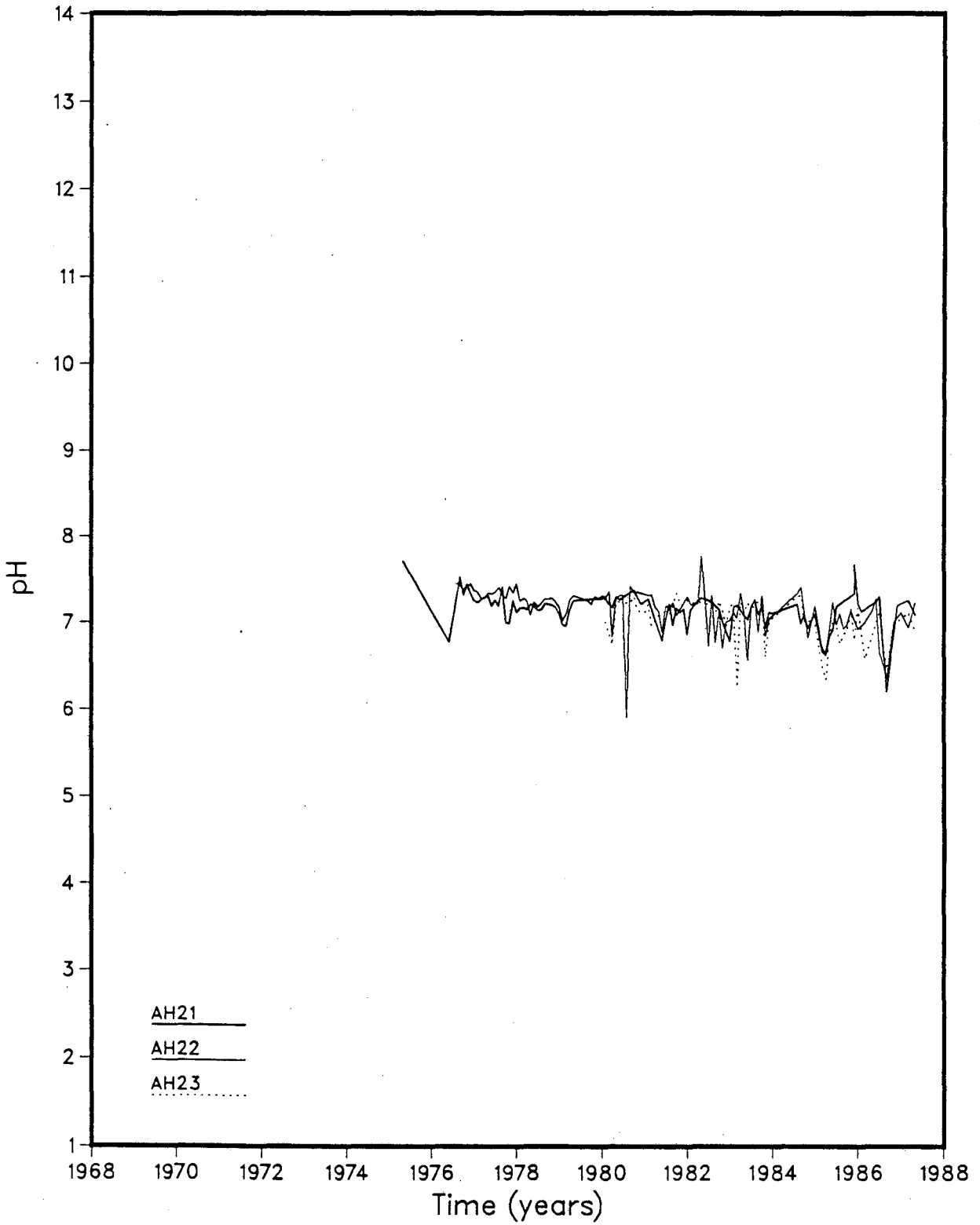
Water Chemistry (pH)



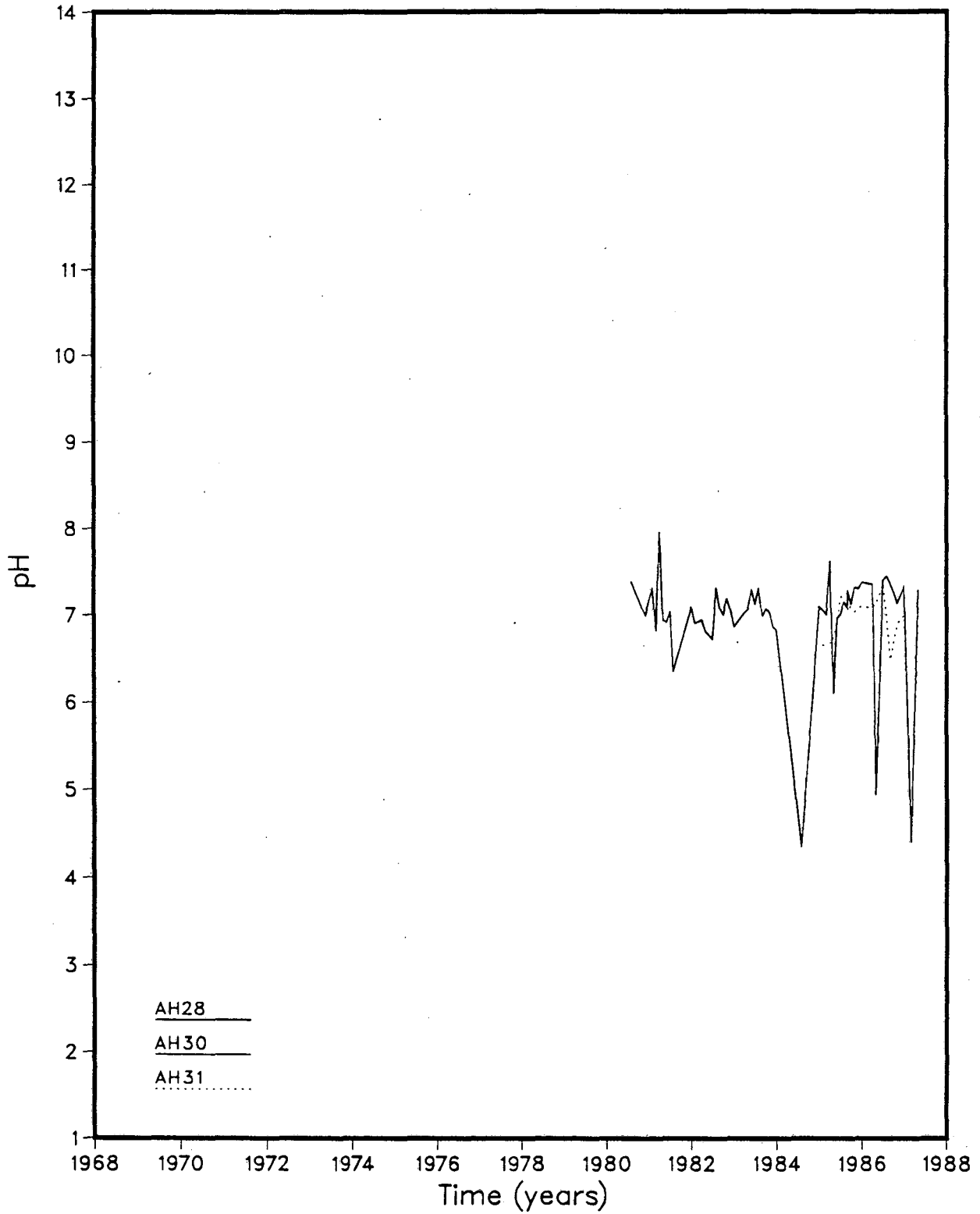
Water Chemistry (pH)



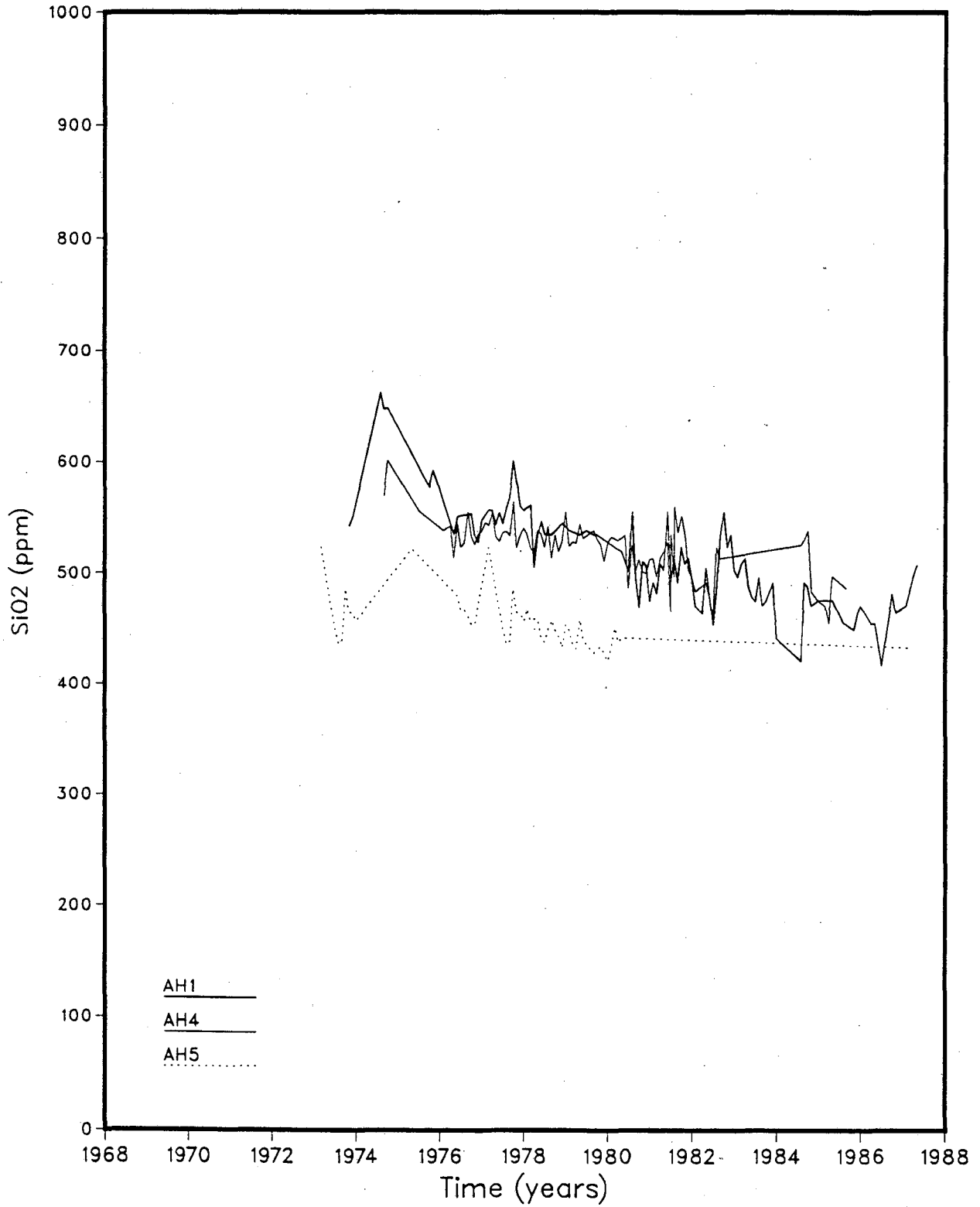
Water Chemistry (pH)



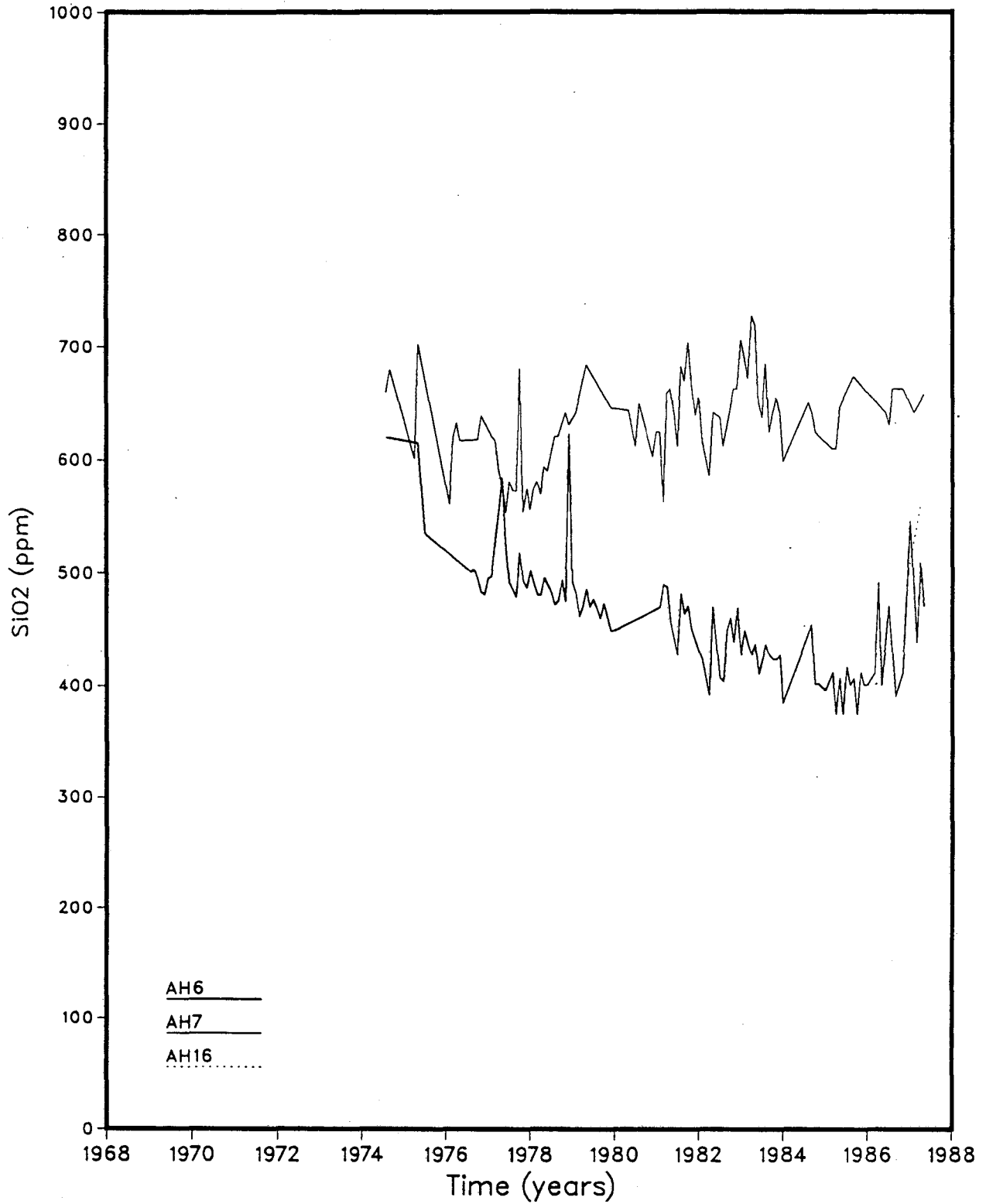
Water Chemistry (pH)



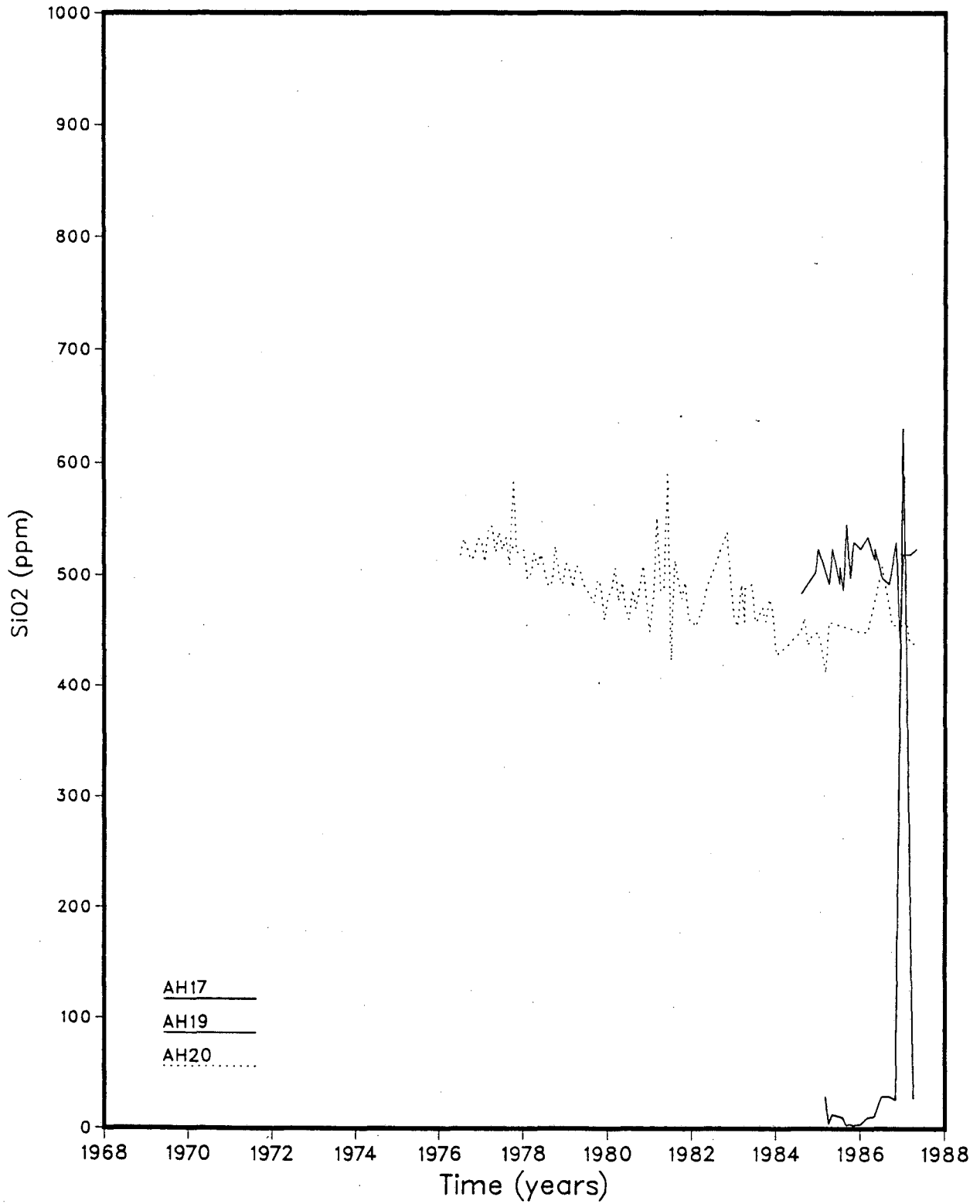
Water Chemistry (SiO₂)



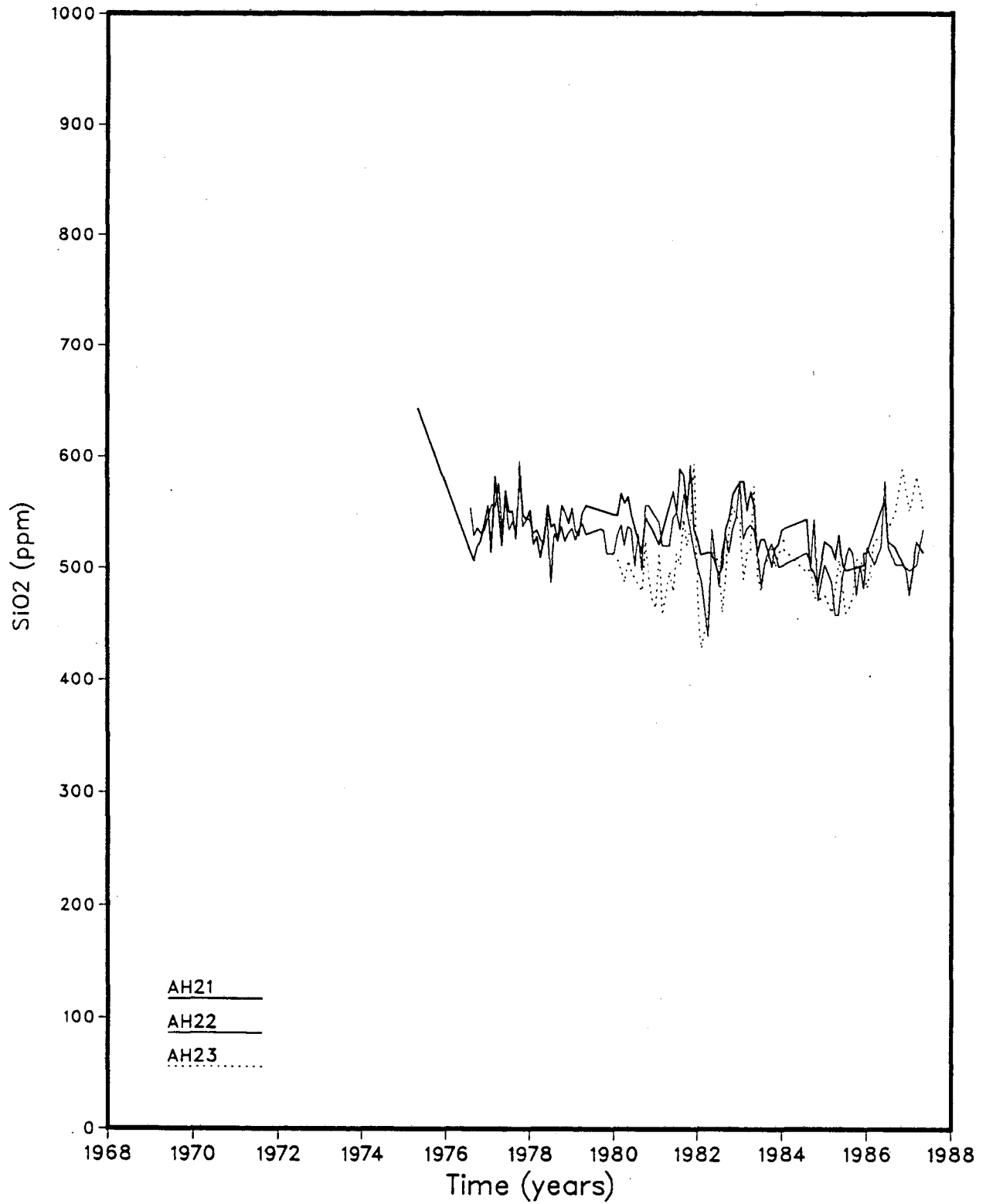
Water Chemistry (SiO₂)



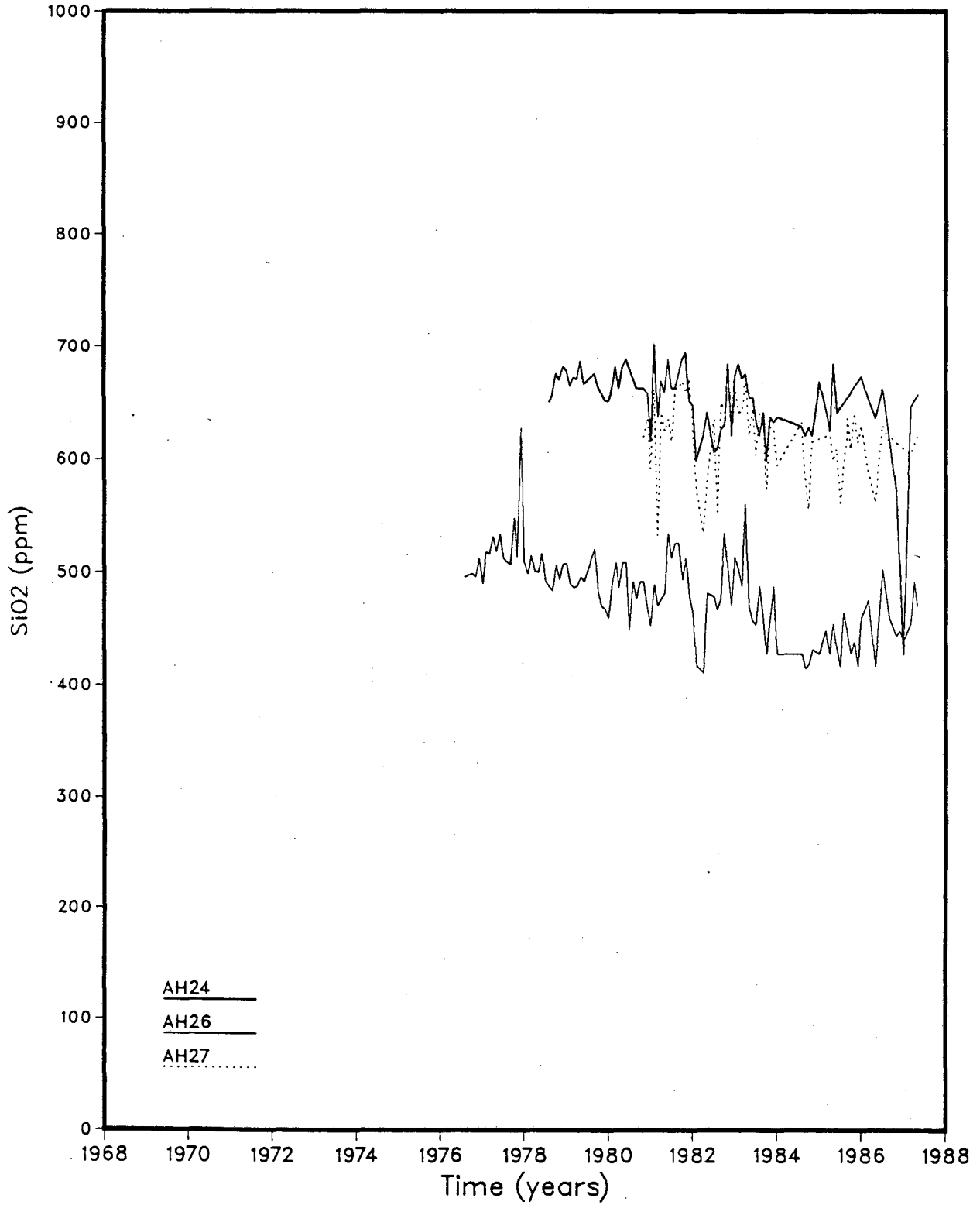
Water Chemistry (SiO₂)



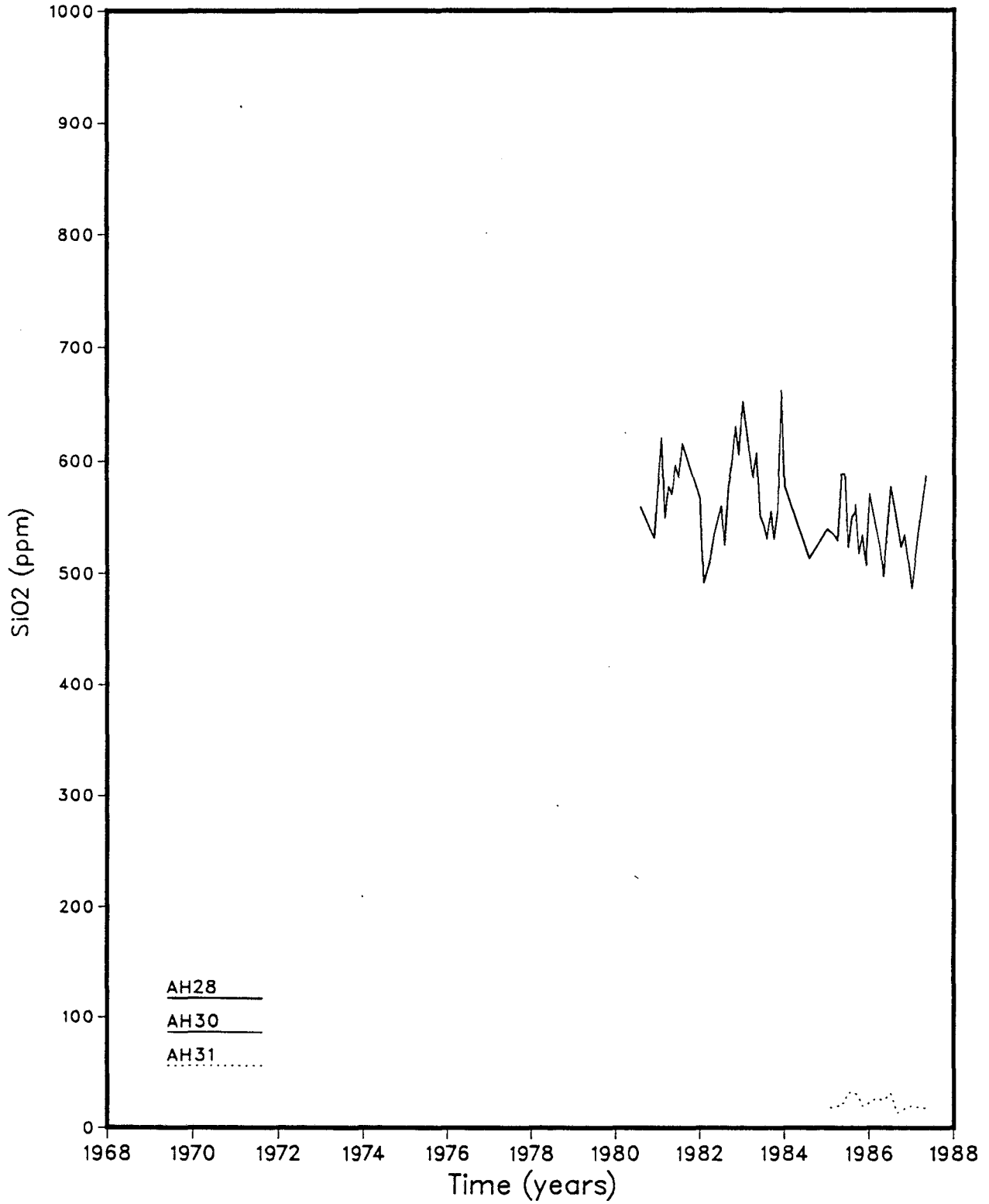
Water Chemistry (SiO₂)



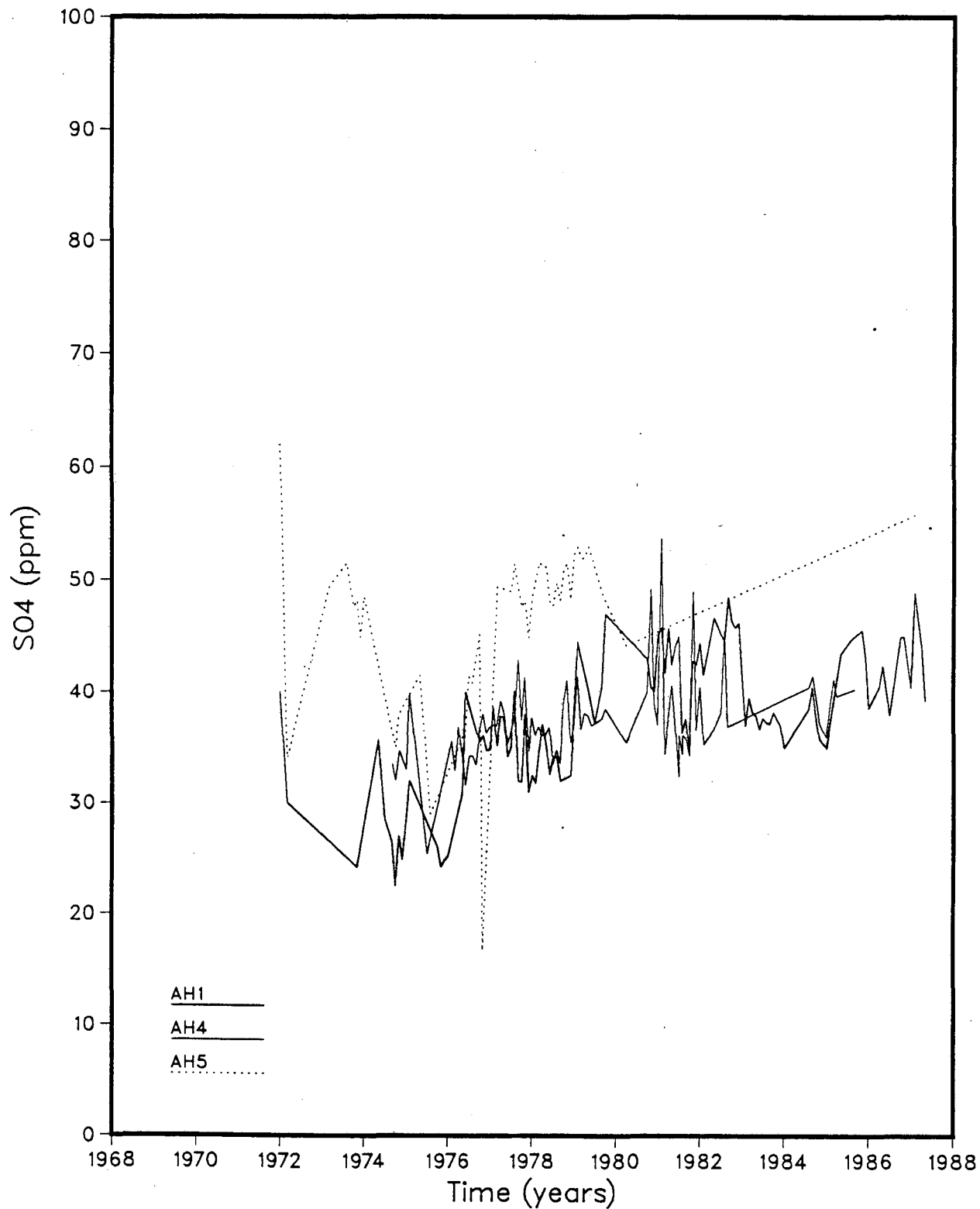
Water Chemistry (SiO₂)



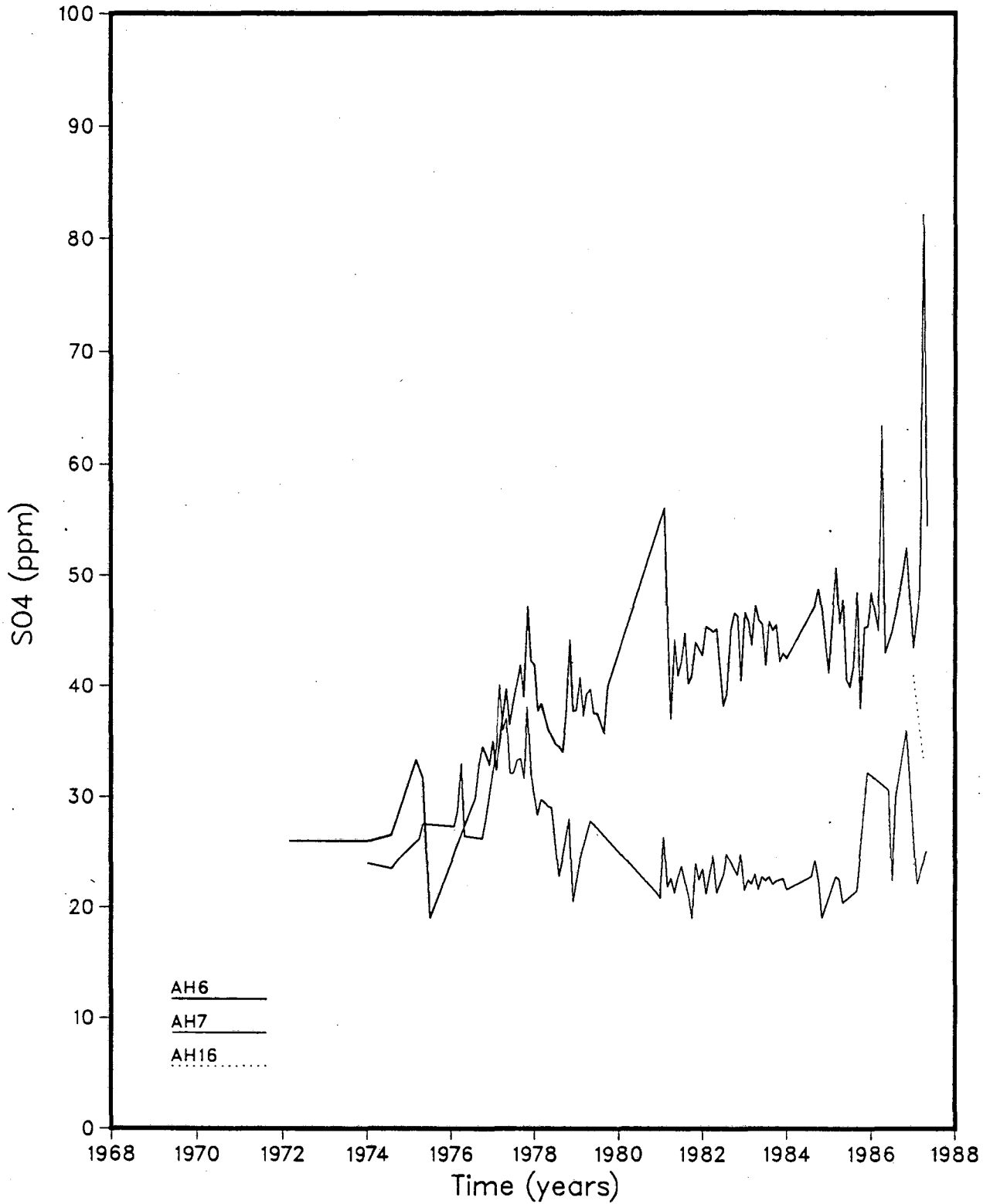
Water Chemistry (SiO₂)



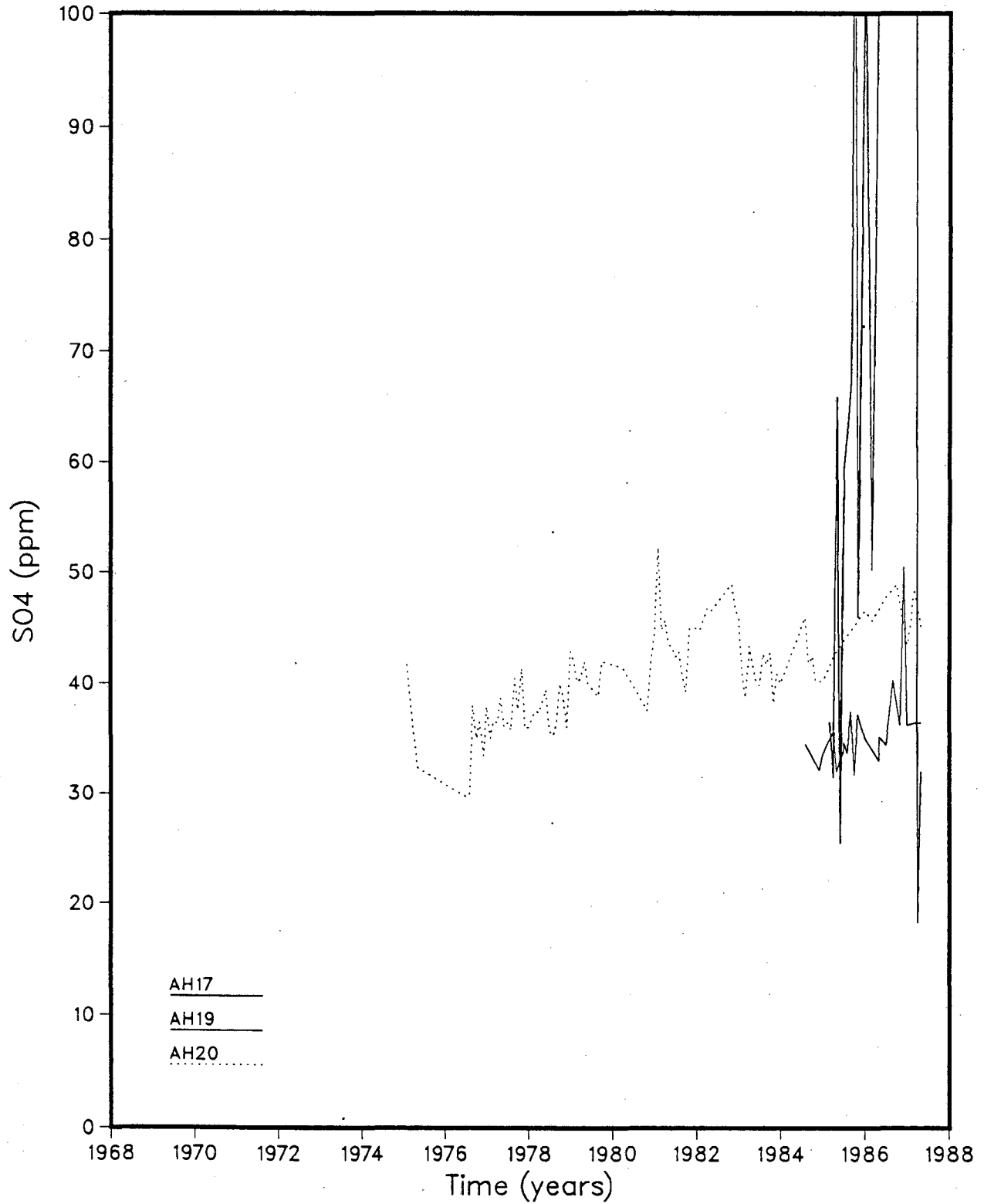
Water Chemistry (S04)



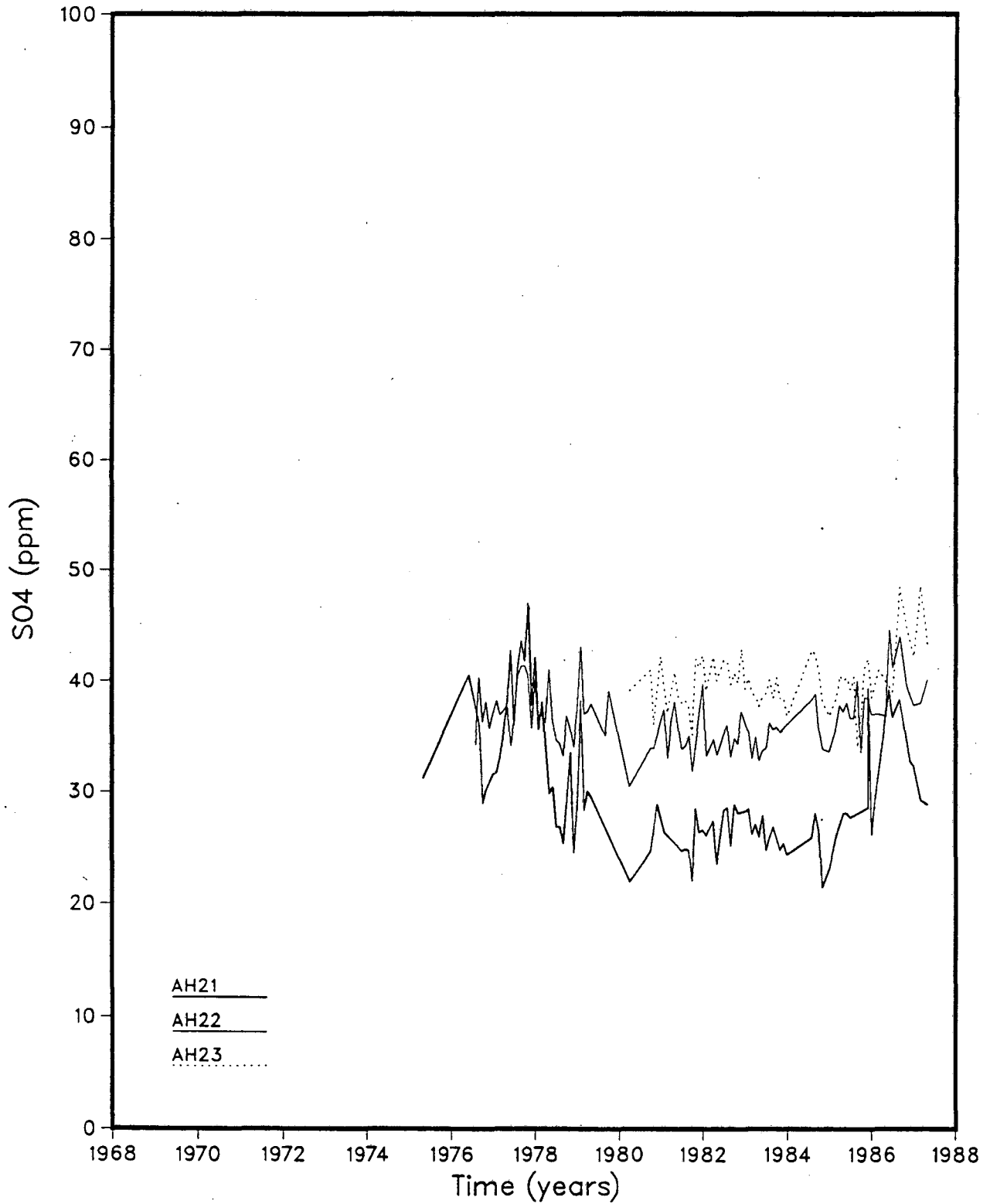
Water Chemistry (S04)



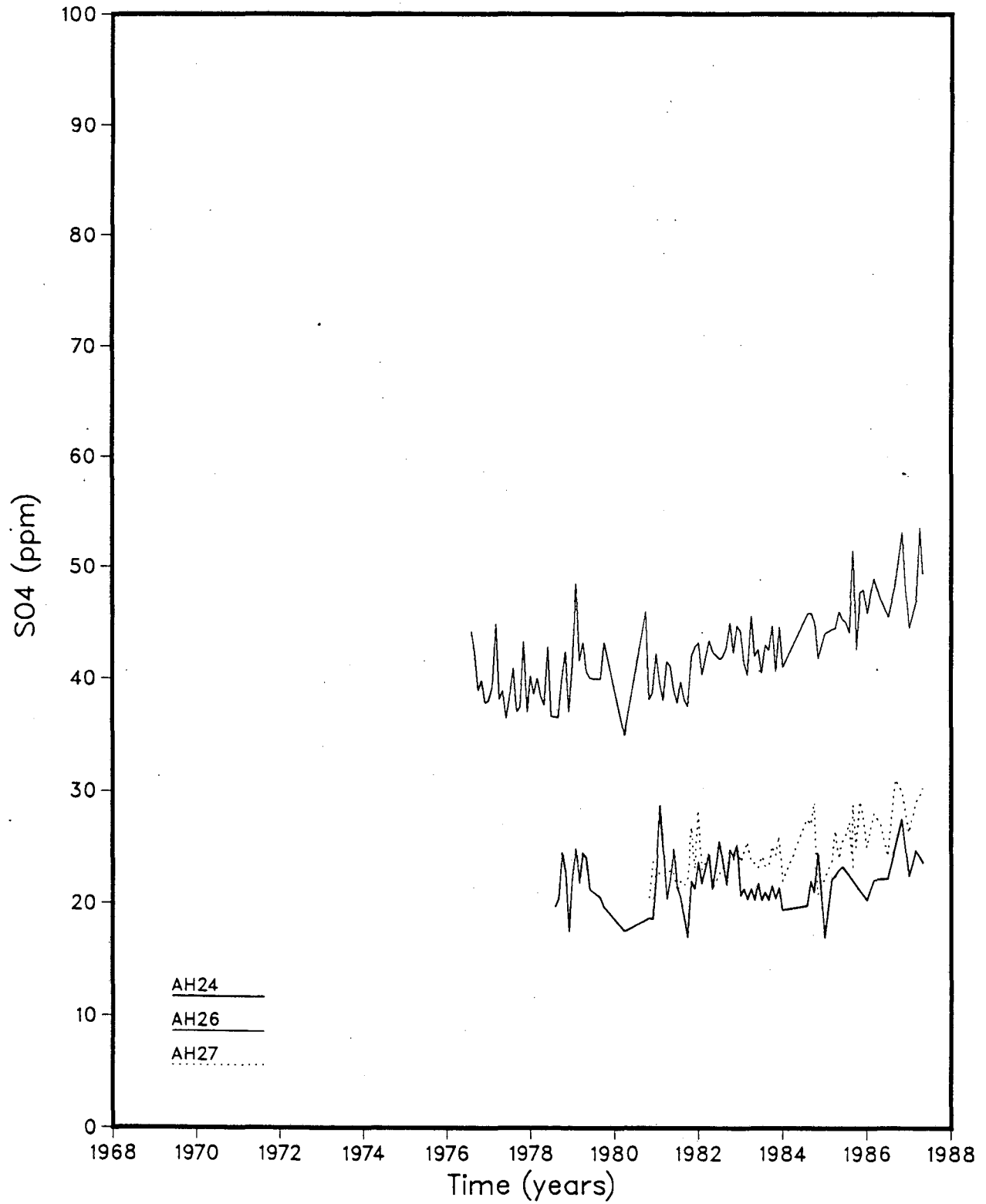
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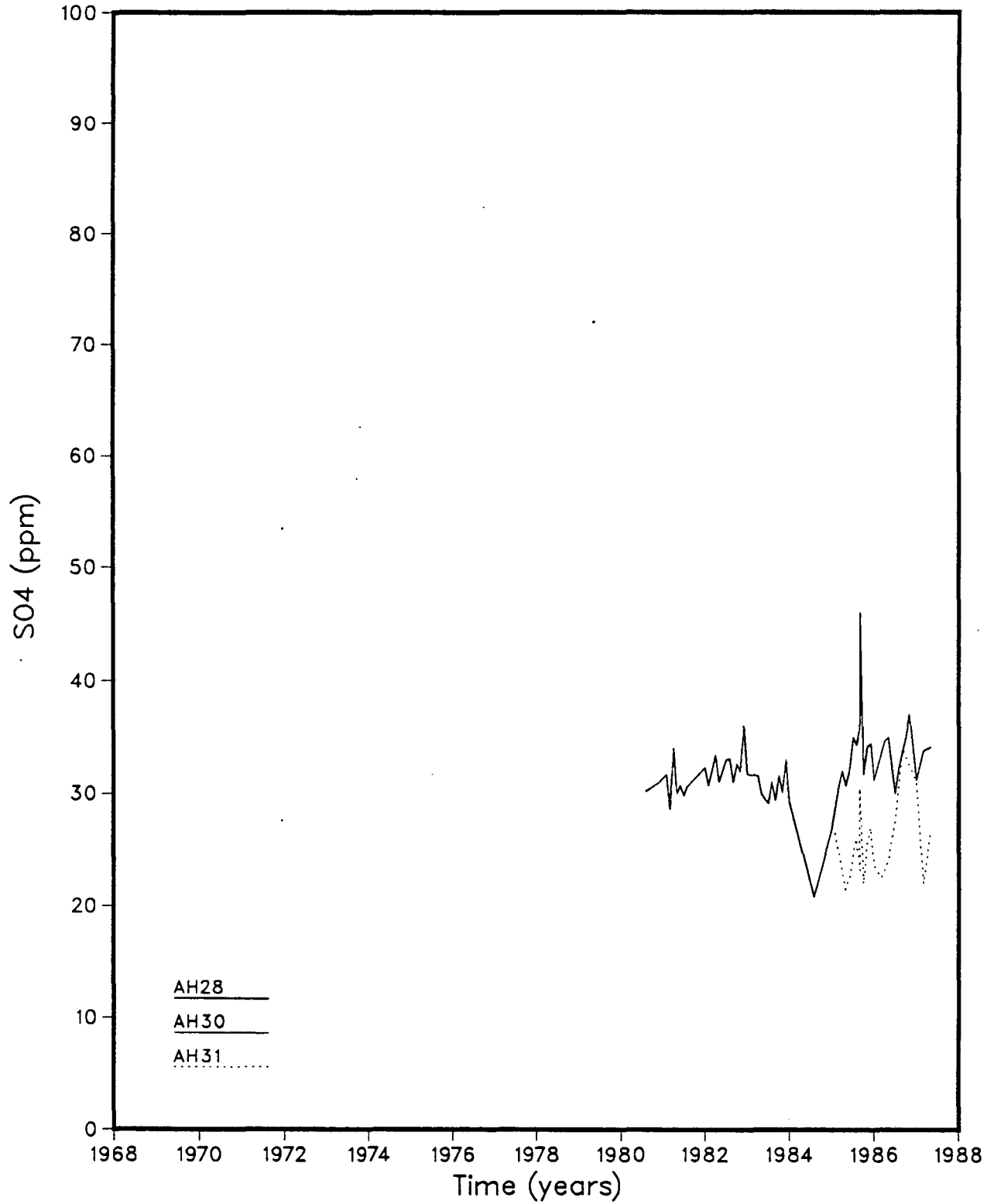
Water Chemistry (SO4)



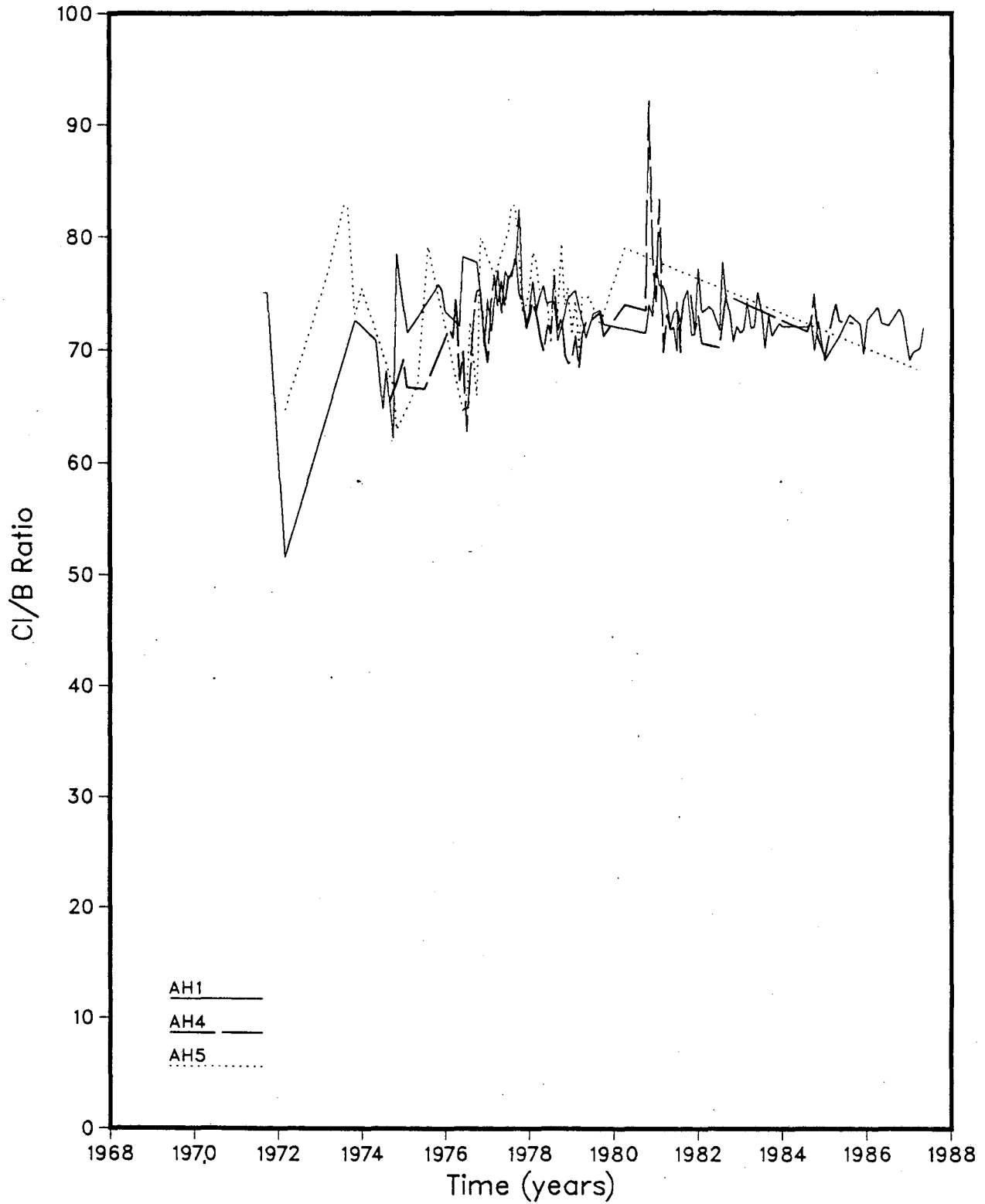
Water Chemistry (S04)



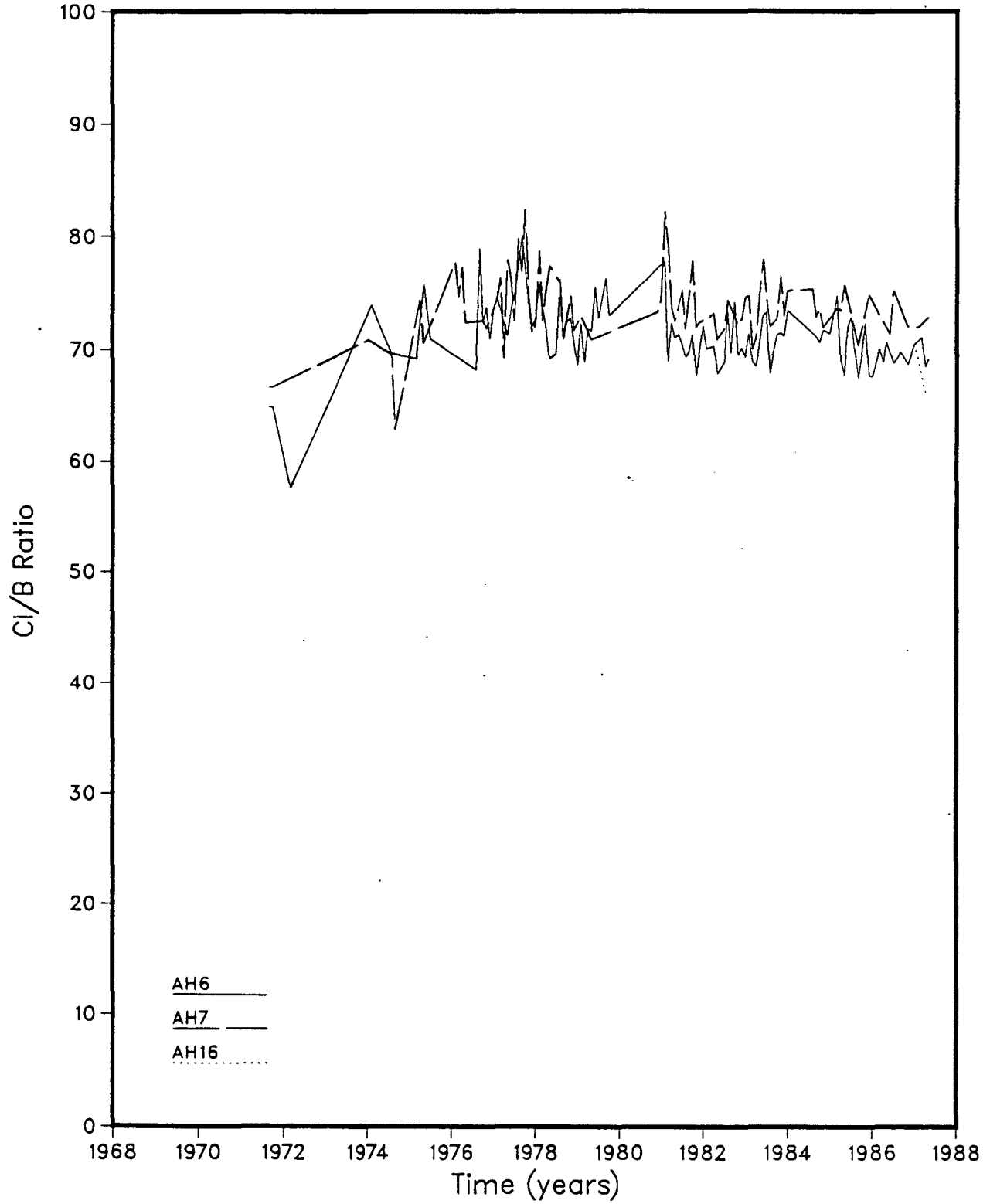
Water Chemistry (SO4)



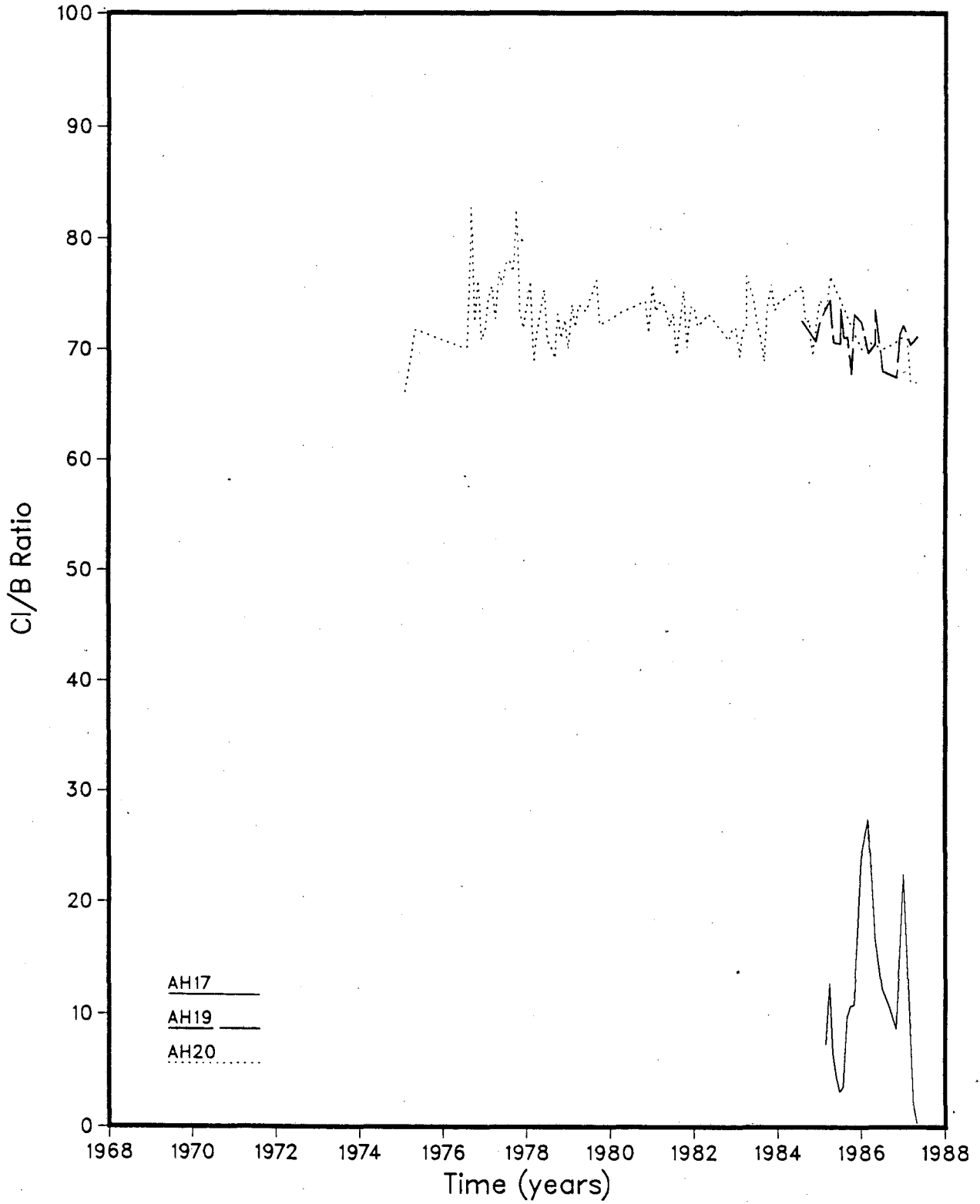
Water Chemistry (Cl/B)



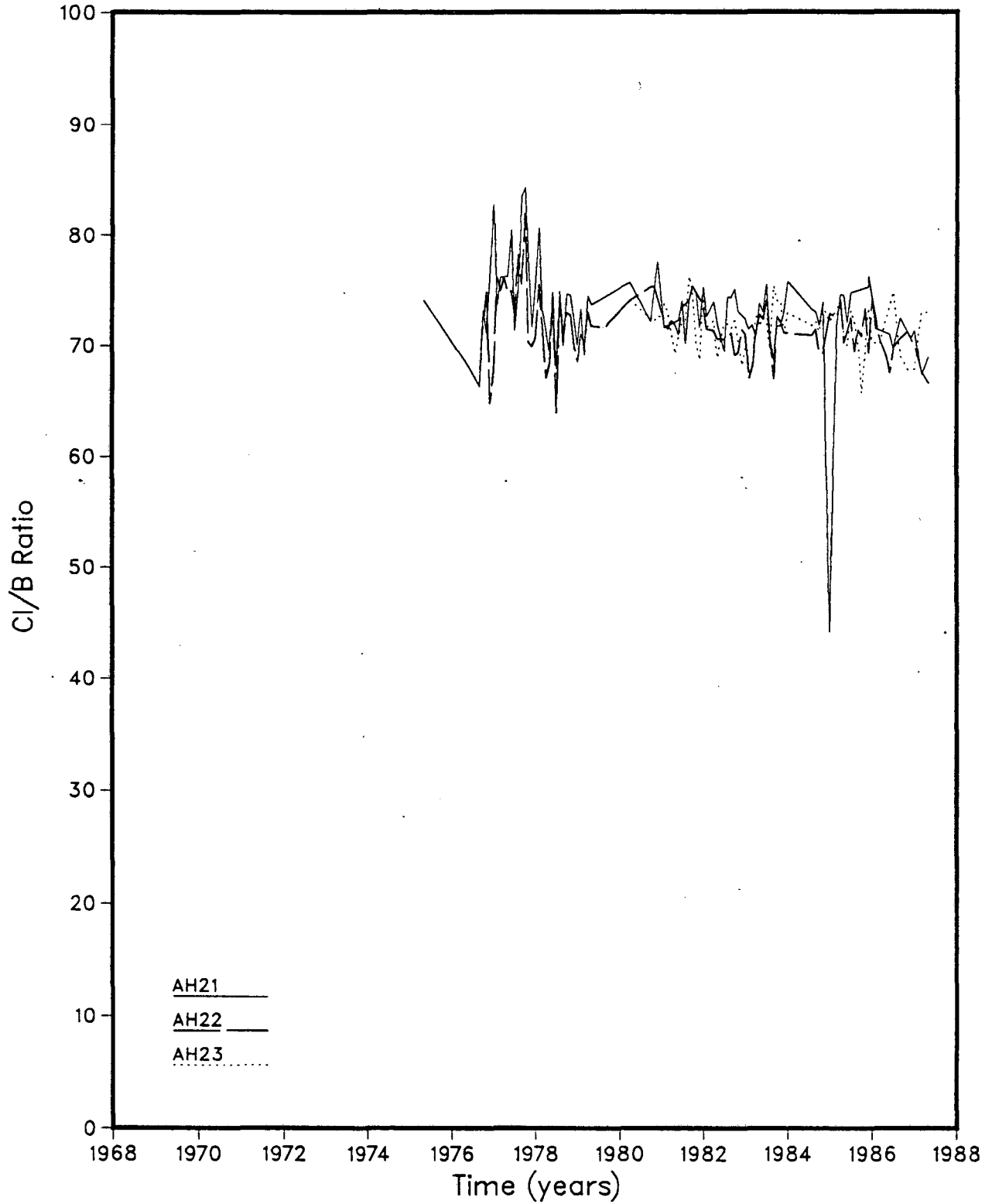
Water Chemistry (Cl/B)



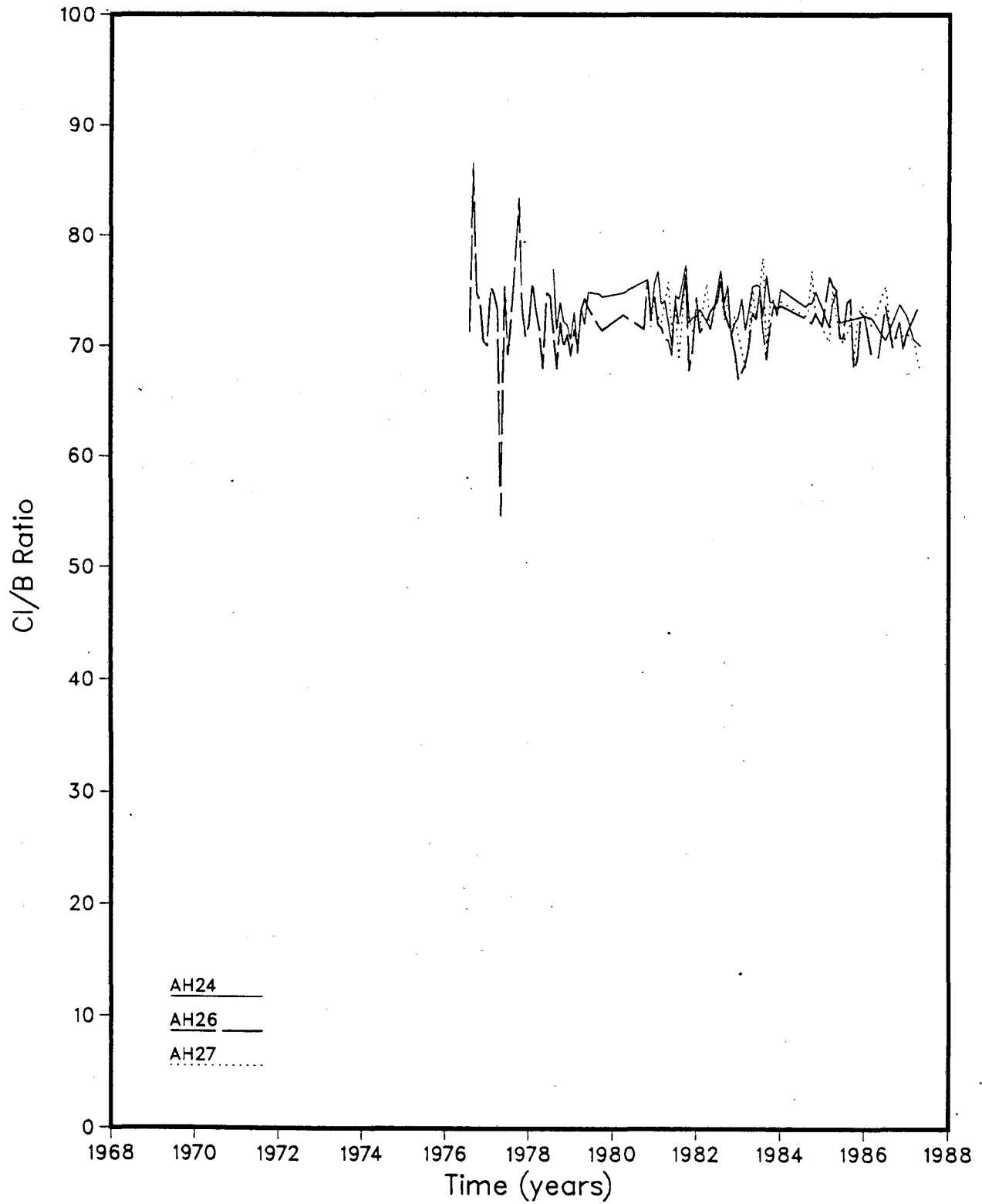
Water Chemistry (Cl/B)



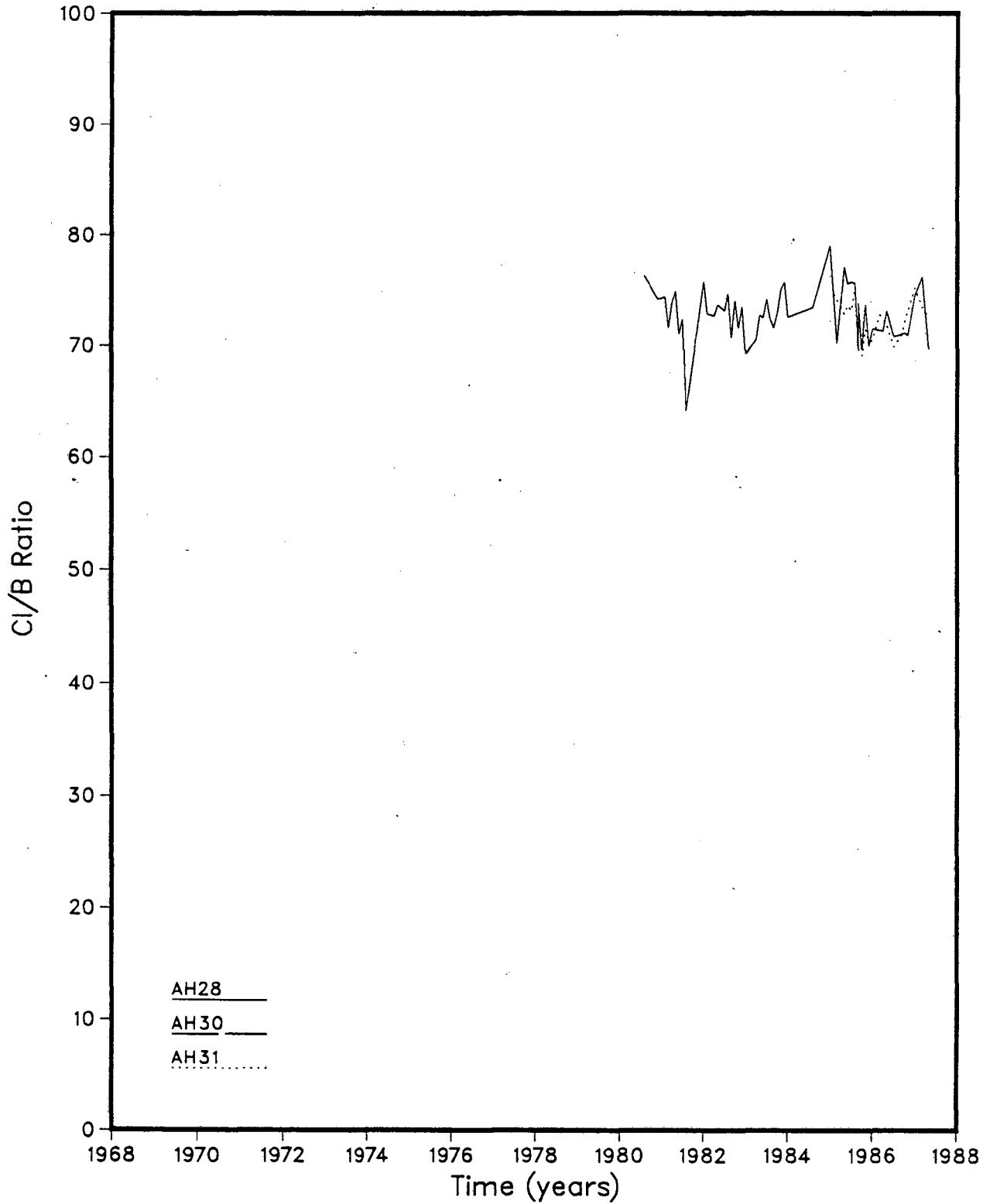
Water Chemistry (Cl/B)



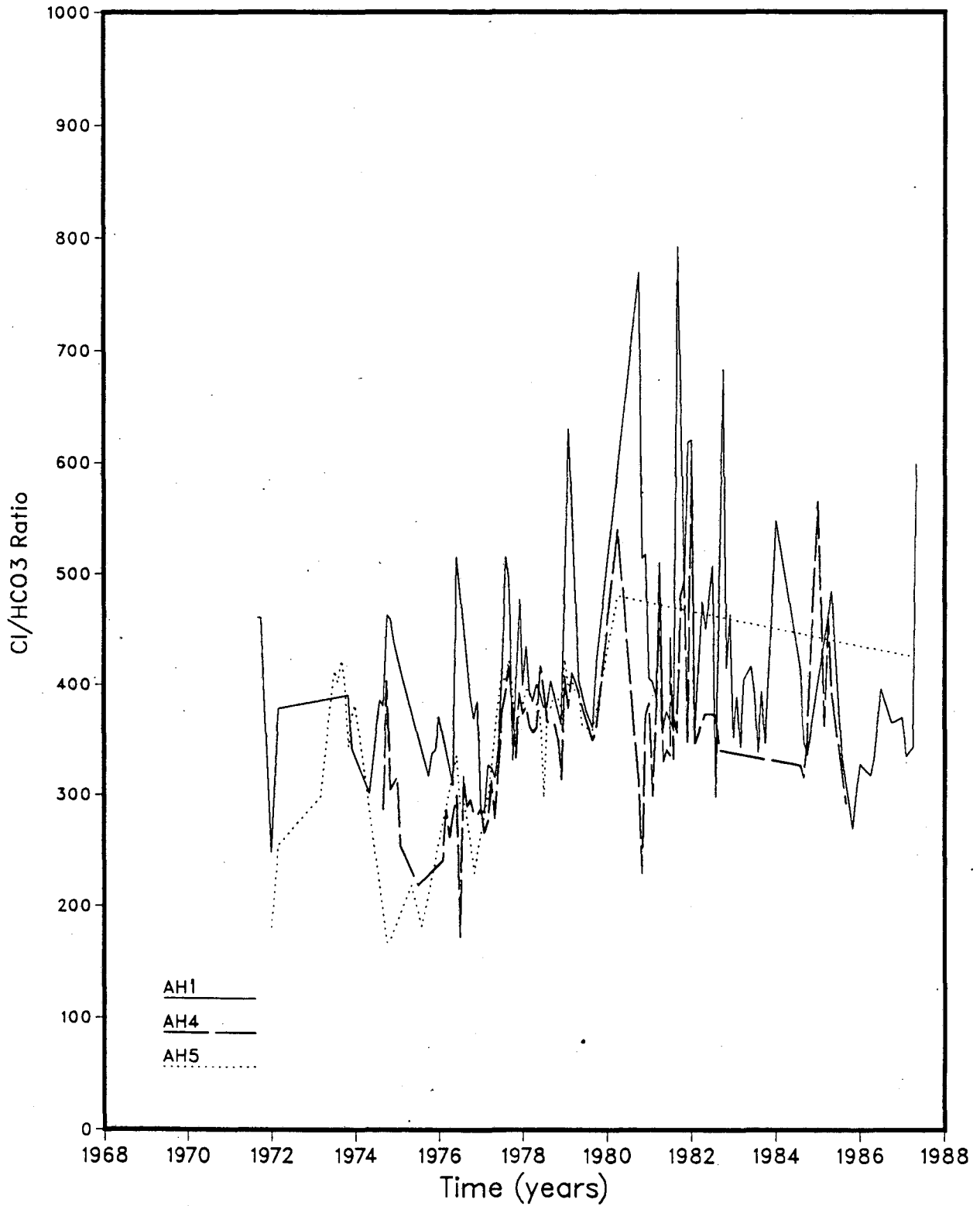
Water Chemistry (Cl/B)



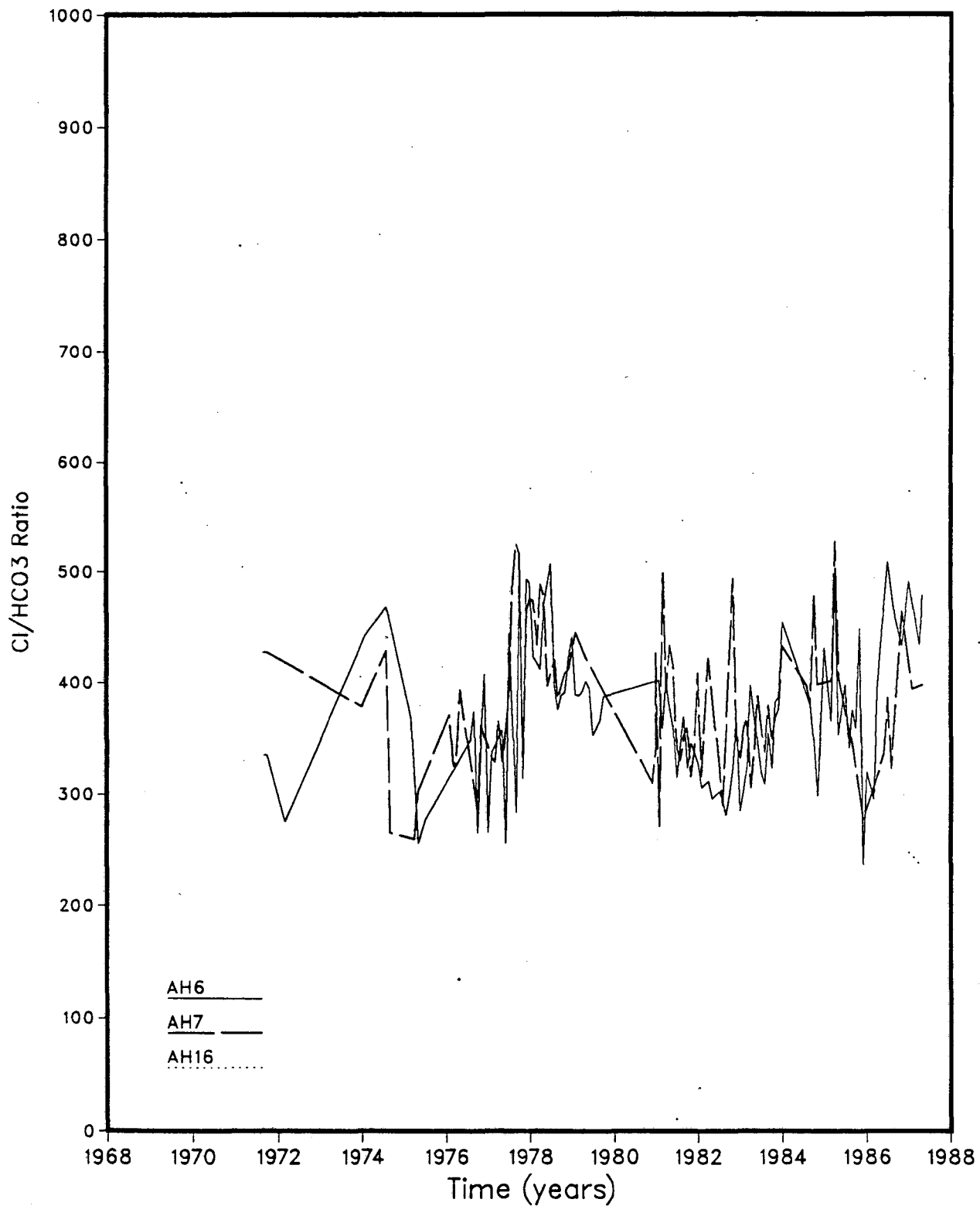
Water Chemistry (Cl/B)



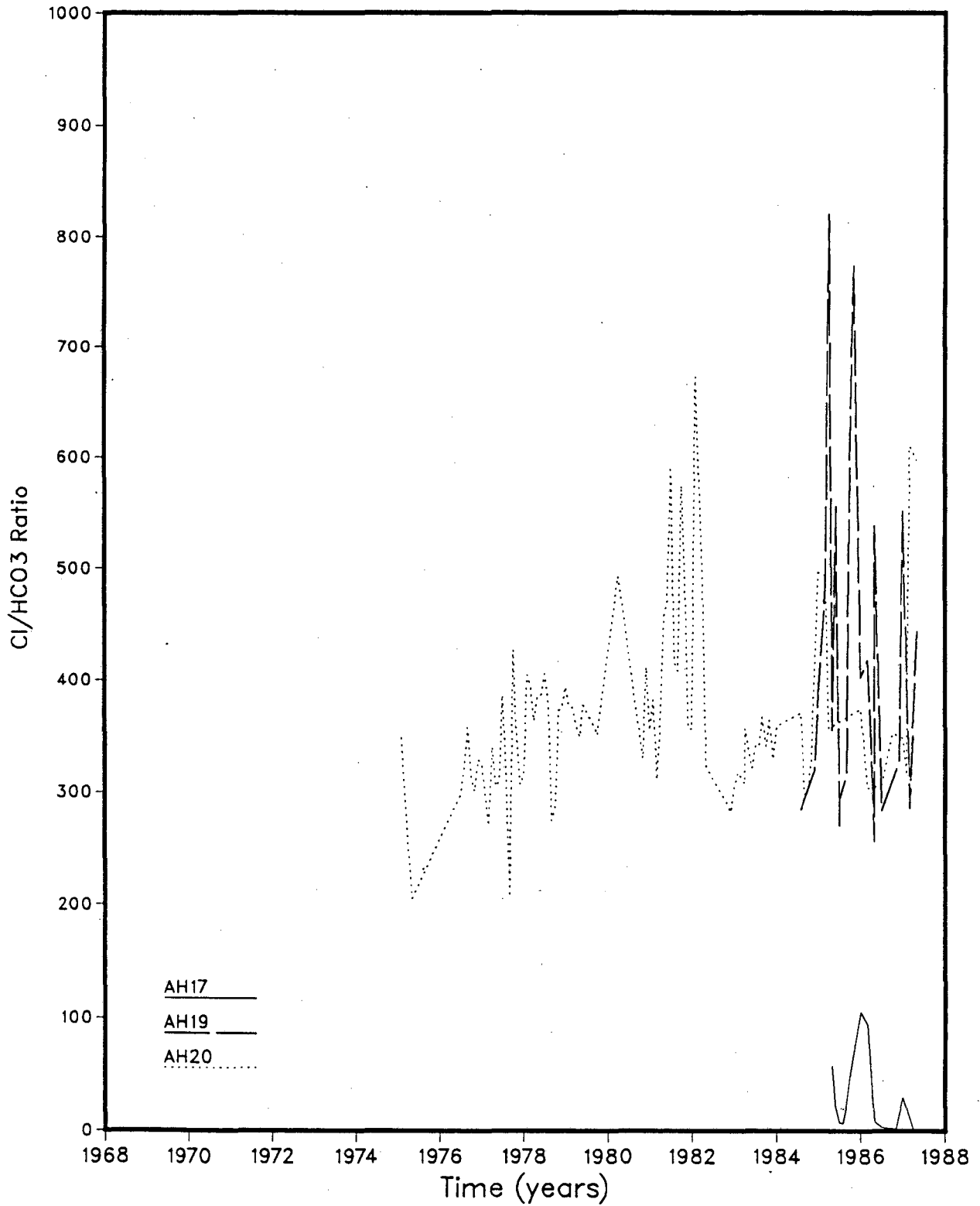
Water Chemistry (Cl/HCO₃)



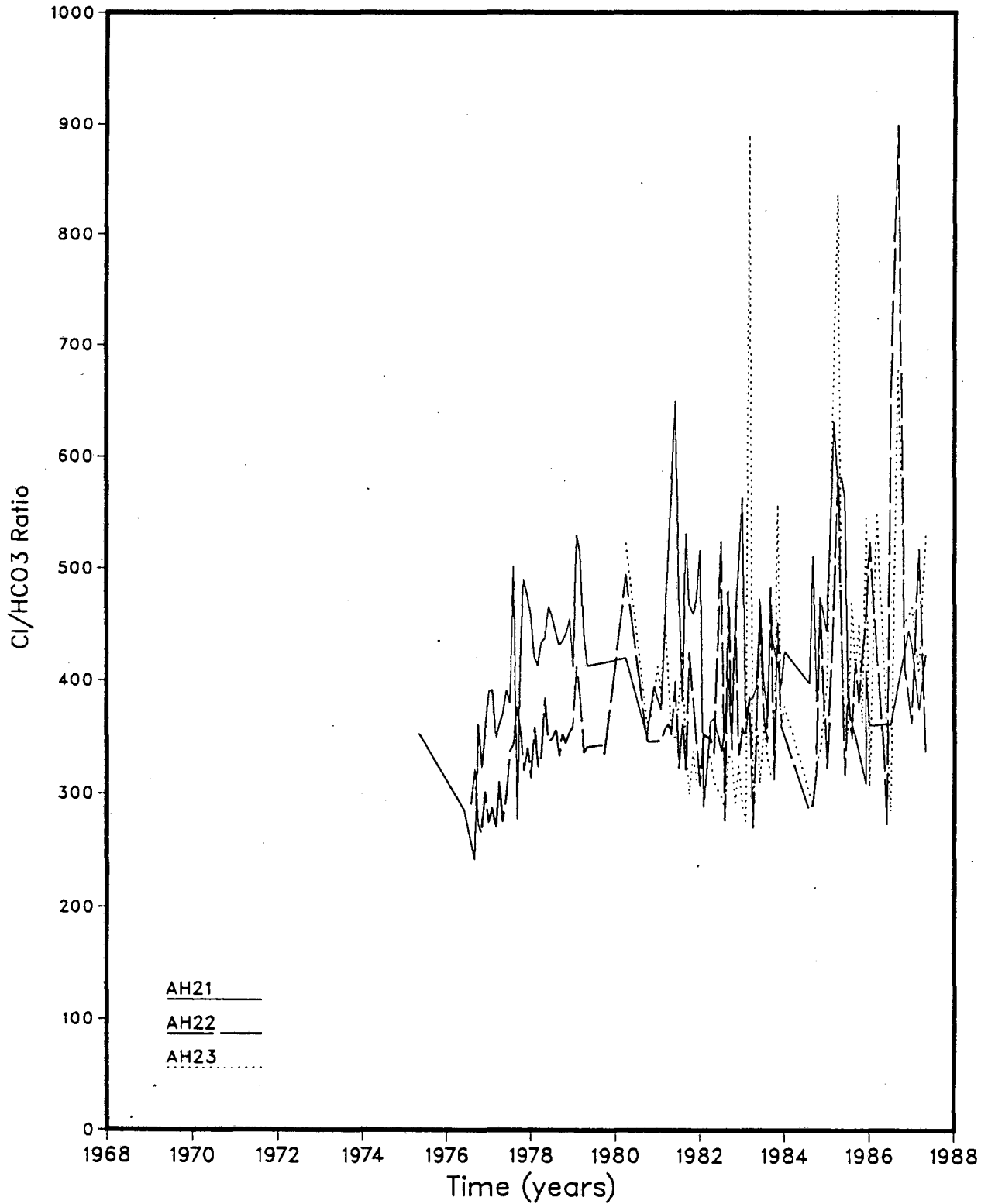
Water Chemistry (Cl/HCO₃)



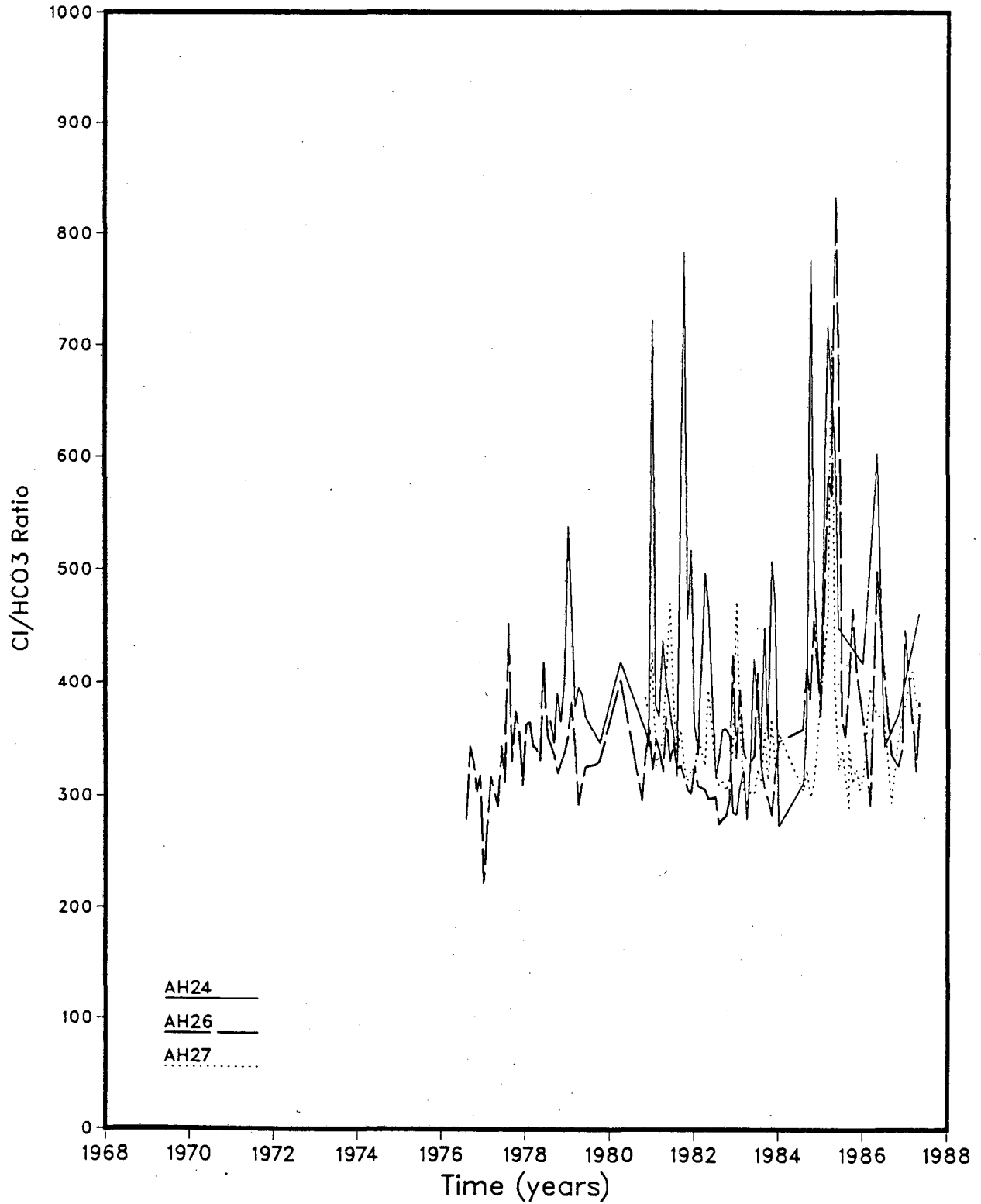
Water Chemistry (Cl/HCO₃)



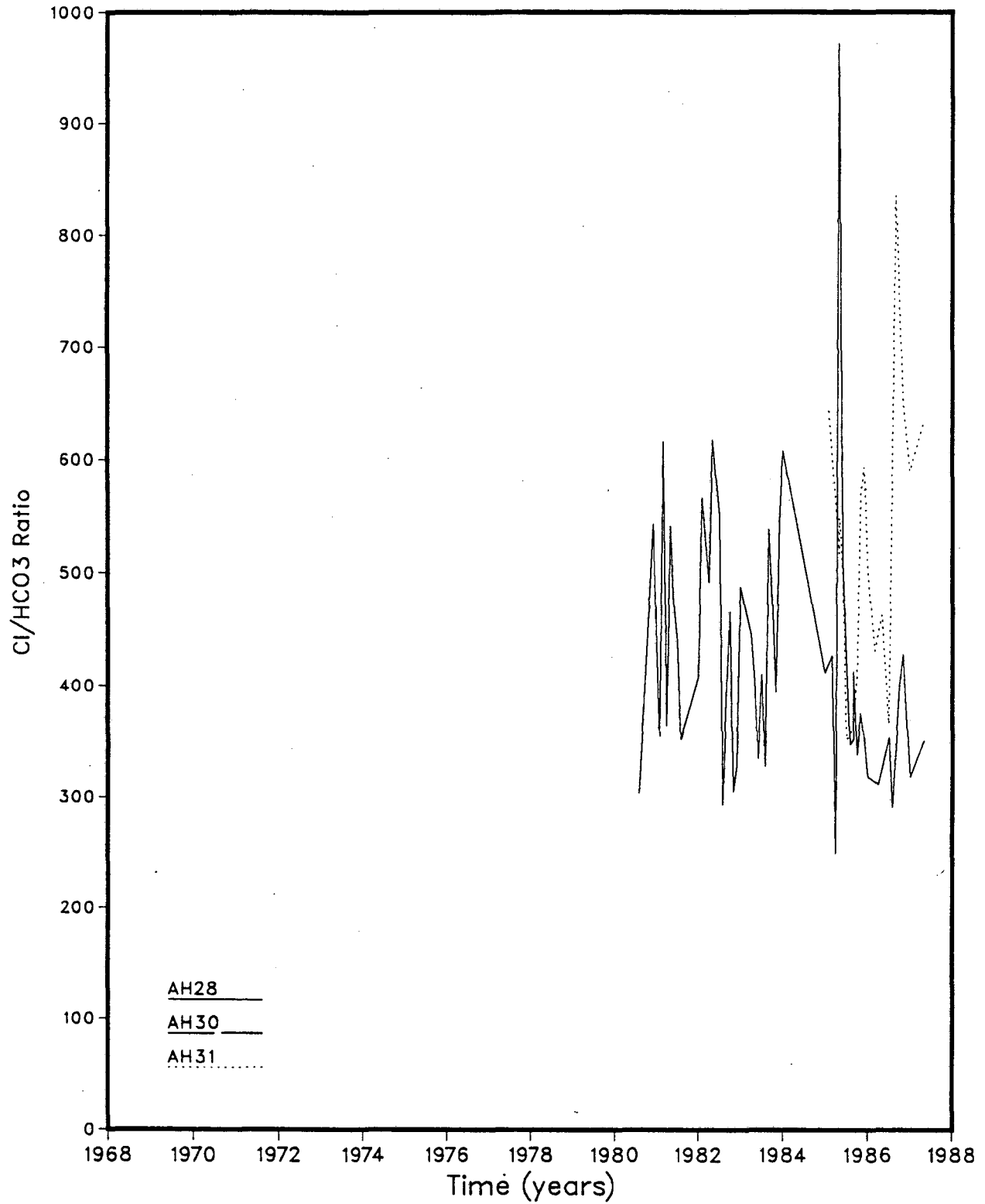
Water Chemistry (Cl/HCO₃)



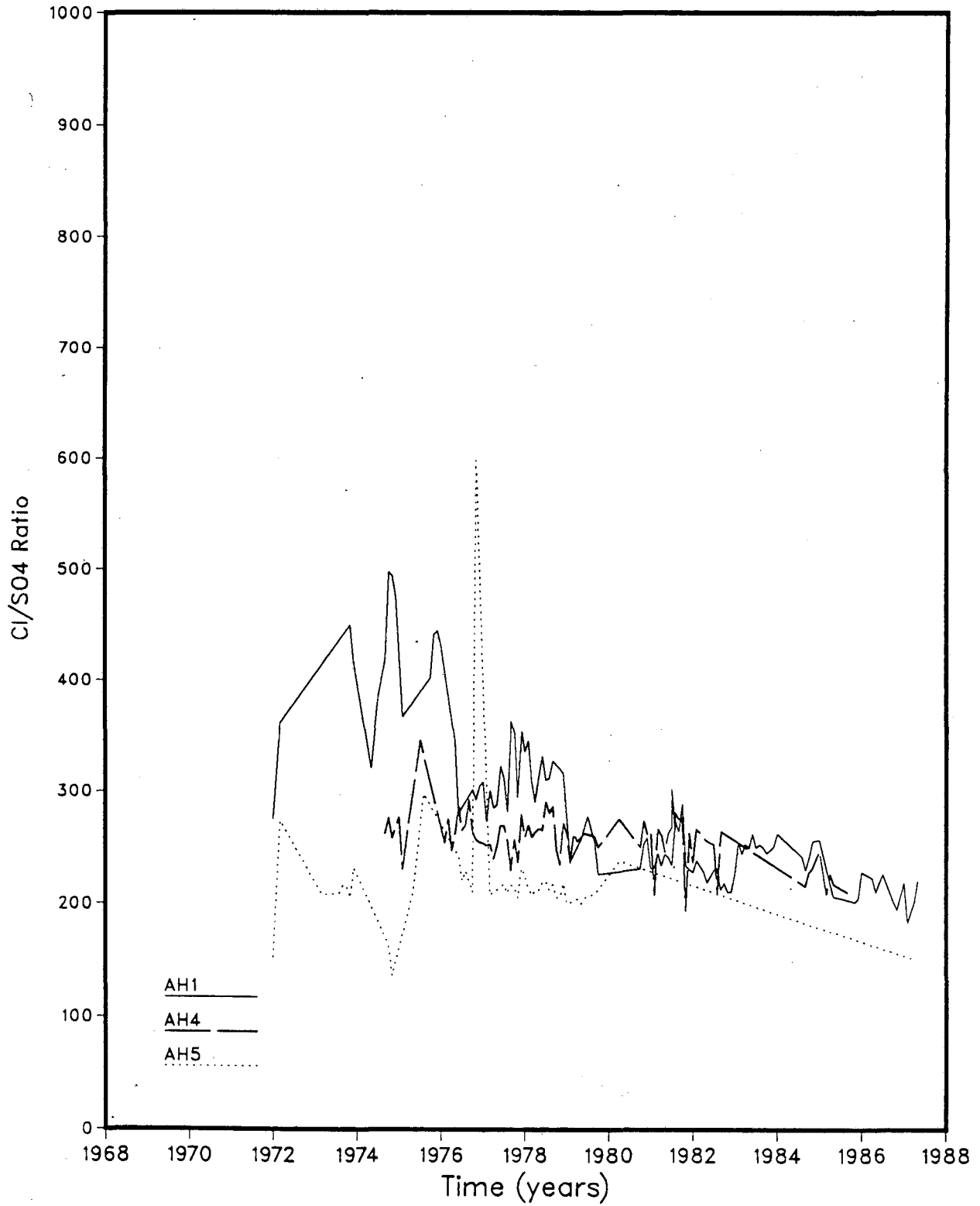
Water Chemistry (Cl/HCO₃⁻)



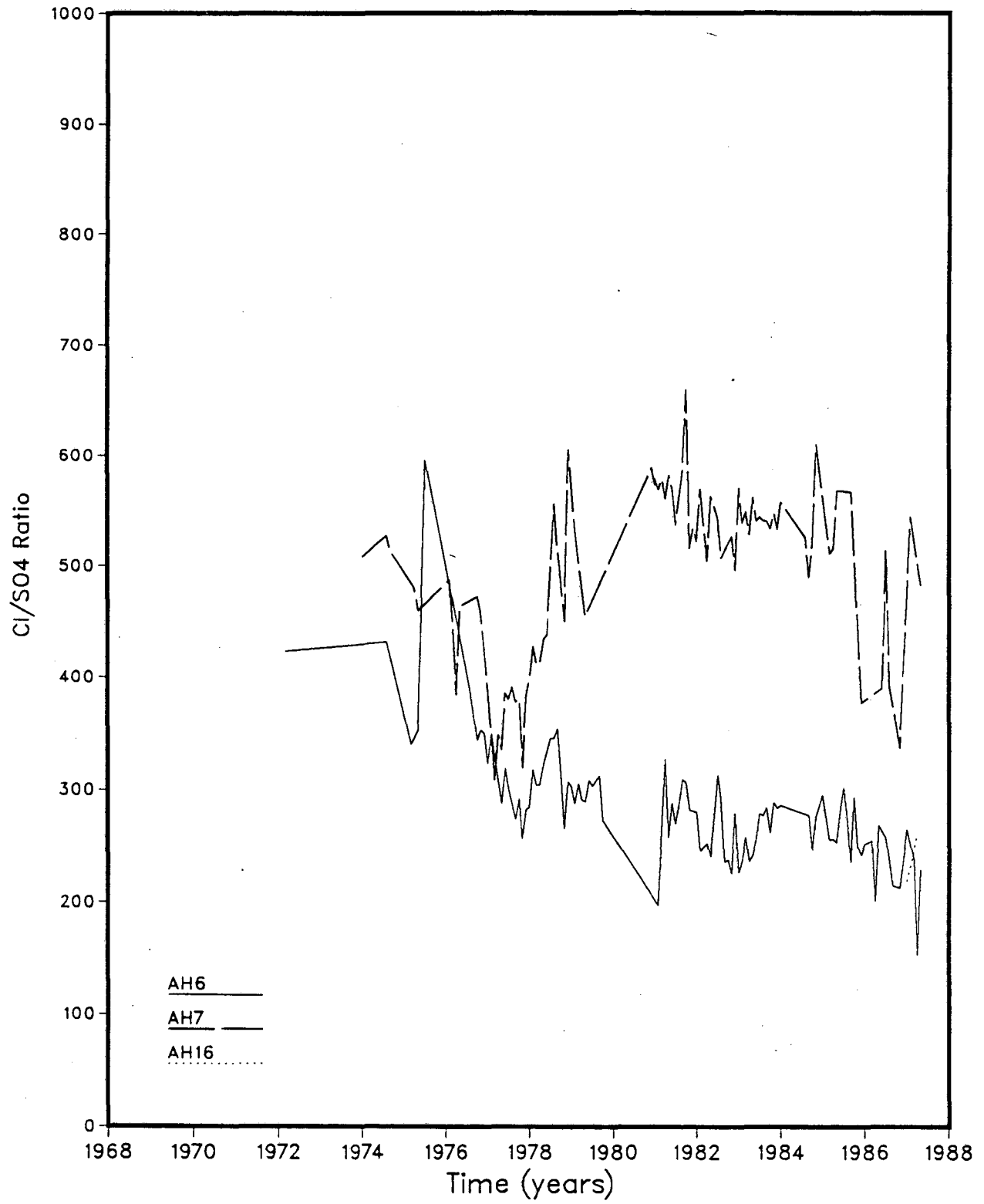
Water Chemistry (Cl/HCO3)



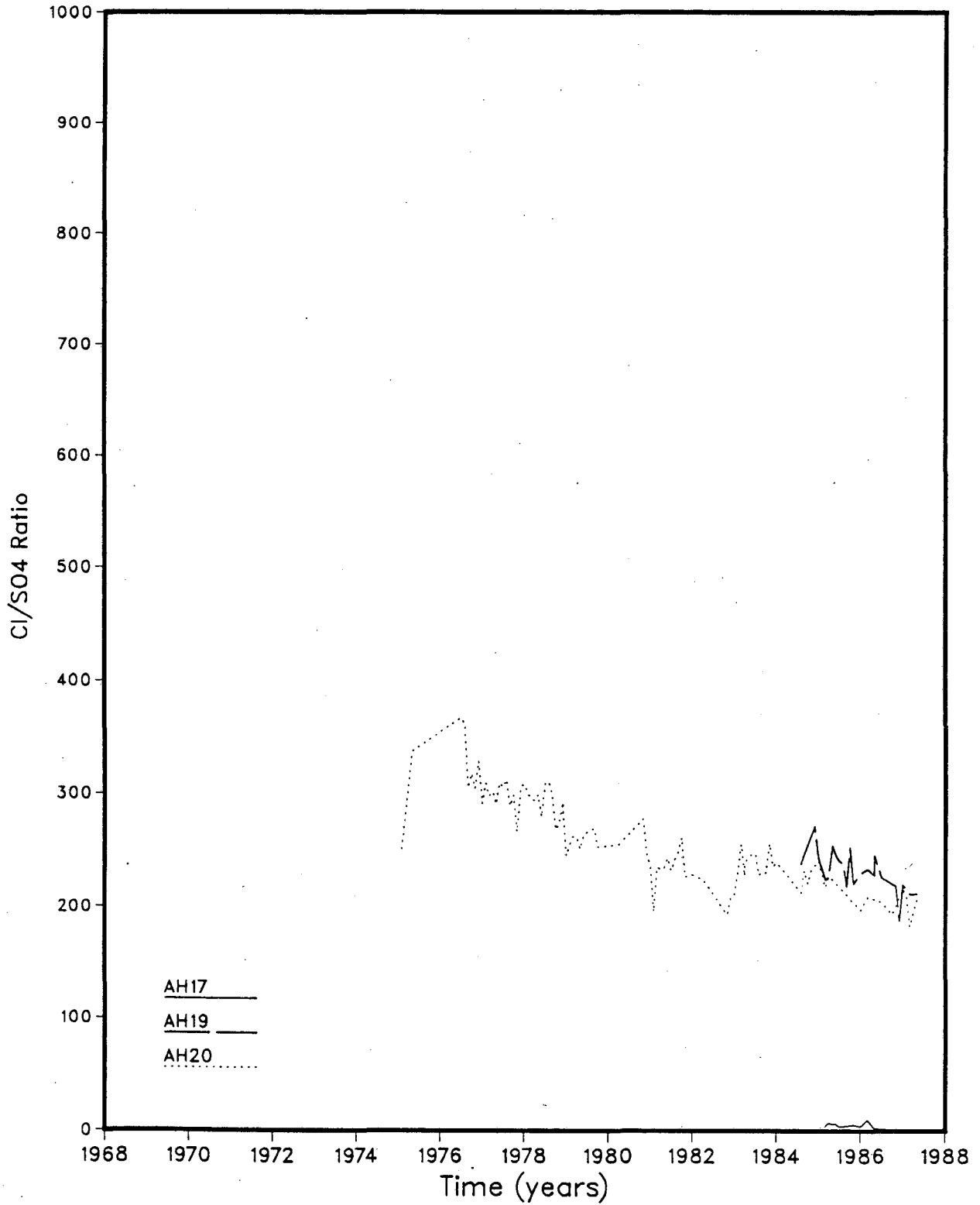
Water Chemistry (Cl/SO4)



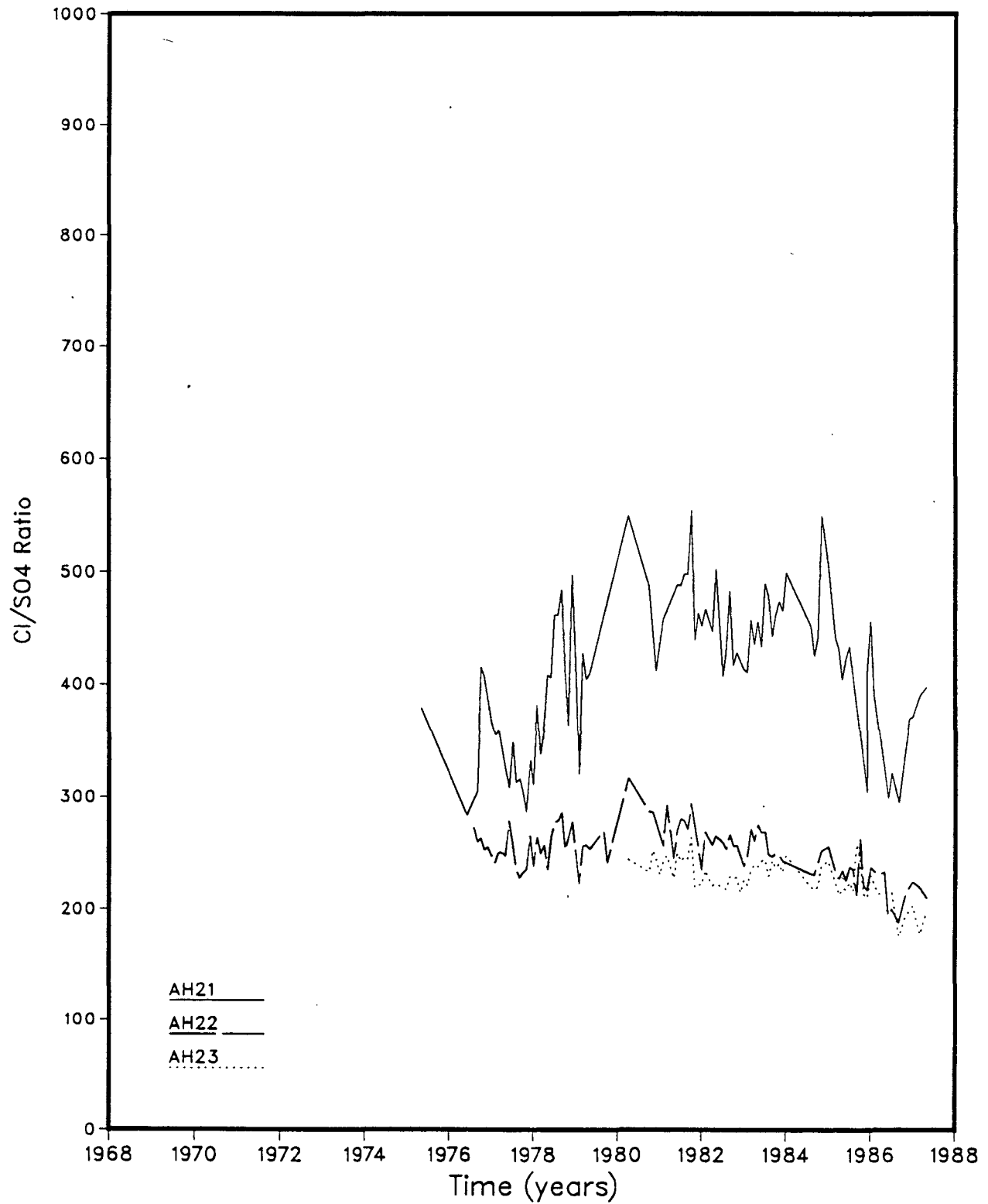
Water Chemistry (Cl/SO4)



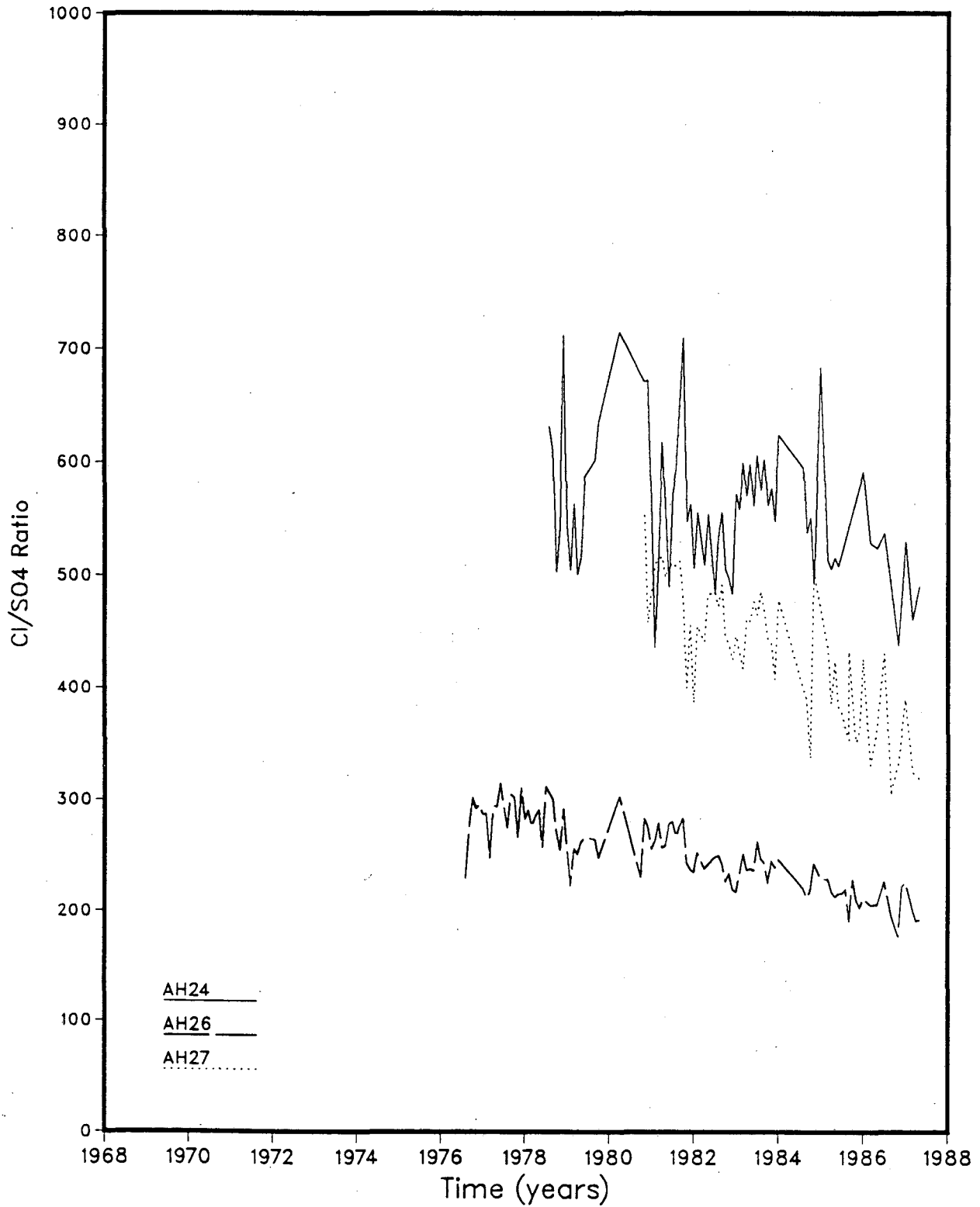
Water Chemistry (Cl/SO4)



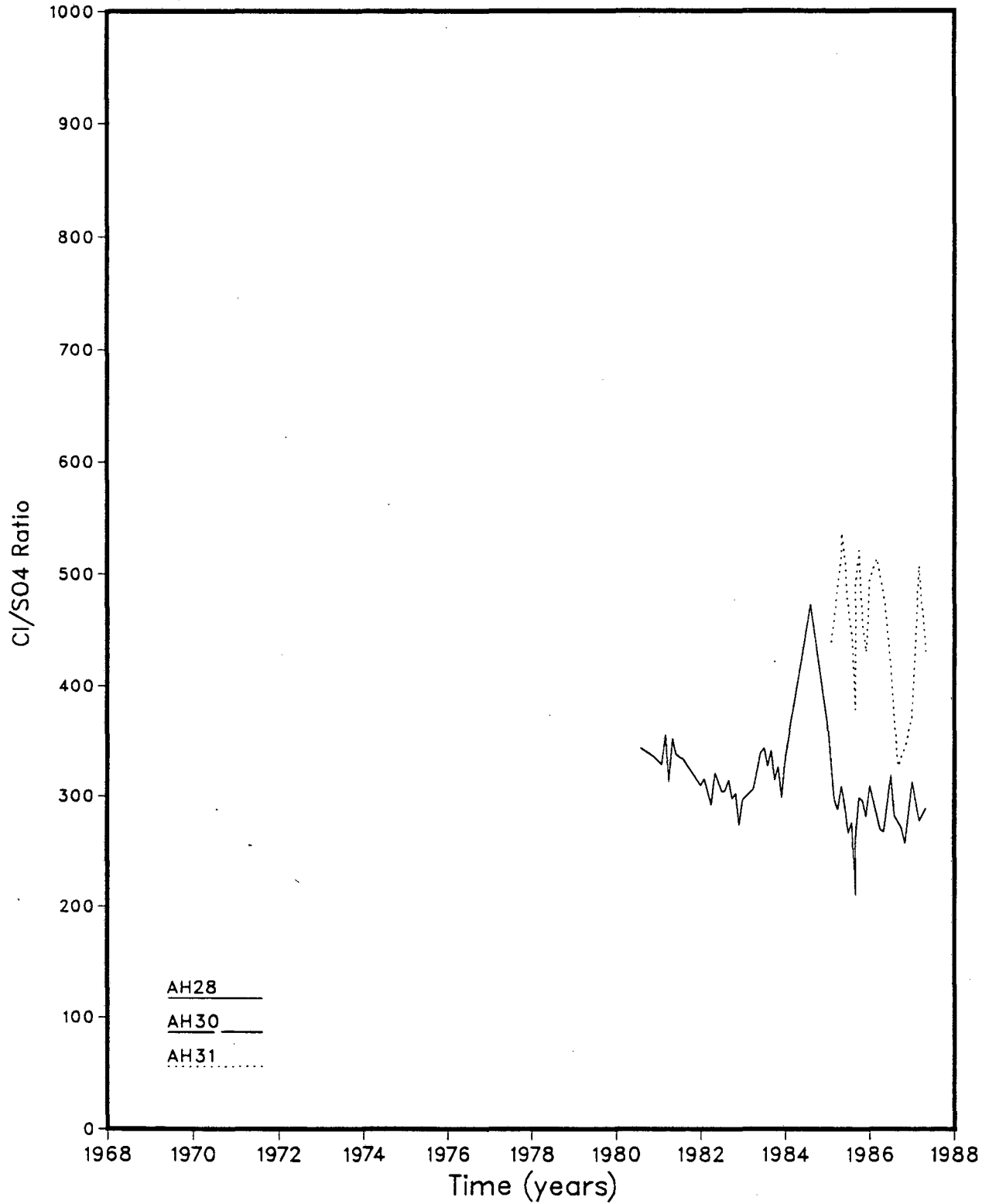
Water Chemistry (Cl/SO4)



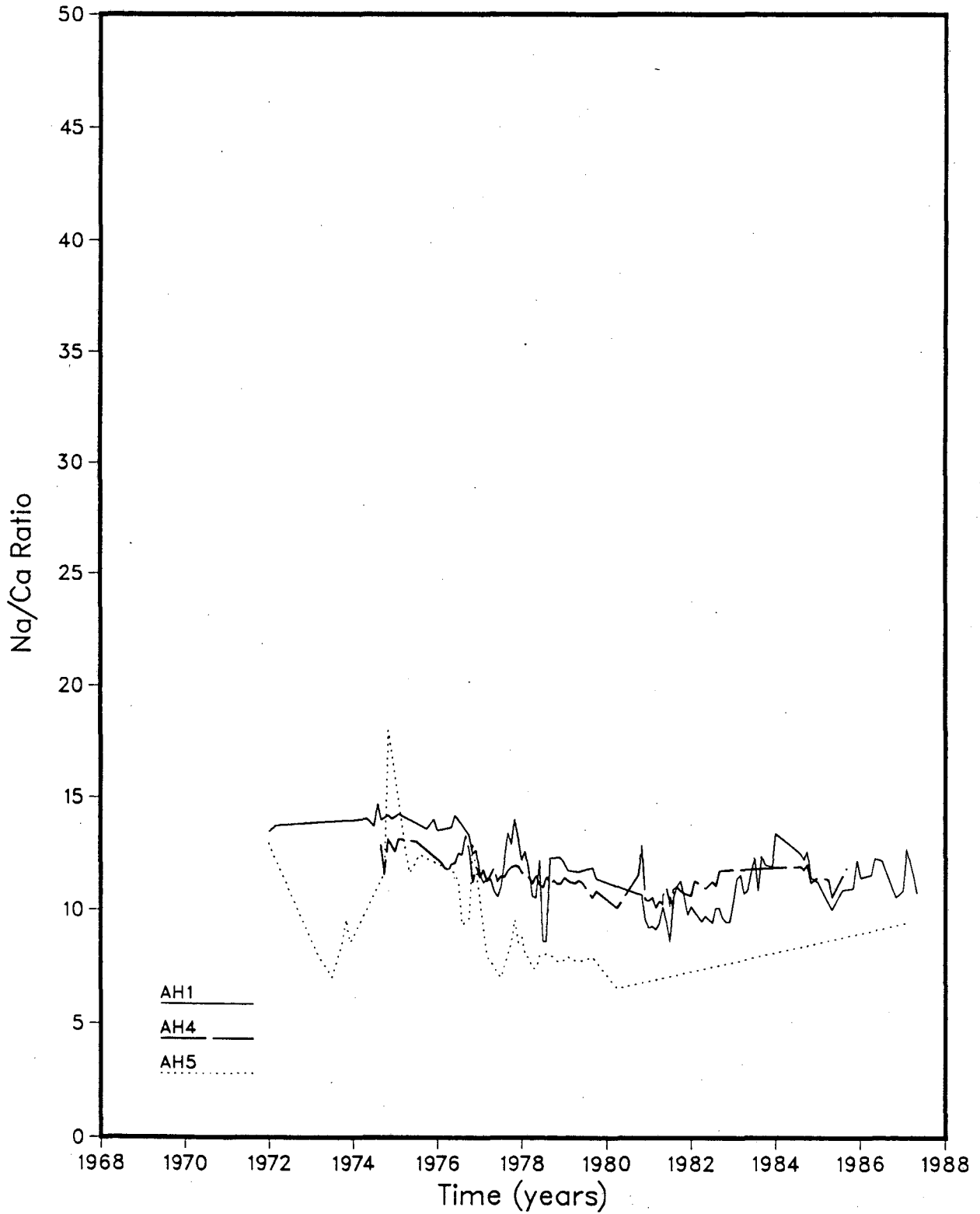
Water Chemistry (Cl/SO4)



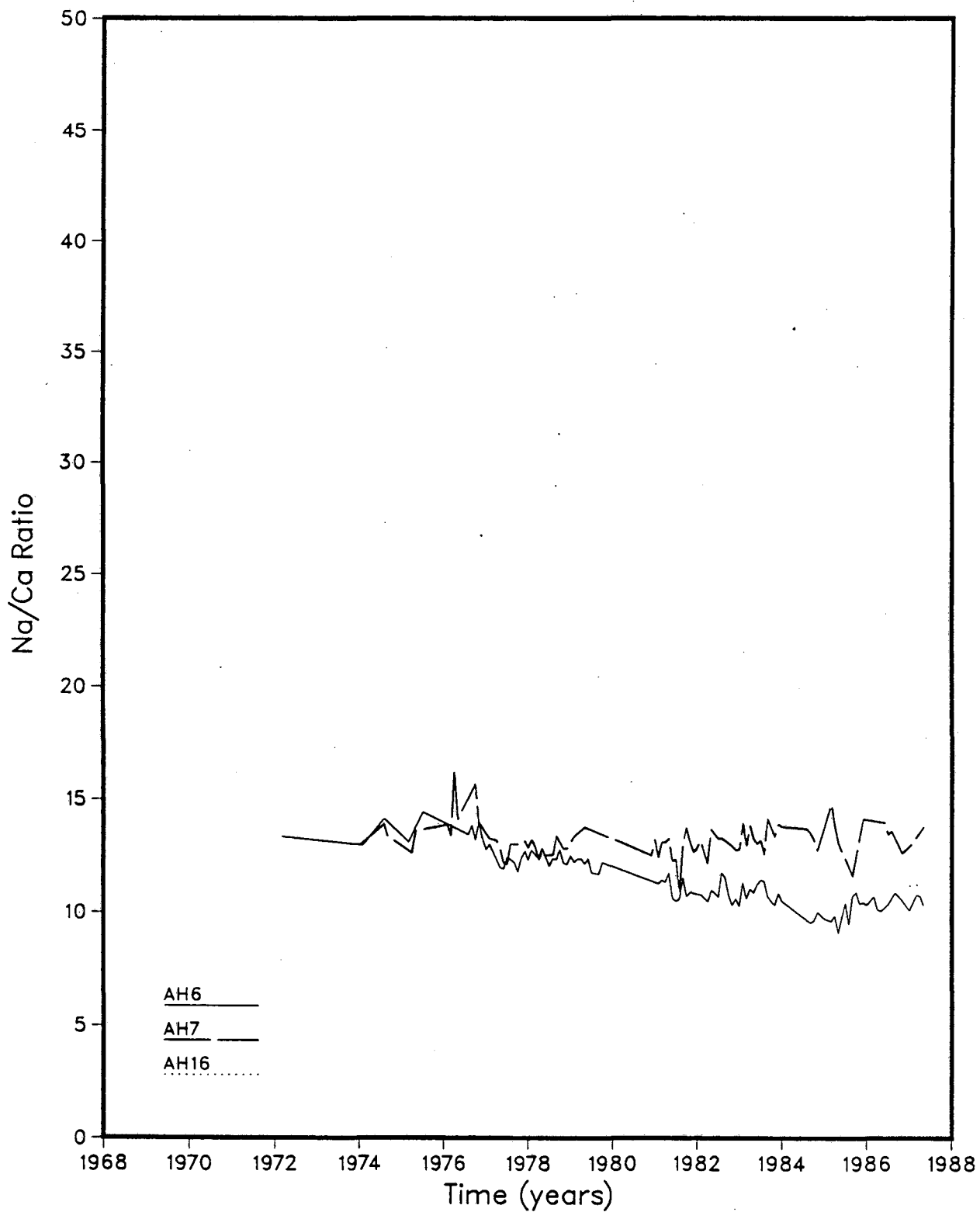
Water Chemistry (Cl/SO4)



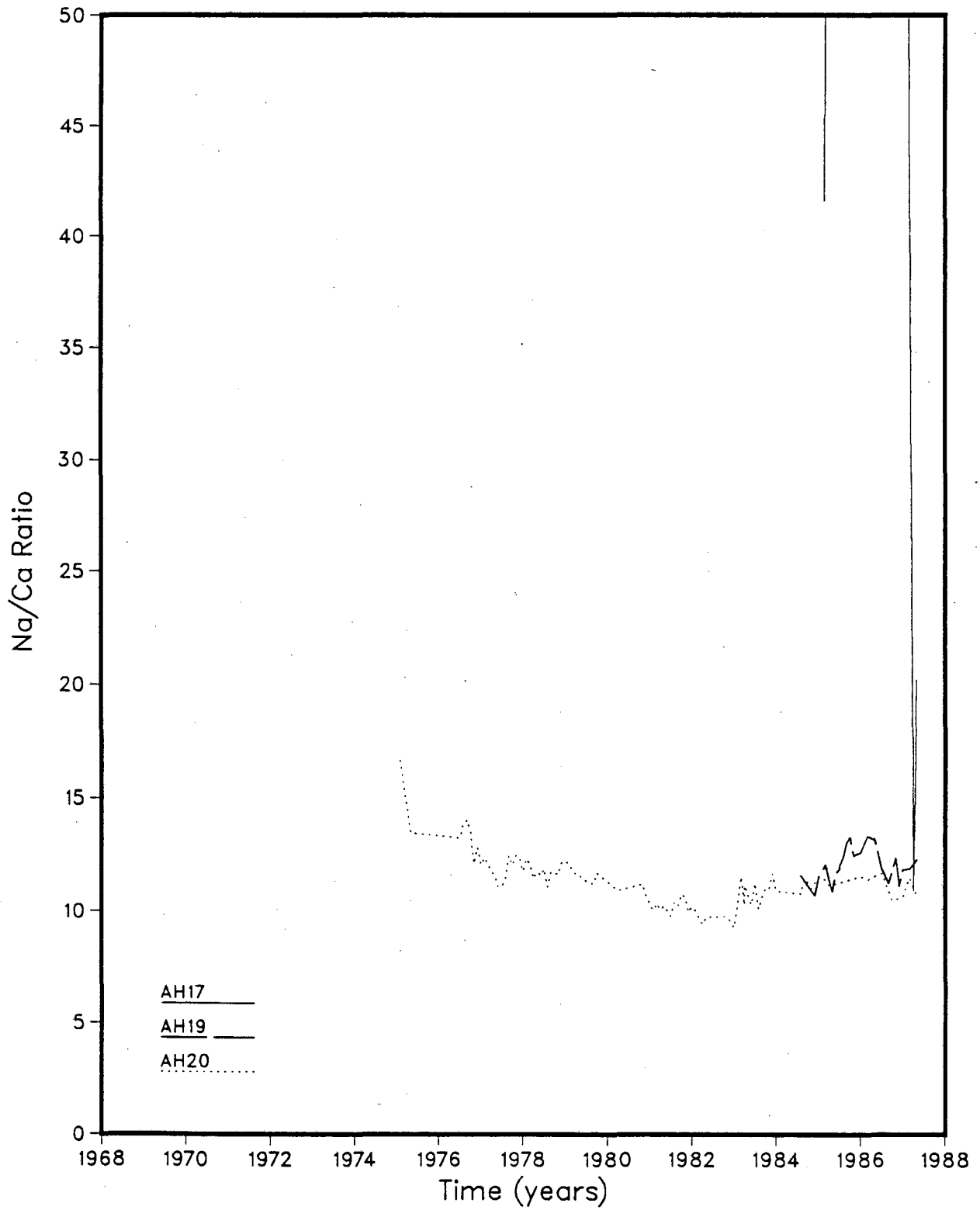
Water Chemistry (Na/Ca)



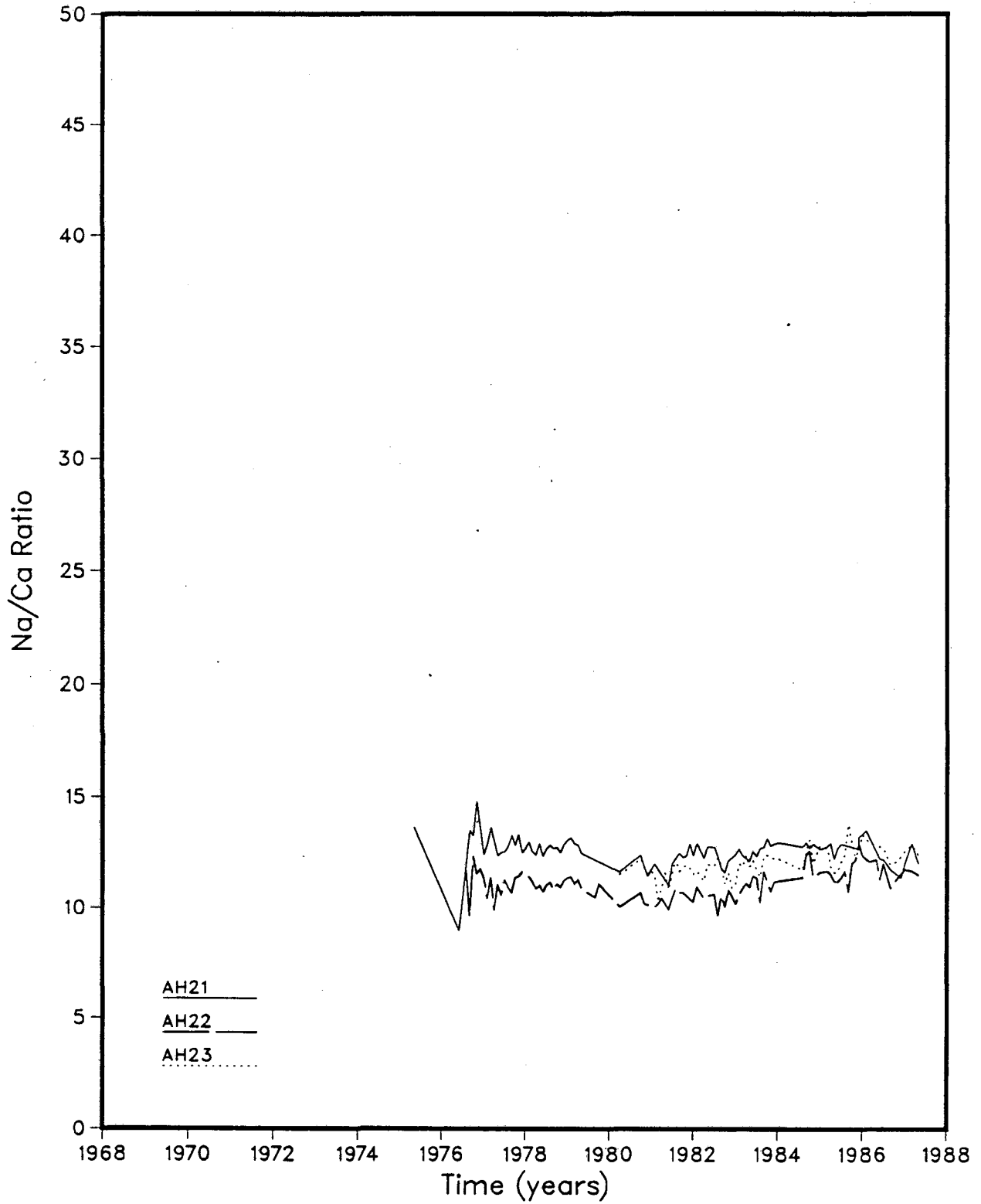
Water Chemistry (Na/Ca)



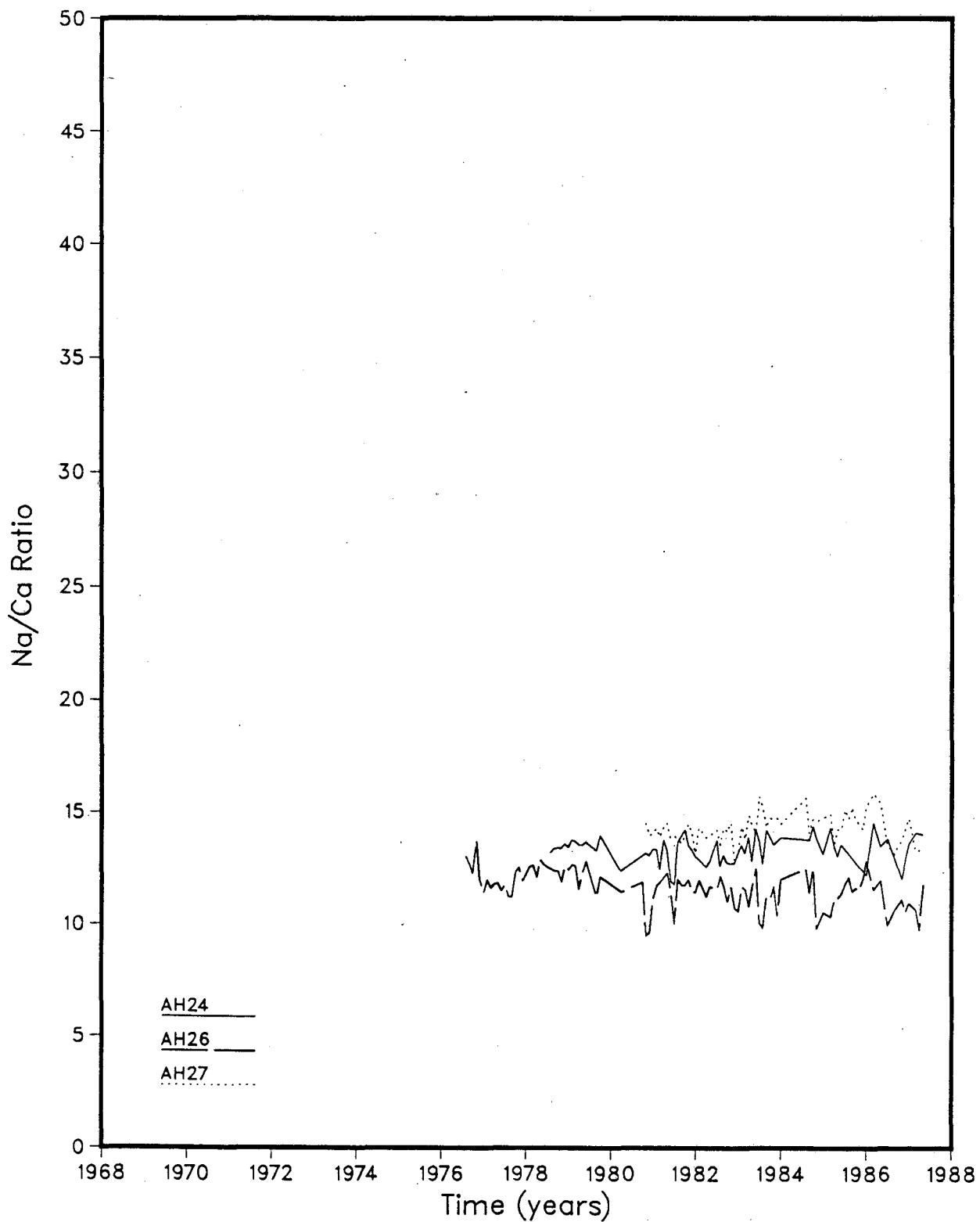
Water Chemistry (Na/Ca)



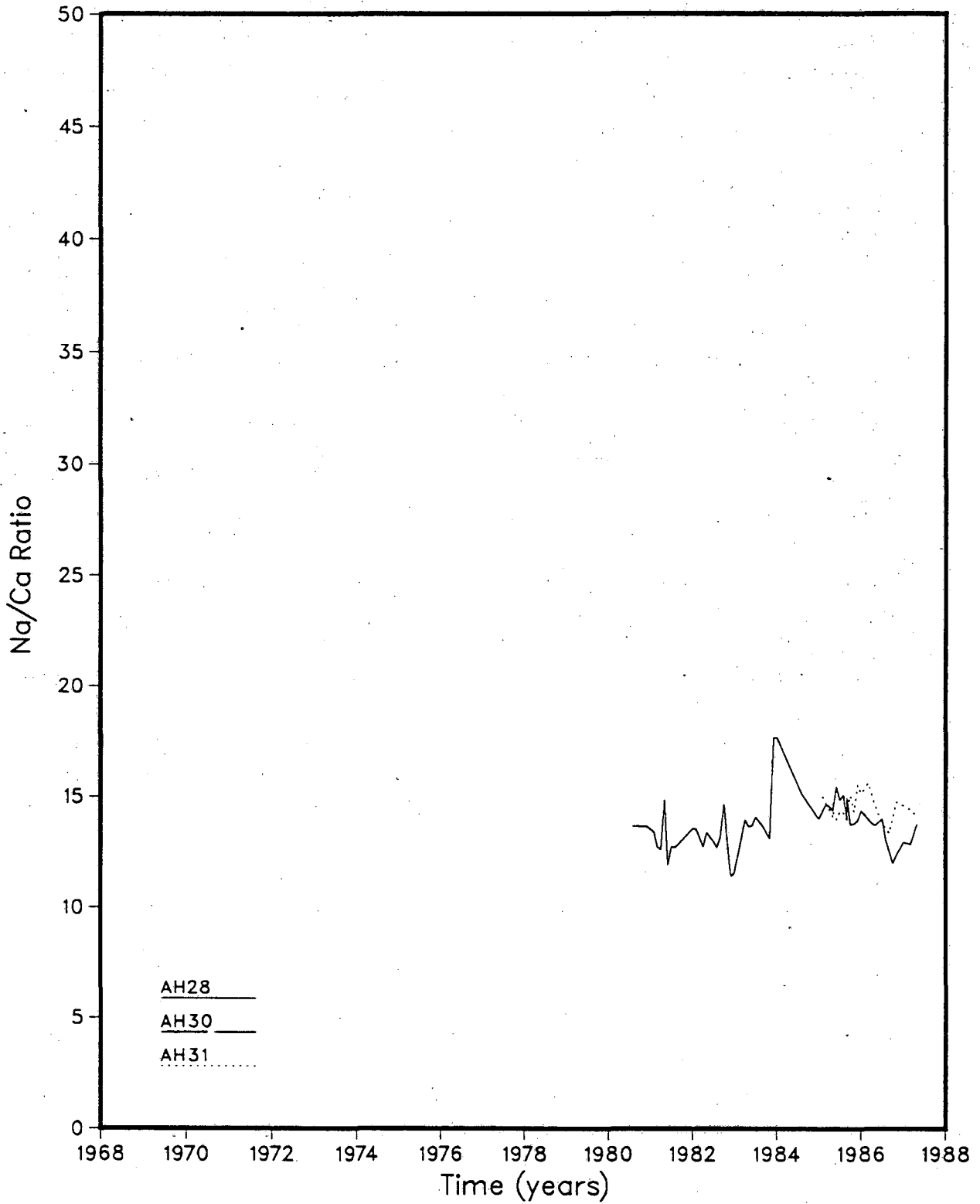
Water Chemistry (Na/Ca)



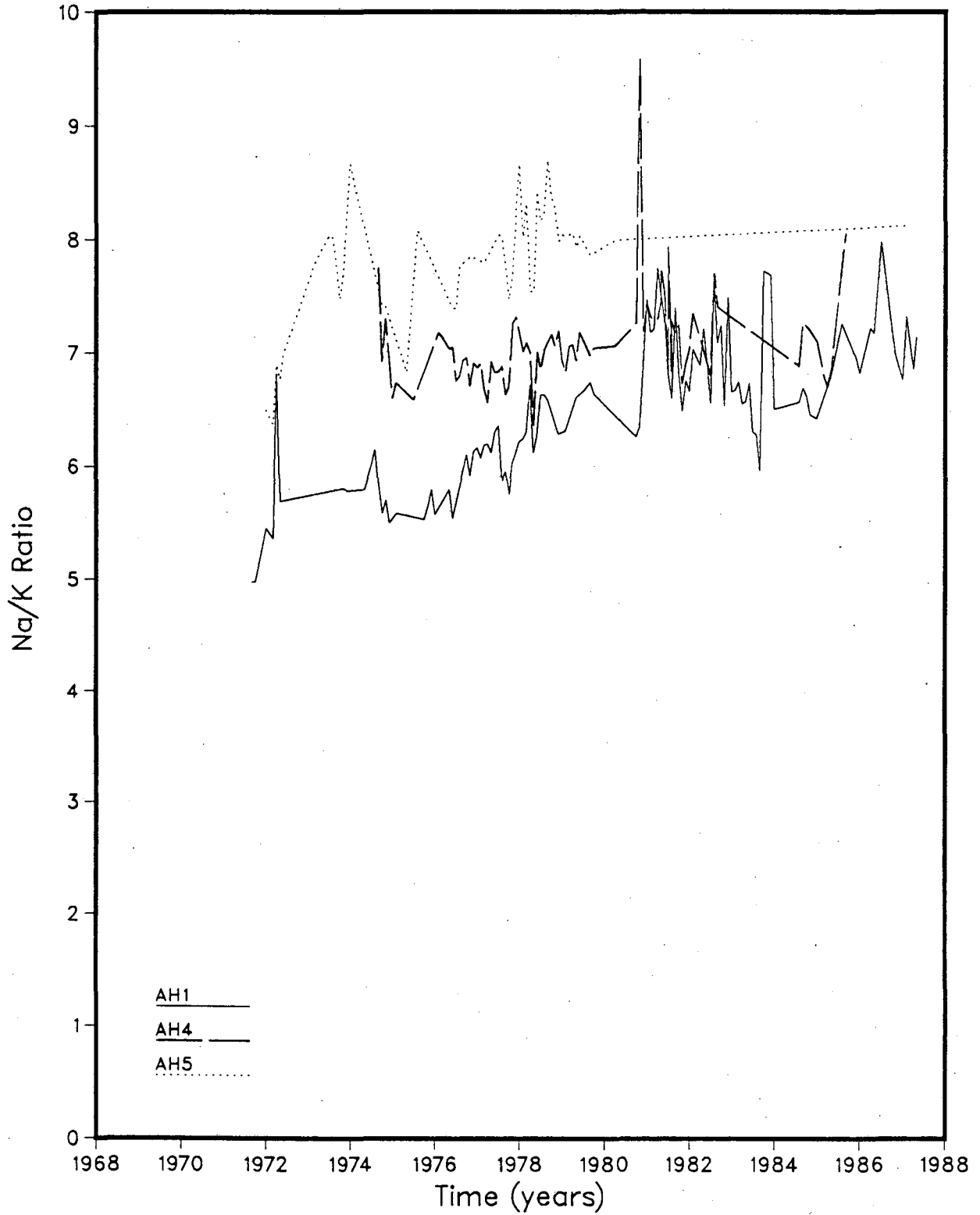
Water Chemistry (Na/Ca)



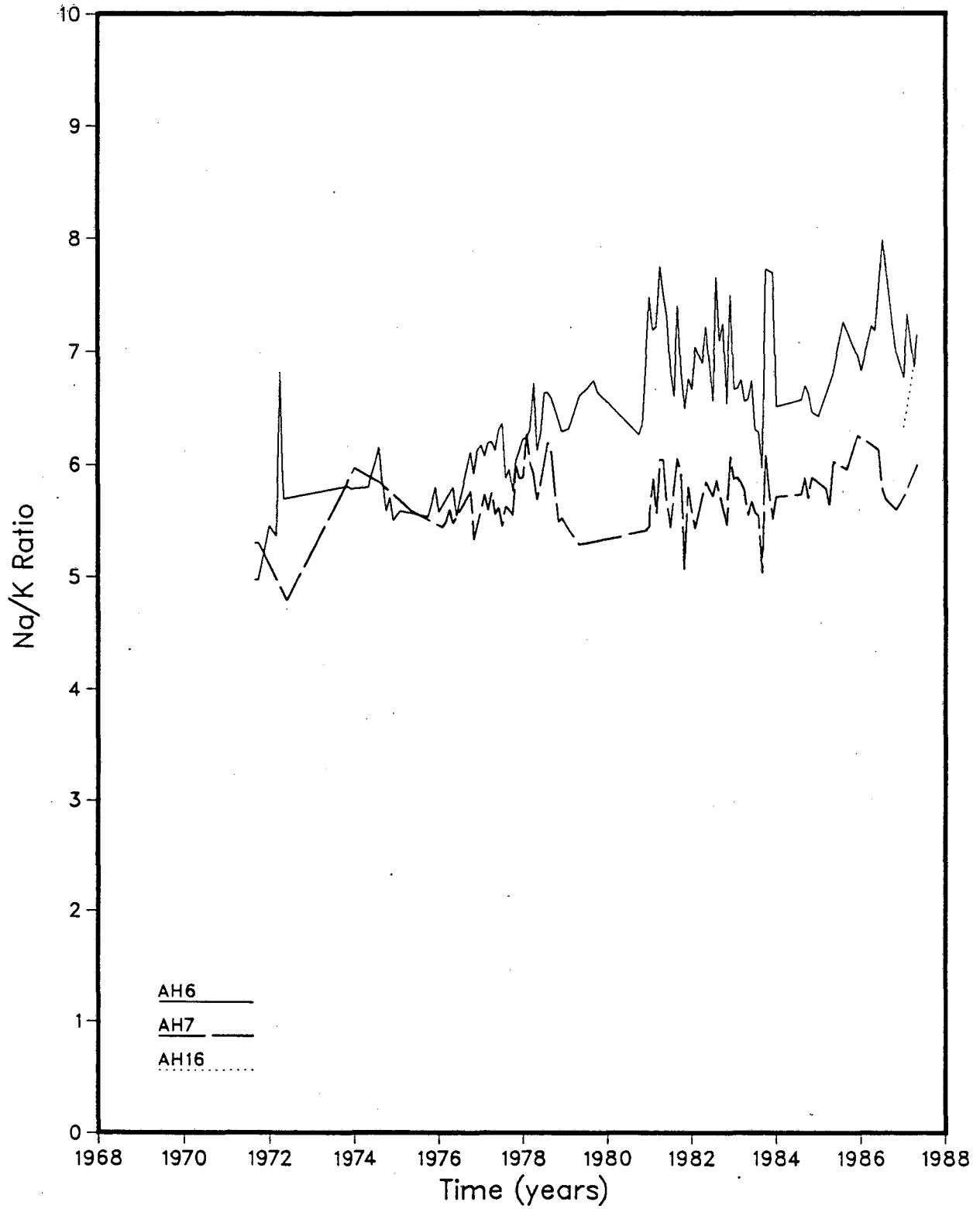
Water Chemistry (Na/Ca)



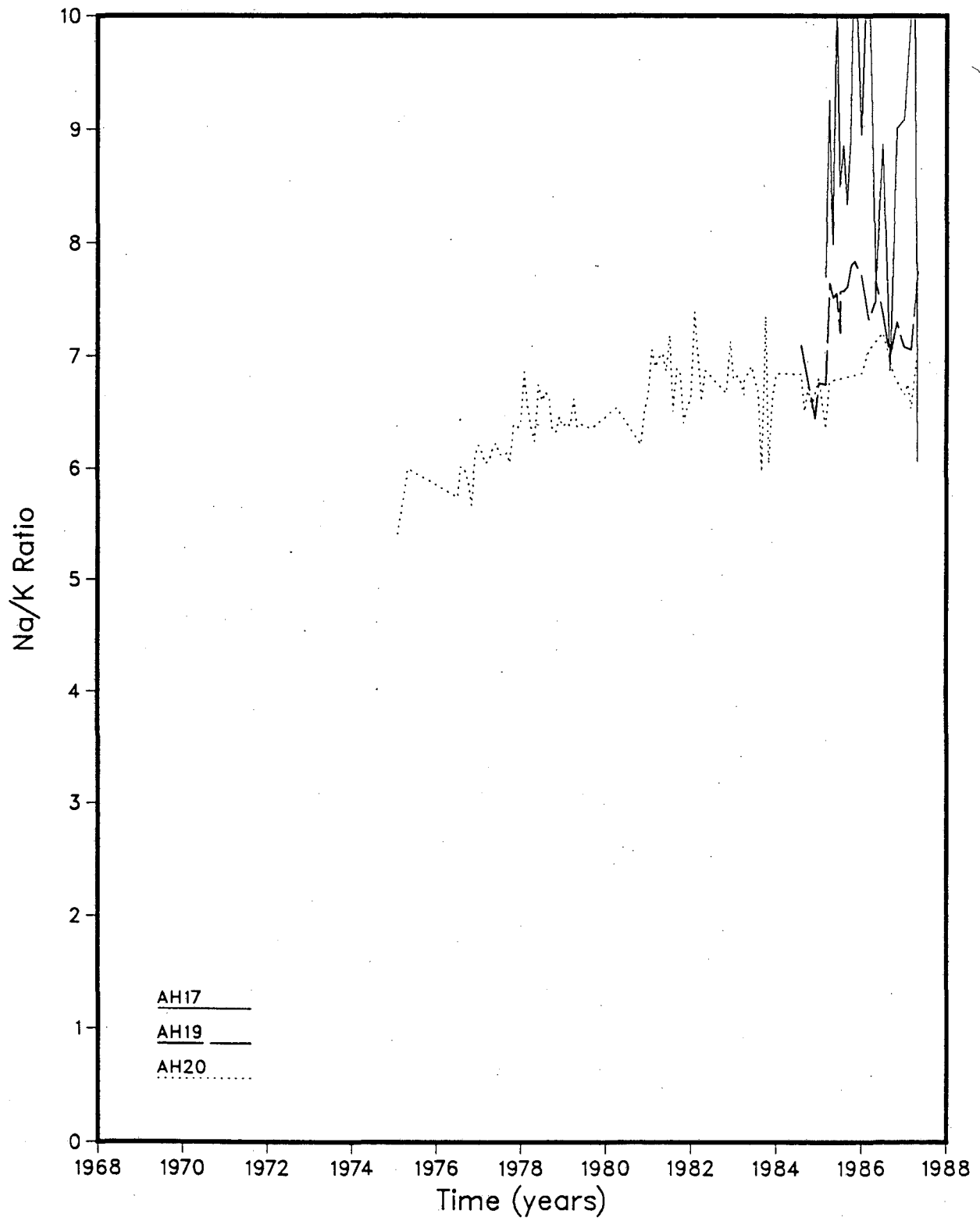
Water Chemistry (Na/K)



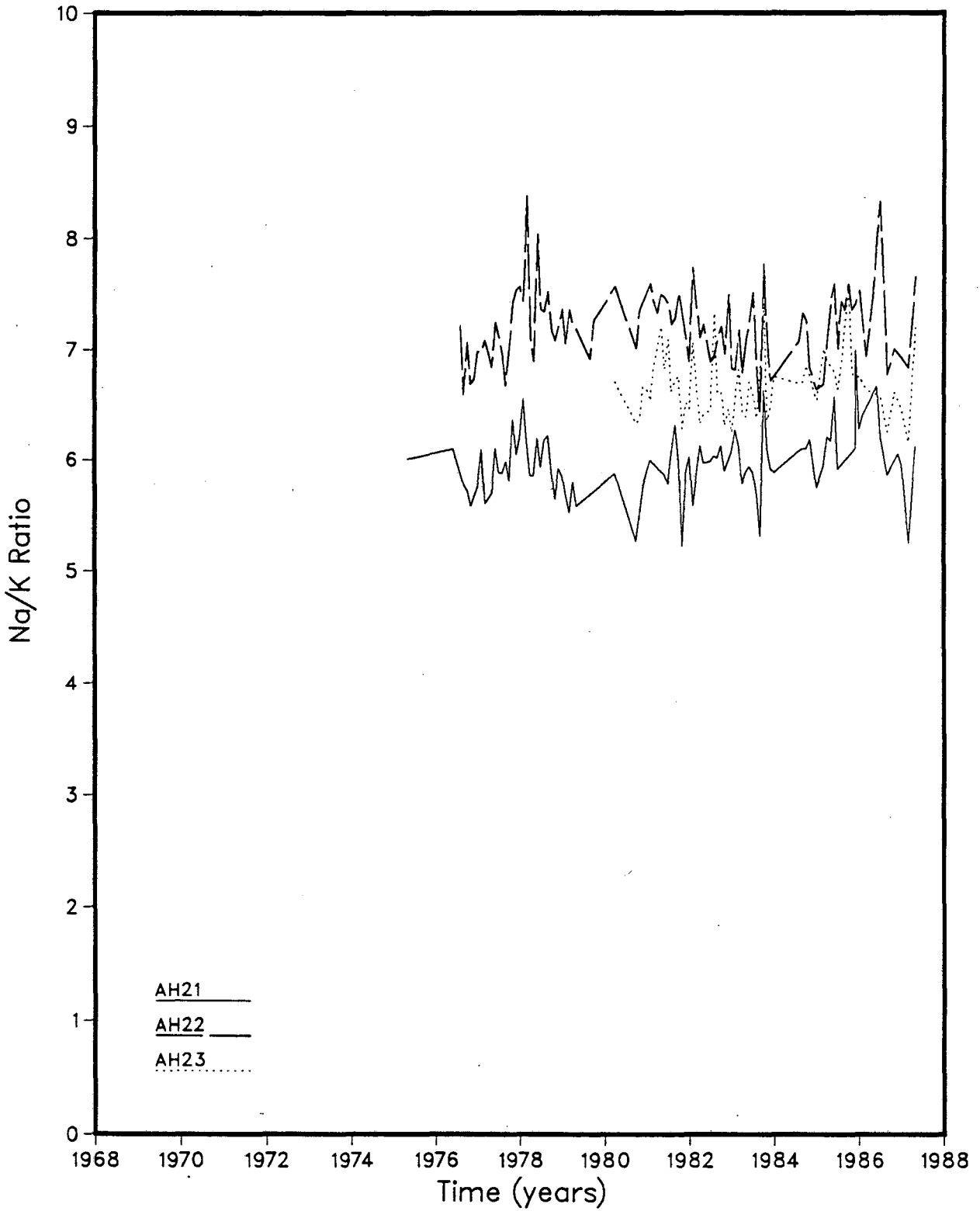
Water Chemistry (Na/K)



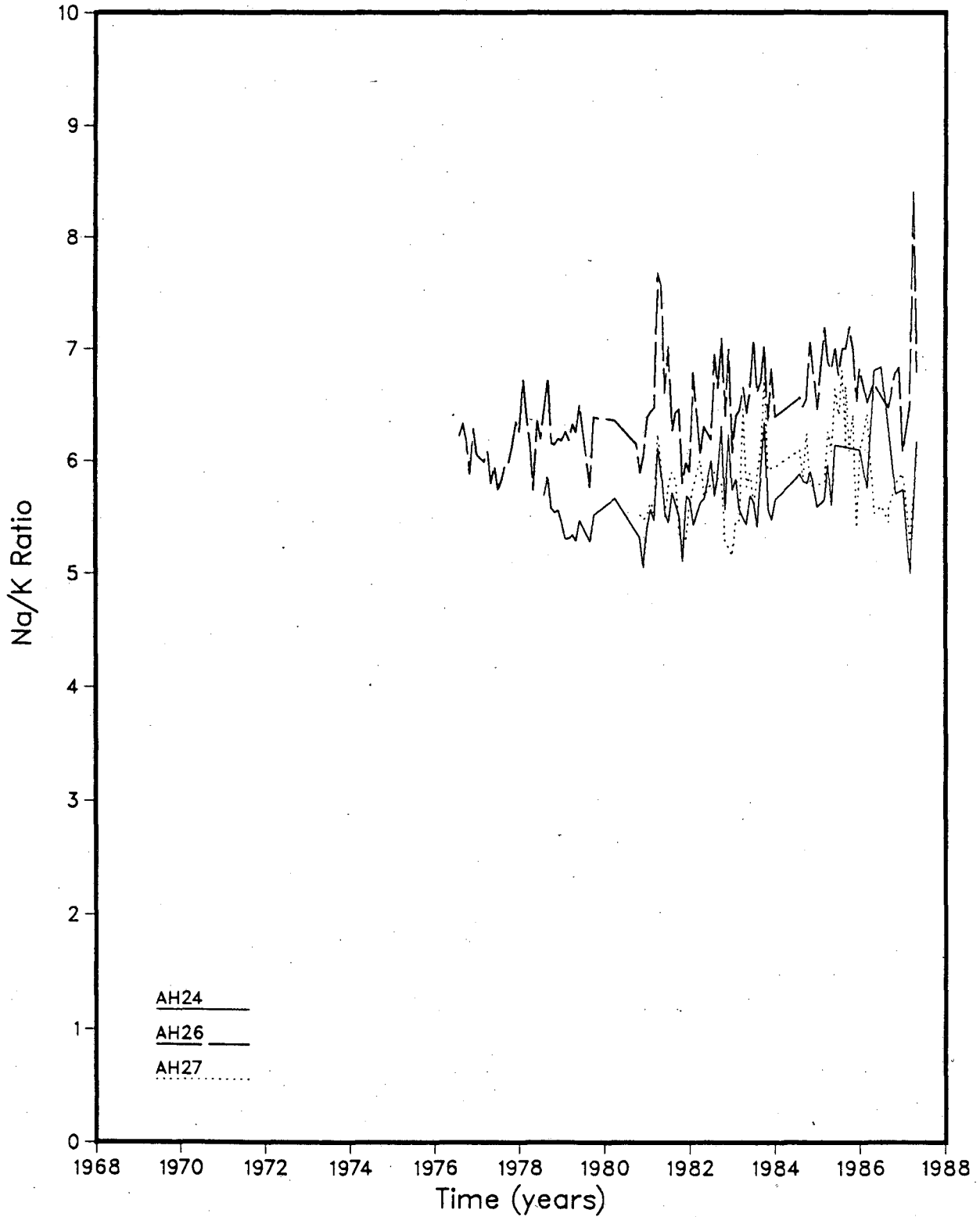
Water Chemistry (Na/K)



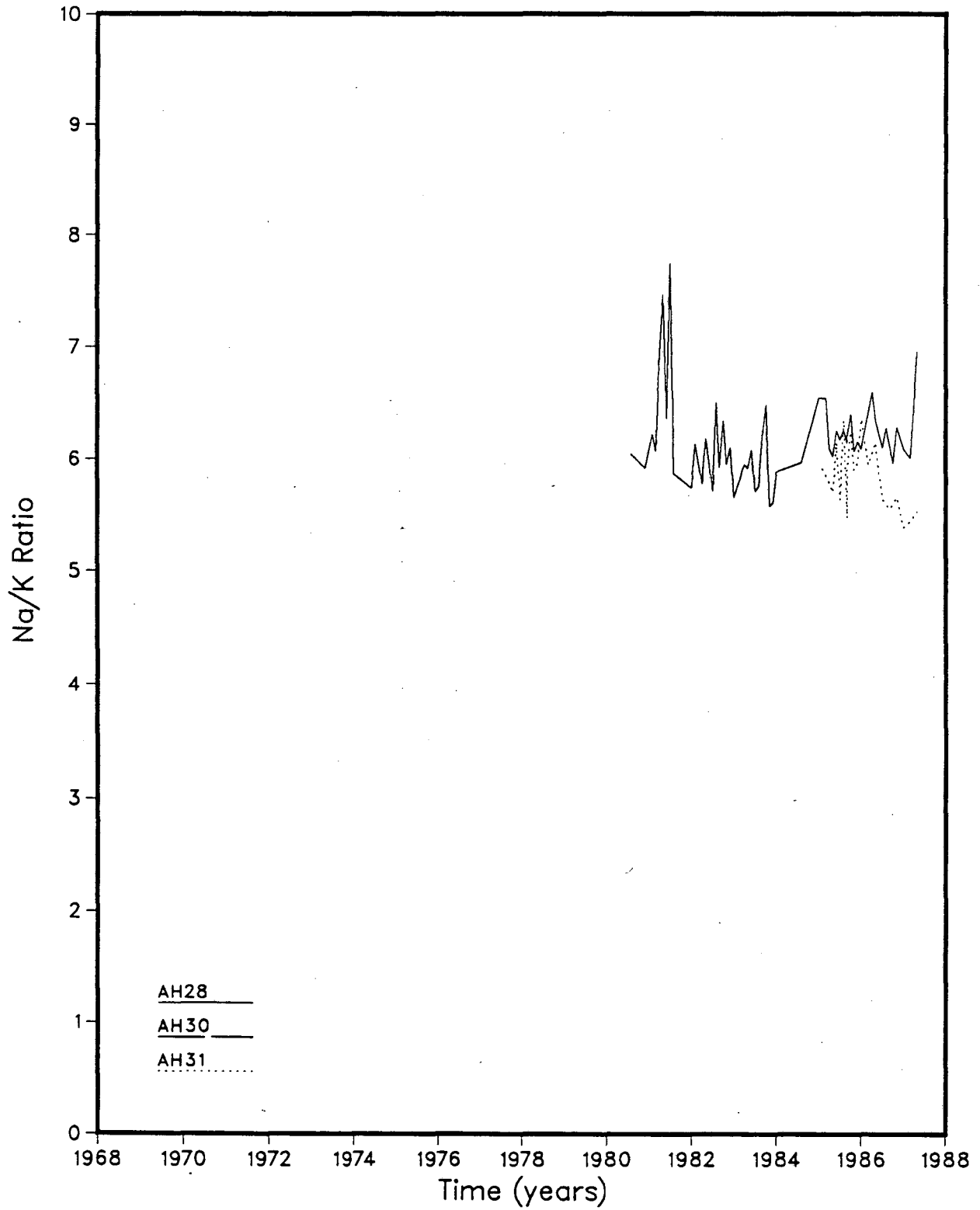
Water Chemistry (Na/K)



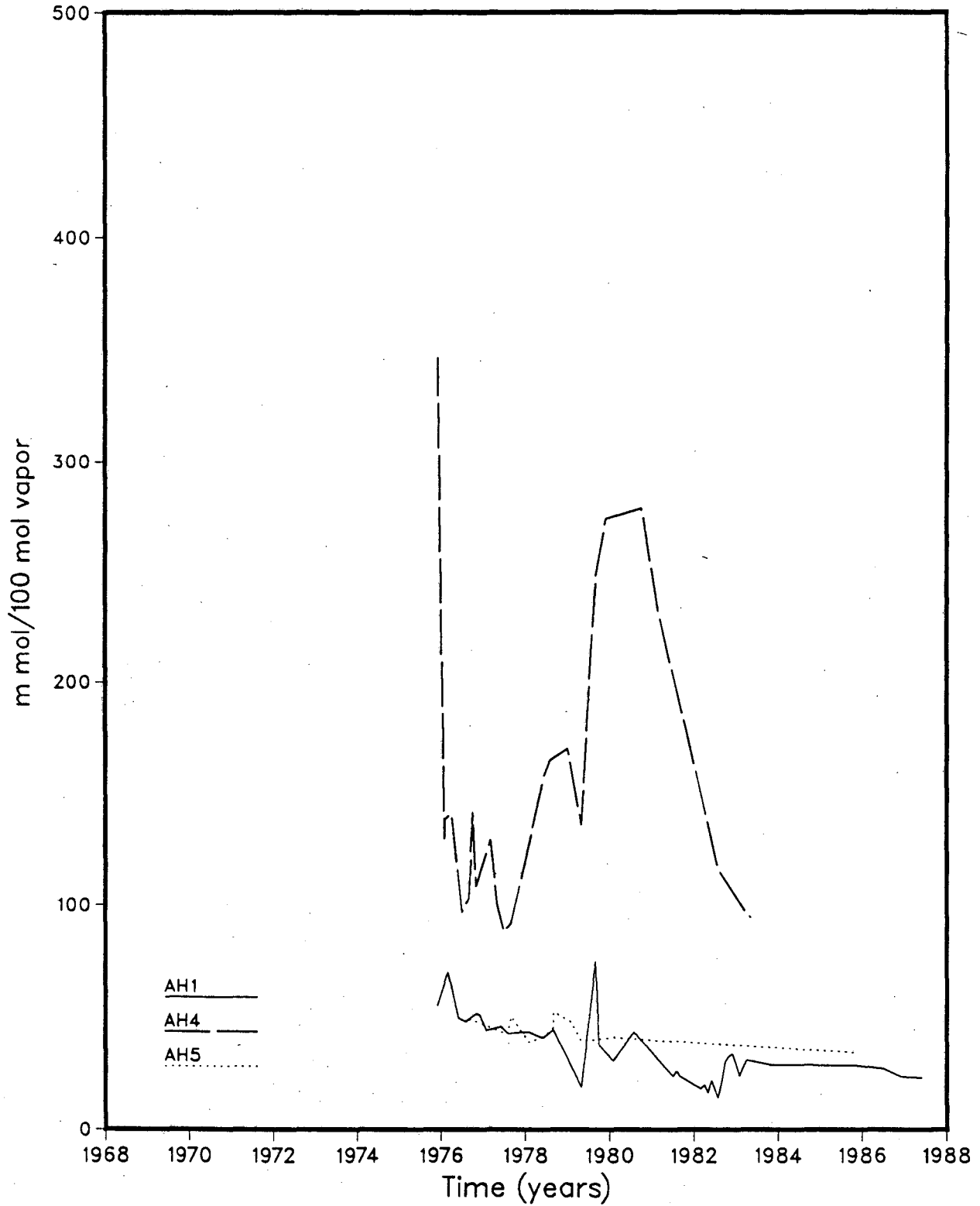
Water Chemistry (Na/K)



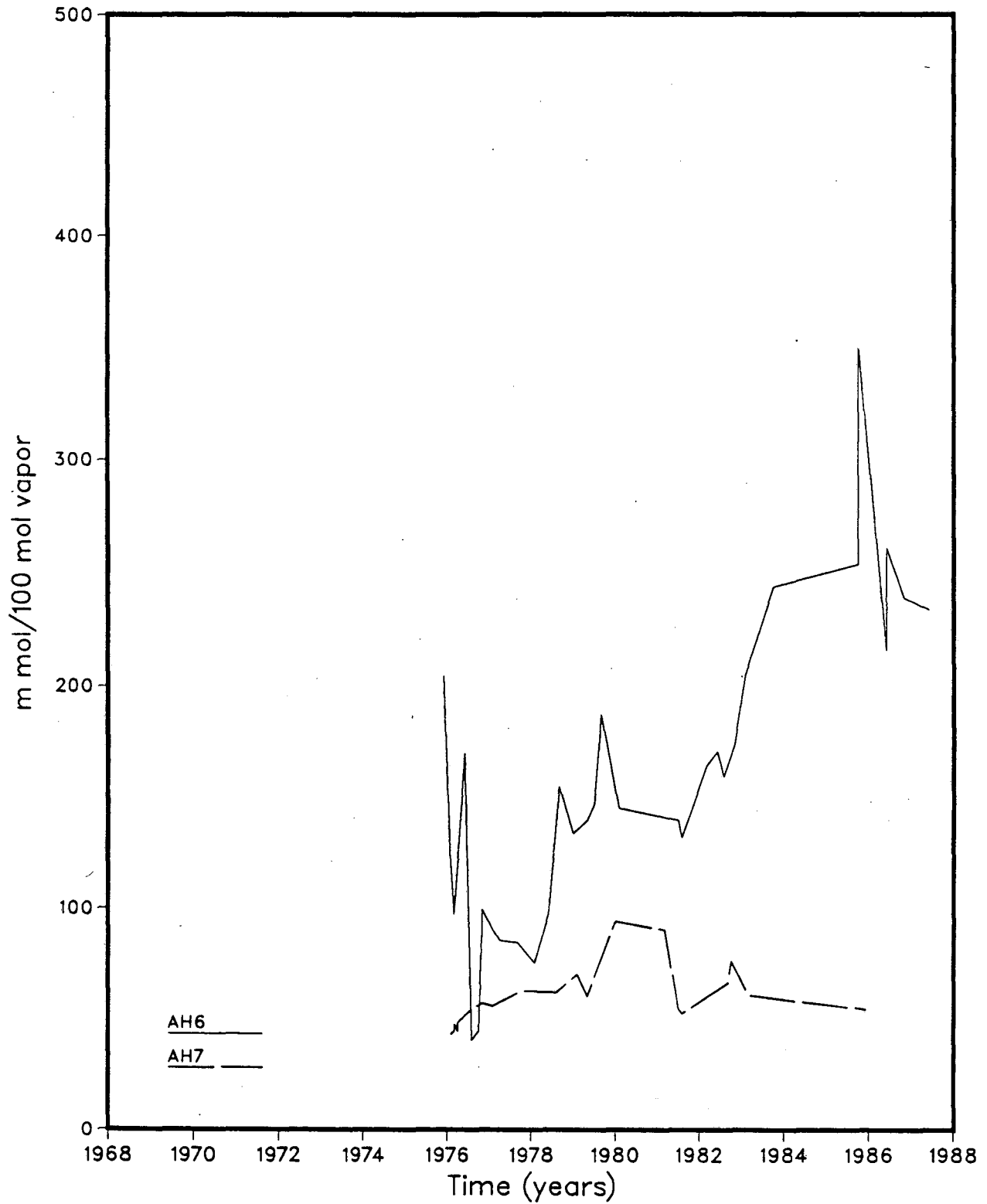
Water Chemistry (Na/K)



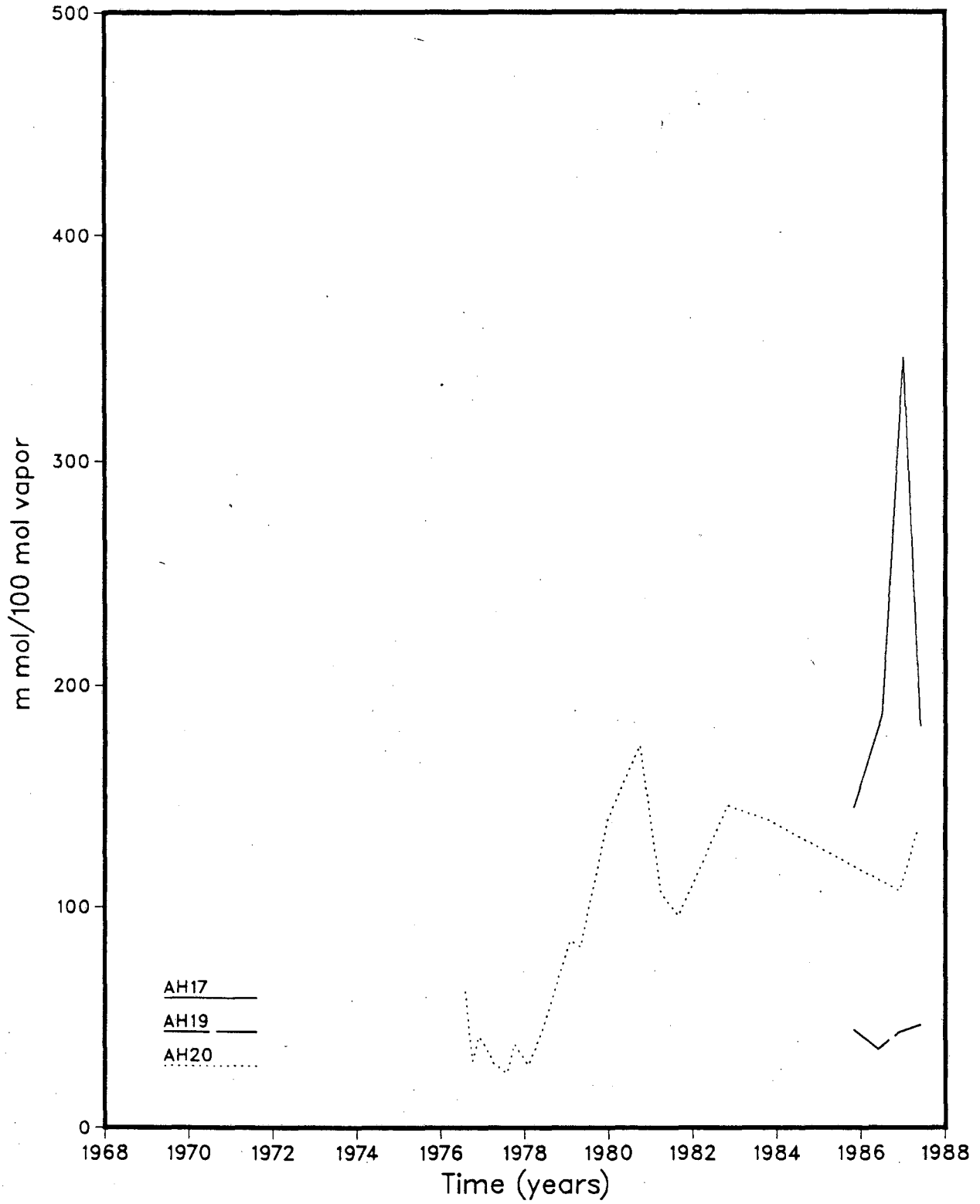
Gas Chemistry (CO₂)



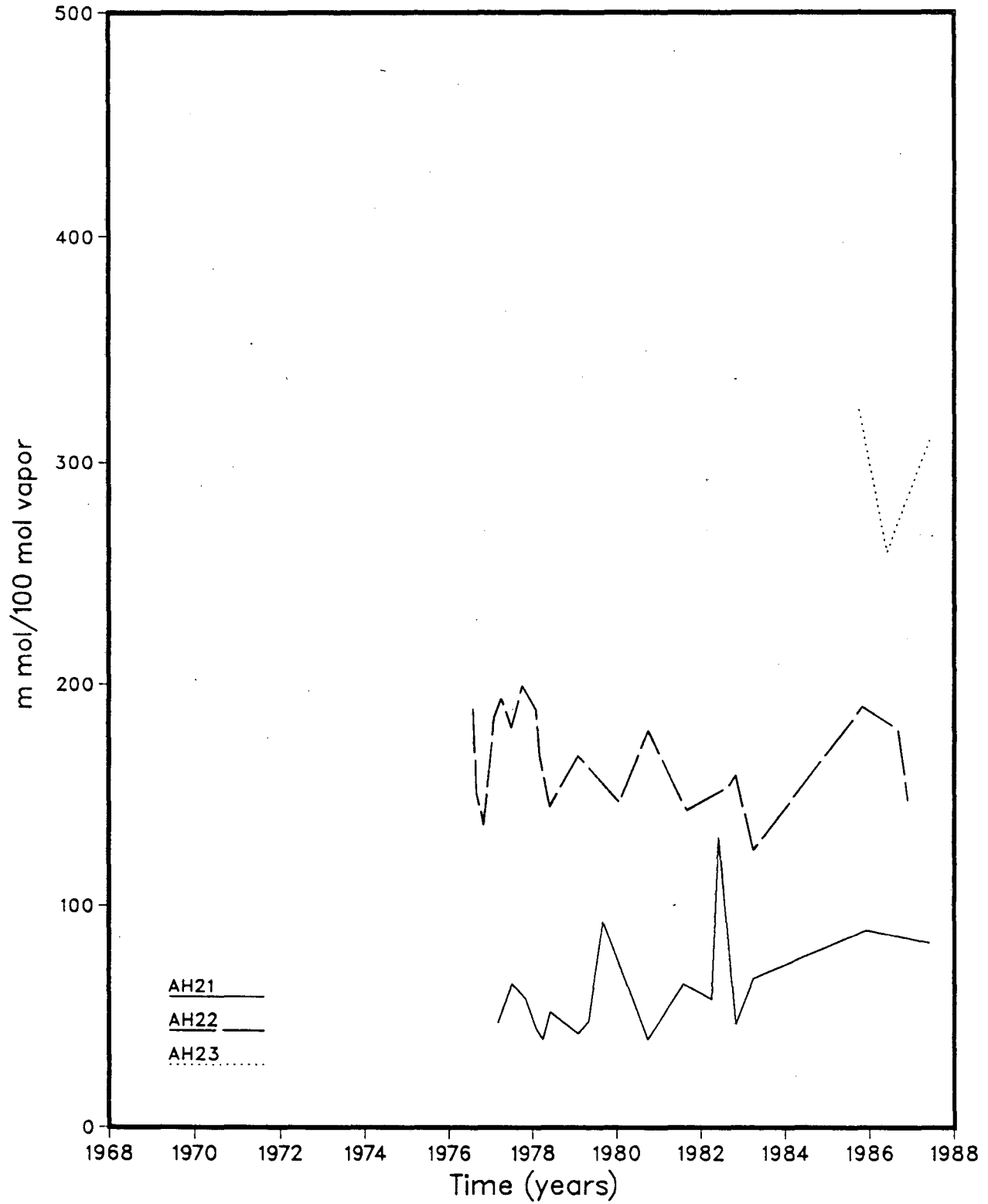
Gas Chemistry (CO₂)



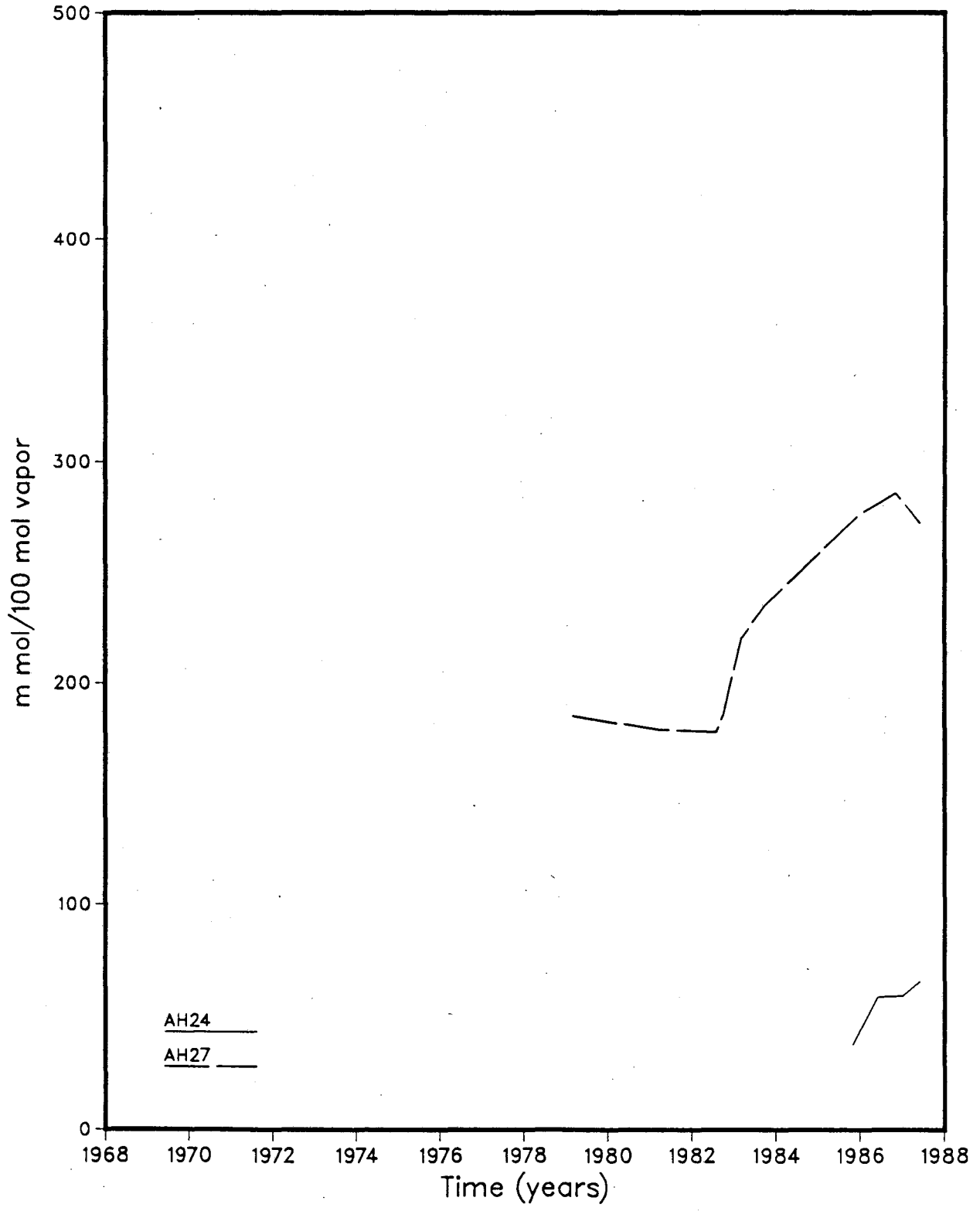
Gas Chemistry (CO₂)



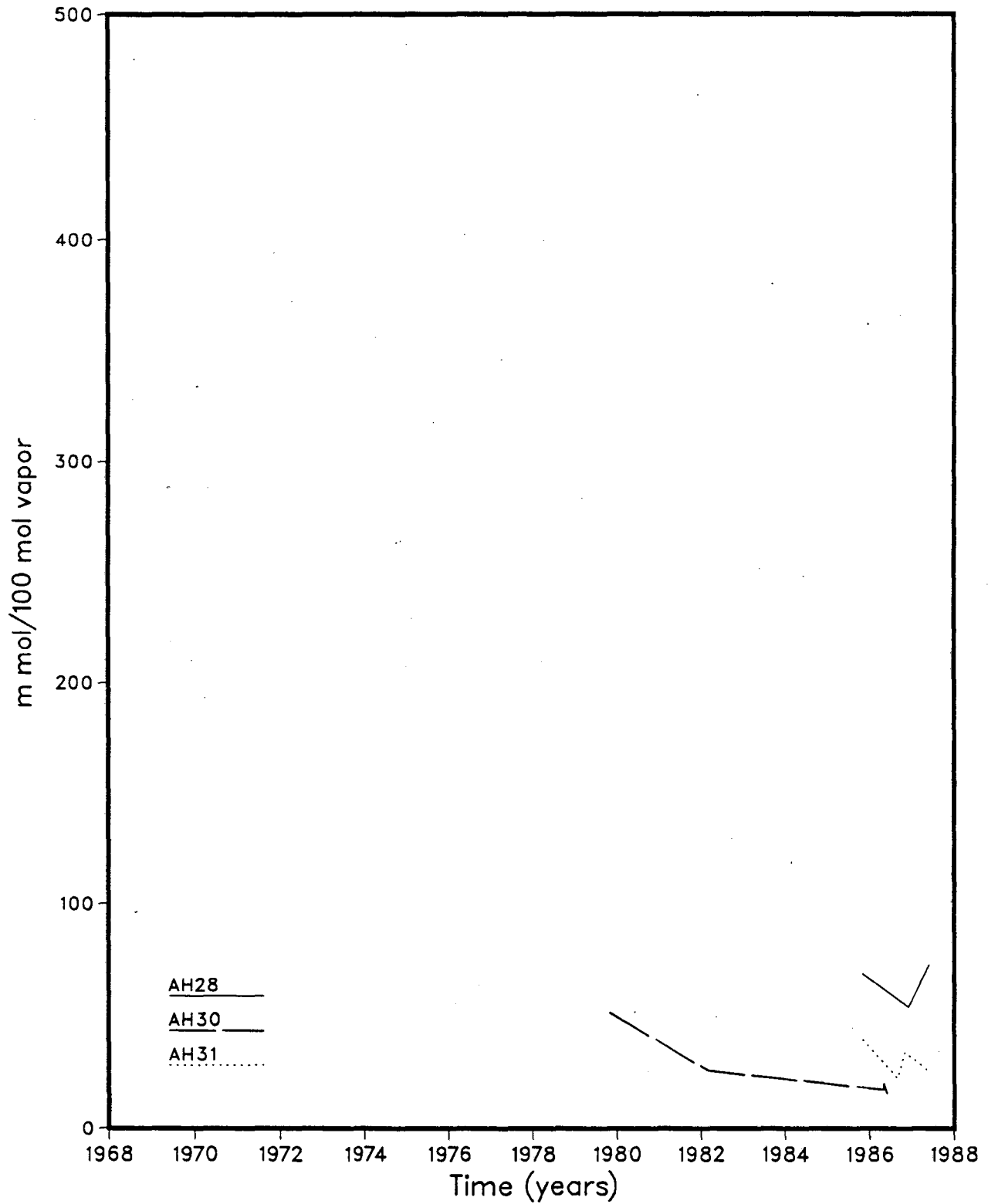
Gas Chemistry (CO₂)



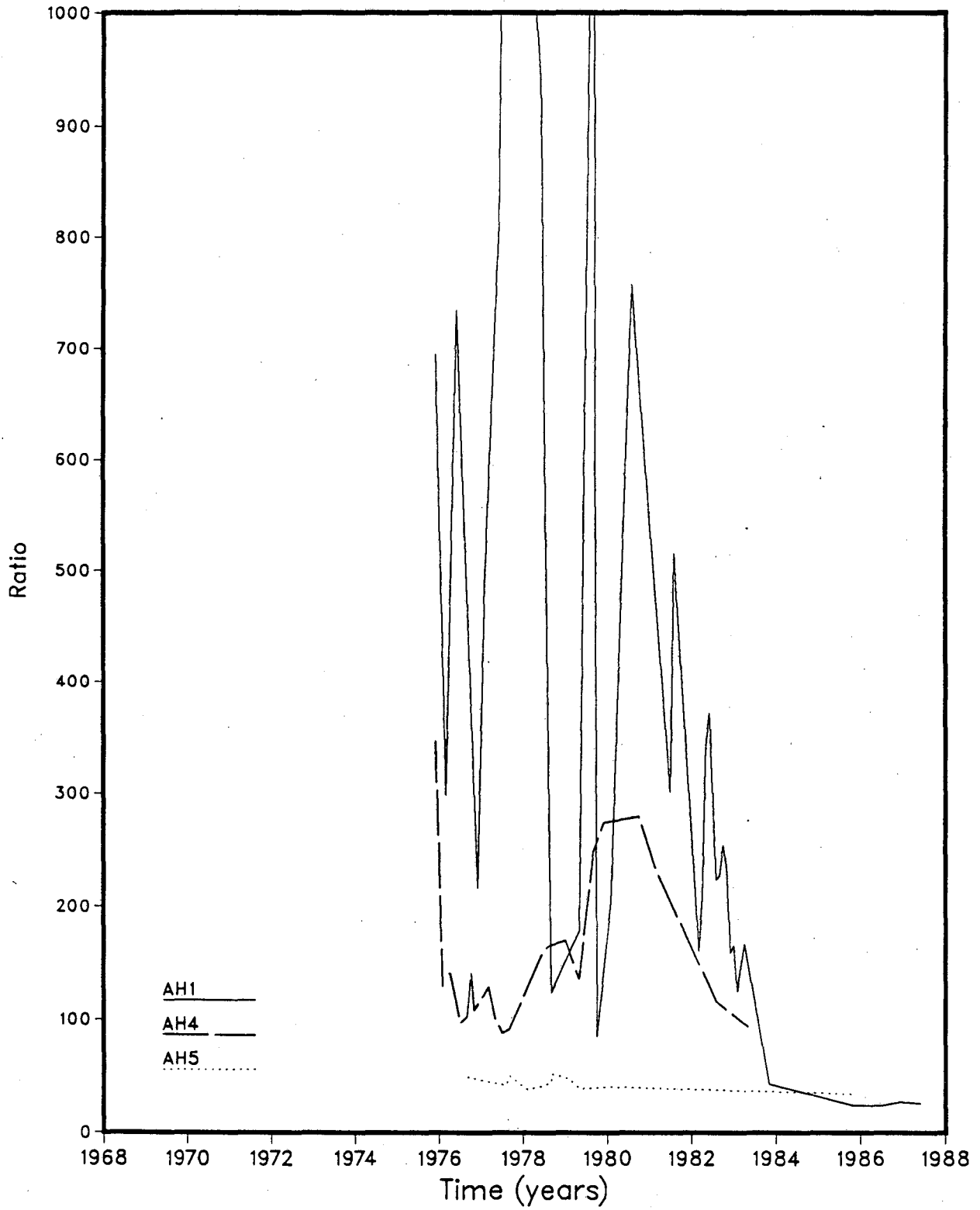
Gas Chemistry (CO₂)



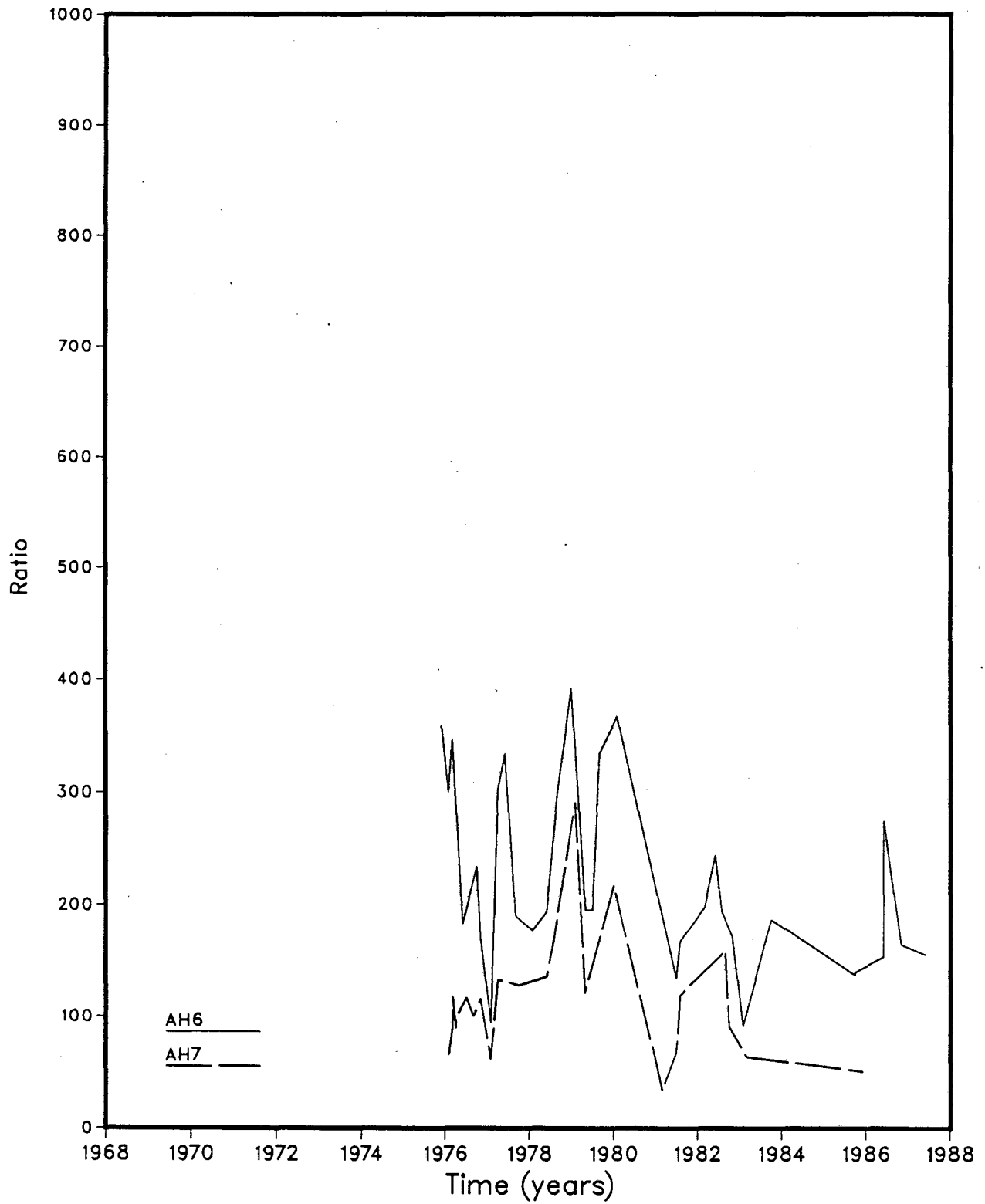
Gas Chemistry (CO₂)



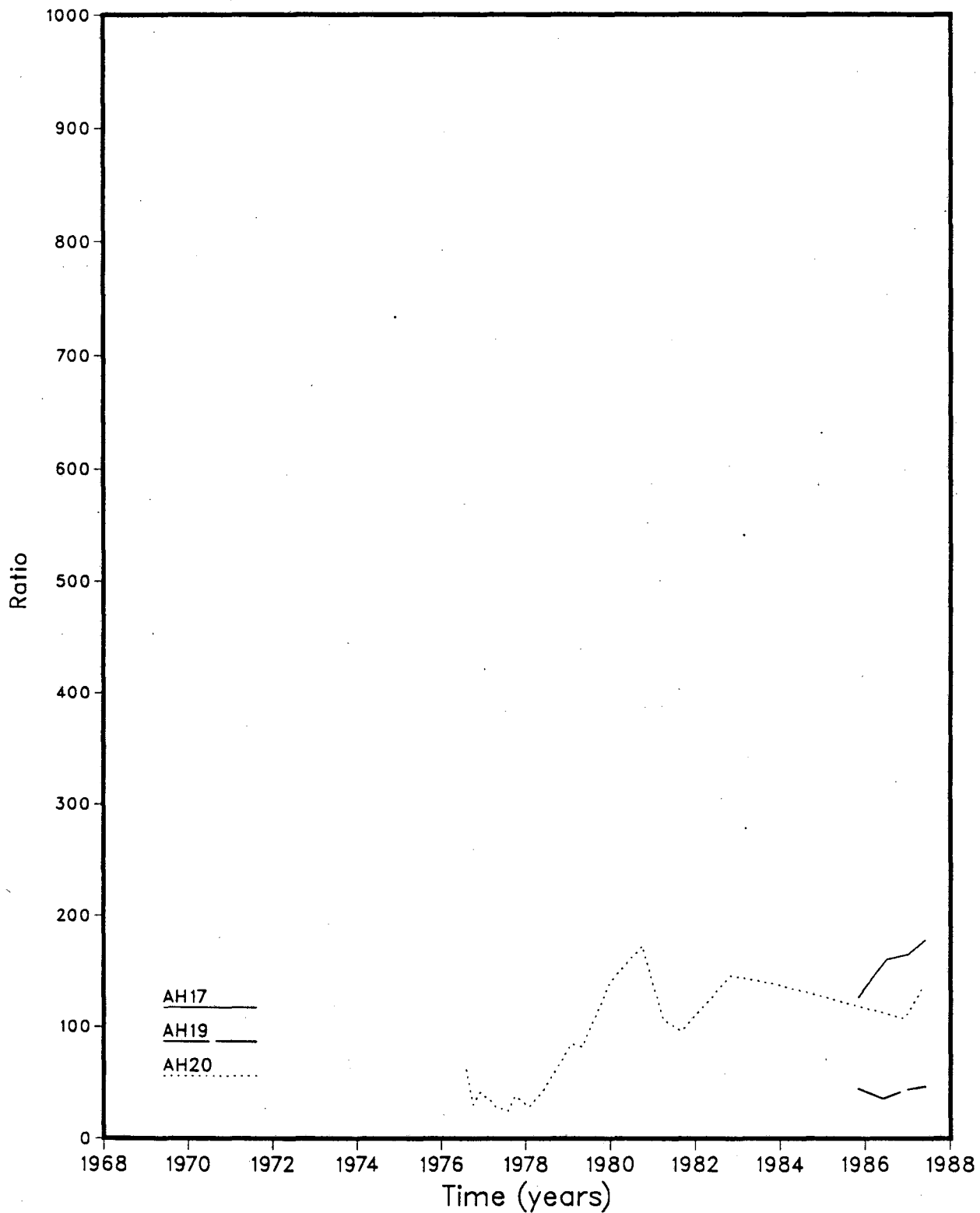
CO₂/H₂ Ratio



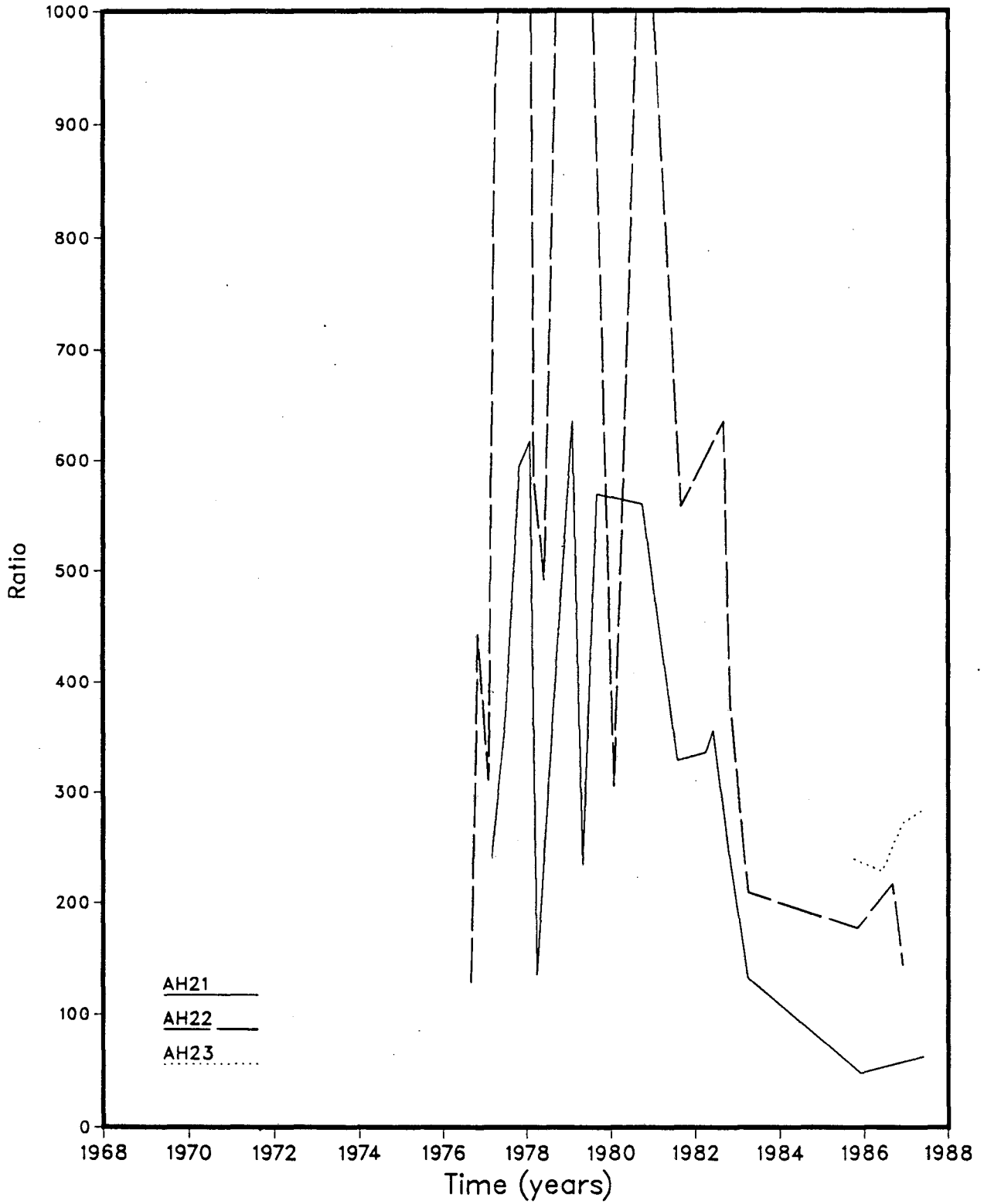
CO₂/H₂ Ratio



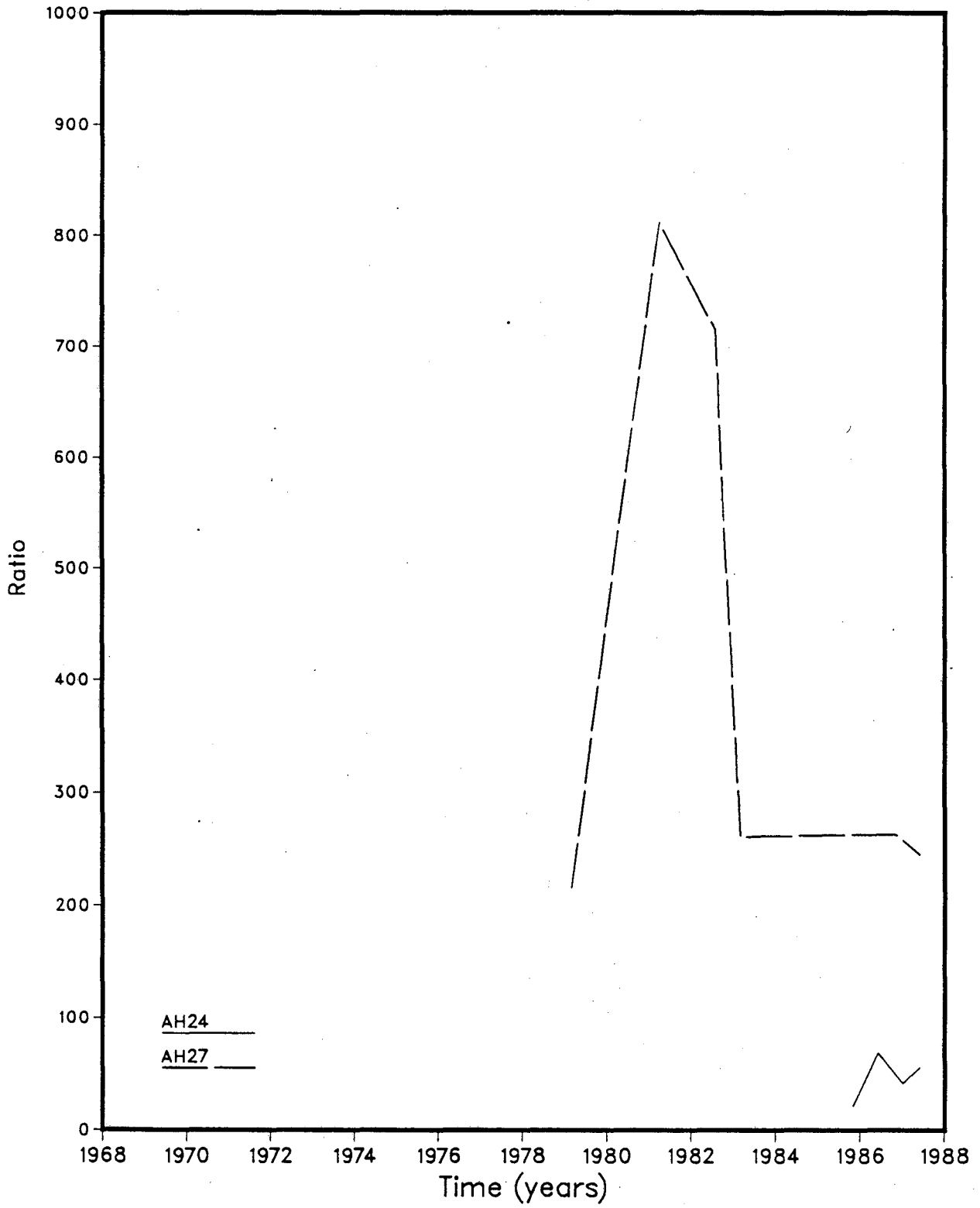
CO₂/H₂ Ratio



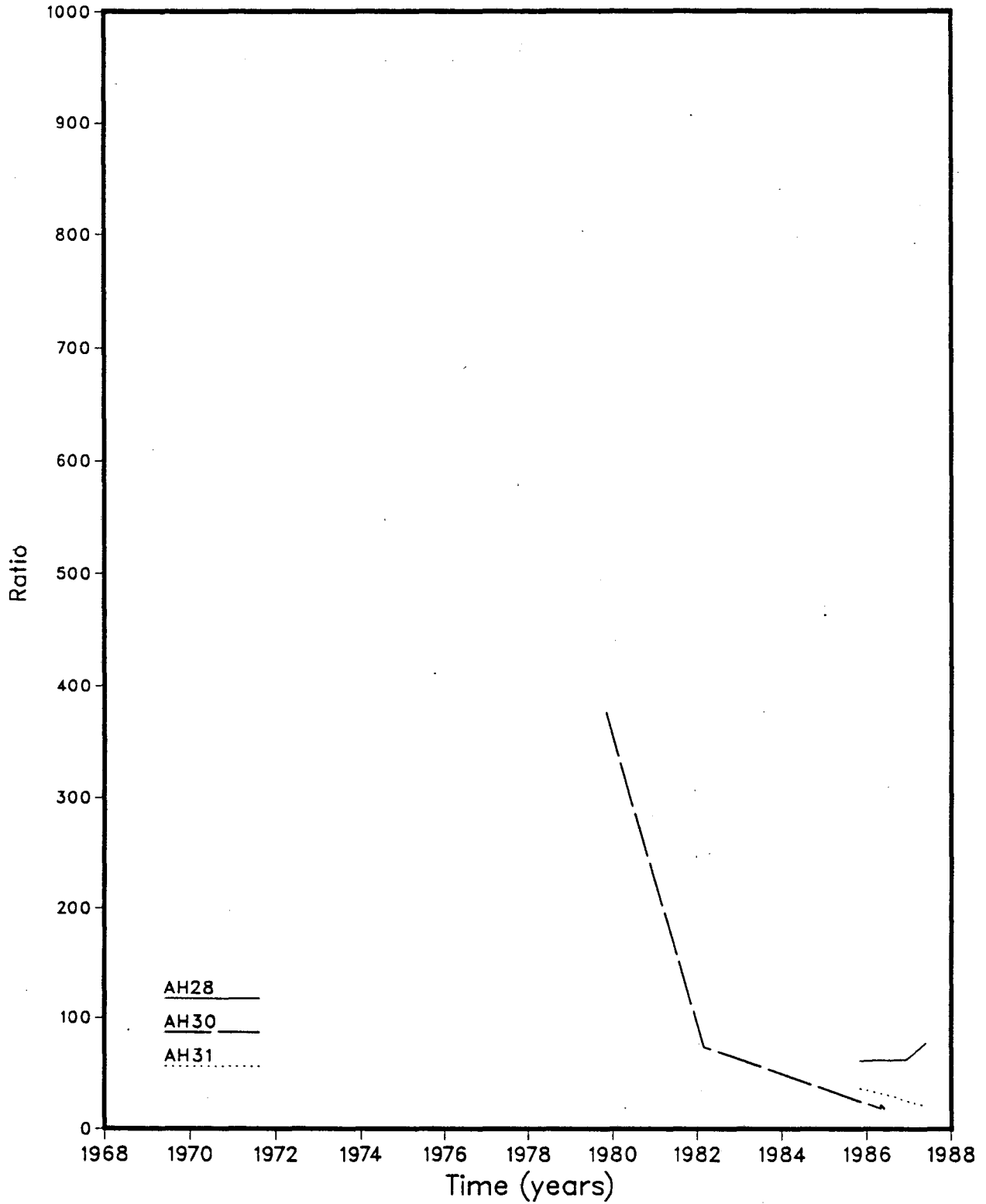
CO₂/H₂ Ratio



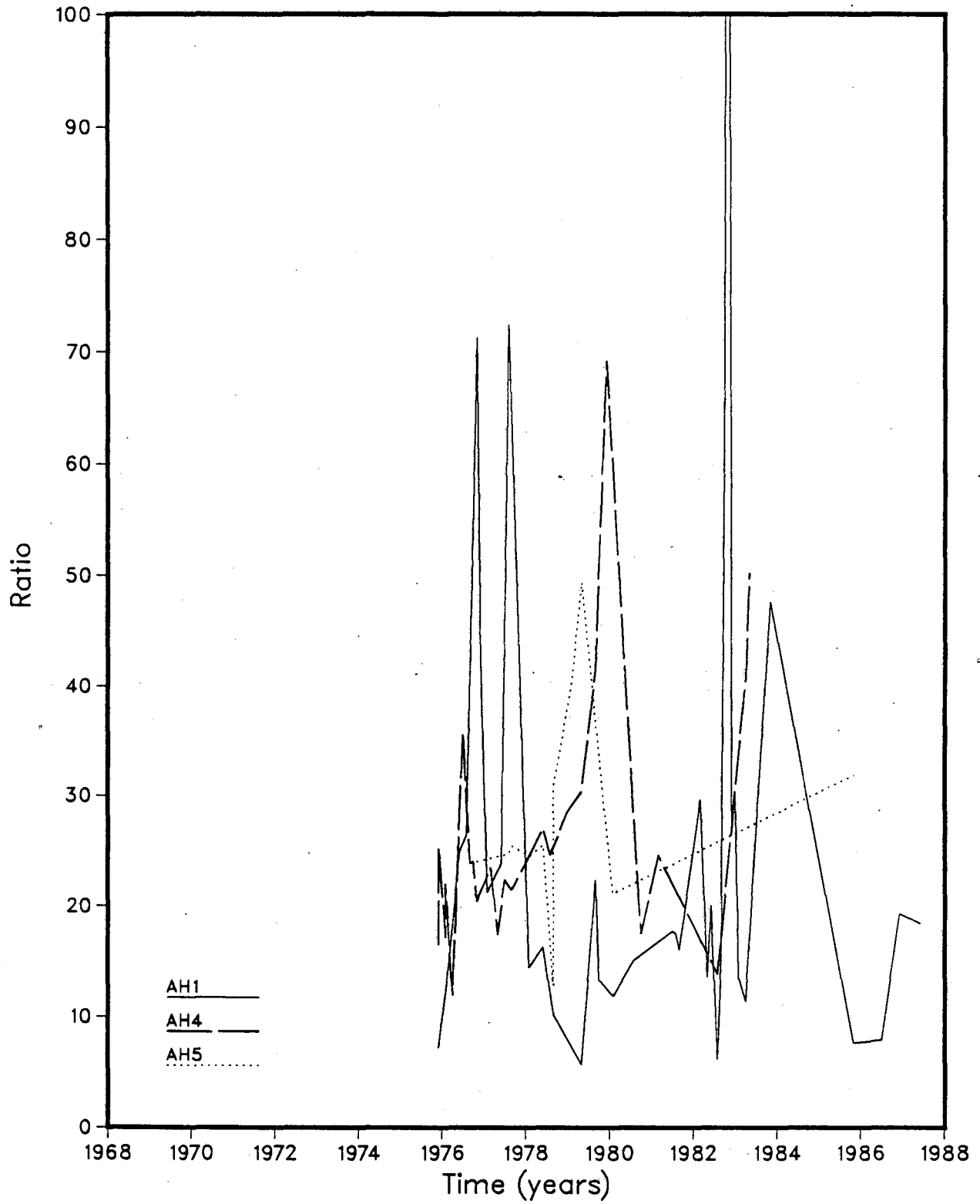
CO₂/H₂ Ratio



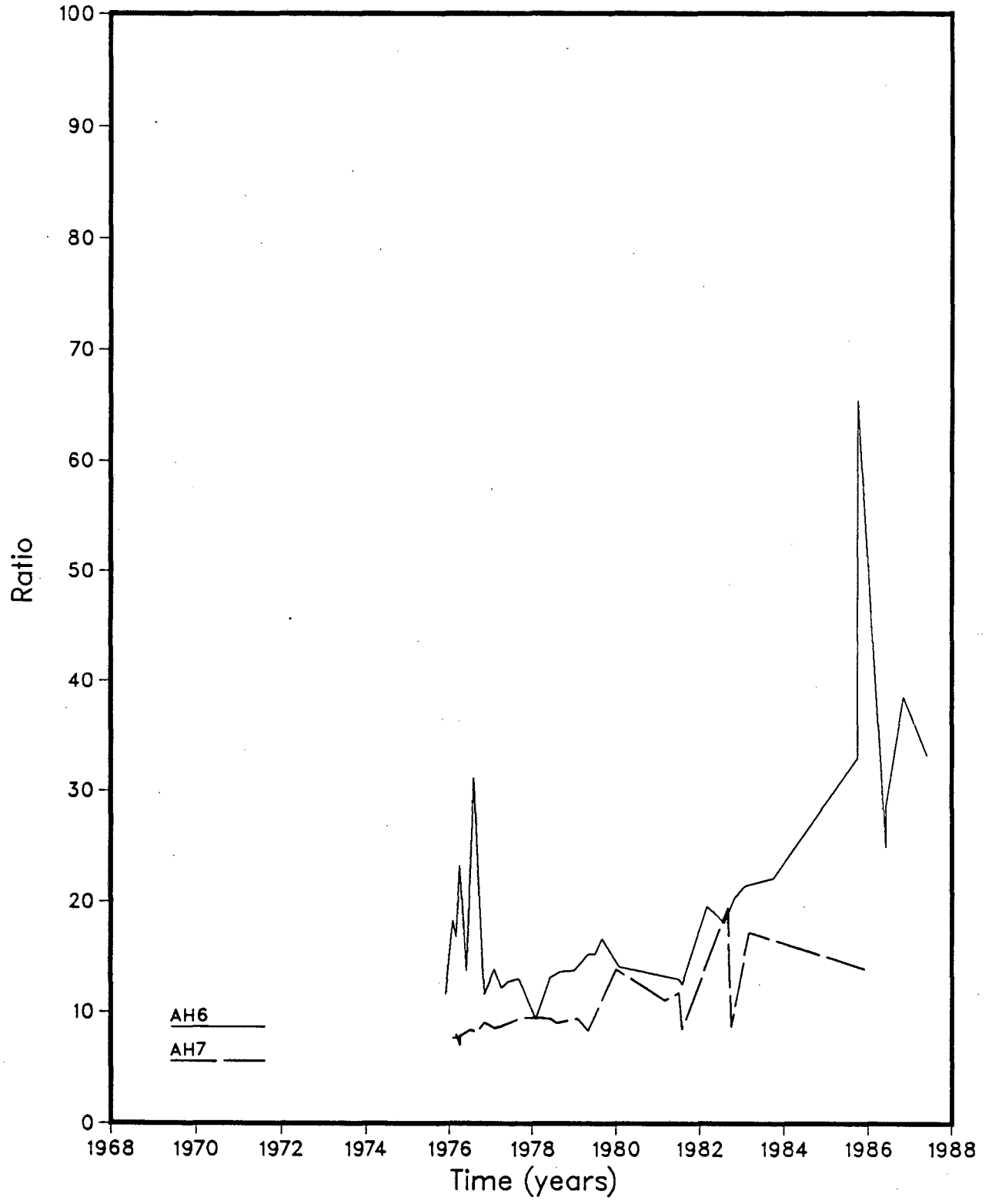
CO₂/H₂ Ratio



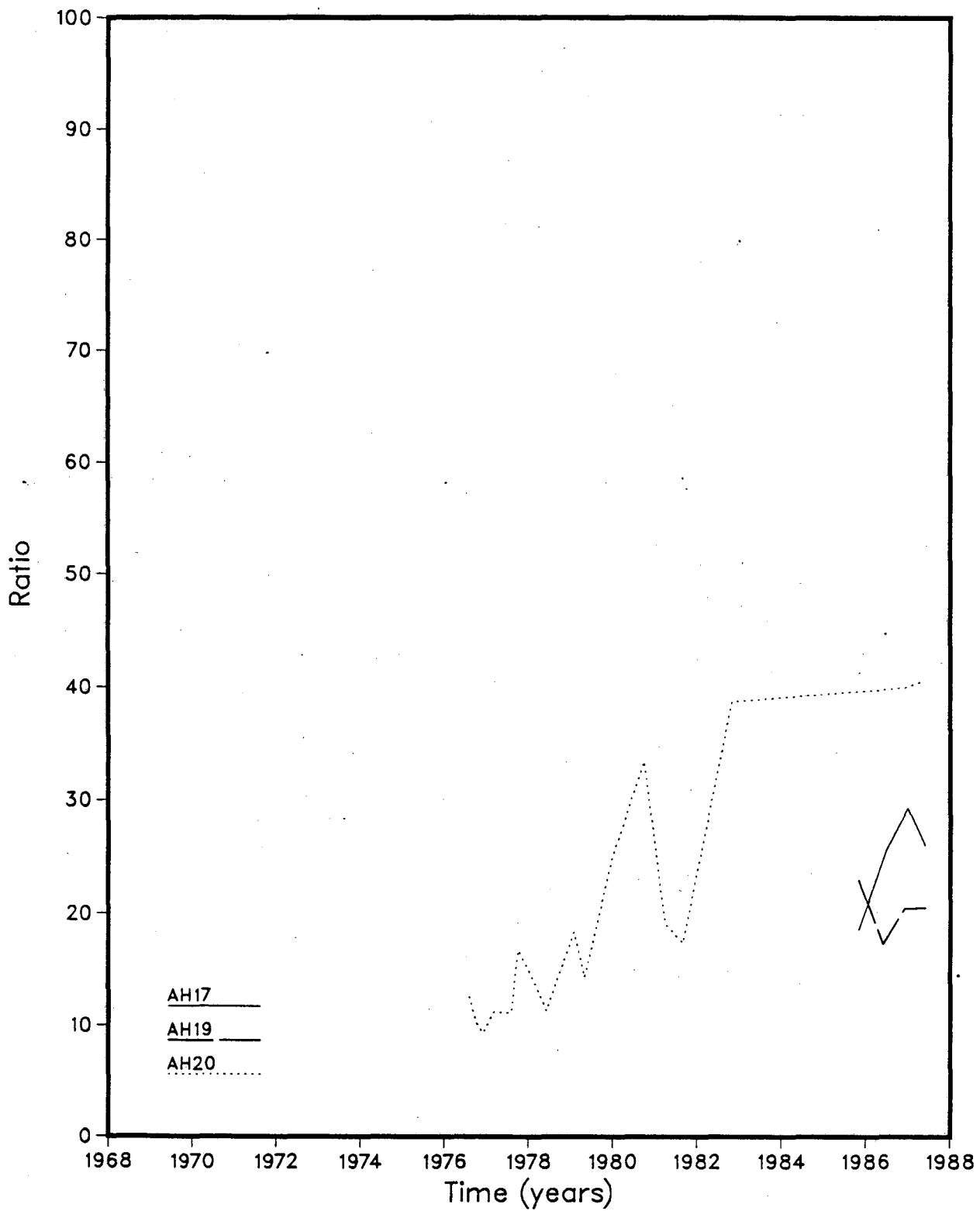
CO₂/H₂S Ratio



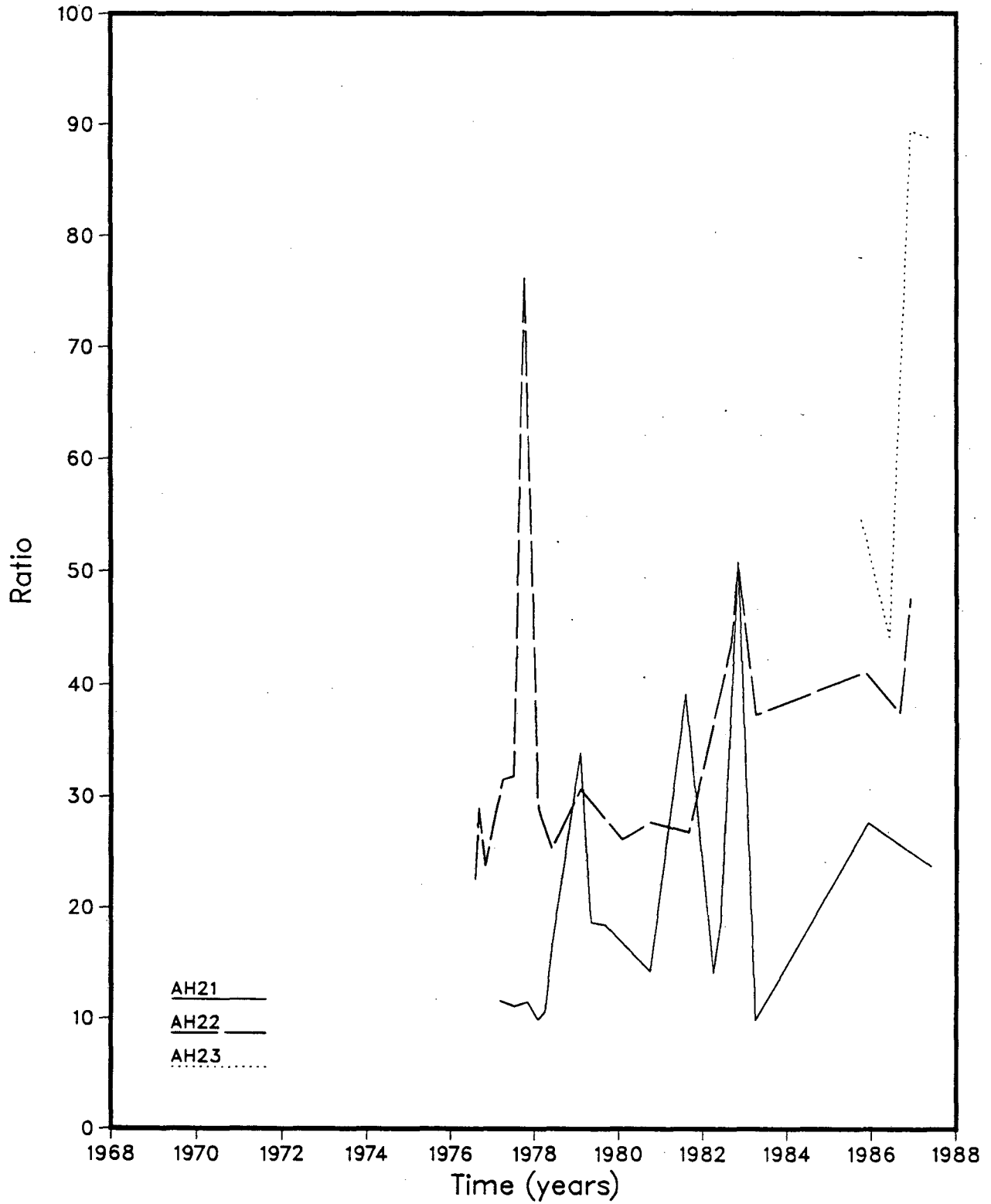
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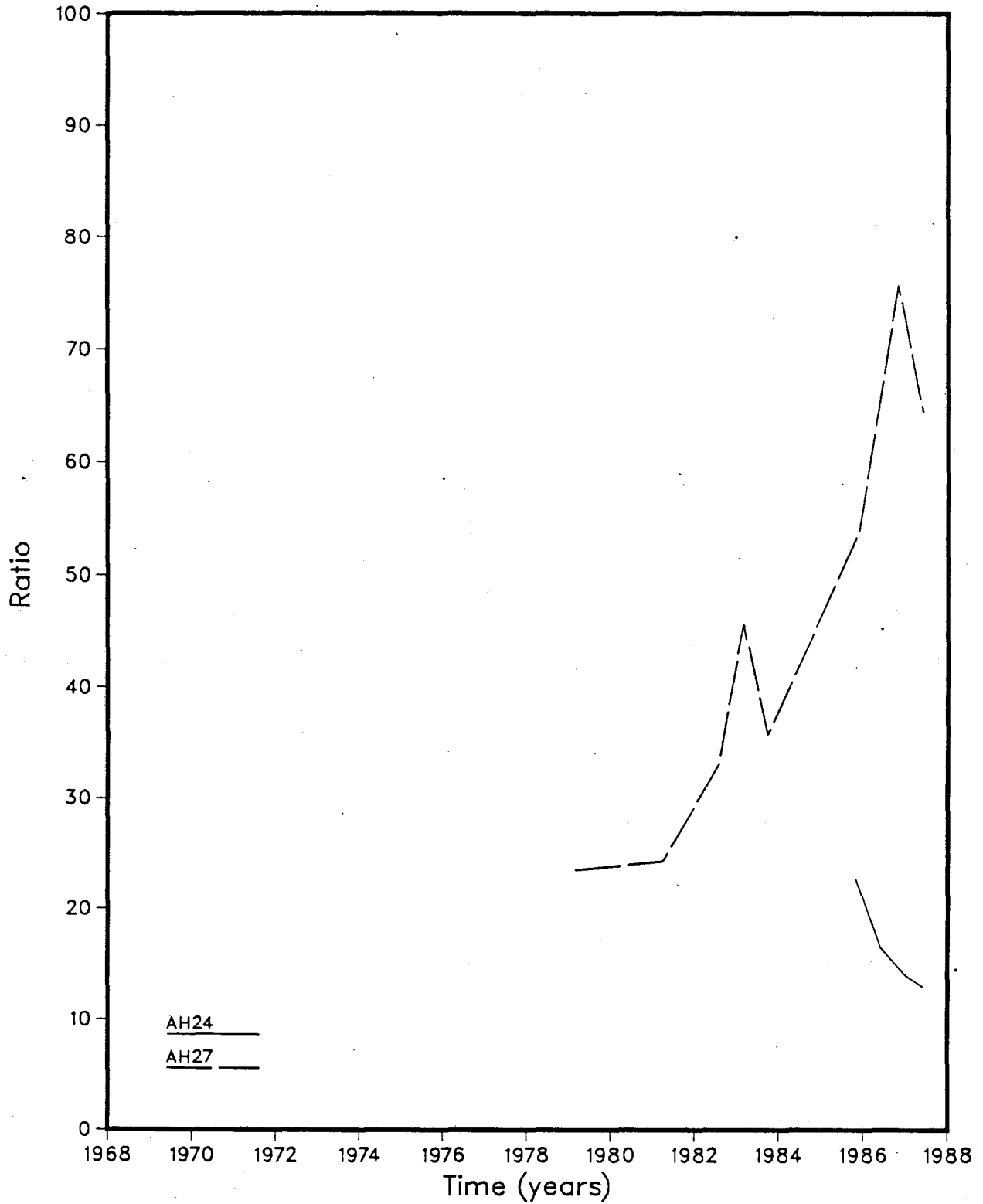
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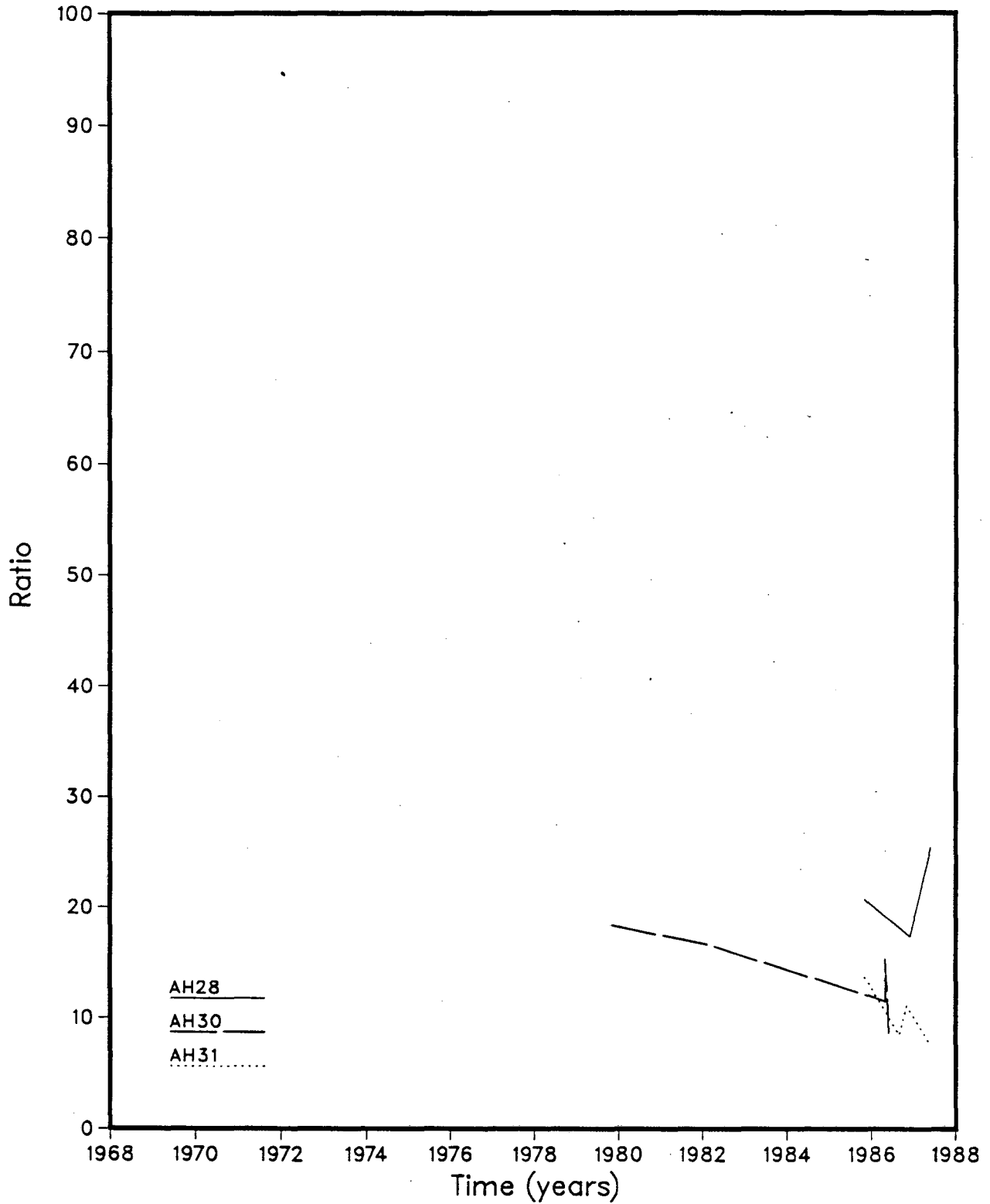
CO₂/H₂S Ratio



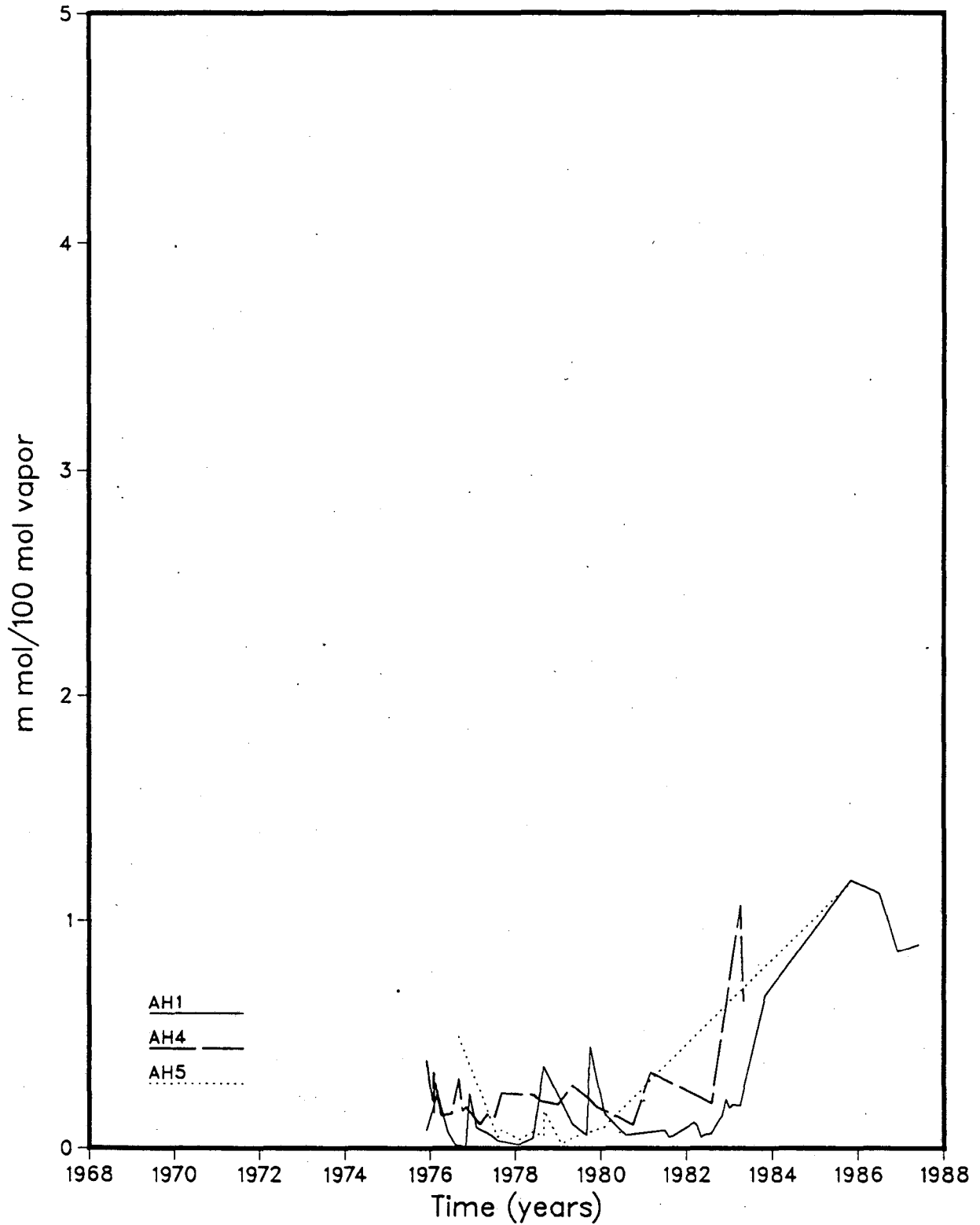
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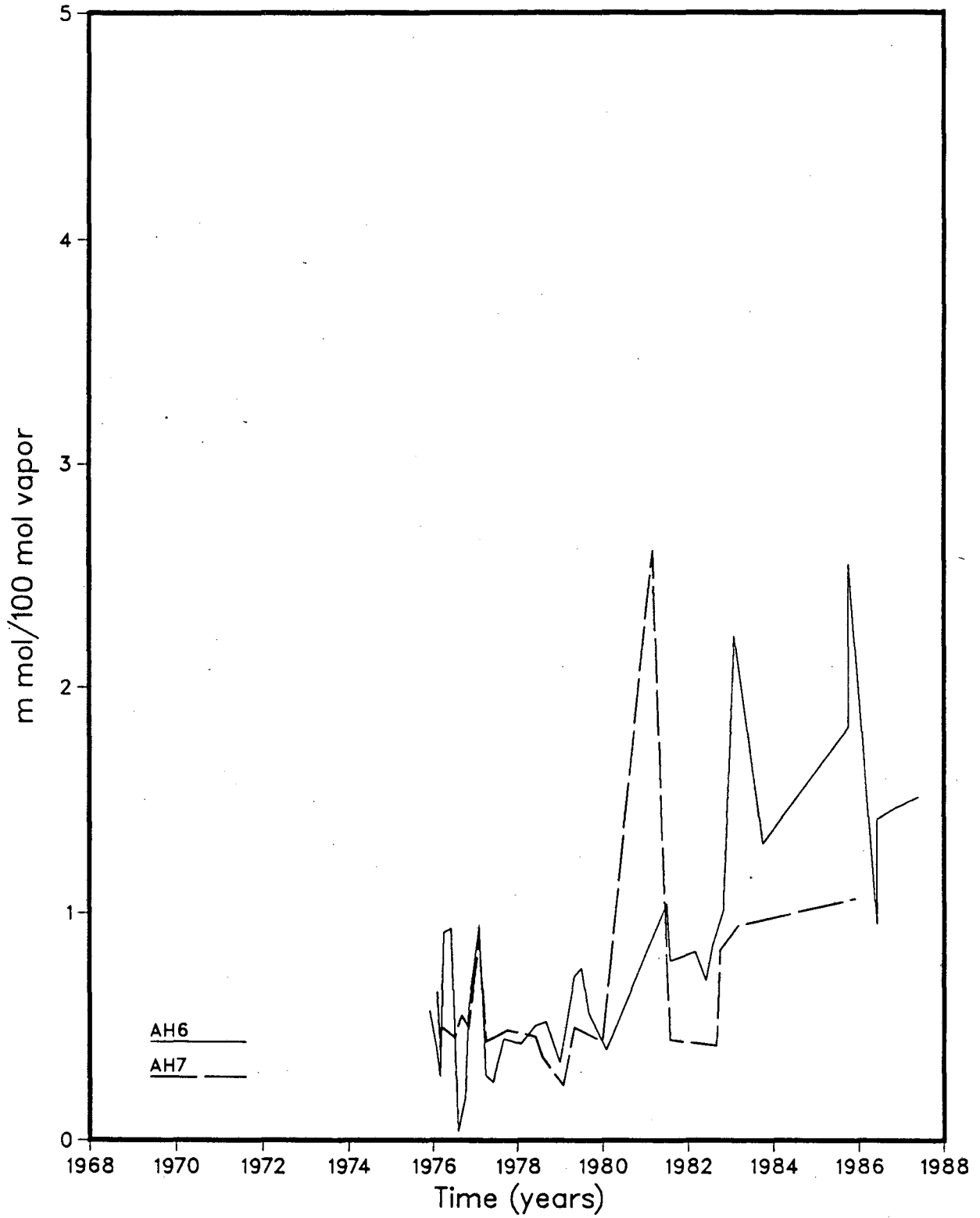
CO₂/H₂S Ratio



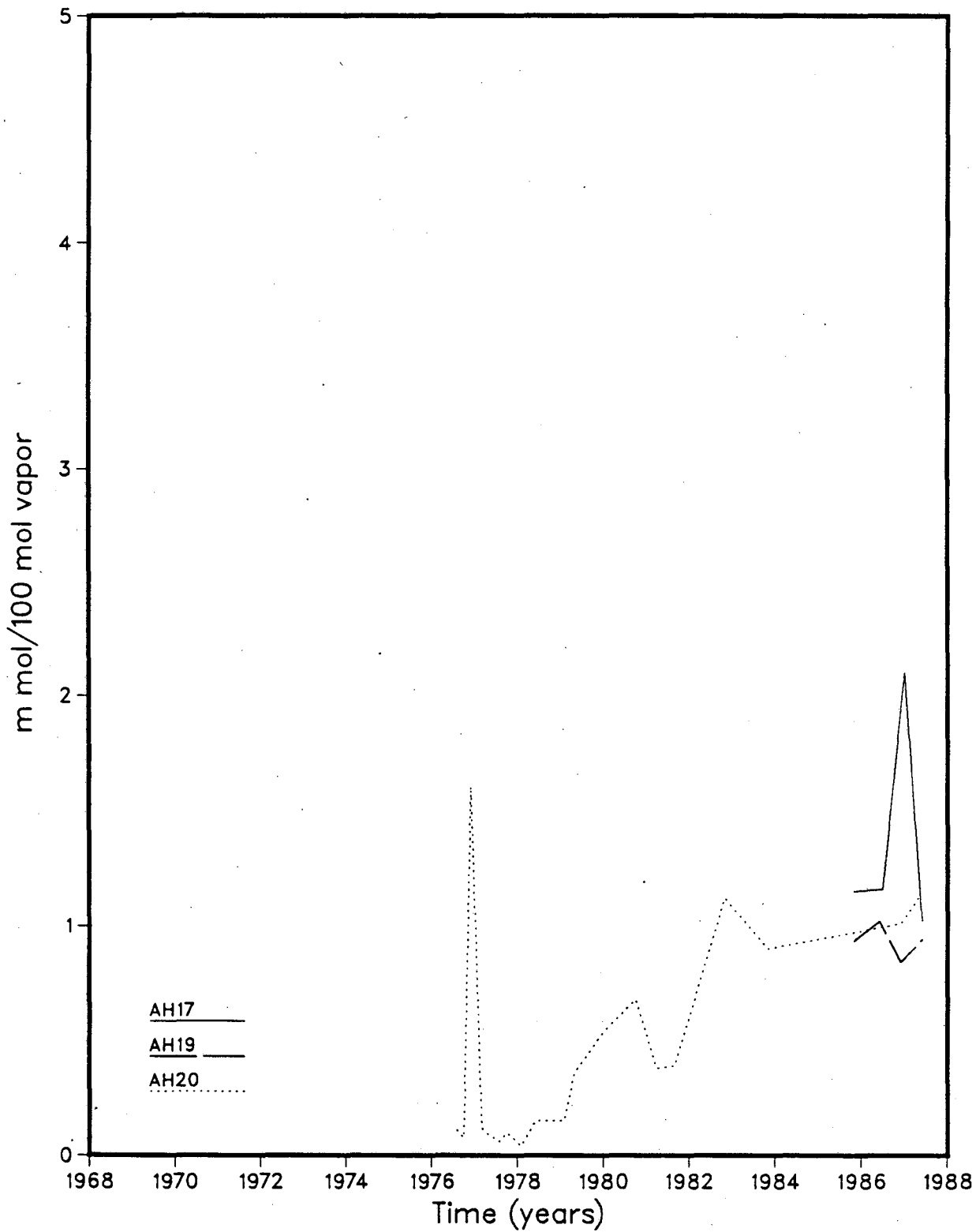
Gas Chemistry (H2)



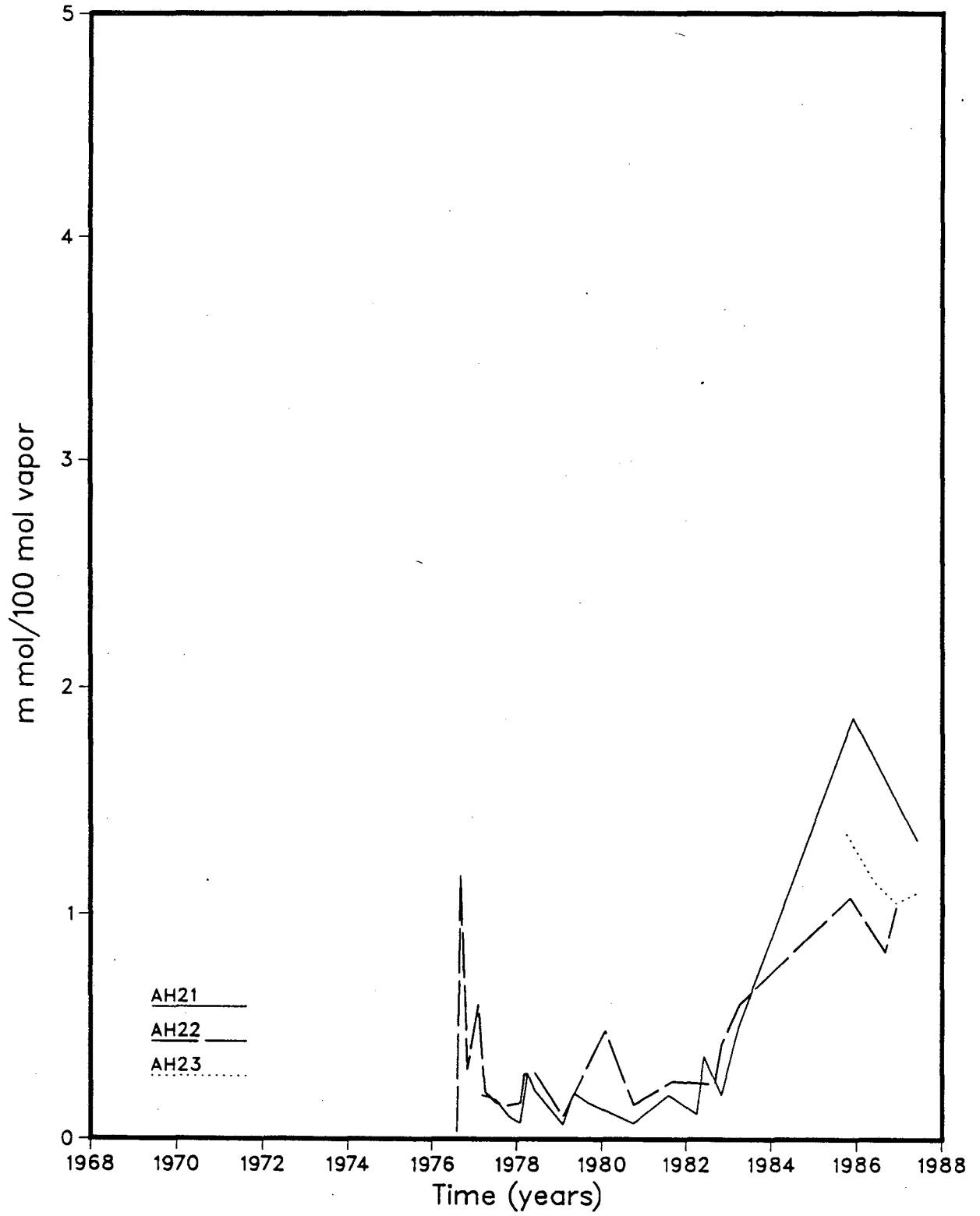
Gas Chemistry (H₂)



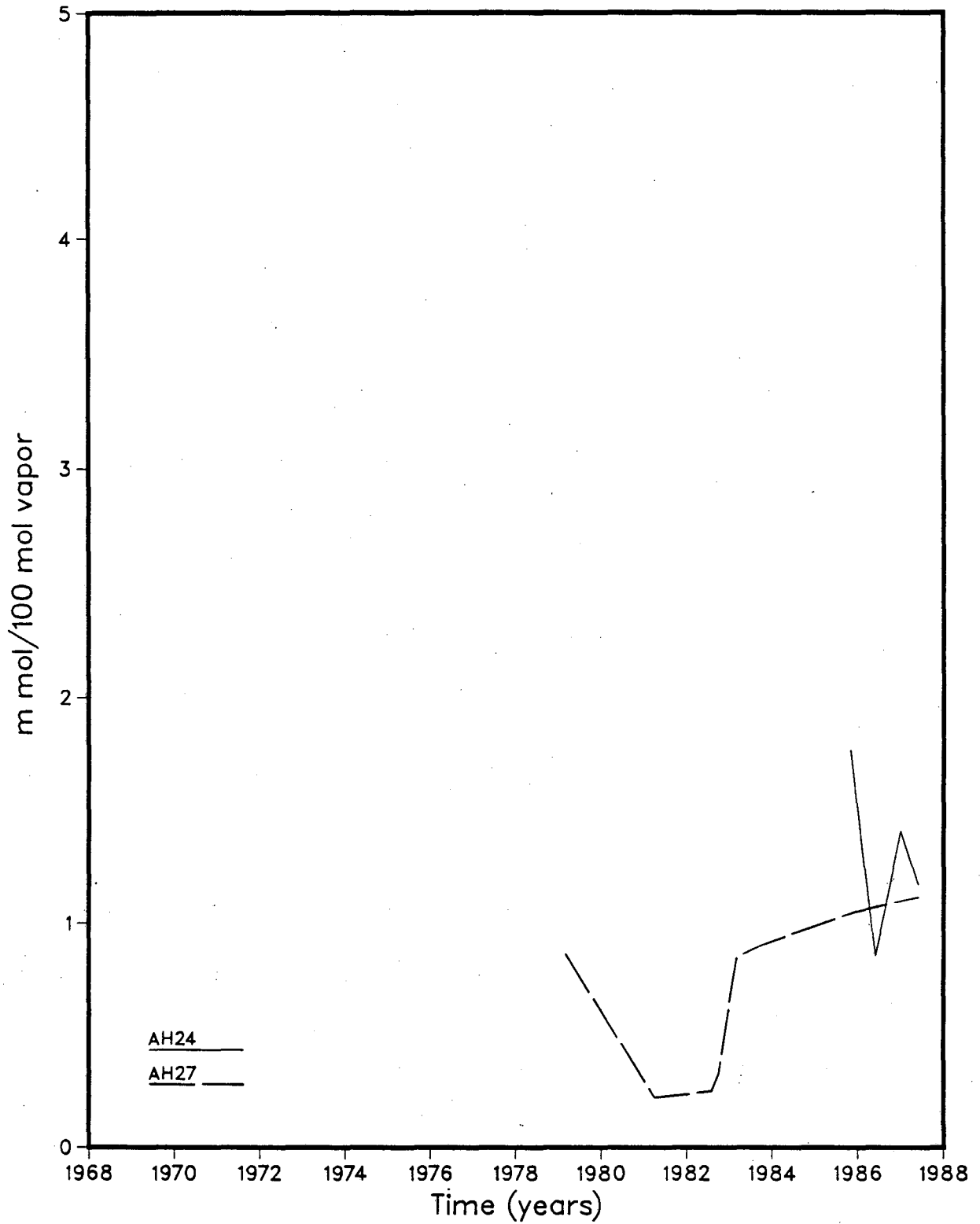
Gas Chemistry (H₂)



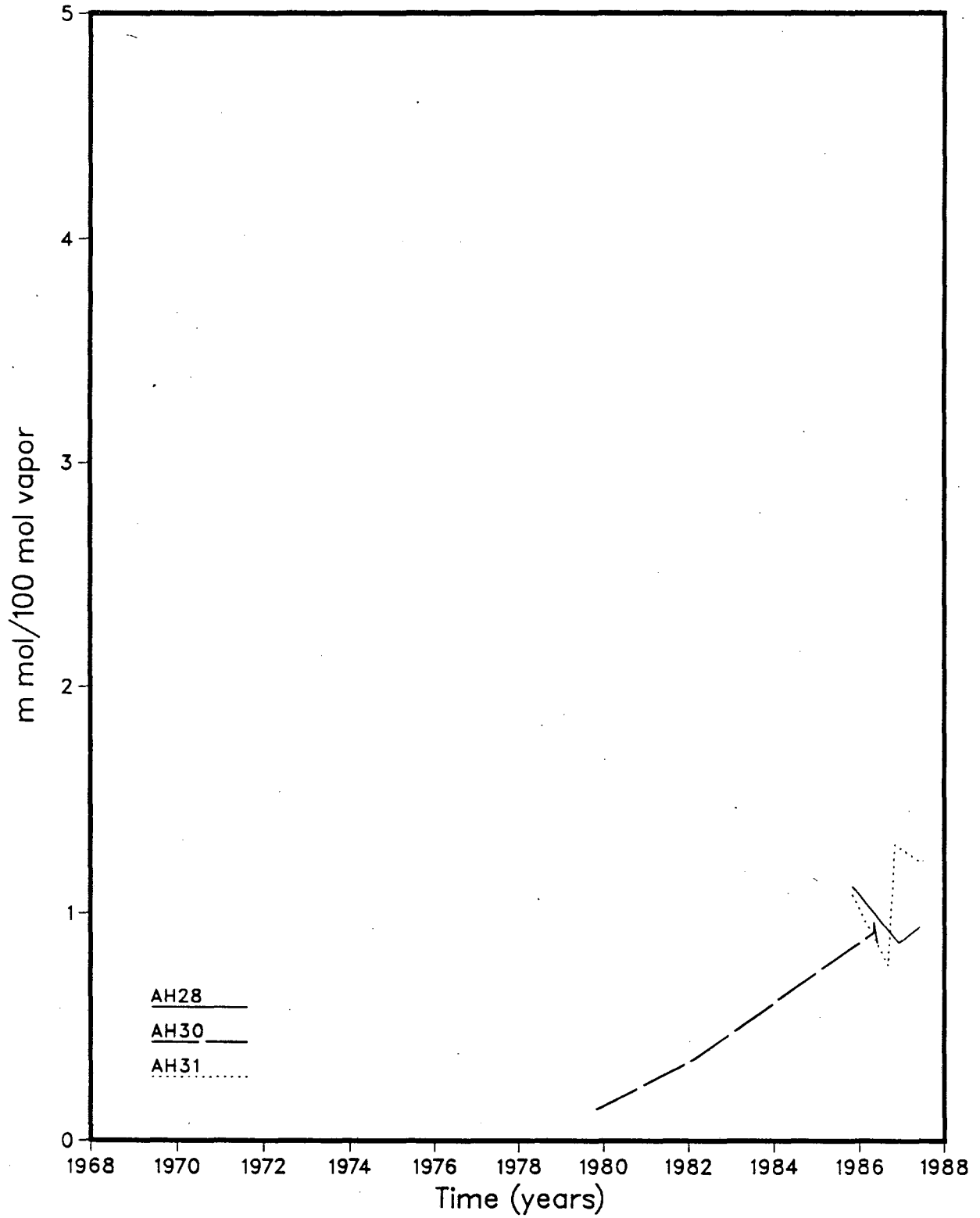
Gas Chemistry (H2)



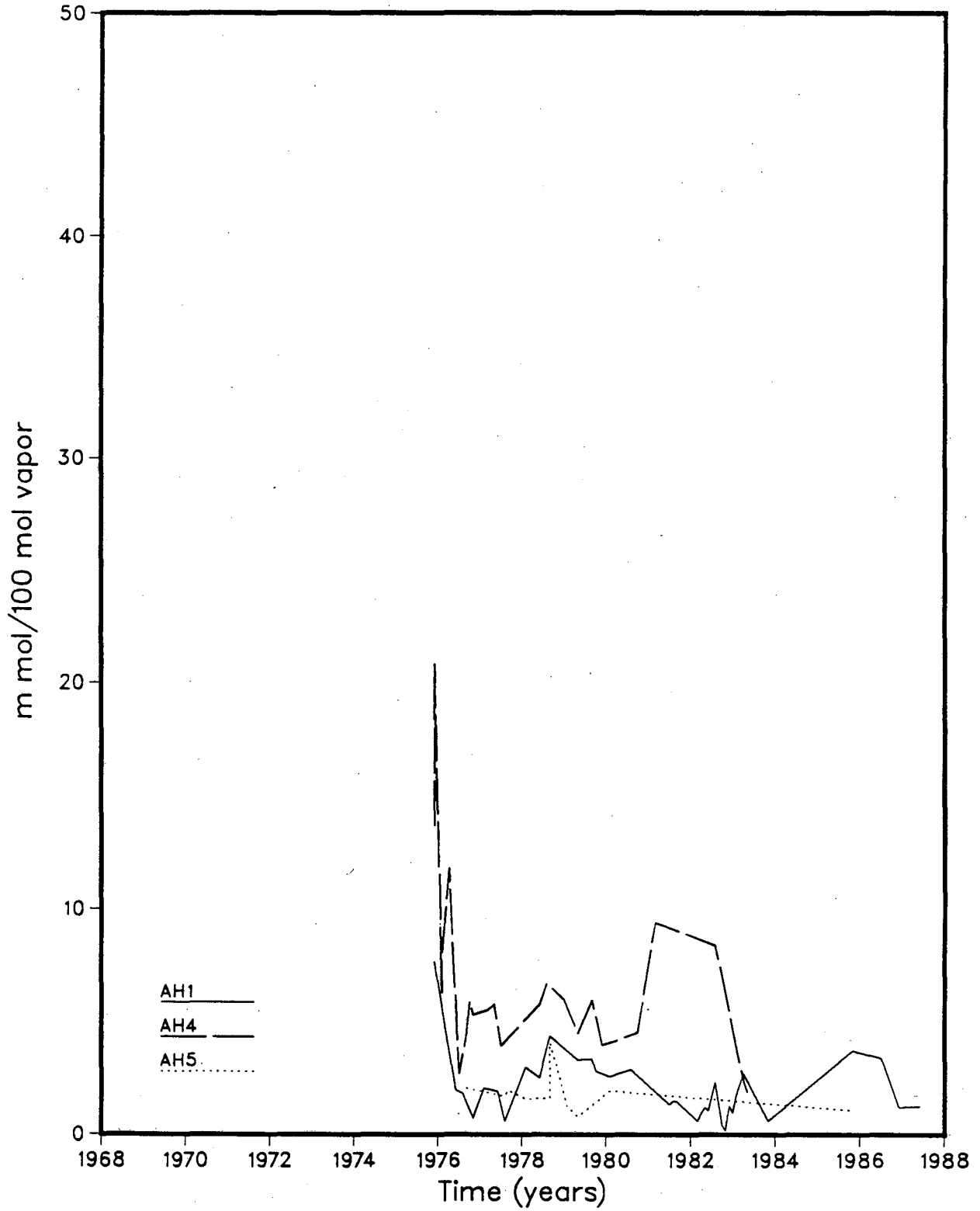
Gas Chemistry (H₂)



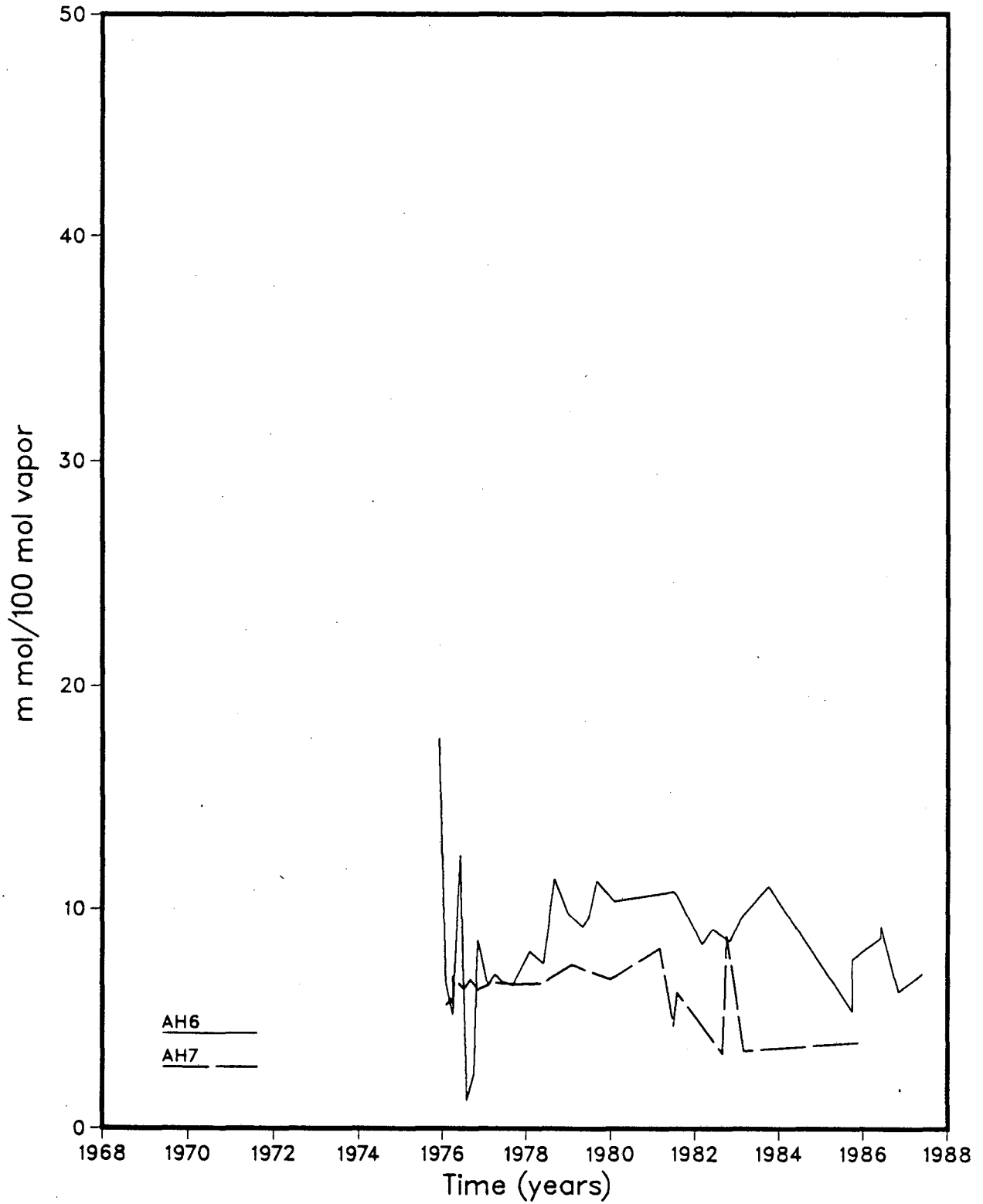
Gas Chemistry (H₂)



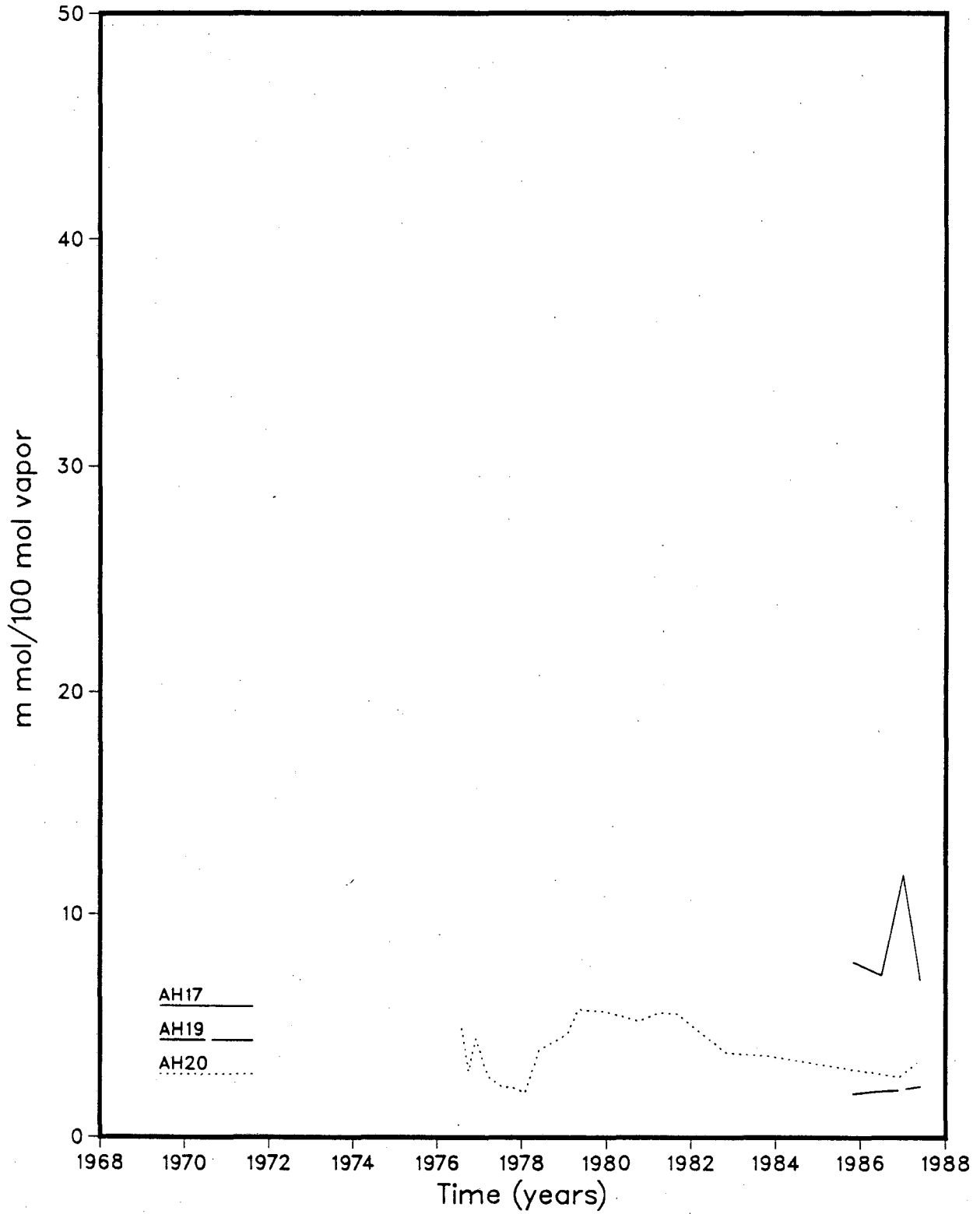
Gas Chemistry (H₂S)



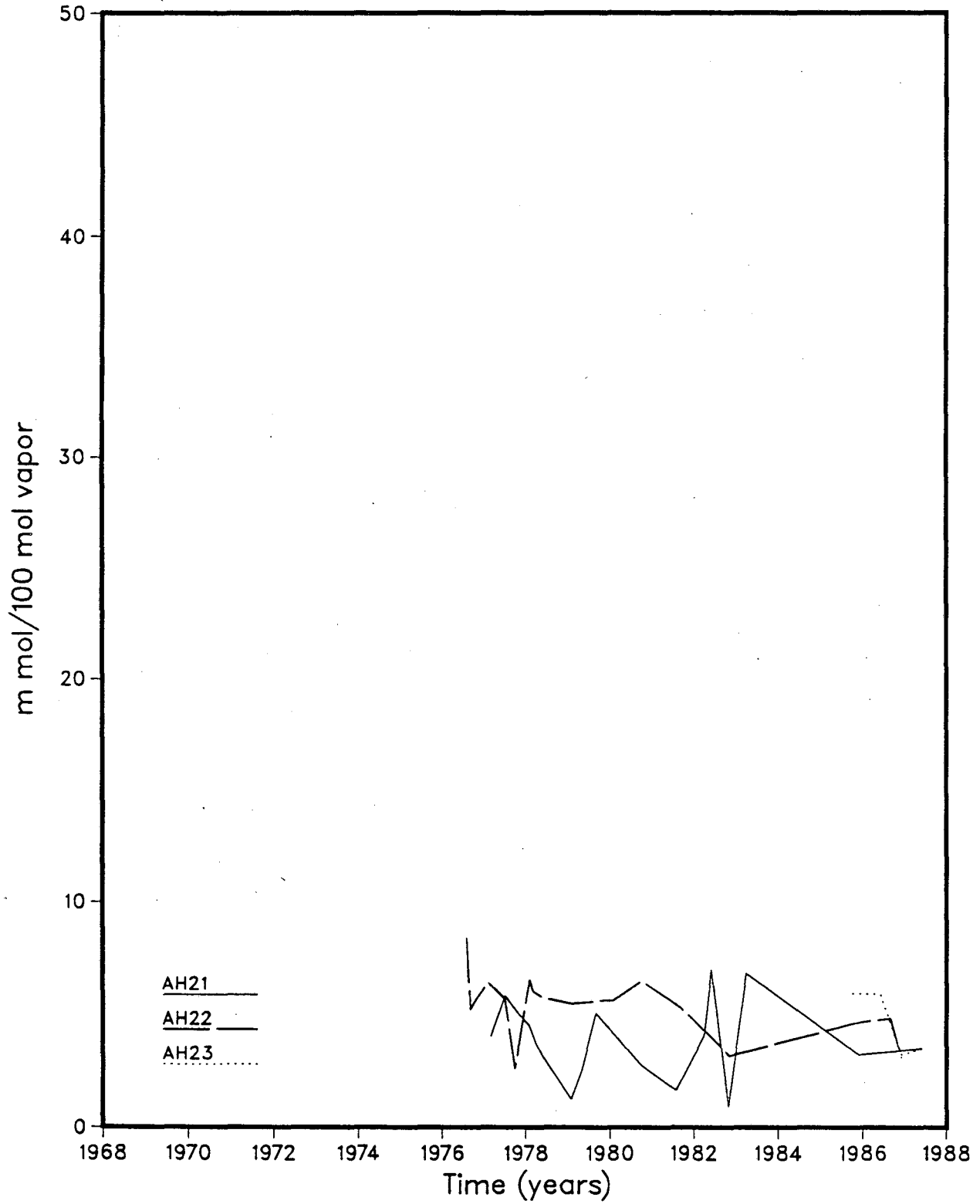
Gas Chemistry (H₂S)



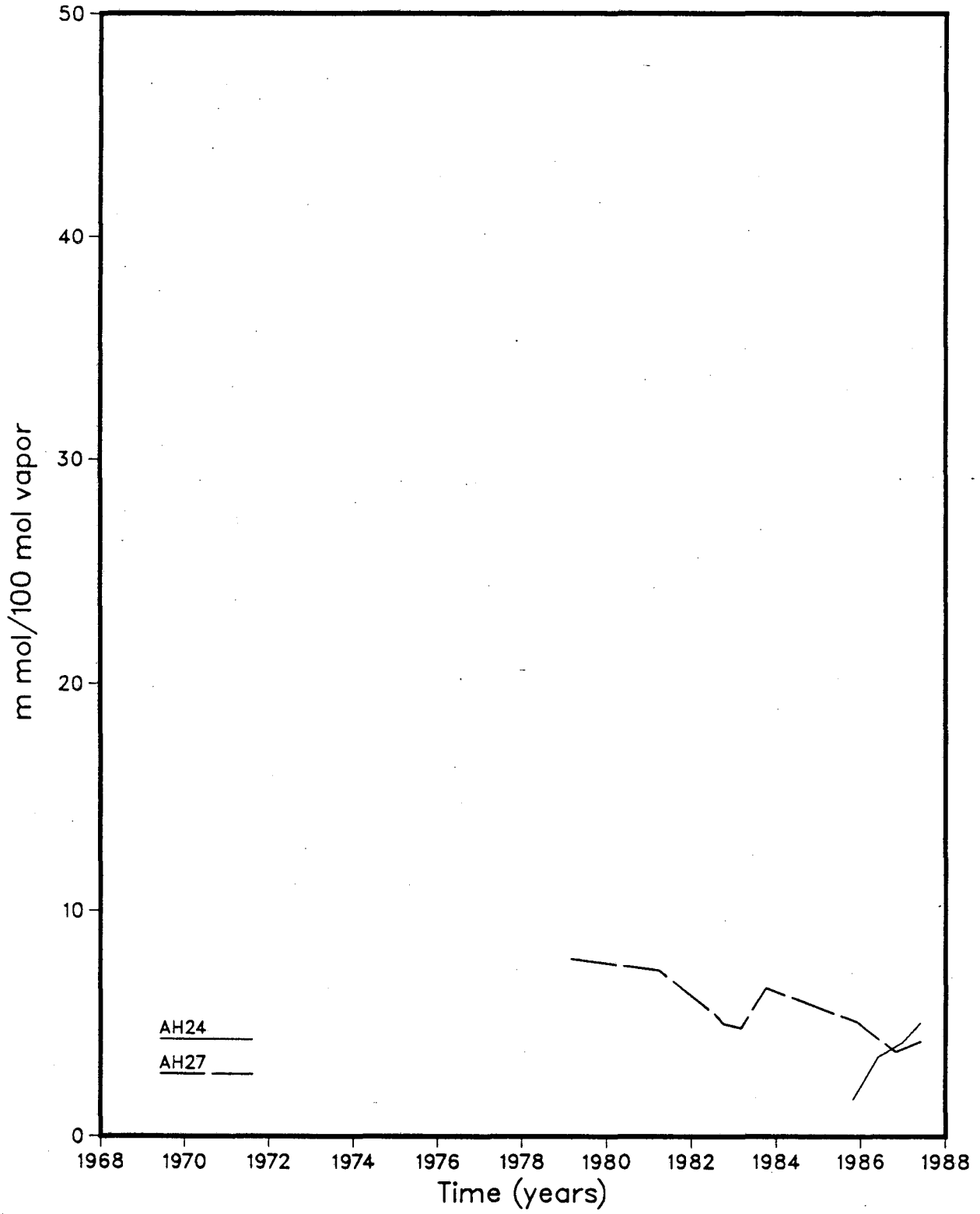
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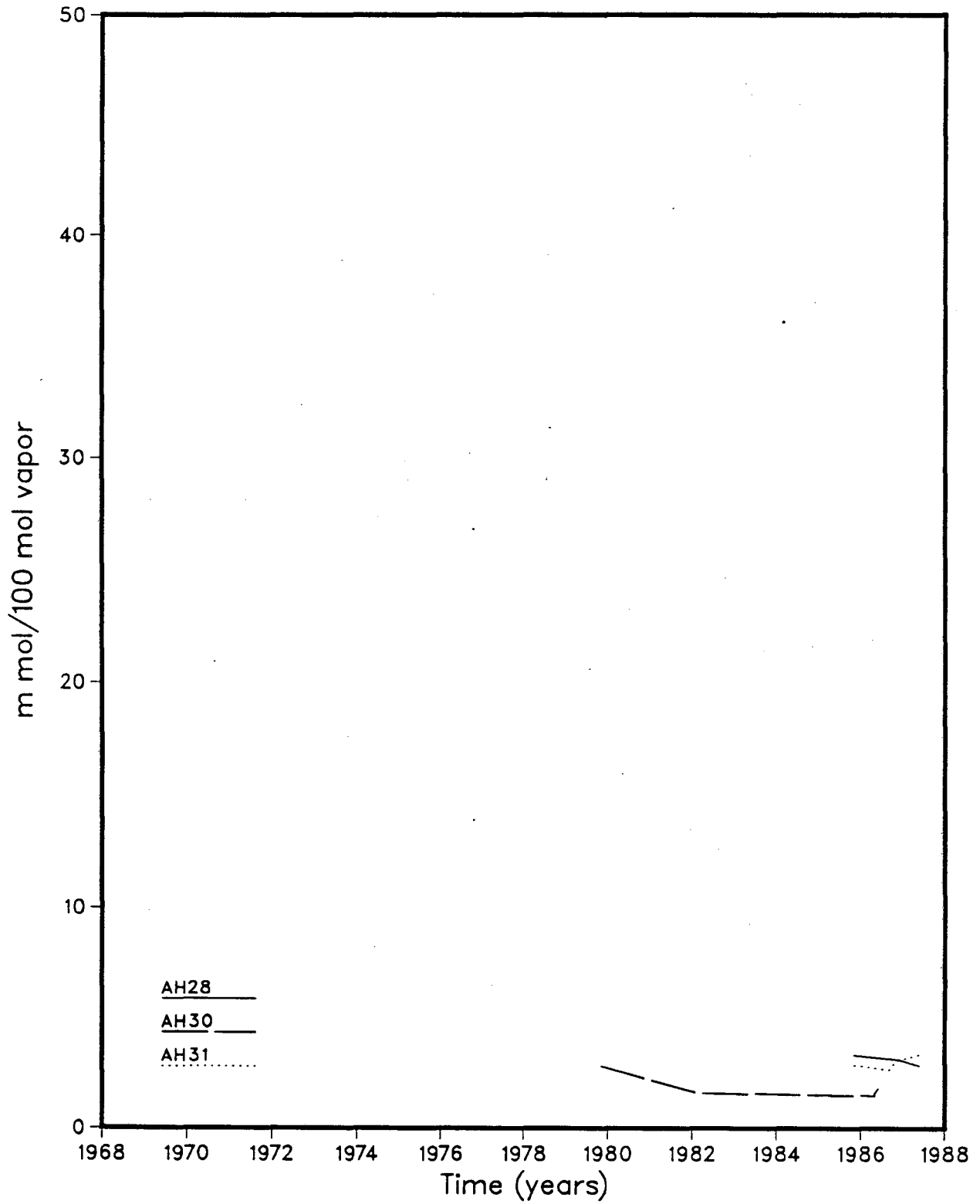
Gas Chemistry (H₂S)



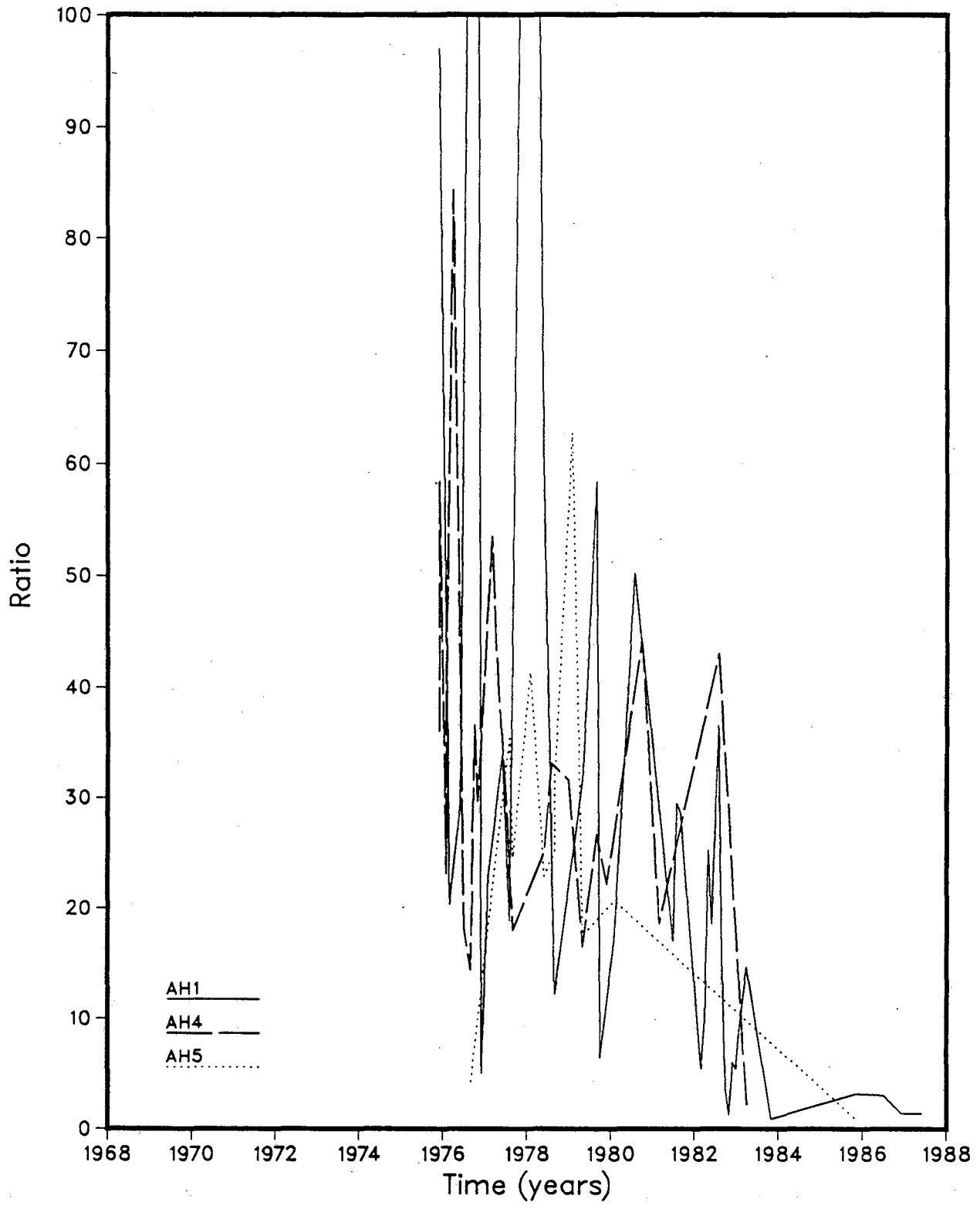
Gas Chemistry (H₂S)



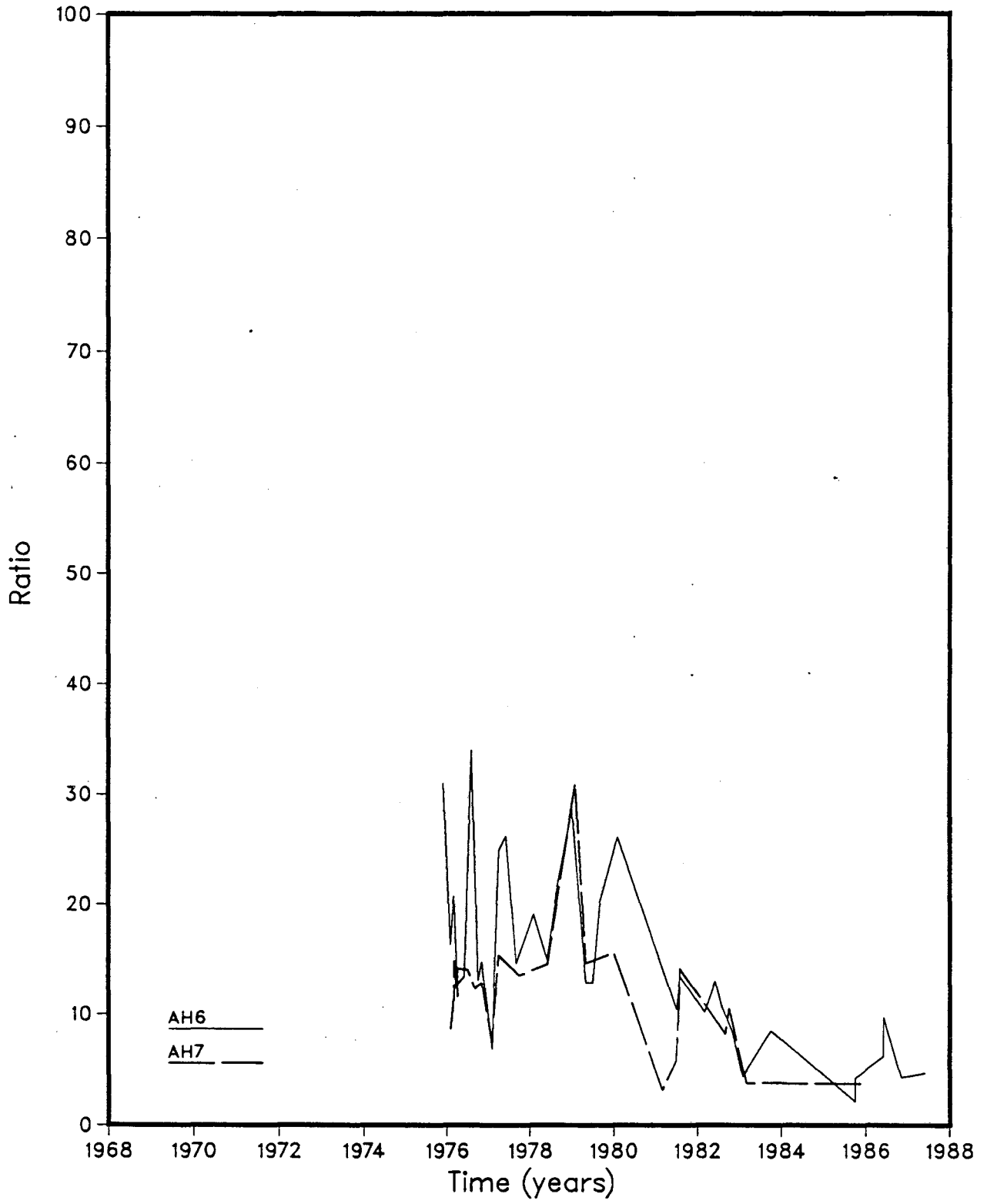
Gas Chemistry (H₂S)



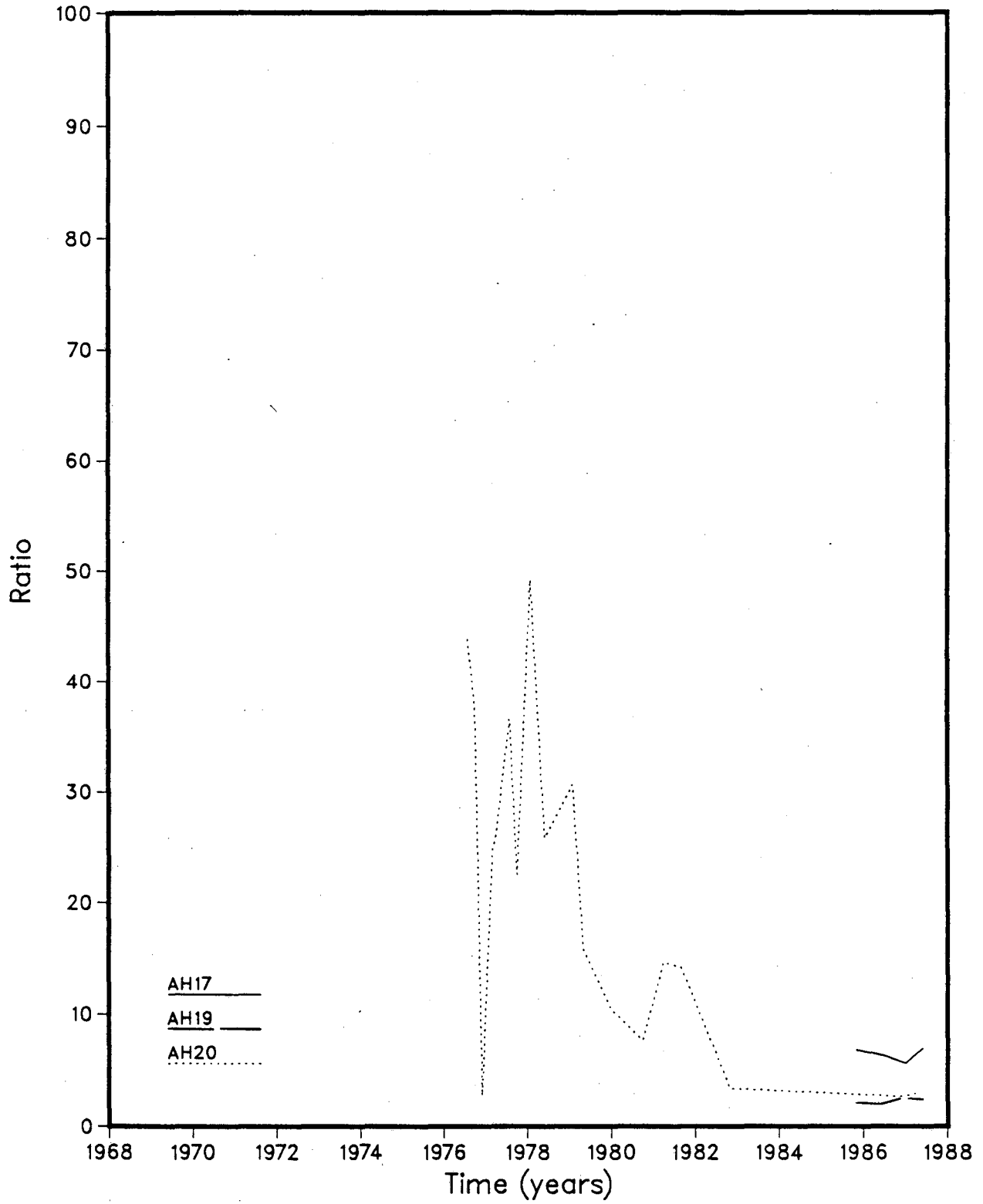
H₂S/H₂ Ratio



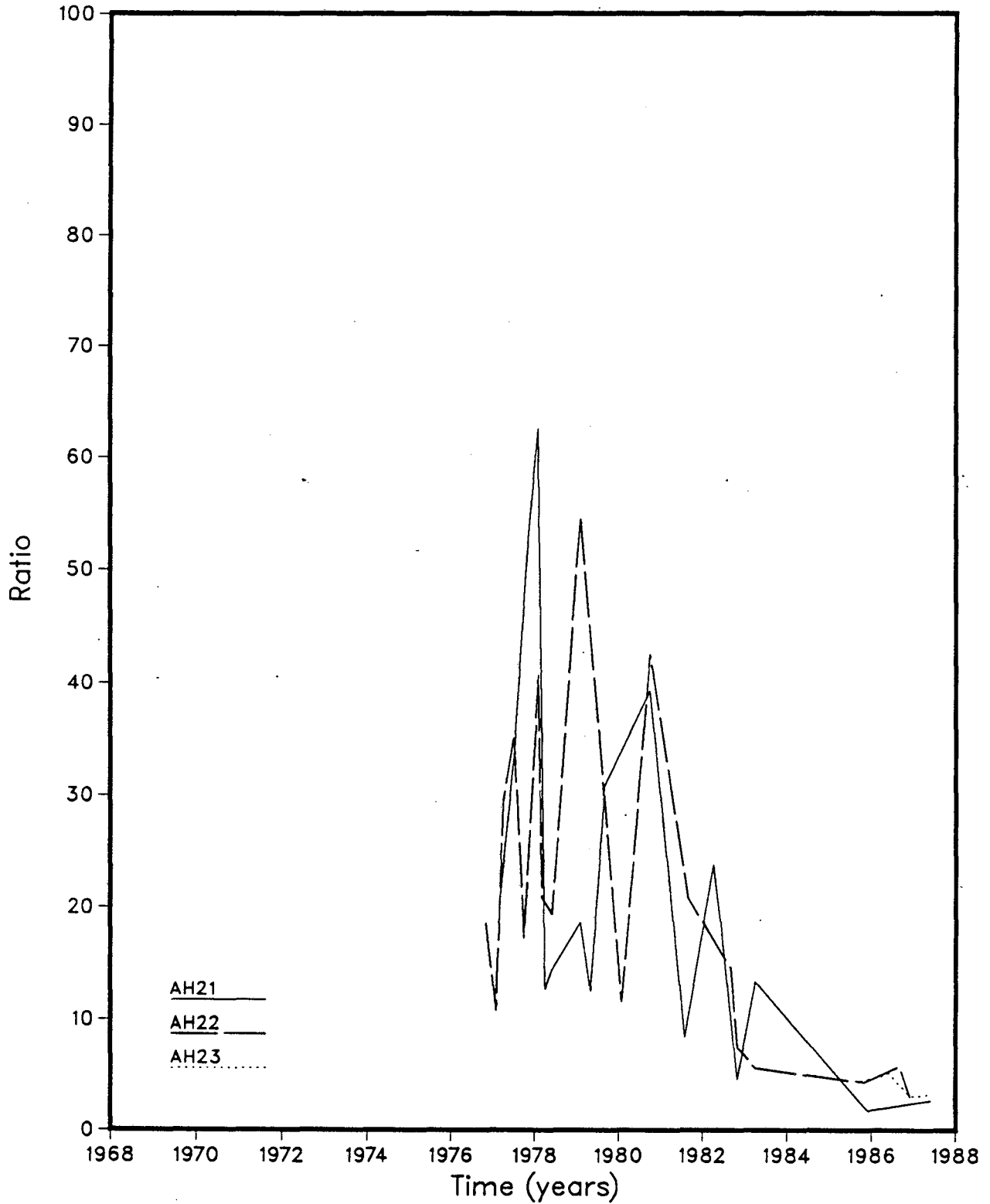
H₂S/H₂ Ratio



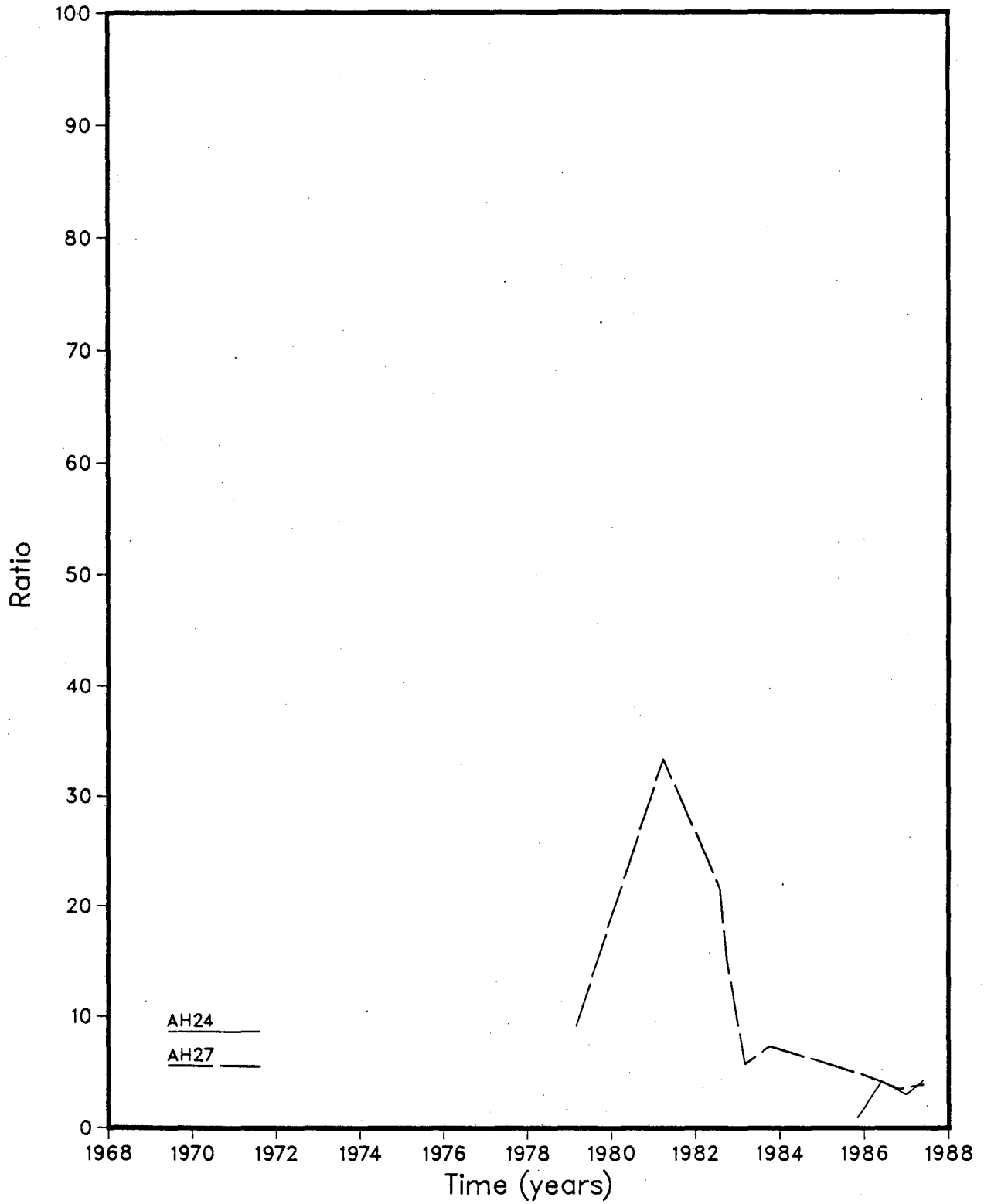
H₂S/H₂ Ratio



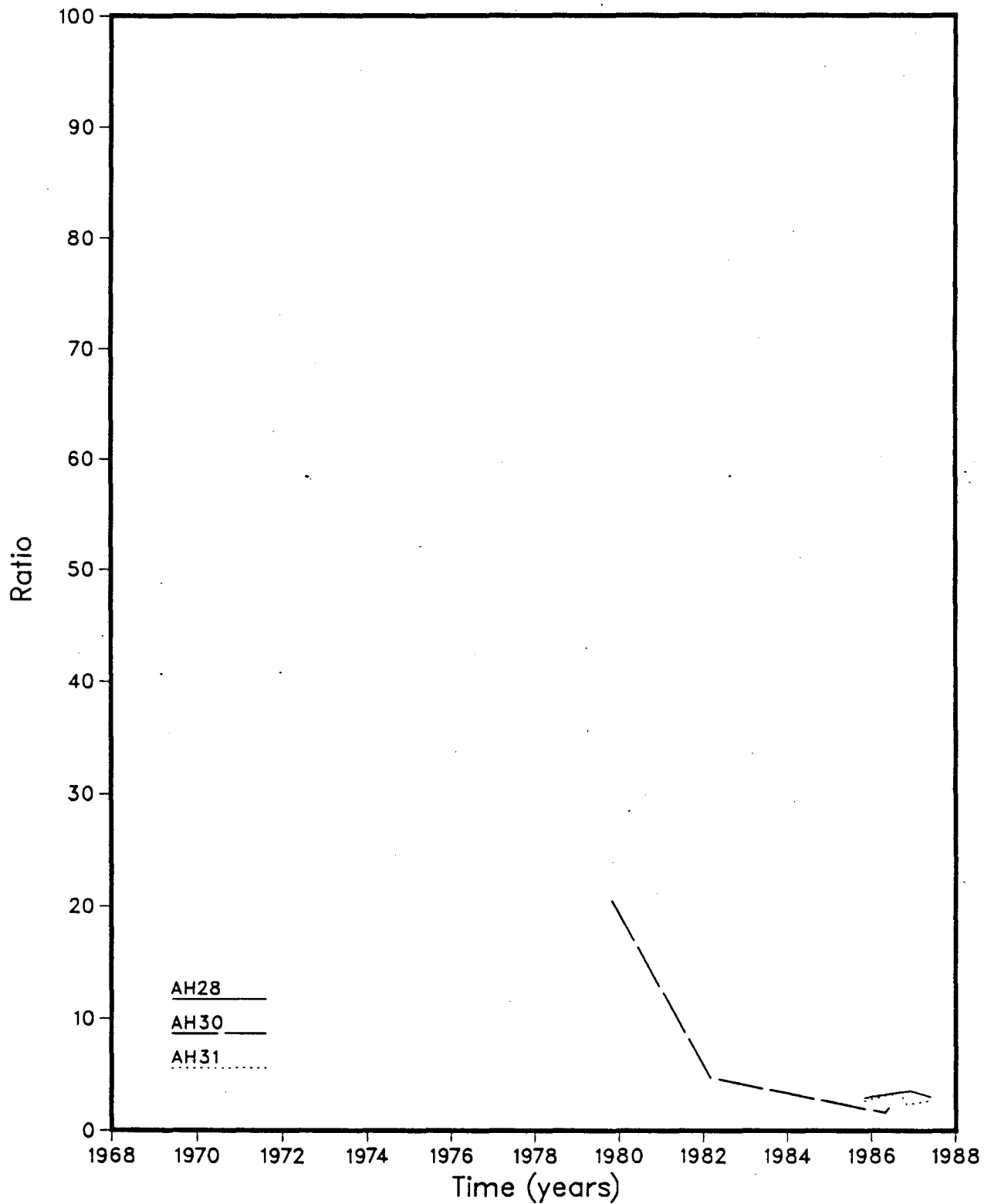
H₂S/H₂ Ratio



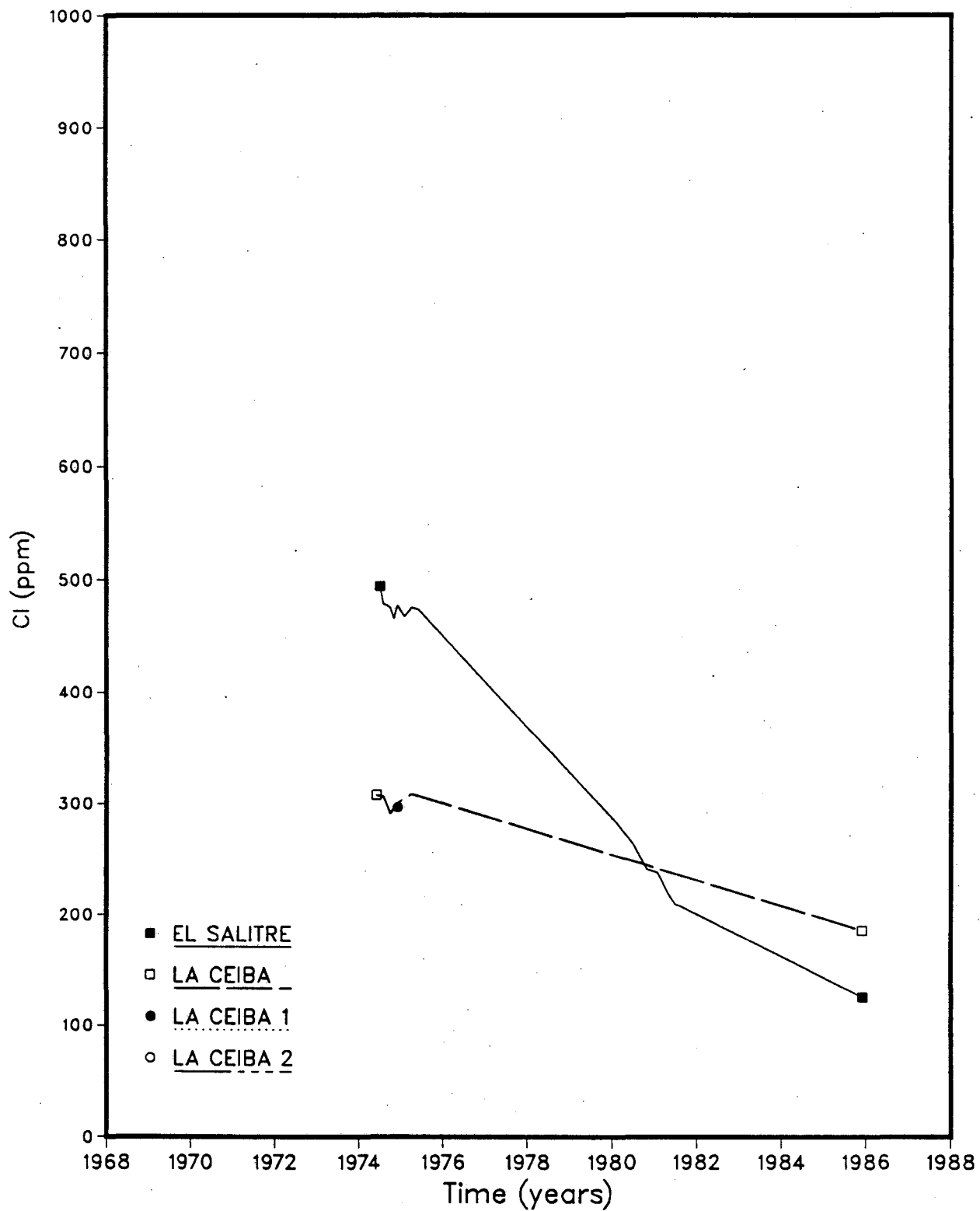
H₂S/H₂ Ratio



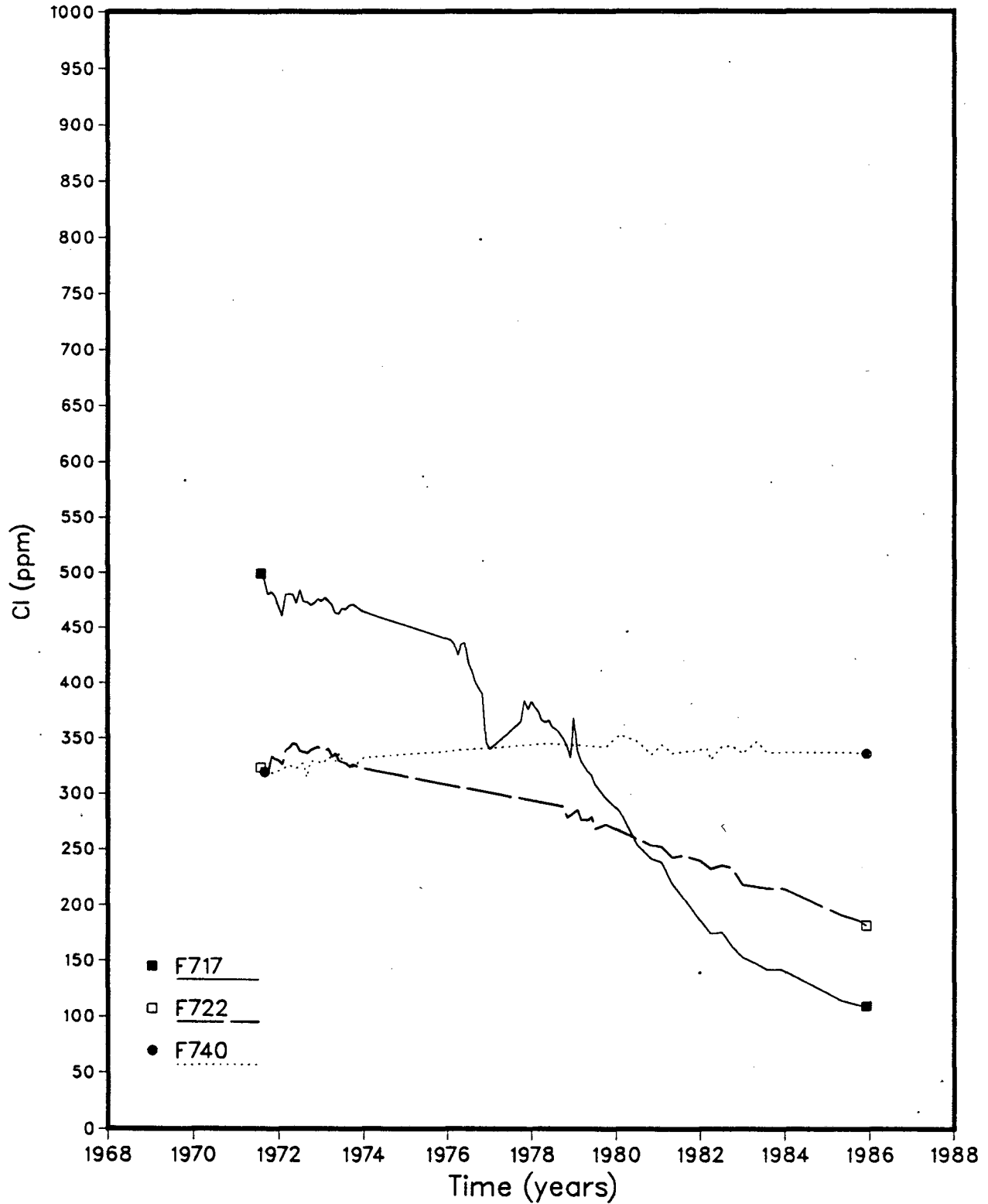
H₂S/H₂ Ratio



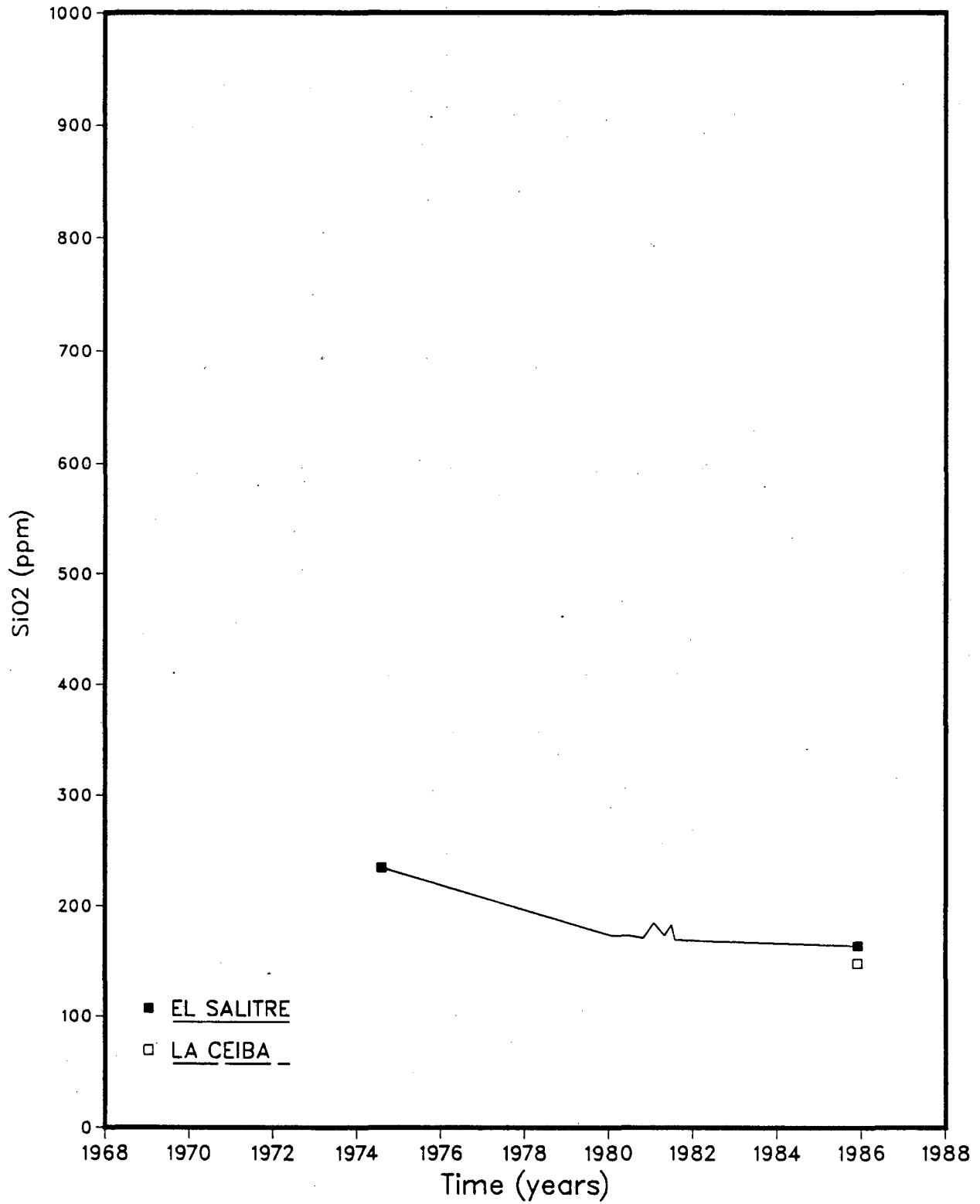
Water Chemistry (Cl)



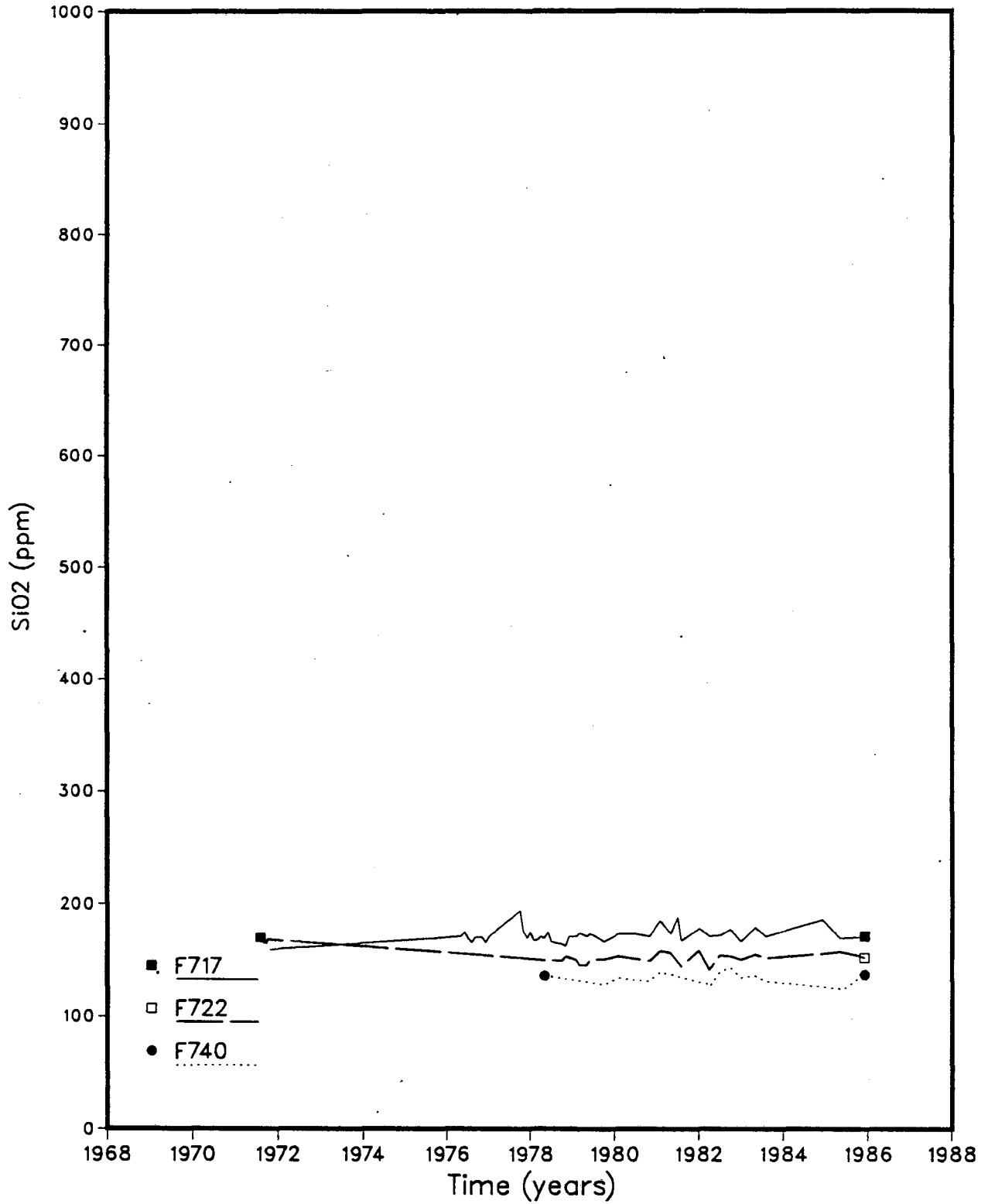
Water Chemistry (Cl)



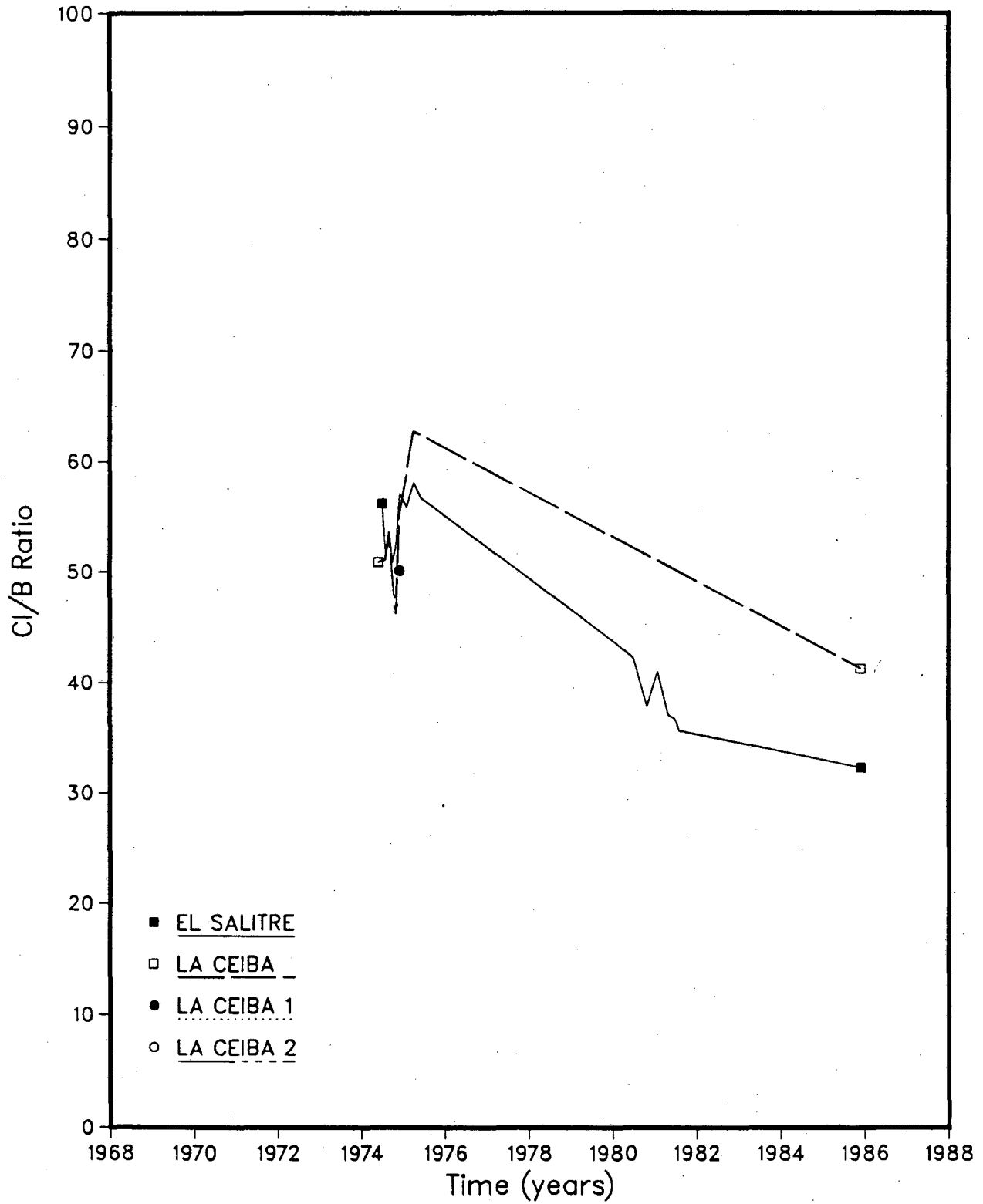
Water Chemistry (SiO₂)



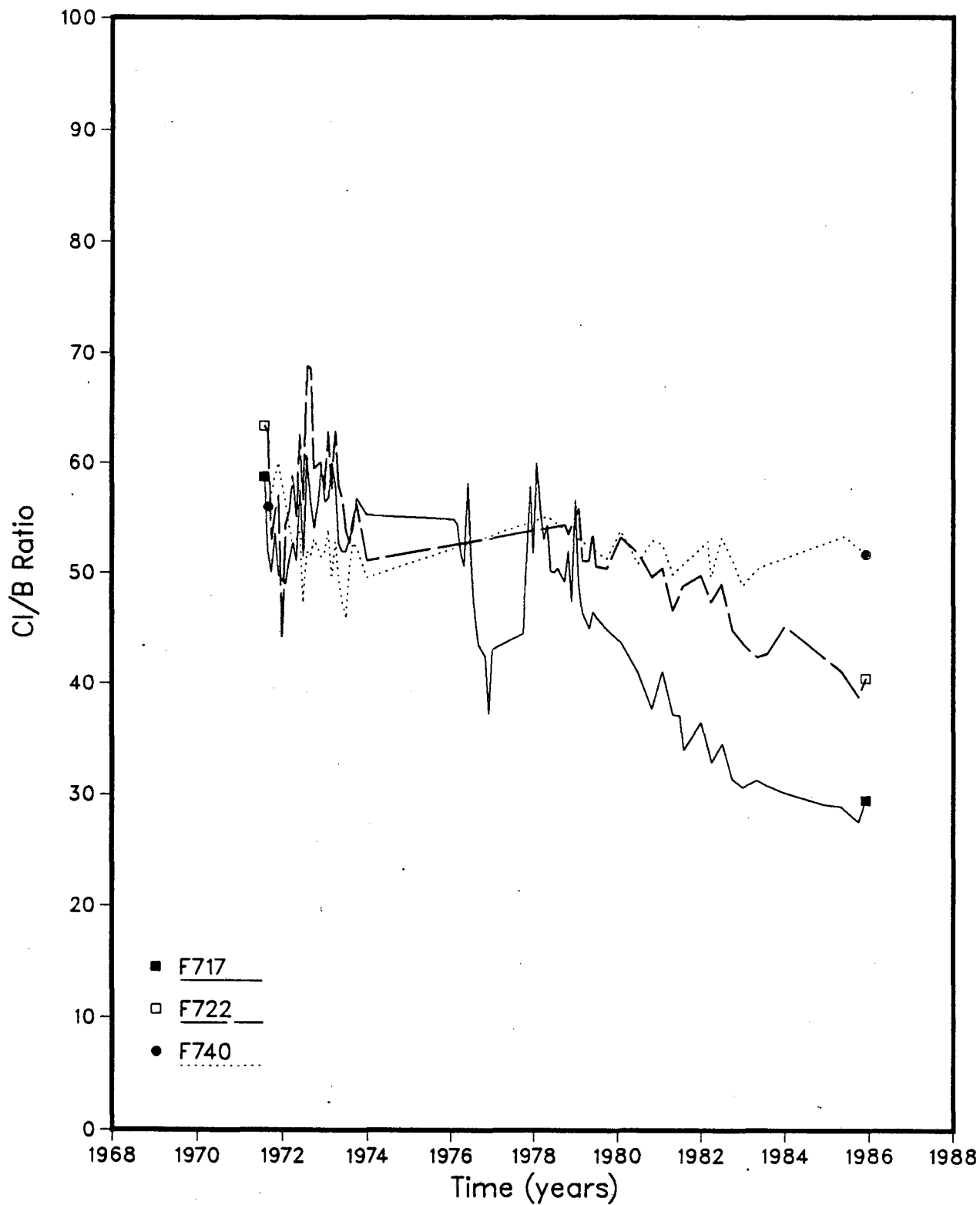
Water Chemistry (SiO₂)



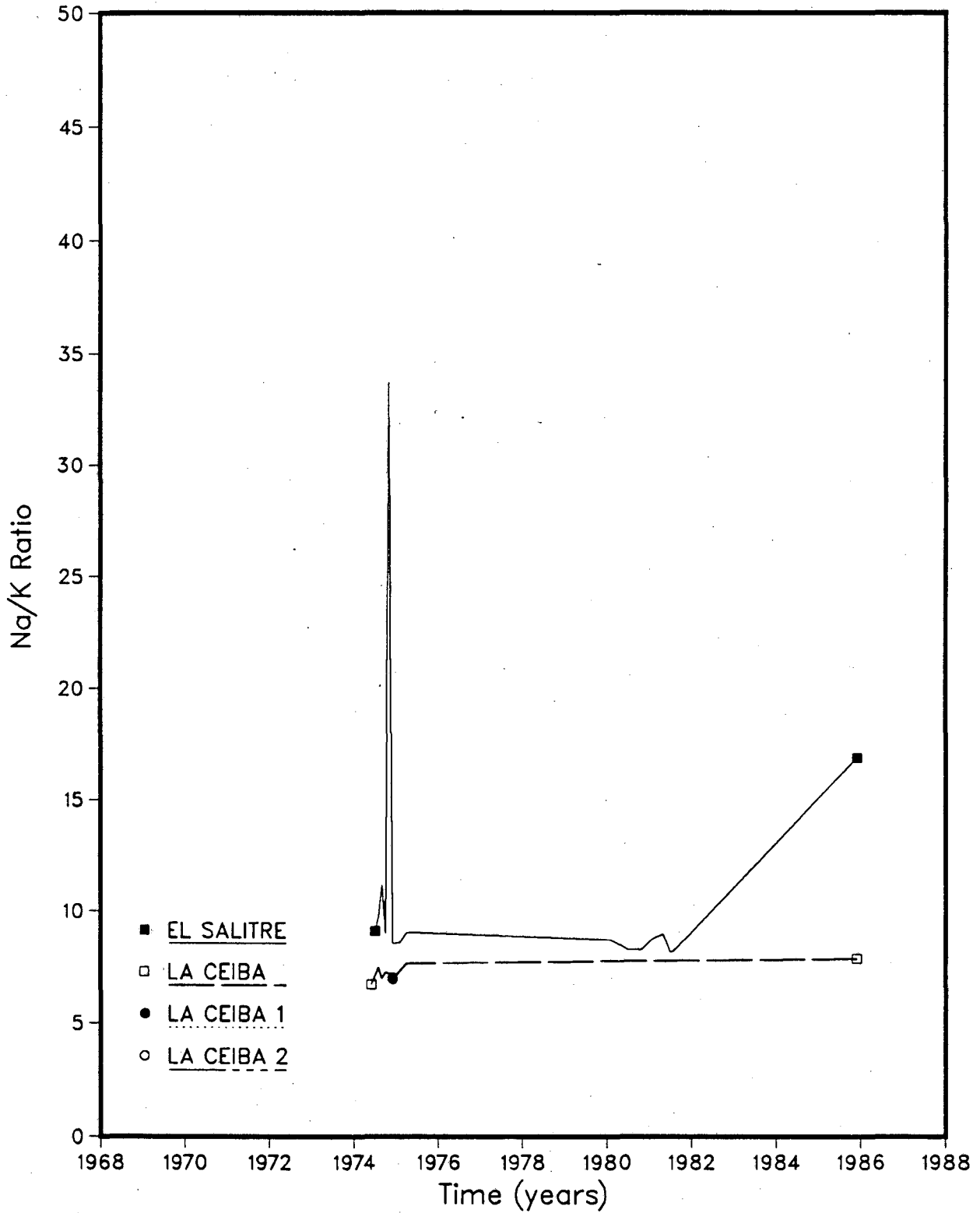
Water Chemistry (Cl/B)



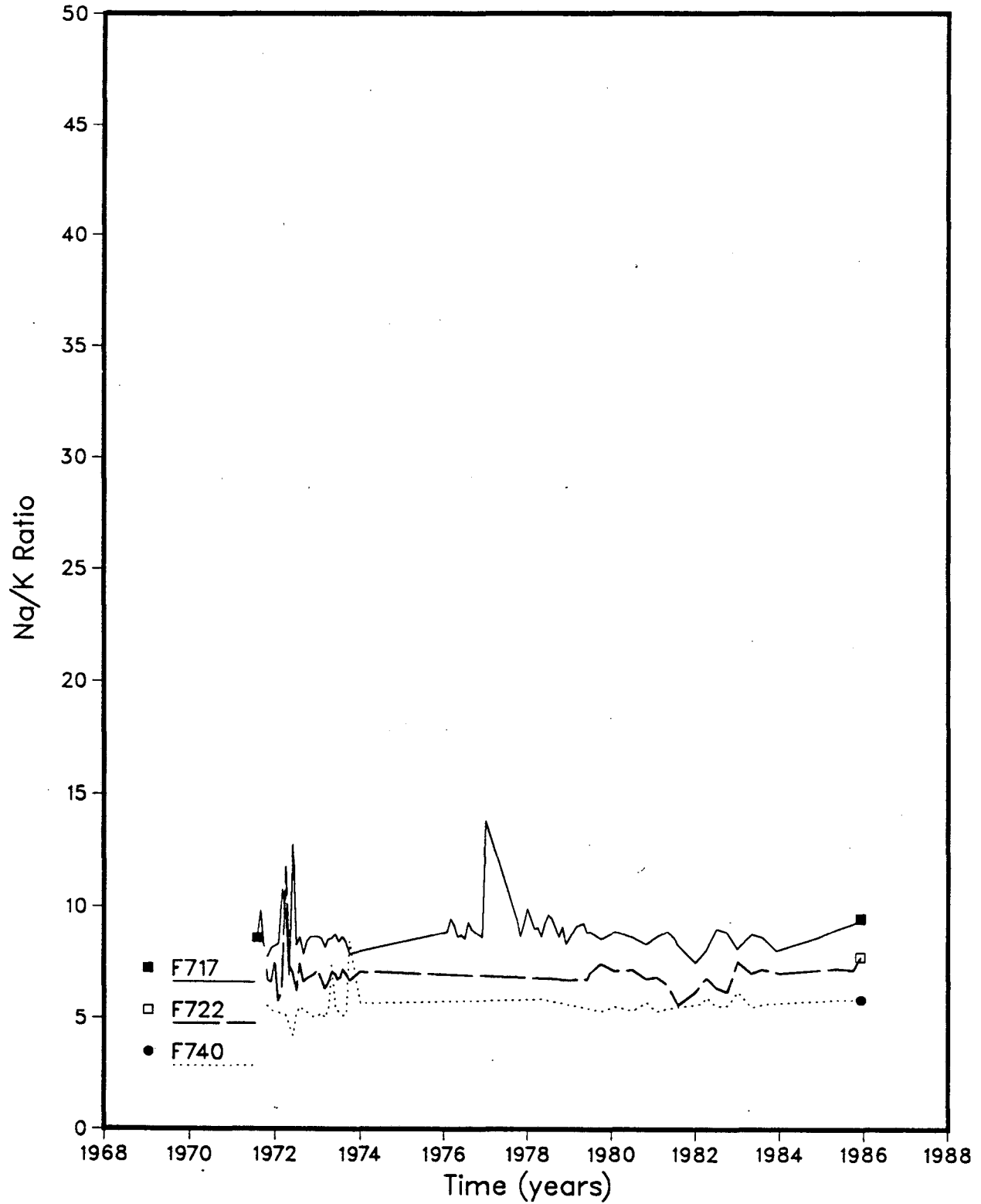
Water Chemistry (Cl/B)



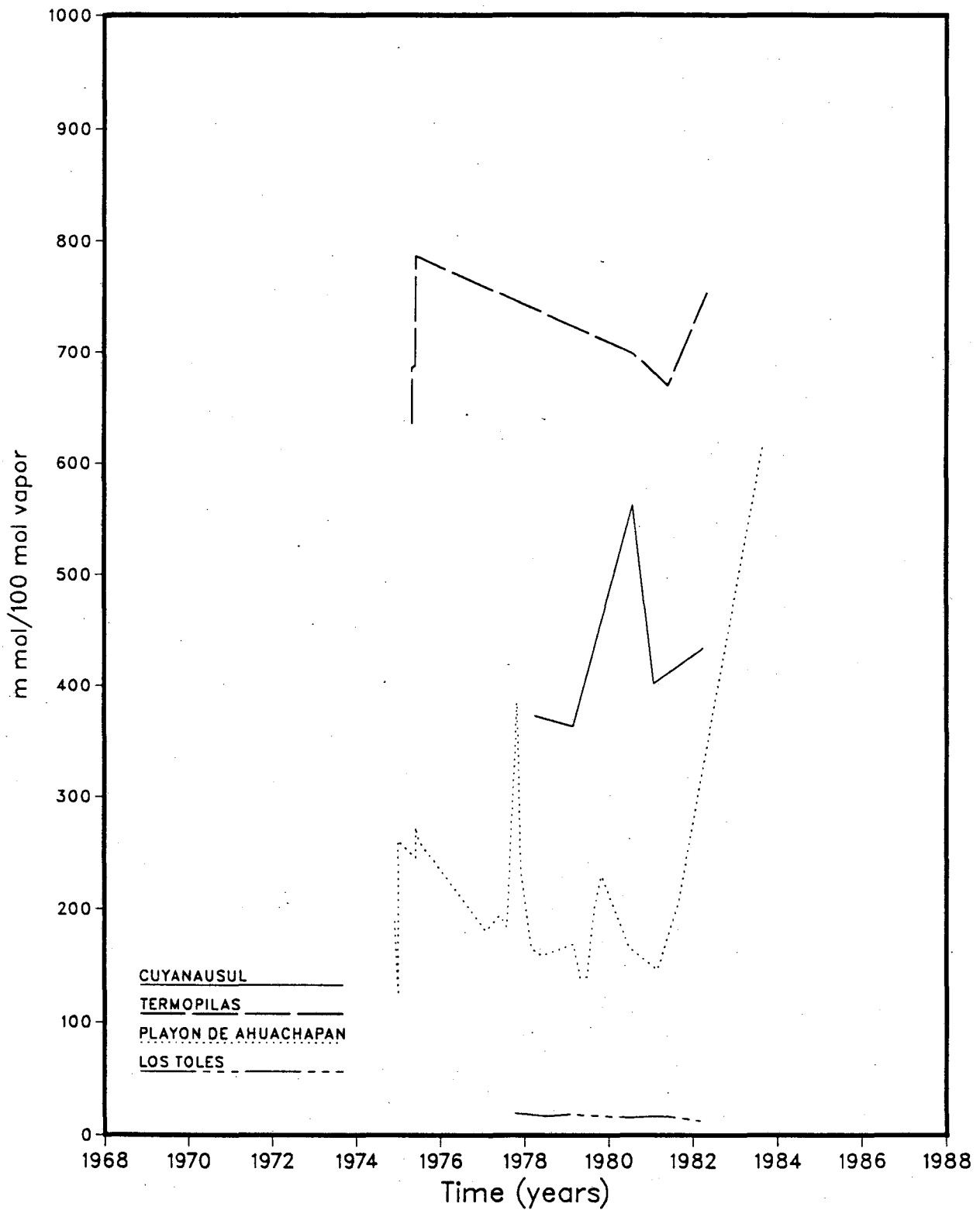
Water Chemistry (Na/K)



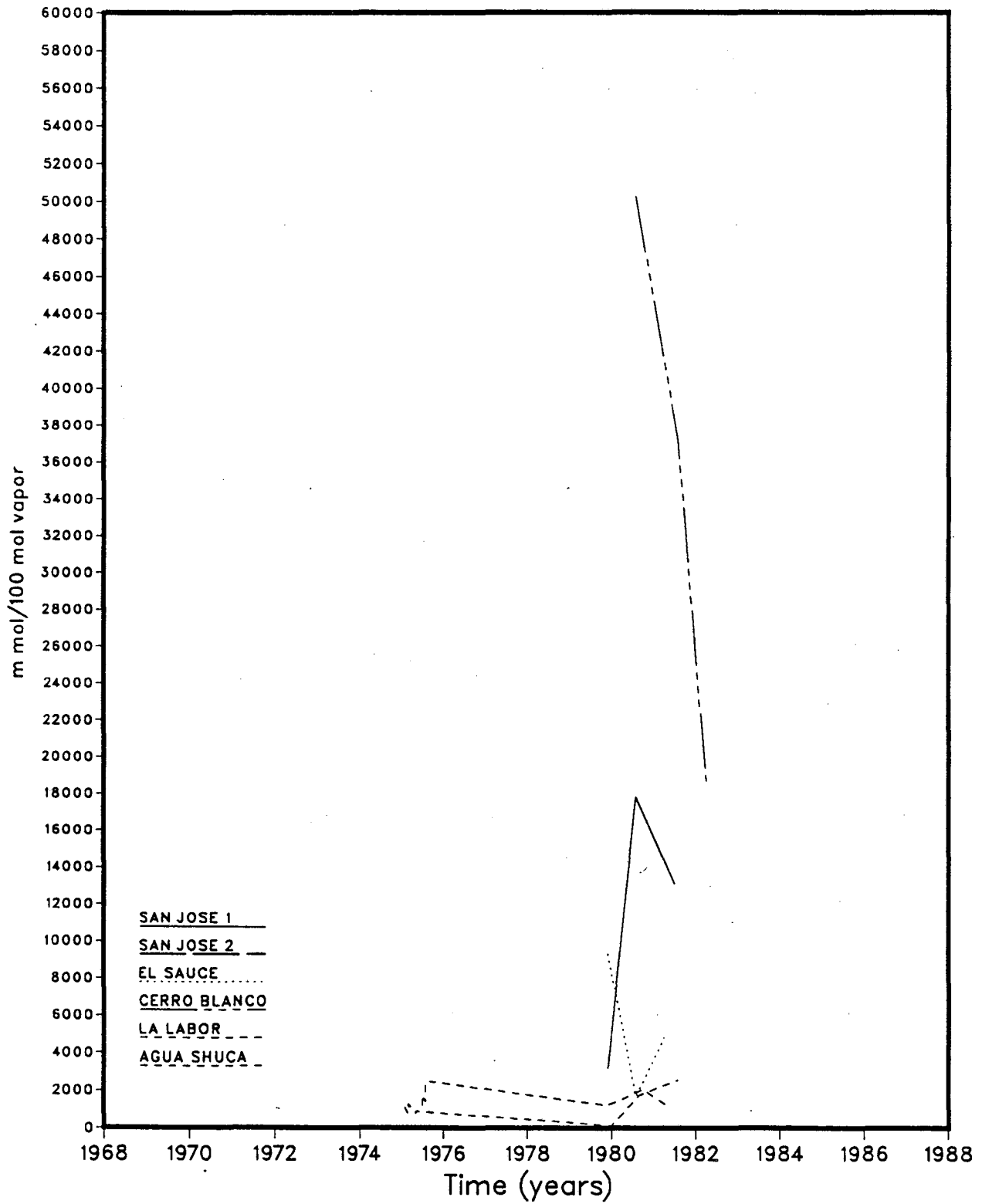
Water Chemistry (Na/K)



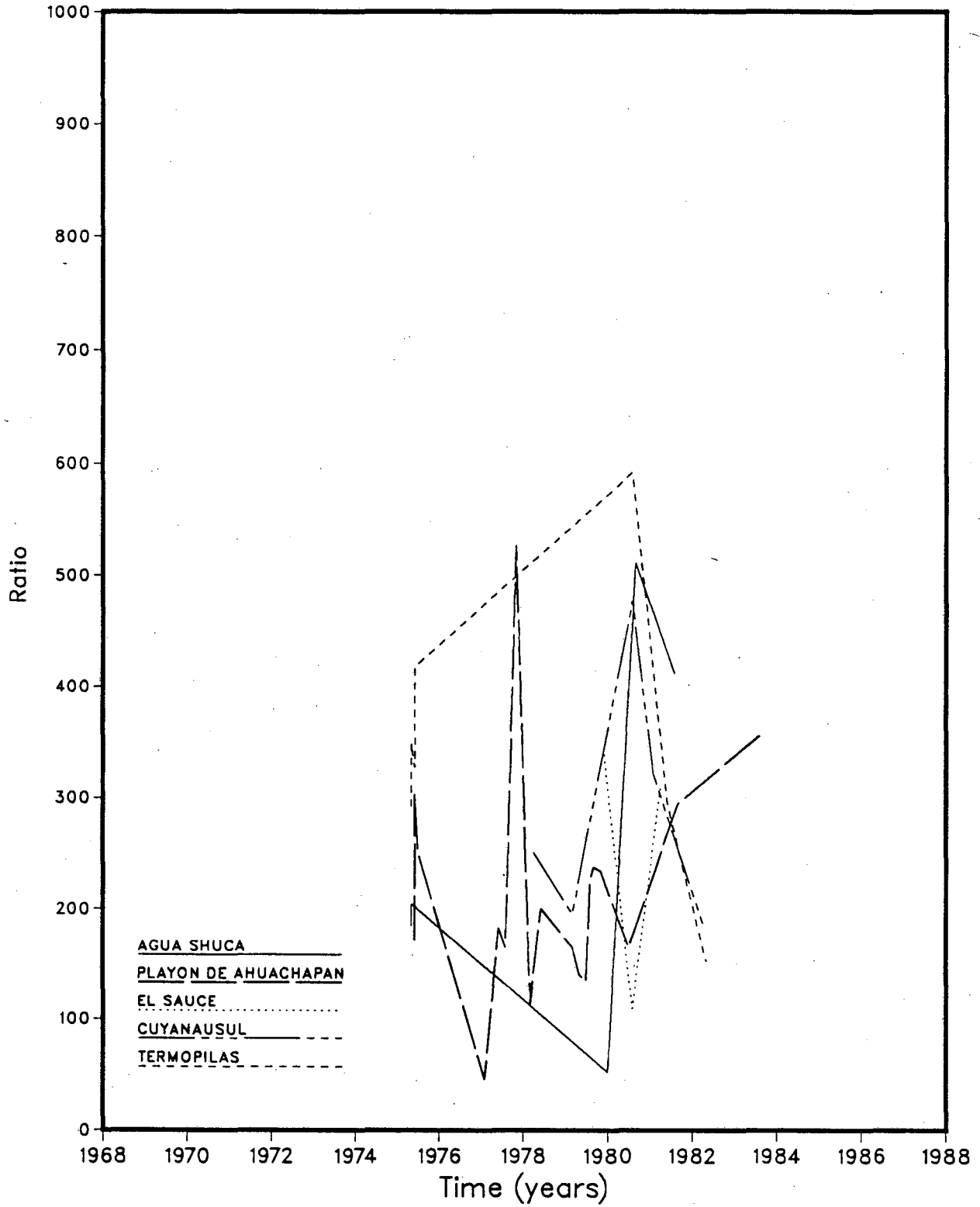
Gas Chemistry (CO₂)



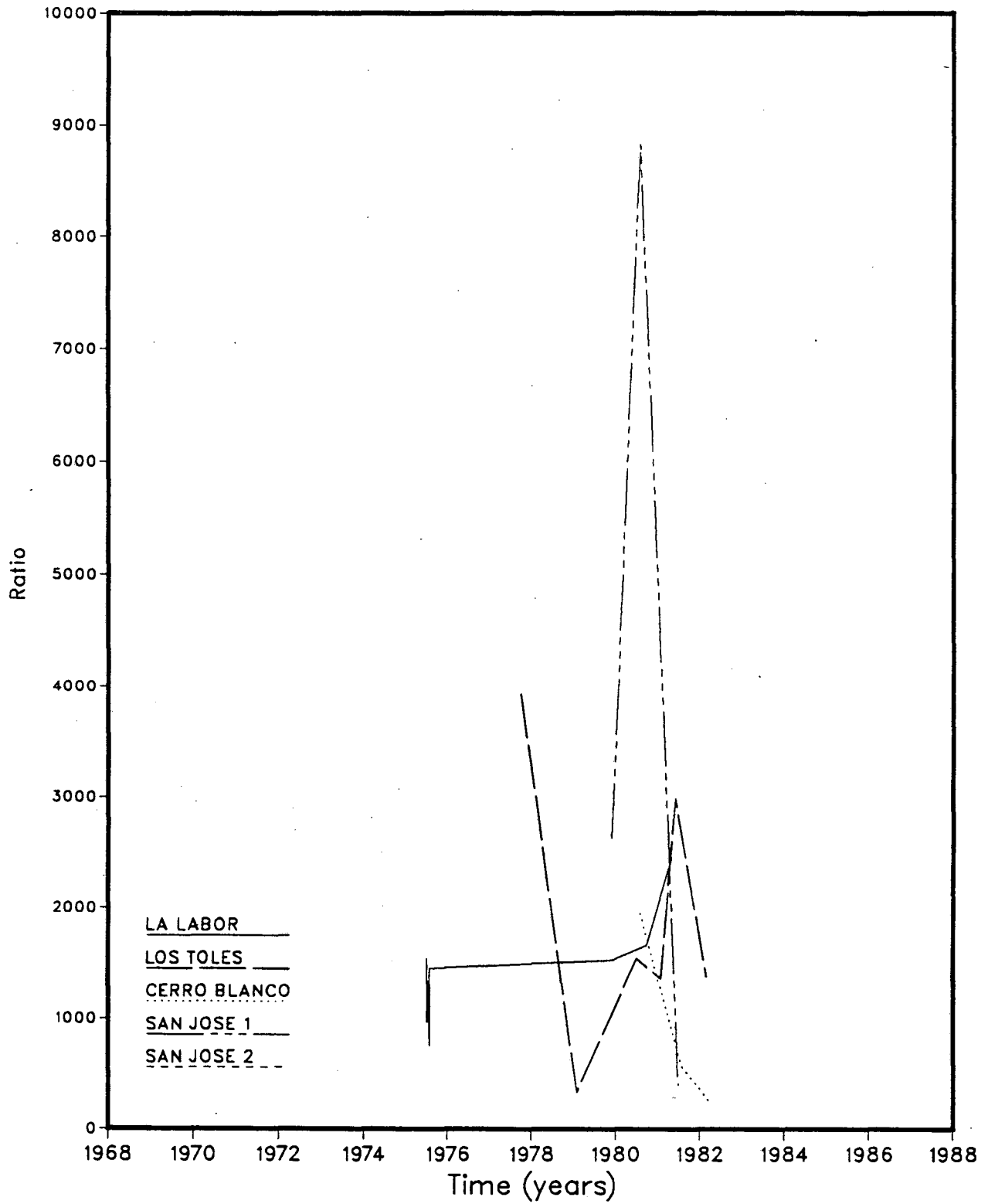
Gas Chemistry (CO₂)



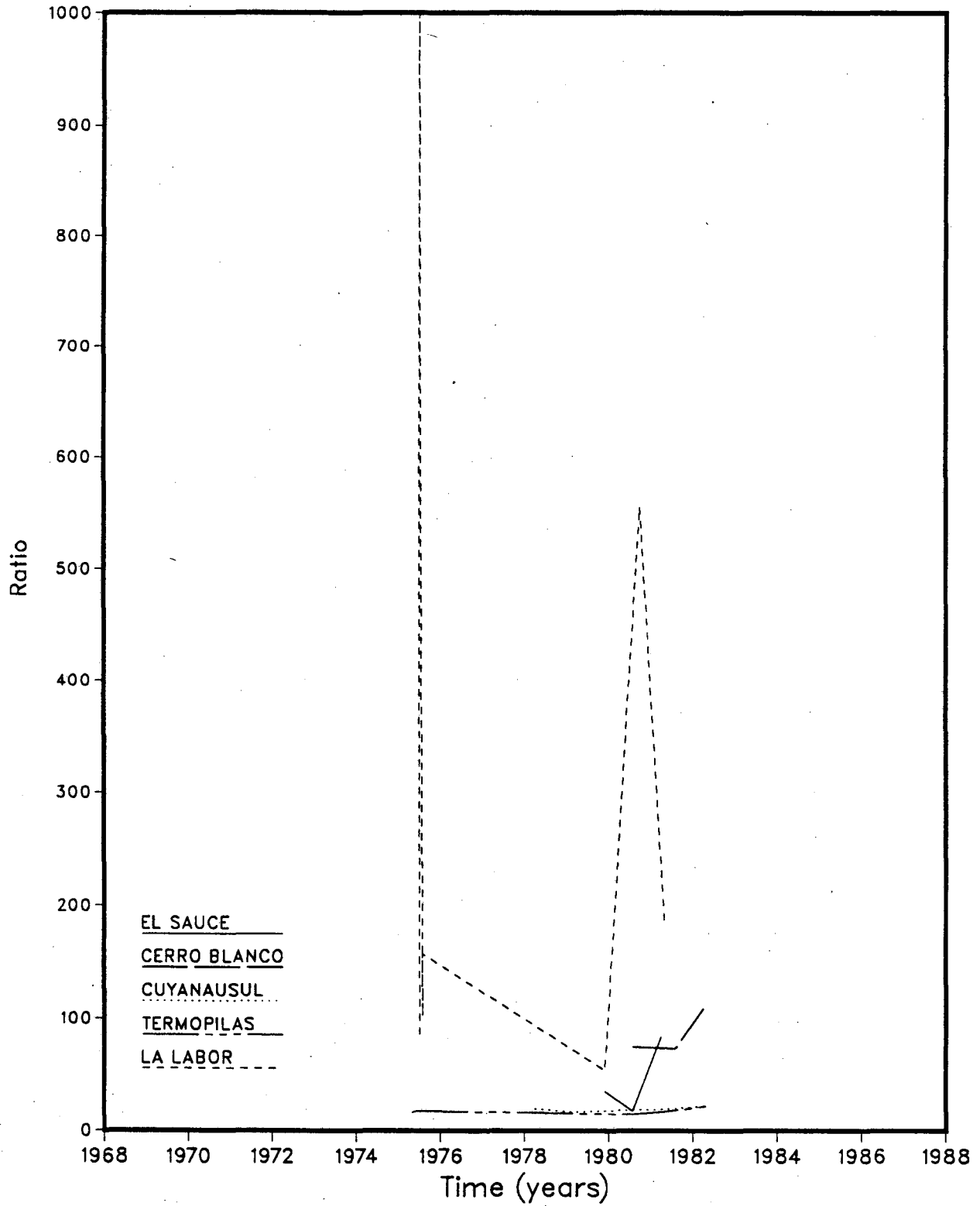
CO₂/H₂ Ratio



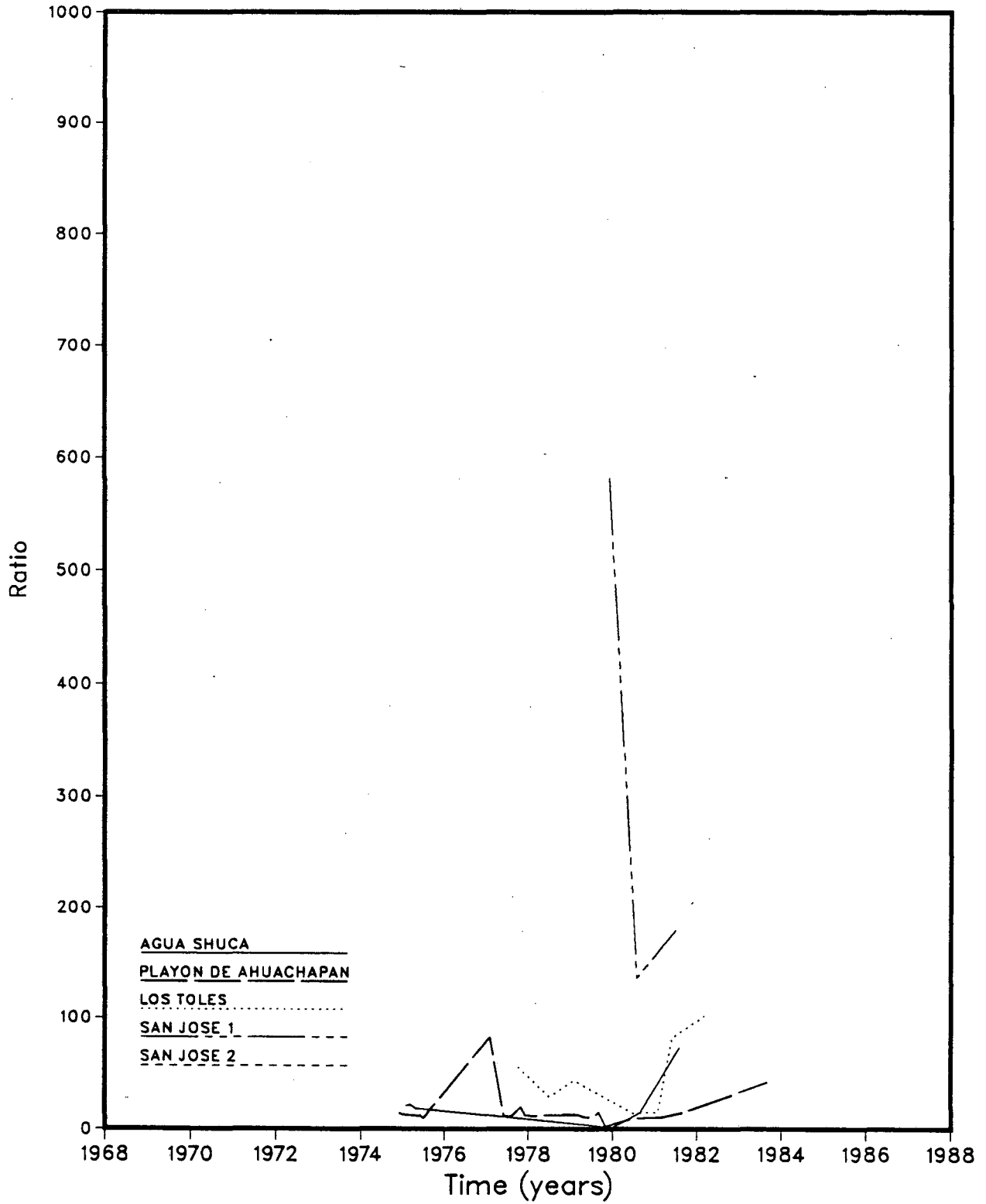
C02/H2 Ratio



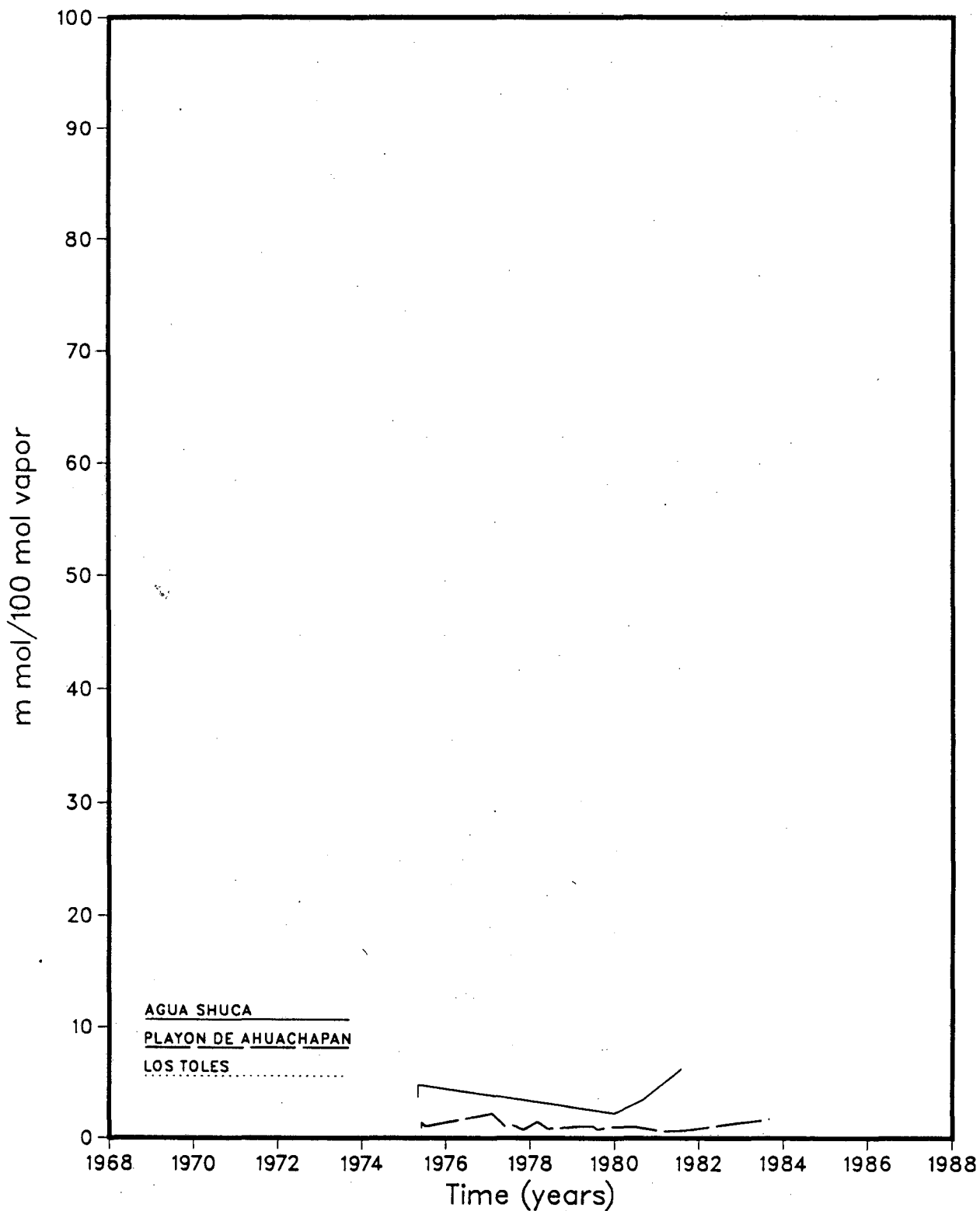
CO₂/H₂S Ratio



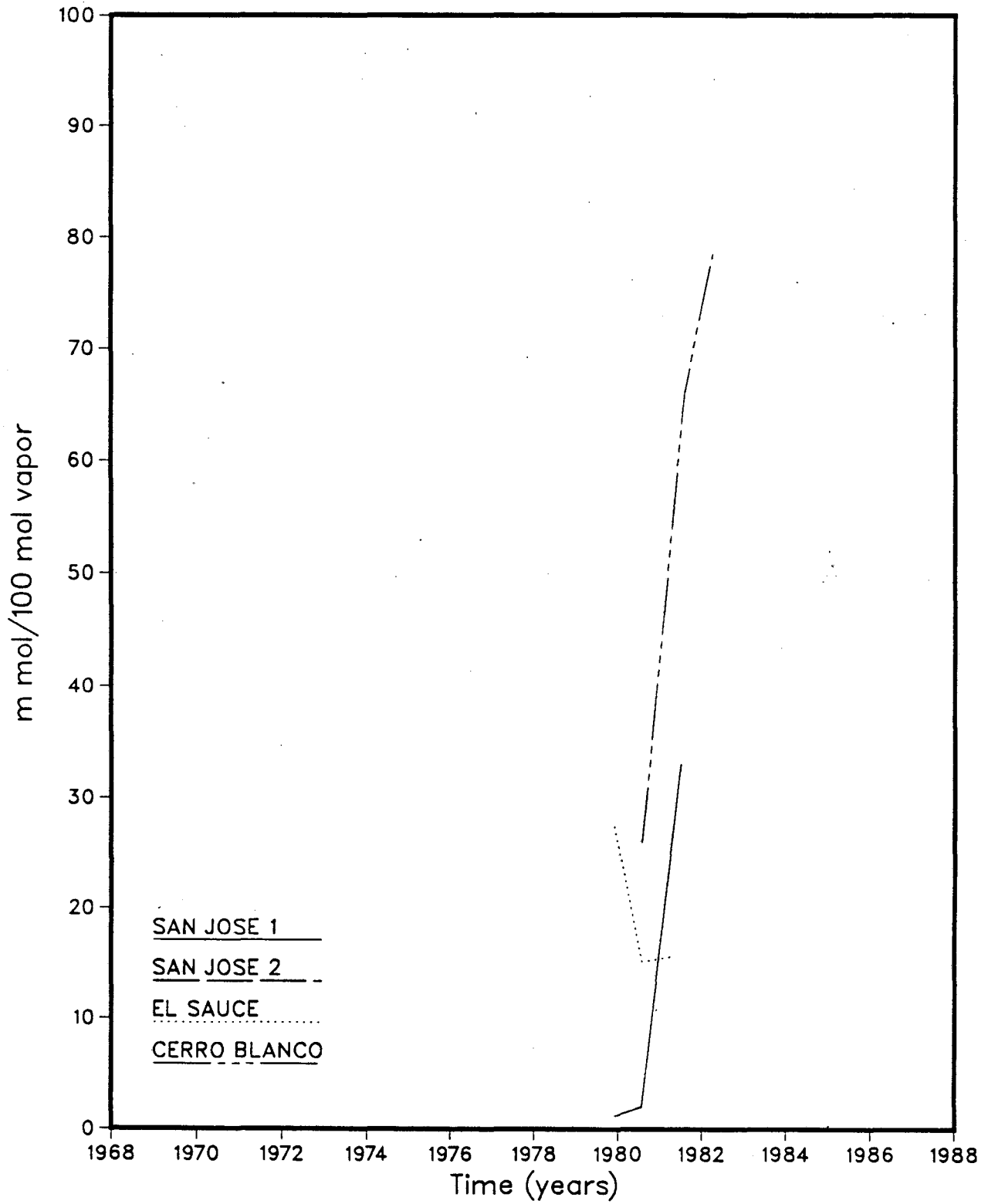
CO₂/H₂S Ratio



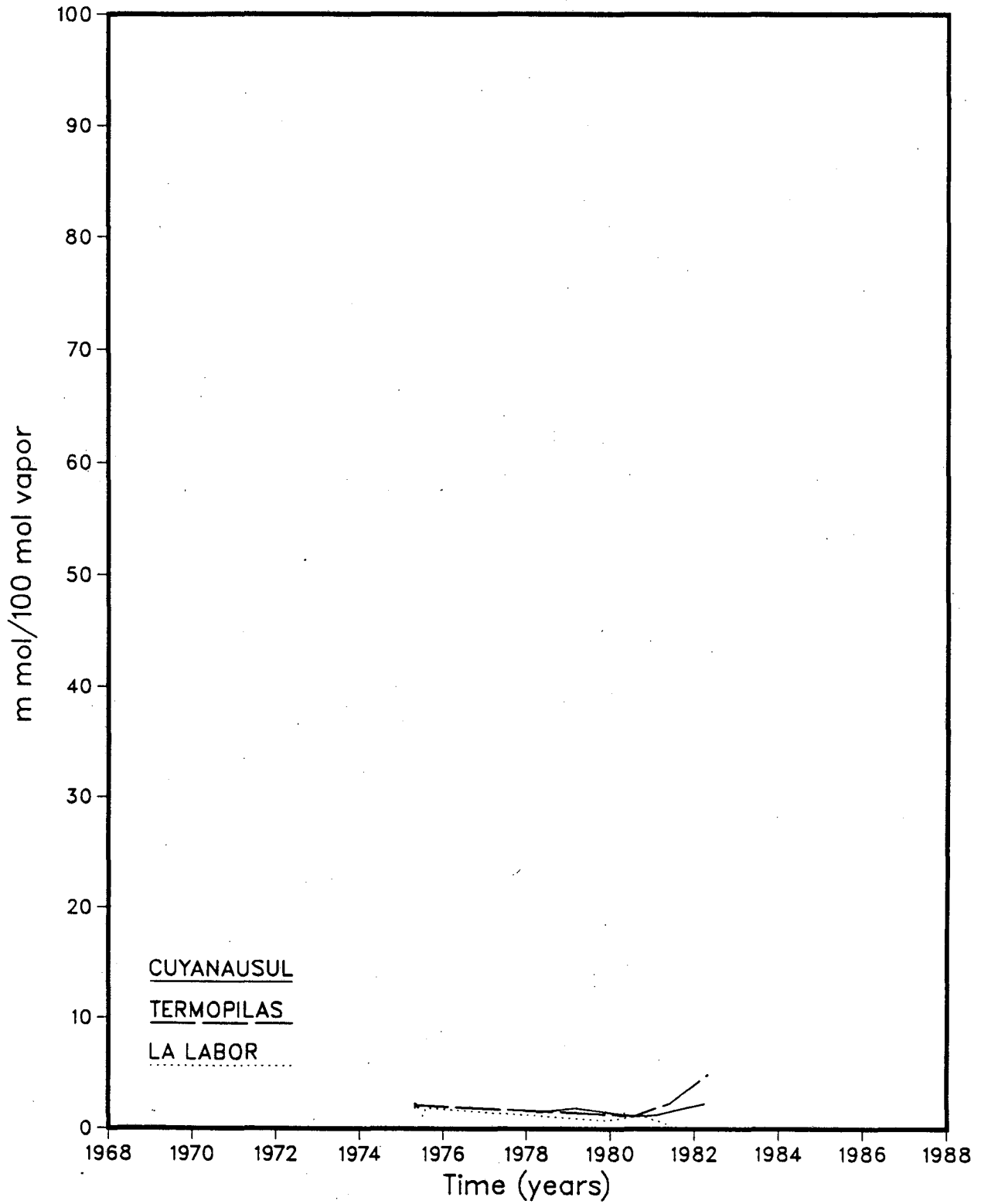
Gas Chemistry (H₂)



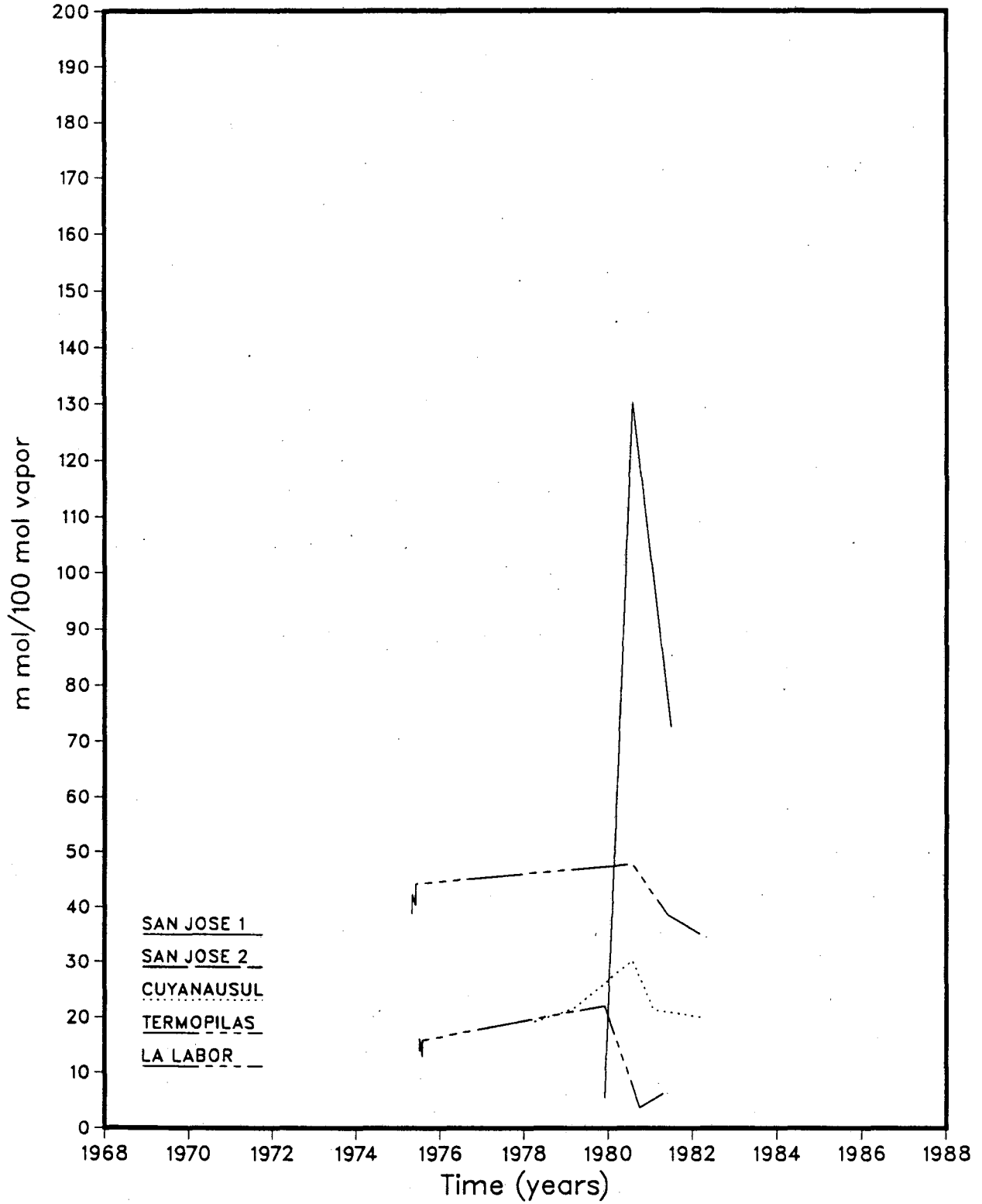
Gas Chemistry (H₂)



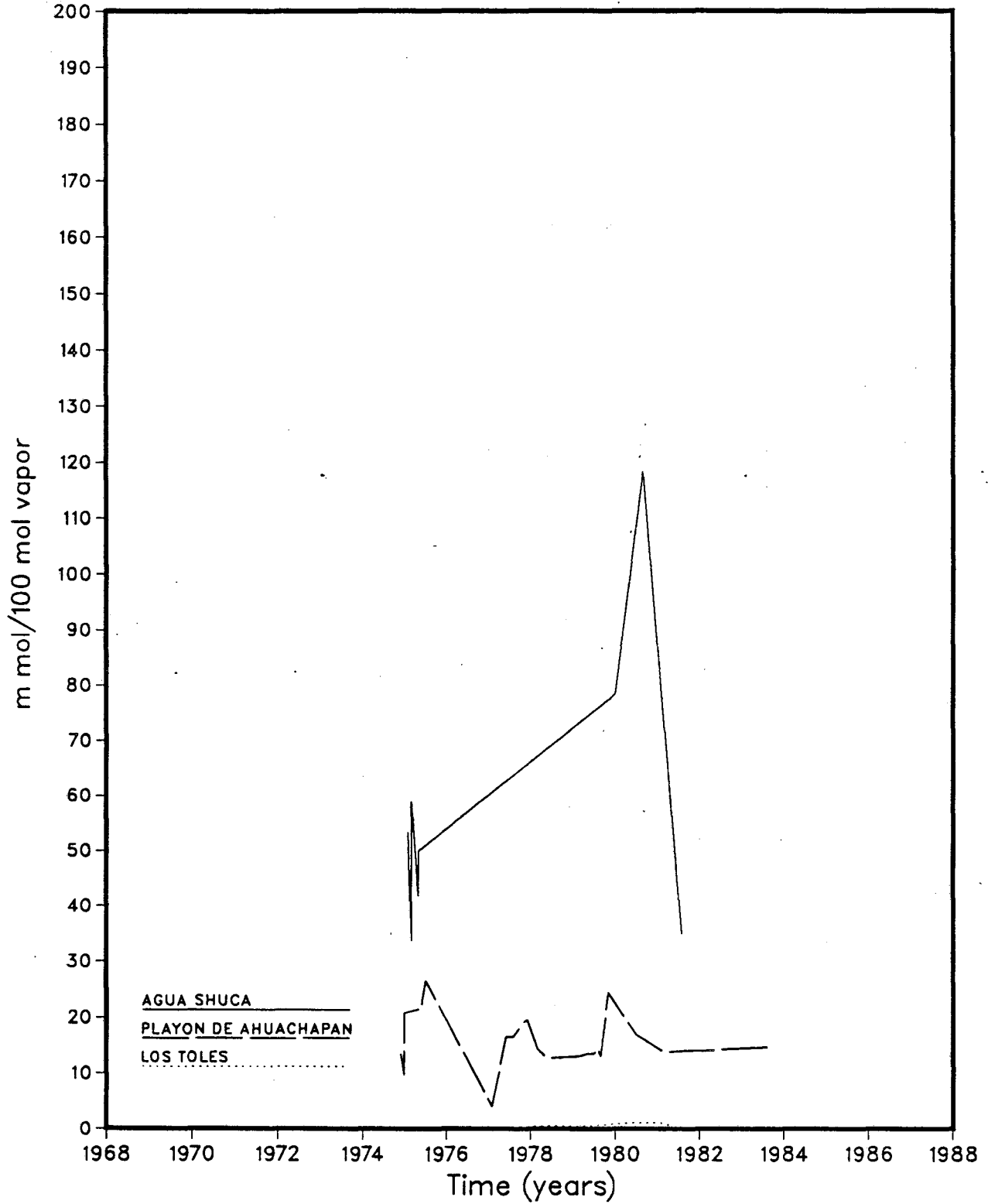
Gas Chemistry (H2)



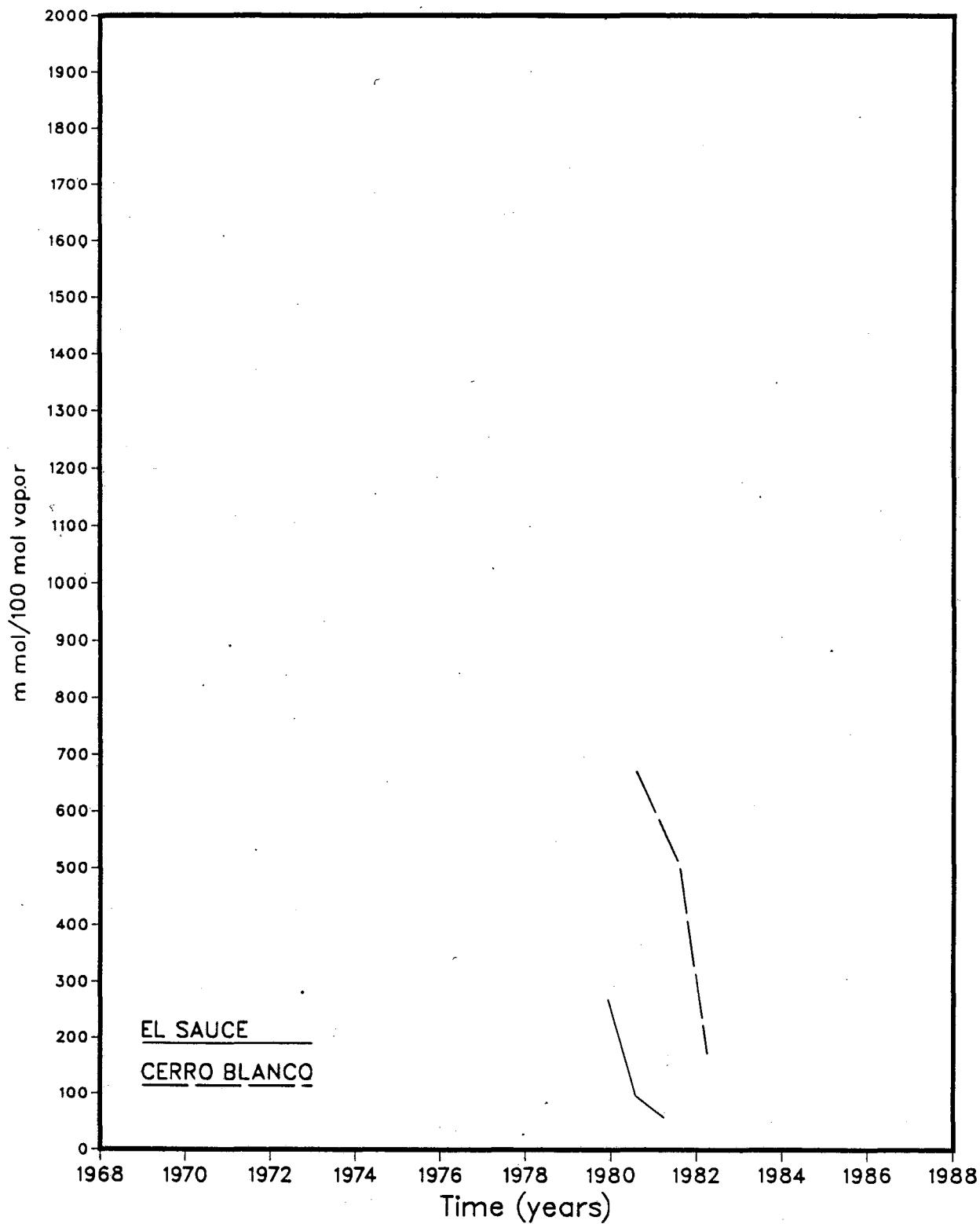
Gas Chemistry (H₂S)



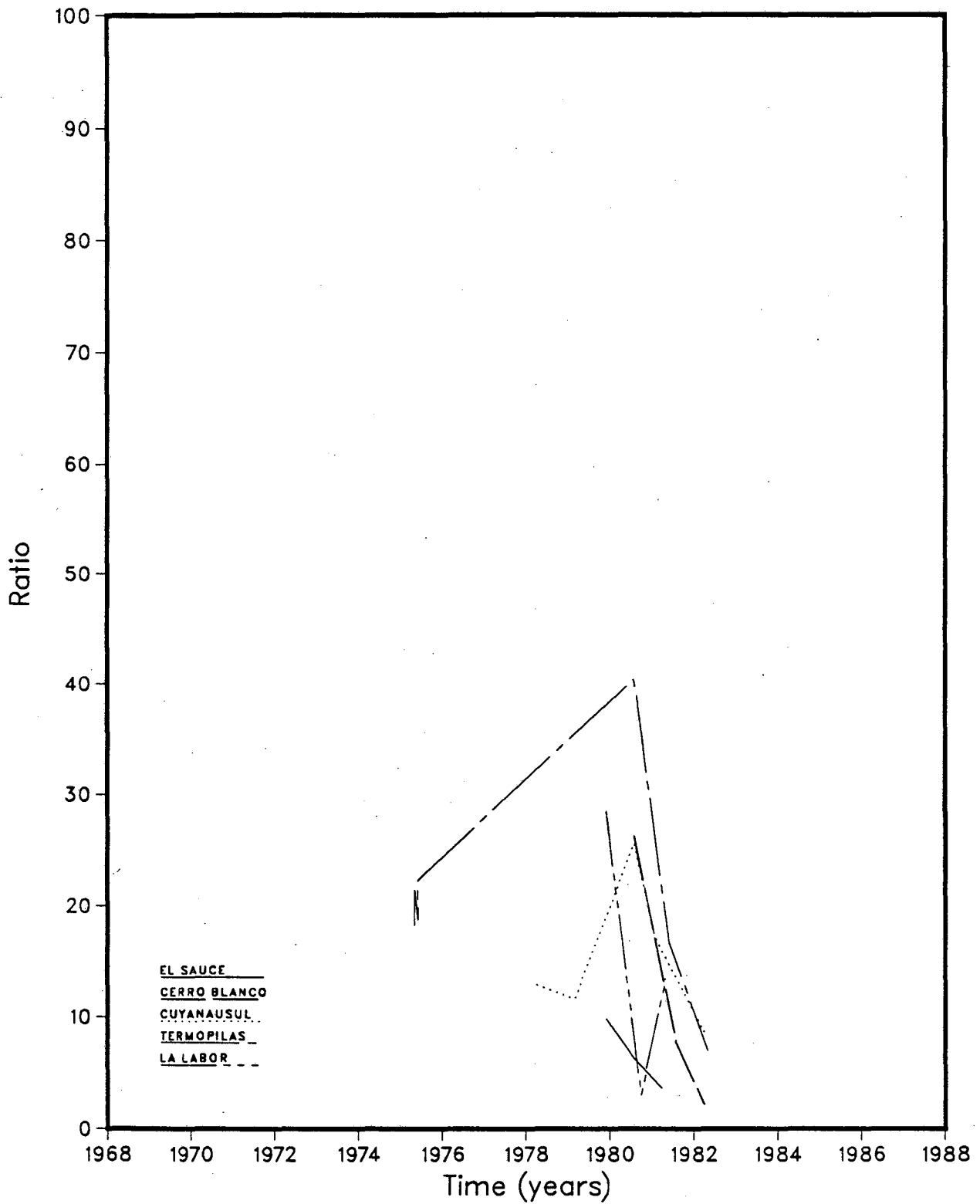
Gas Chemistry (H₂S)



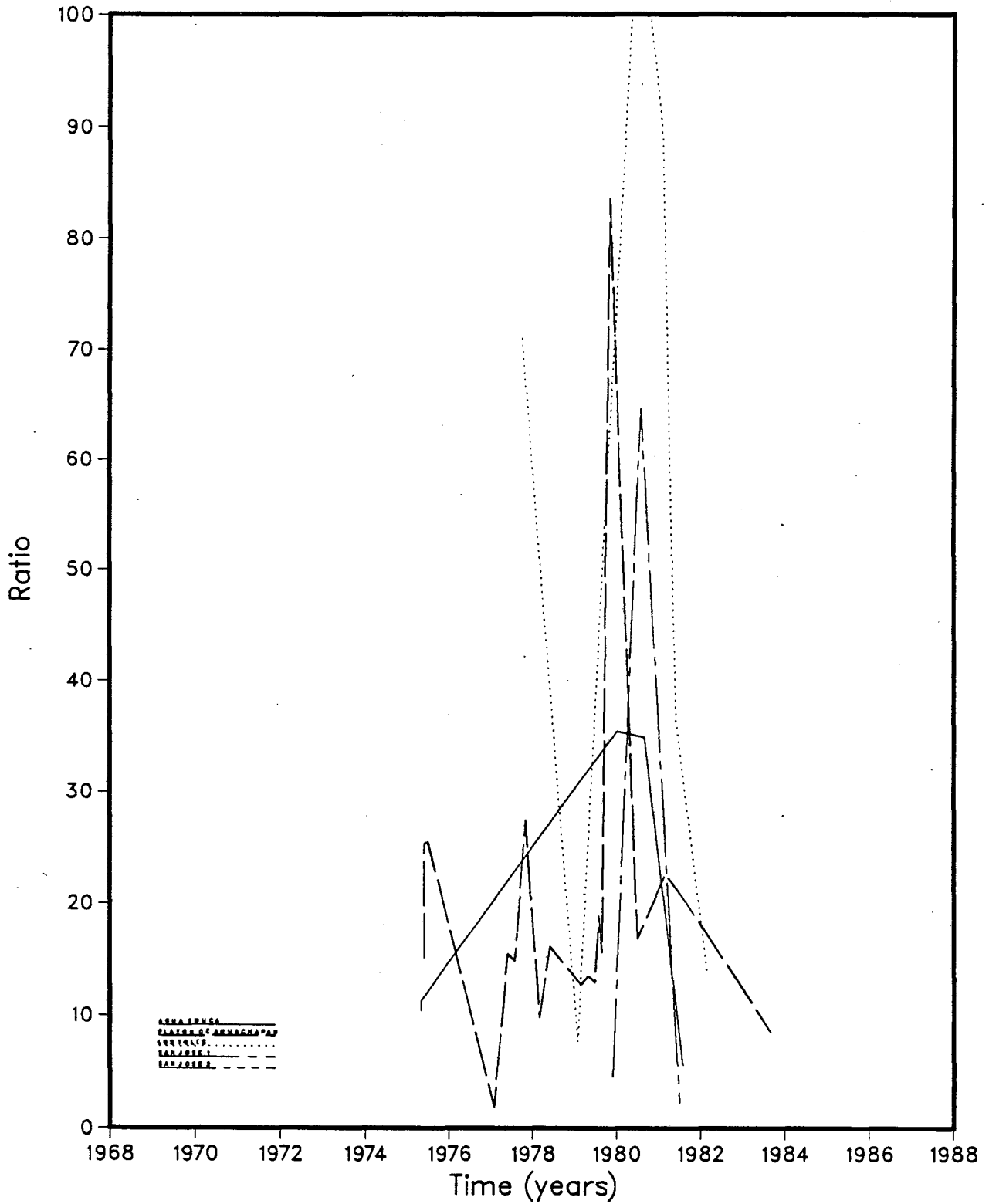
Gas Chemistry (H₂S)



H₂S/H₂ Ratio



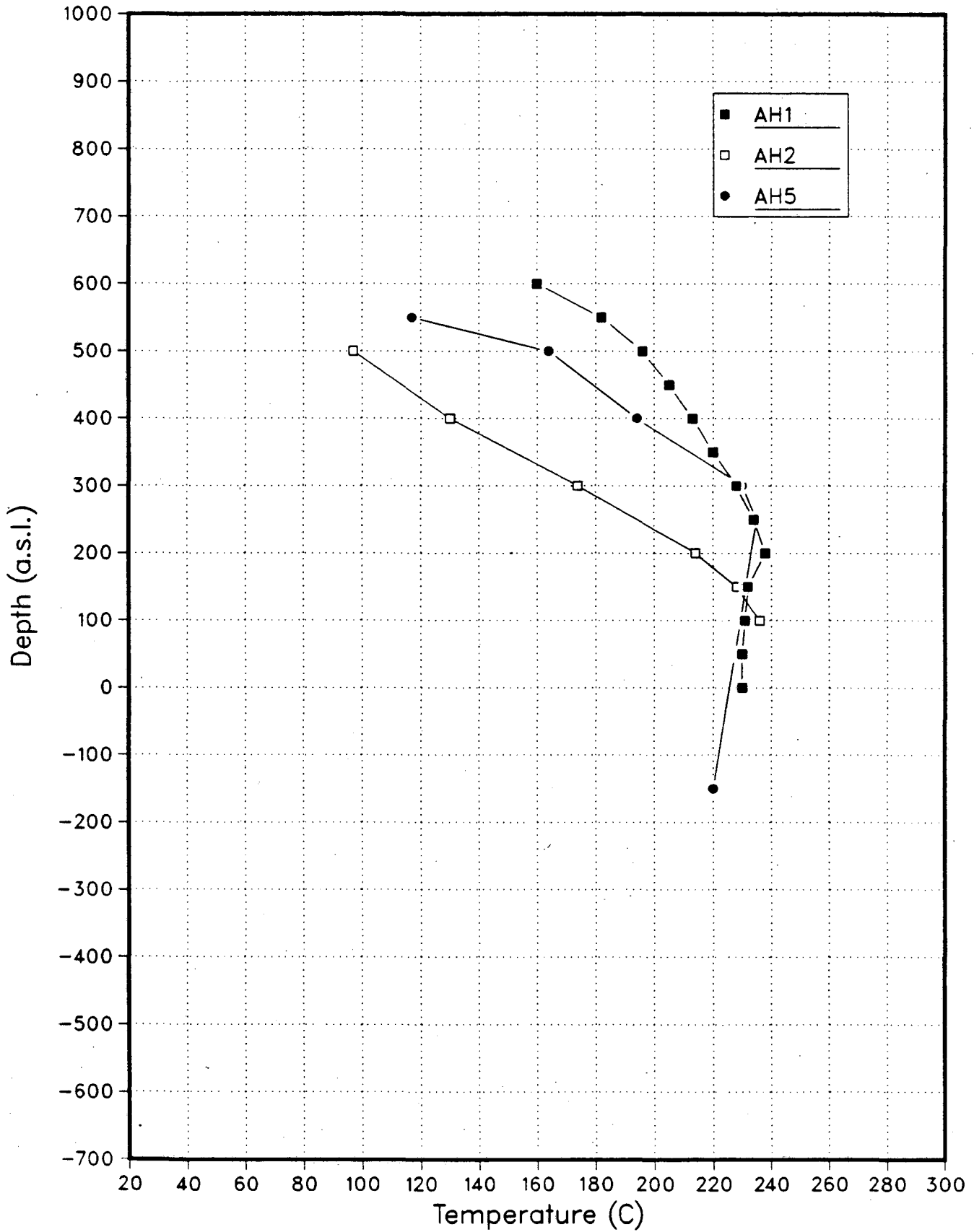
H₂S/H₂ Ratio



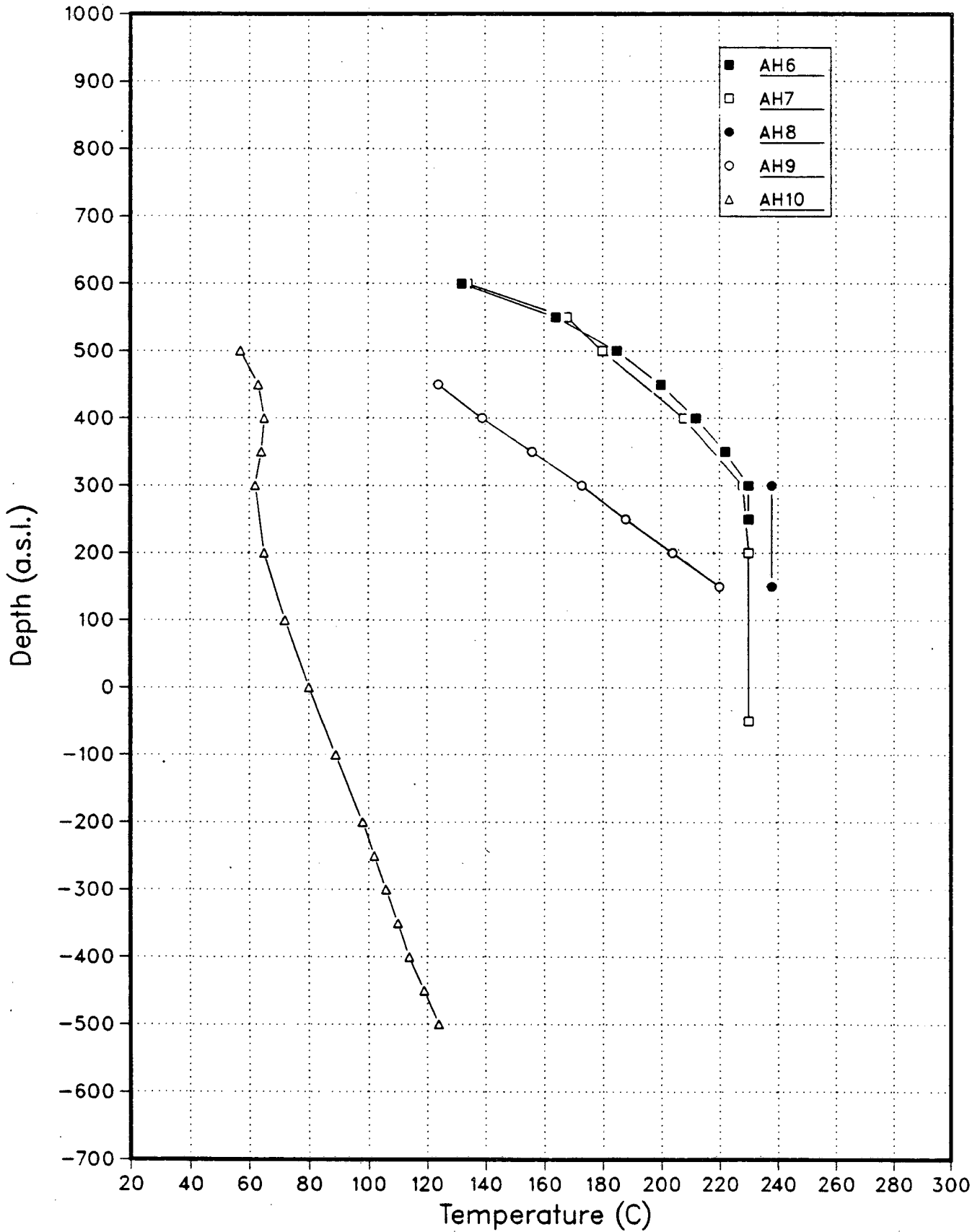
APPENDIX H

(Production Data)

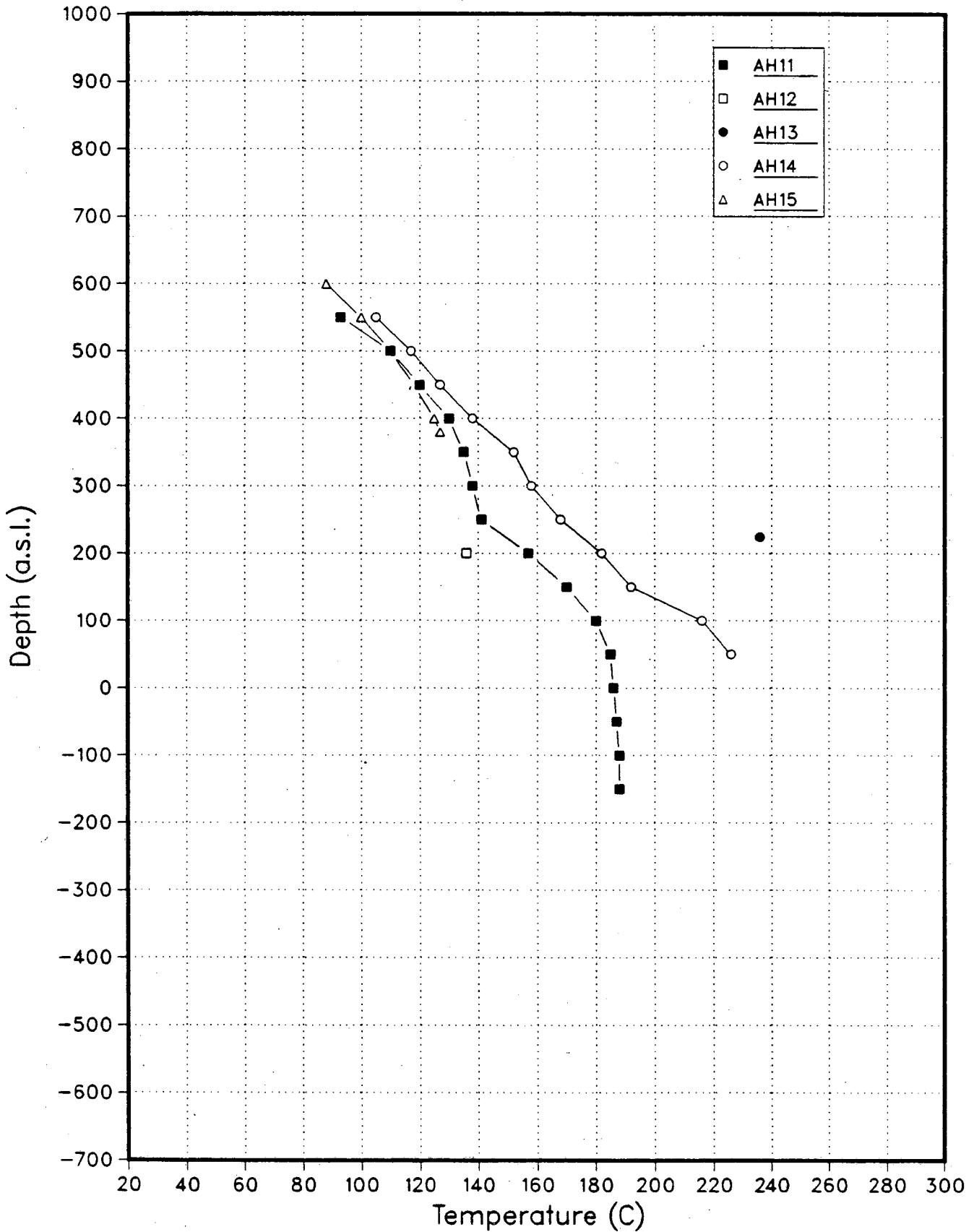
Stable Temperature Profile



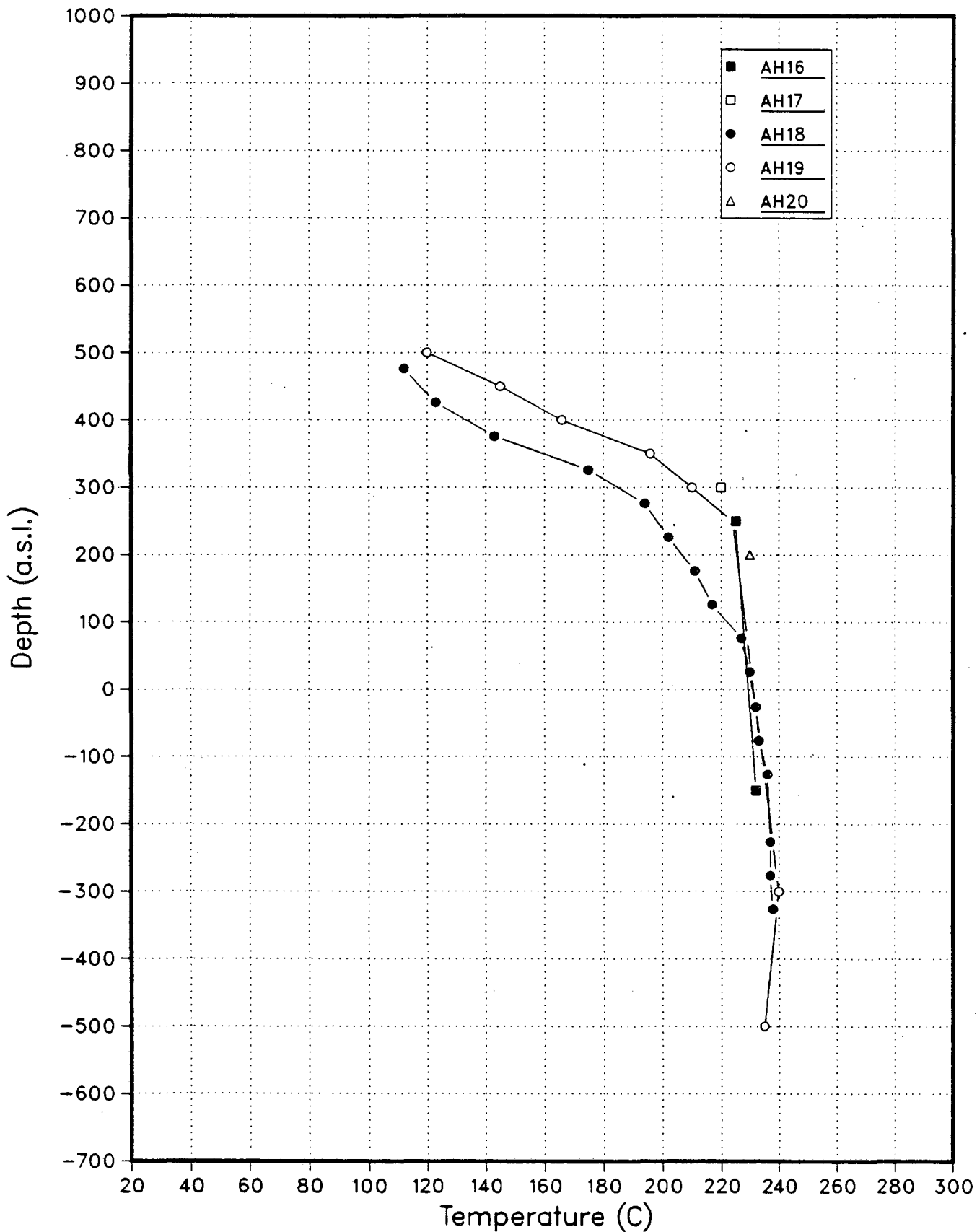
Stable Temperature Profile



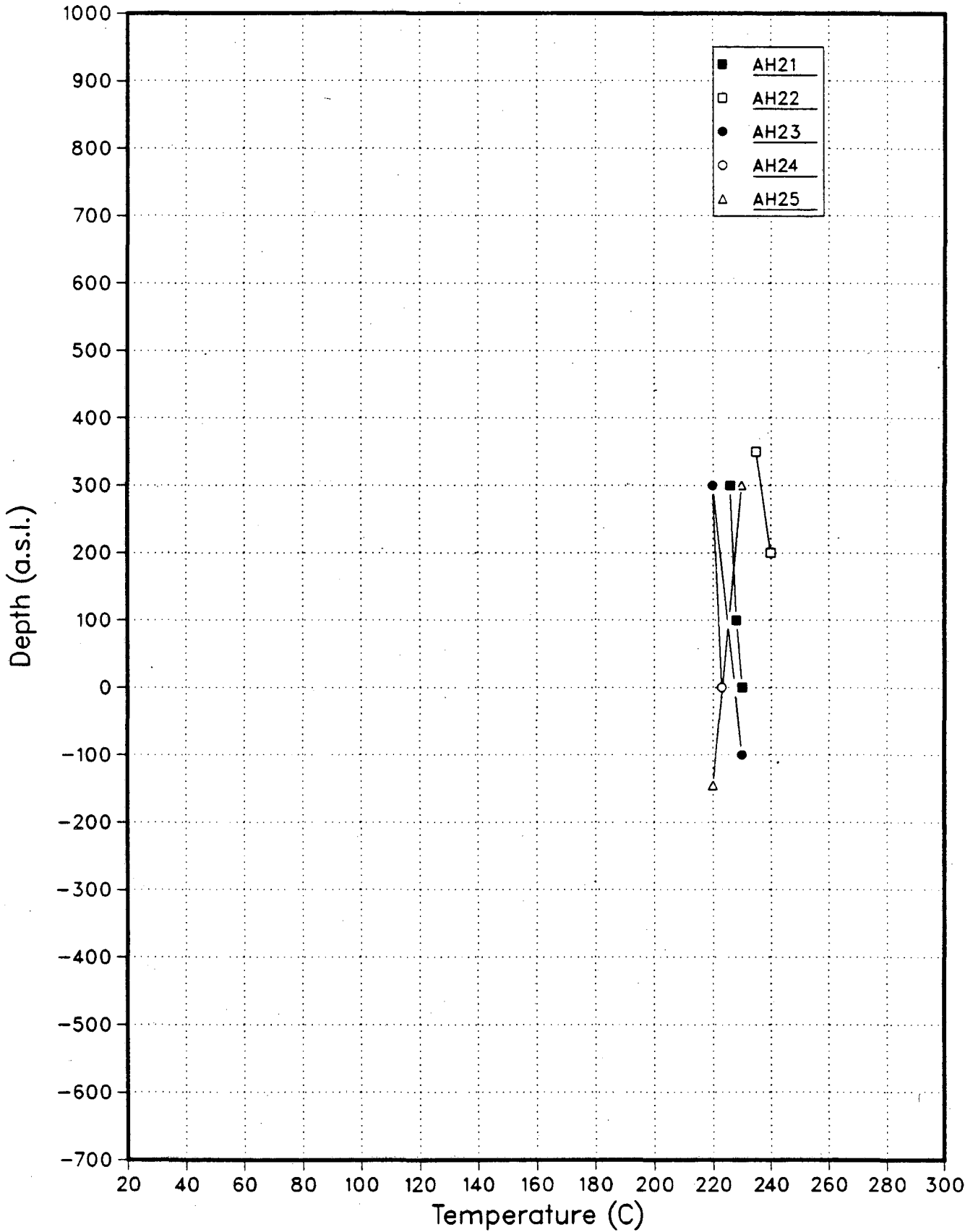
Stable Temperature Profile



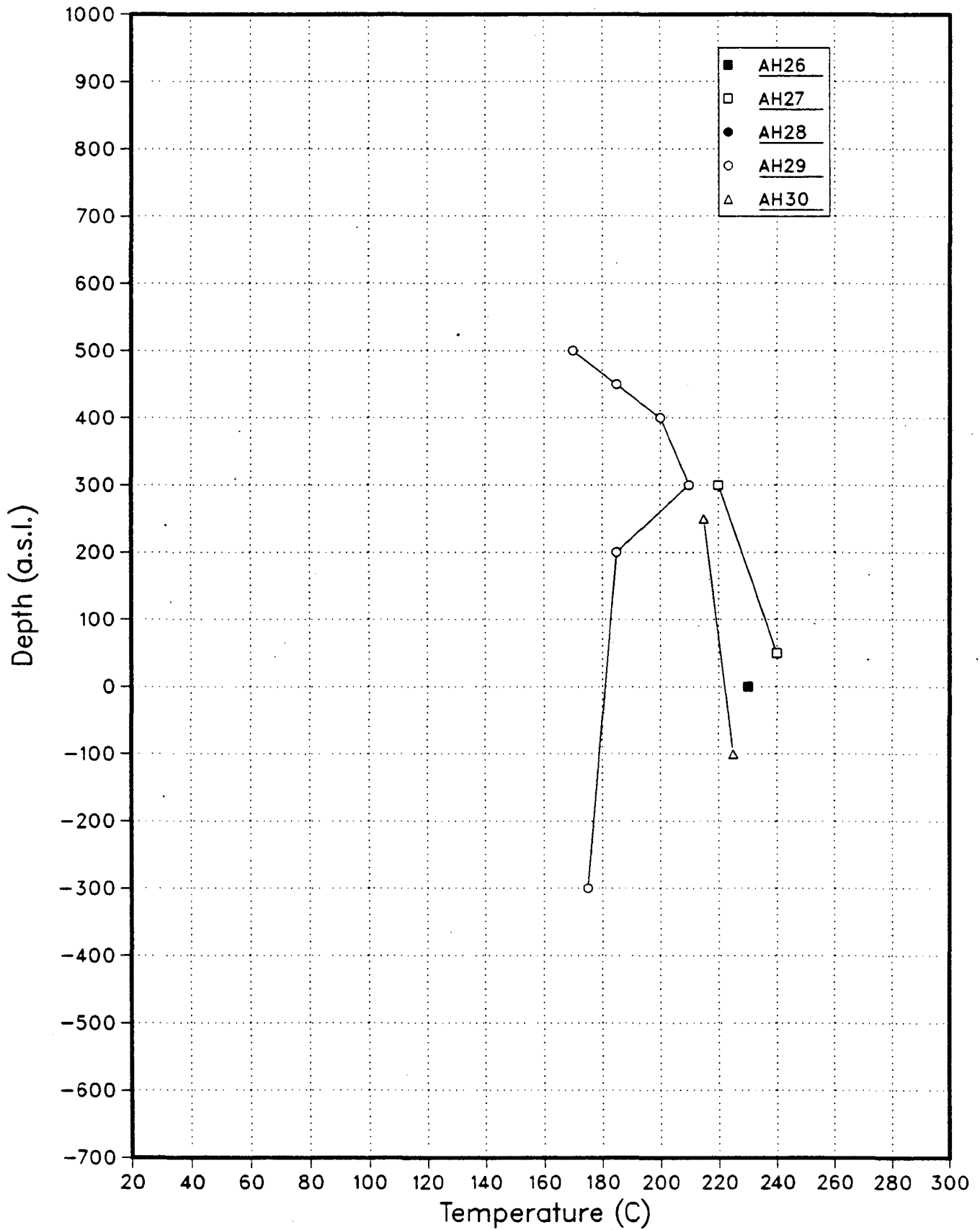
Stable Temperature Profile



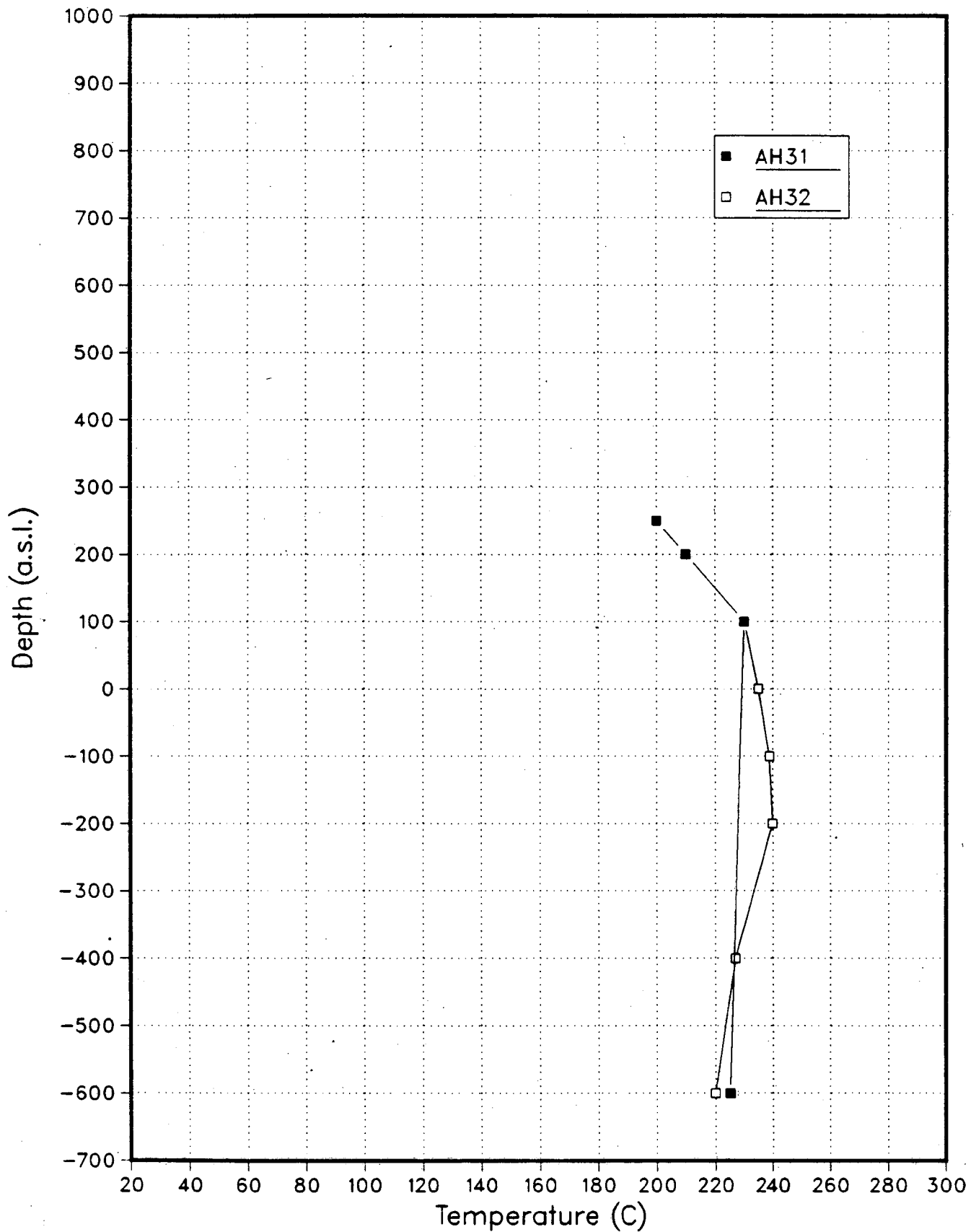
Stable Temperature Profile



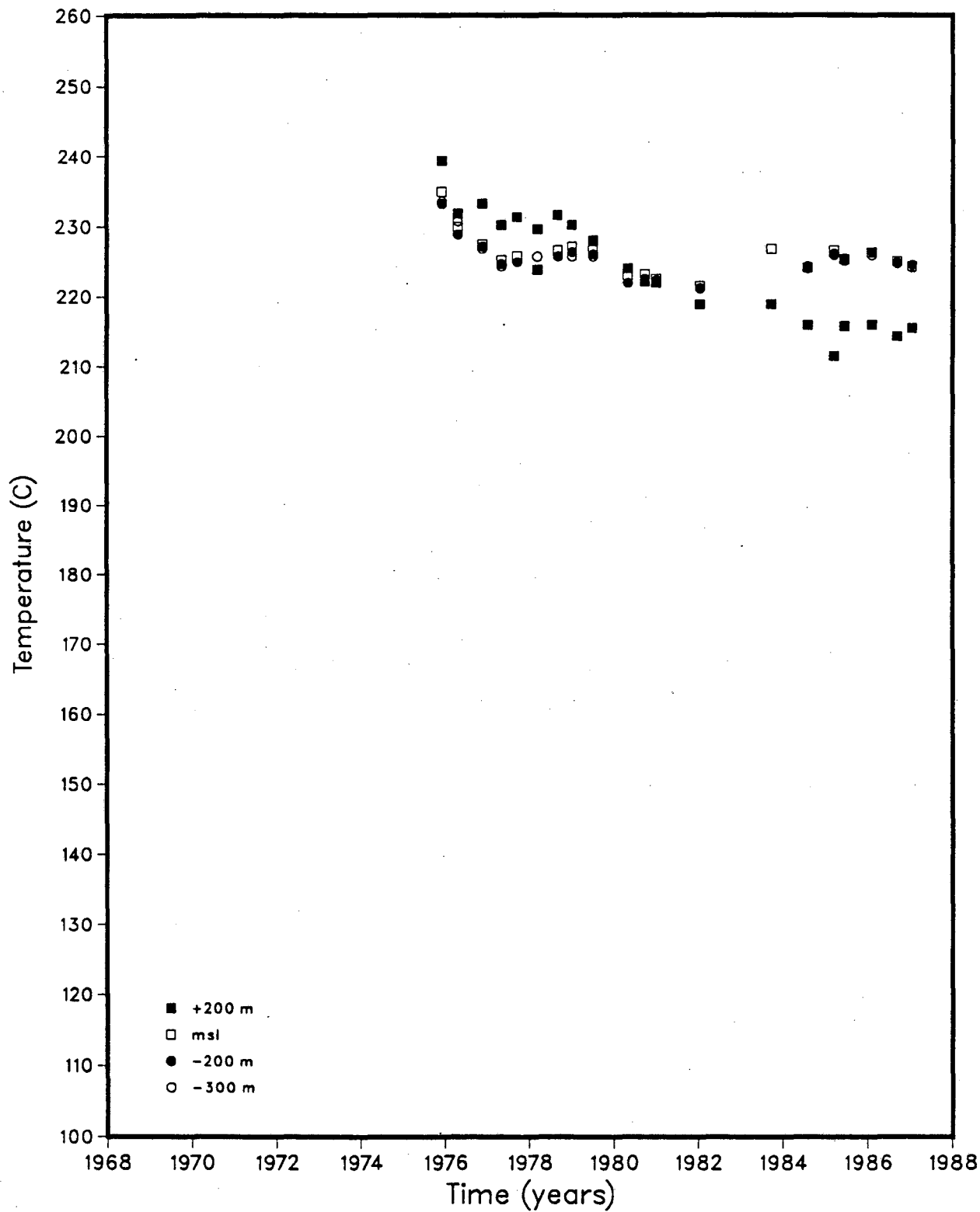
Stable Temperature Profile



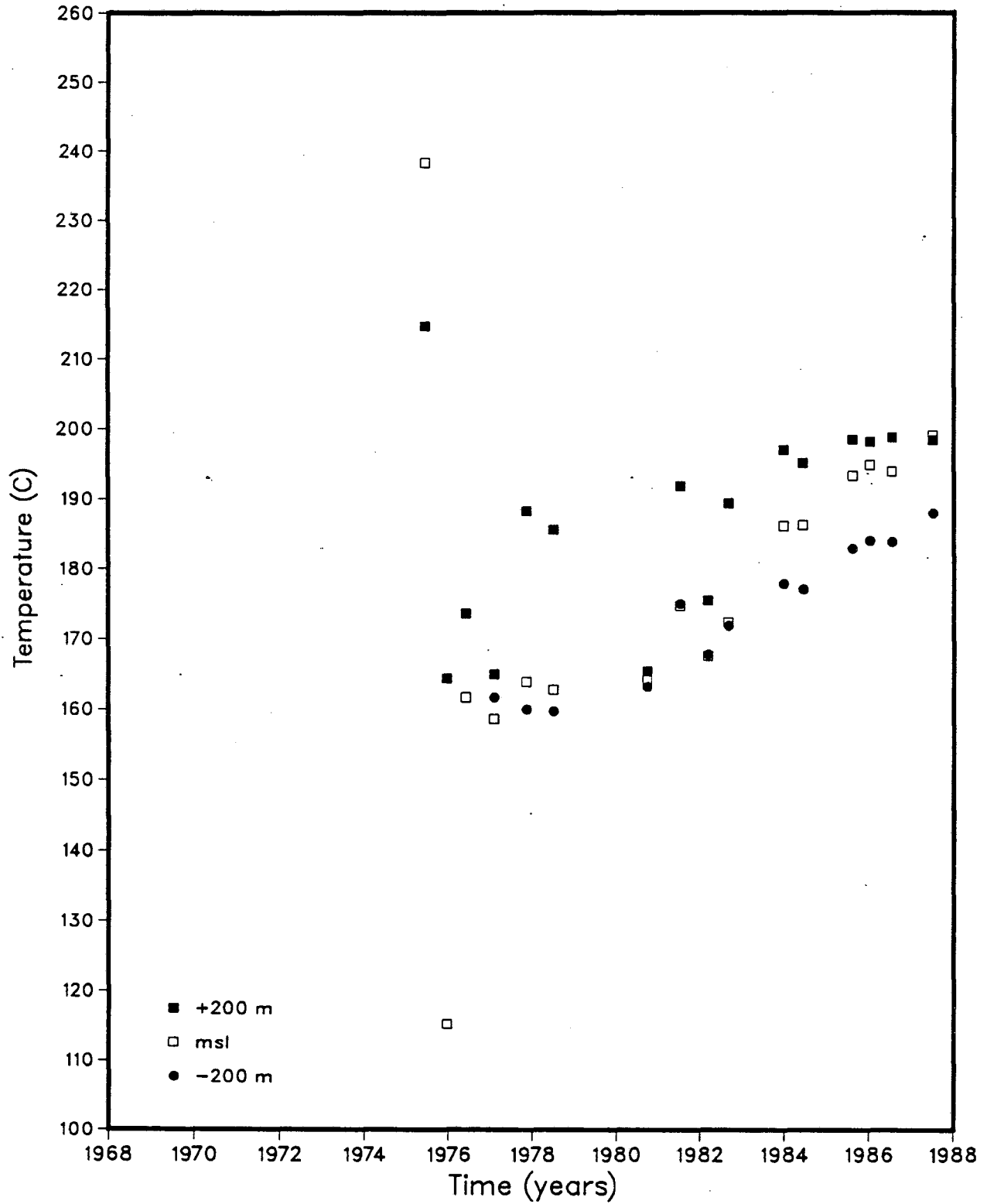
Stable Temperature Profile



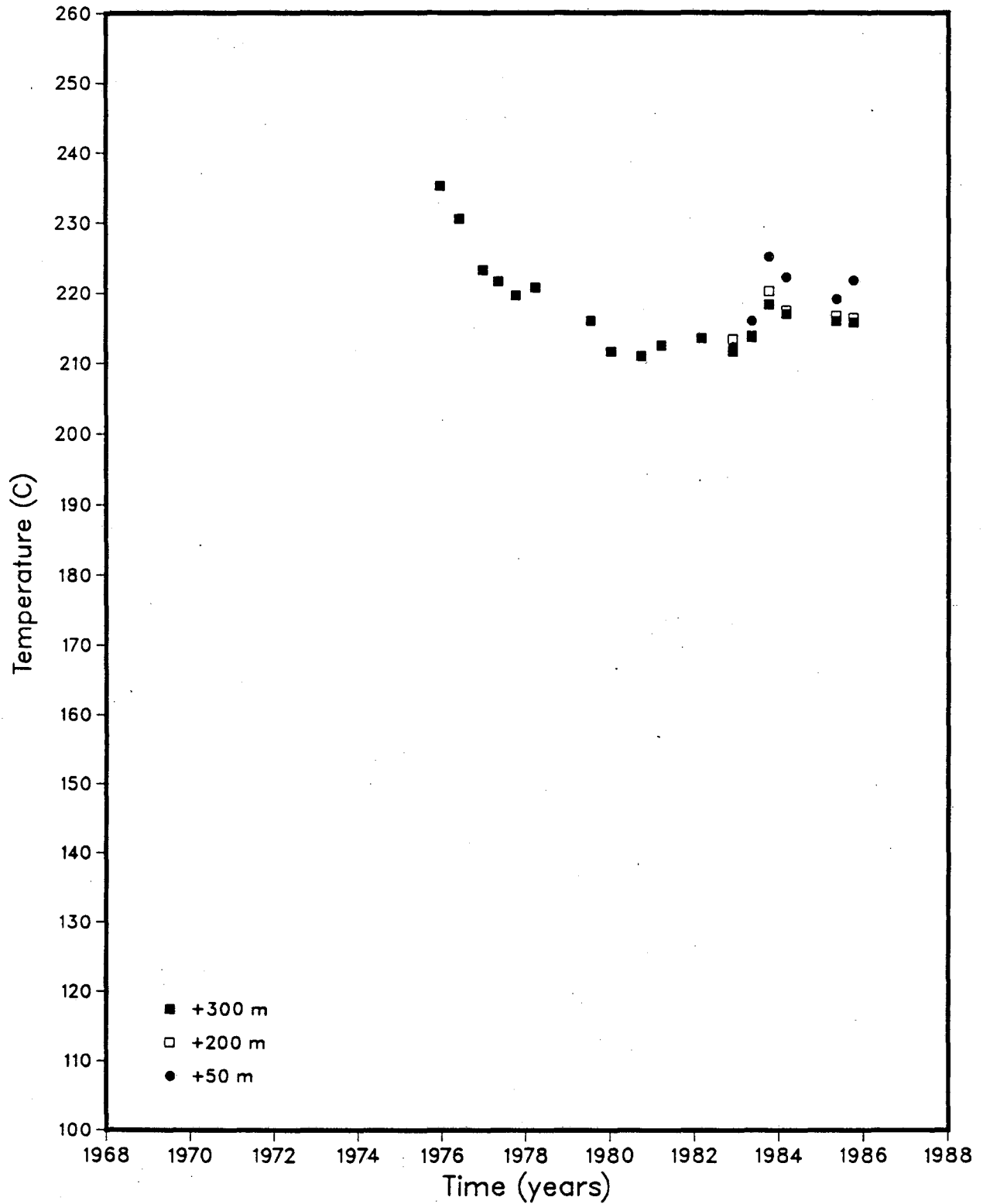
AH1 Temperature Trend



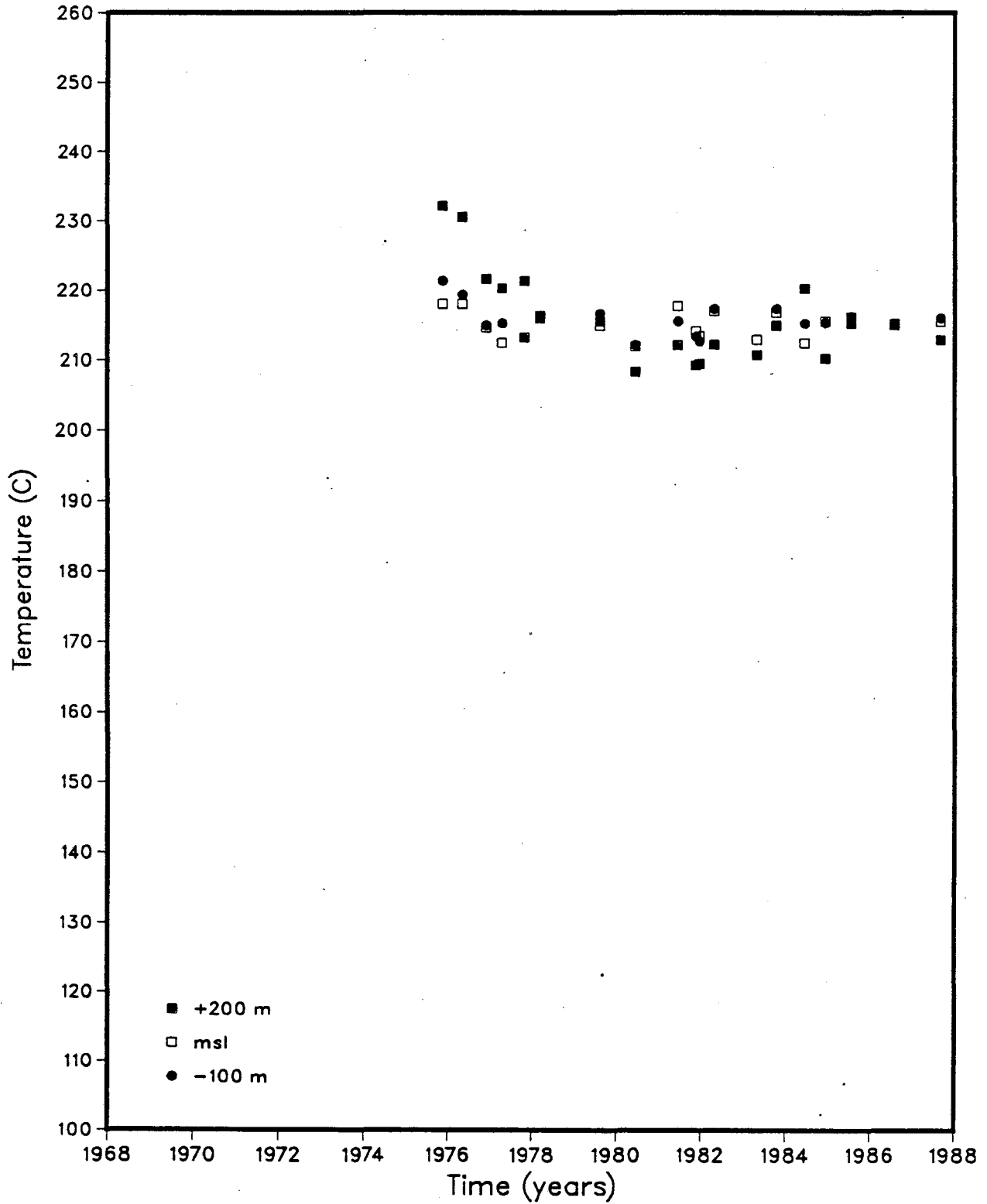
AH2 Temperature Trend



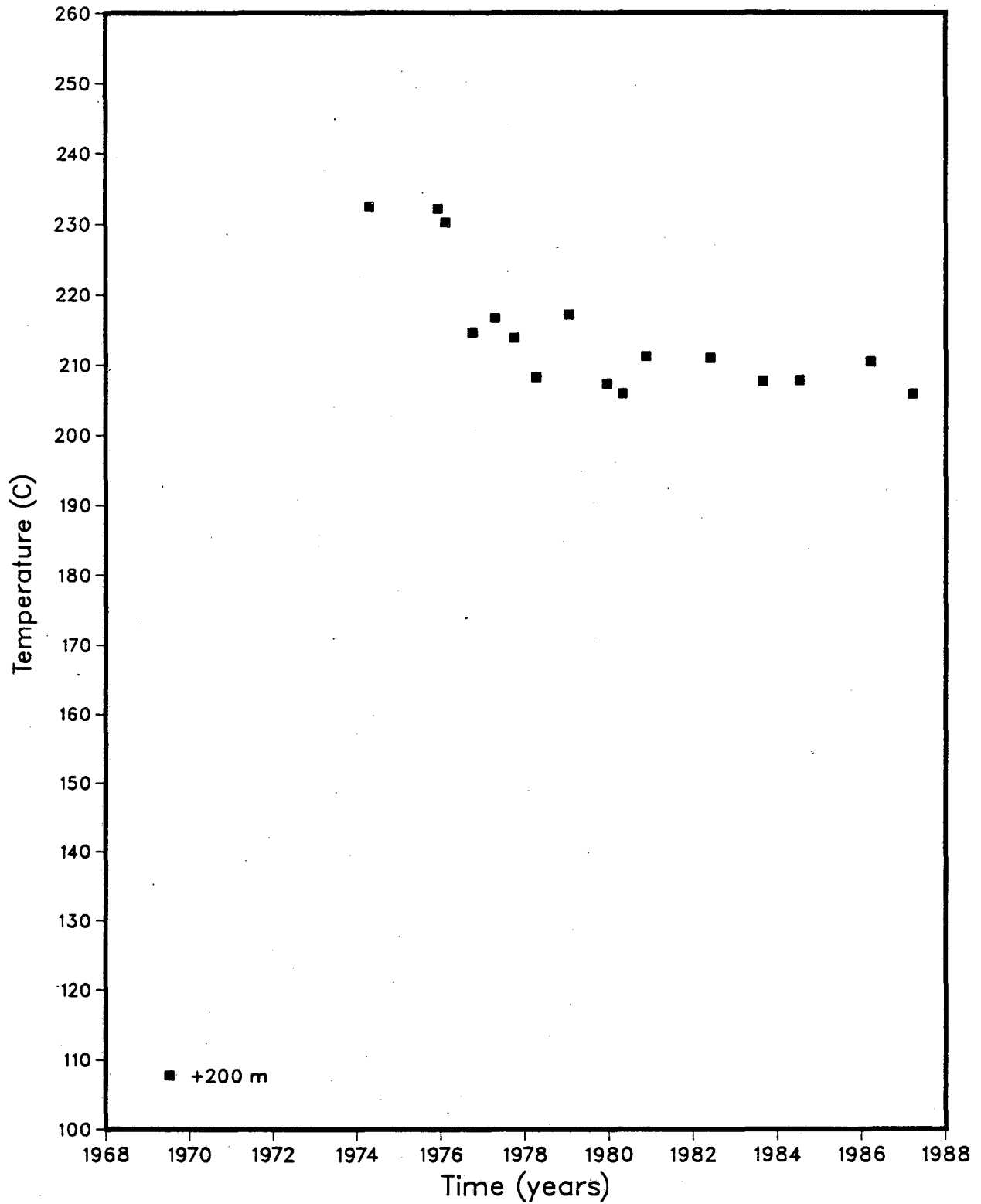
AH4 Temperature Trend



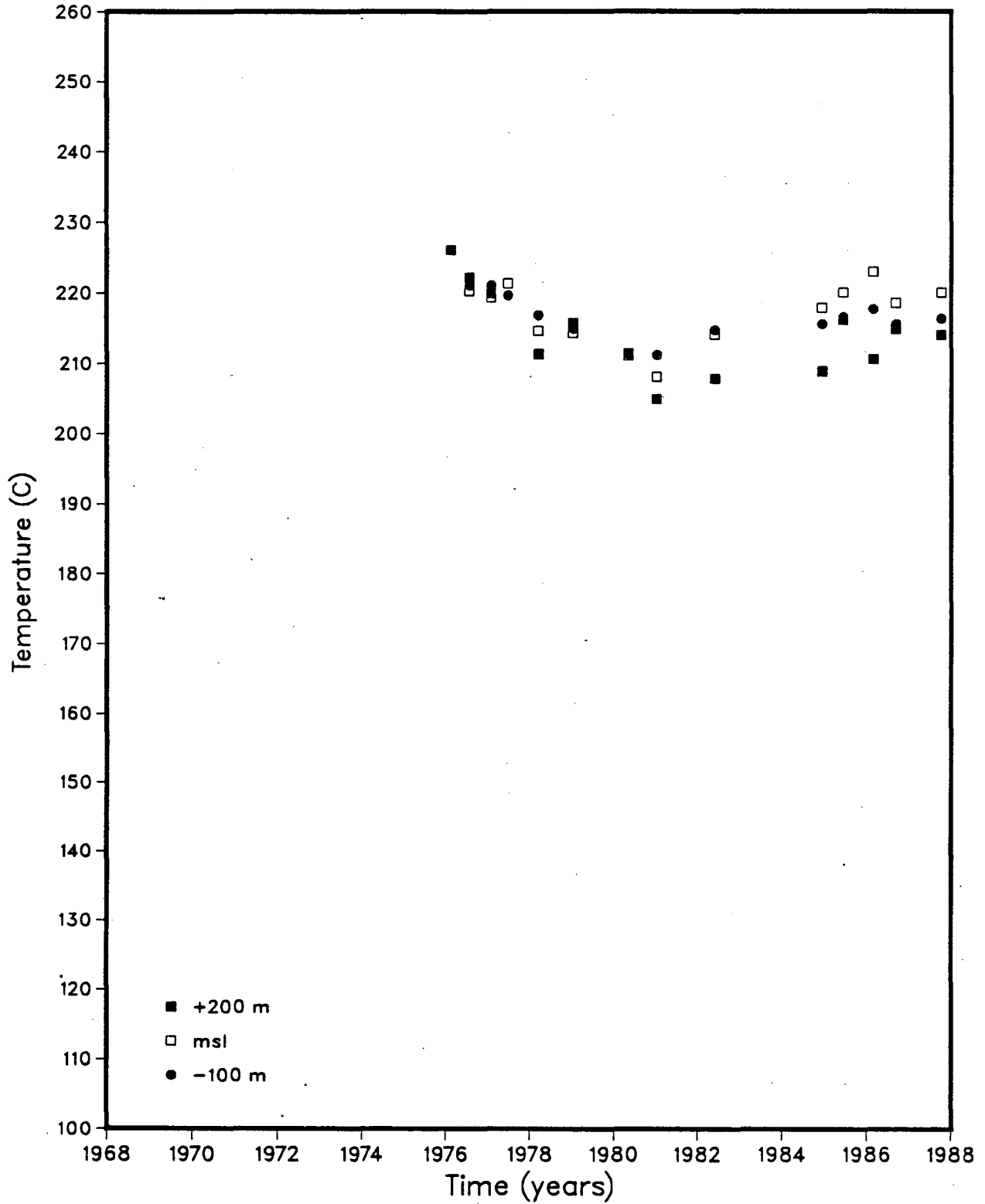
AH5 Temperature Trend



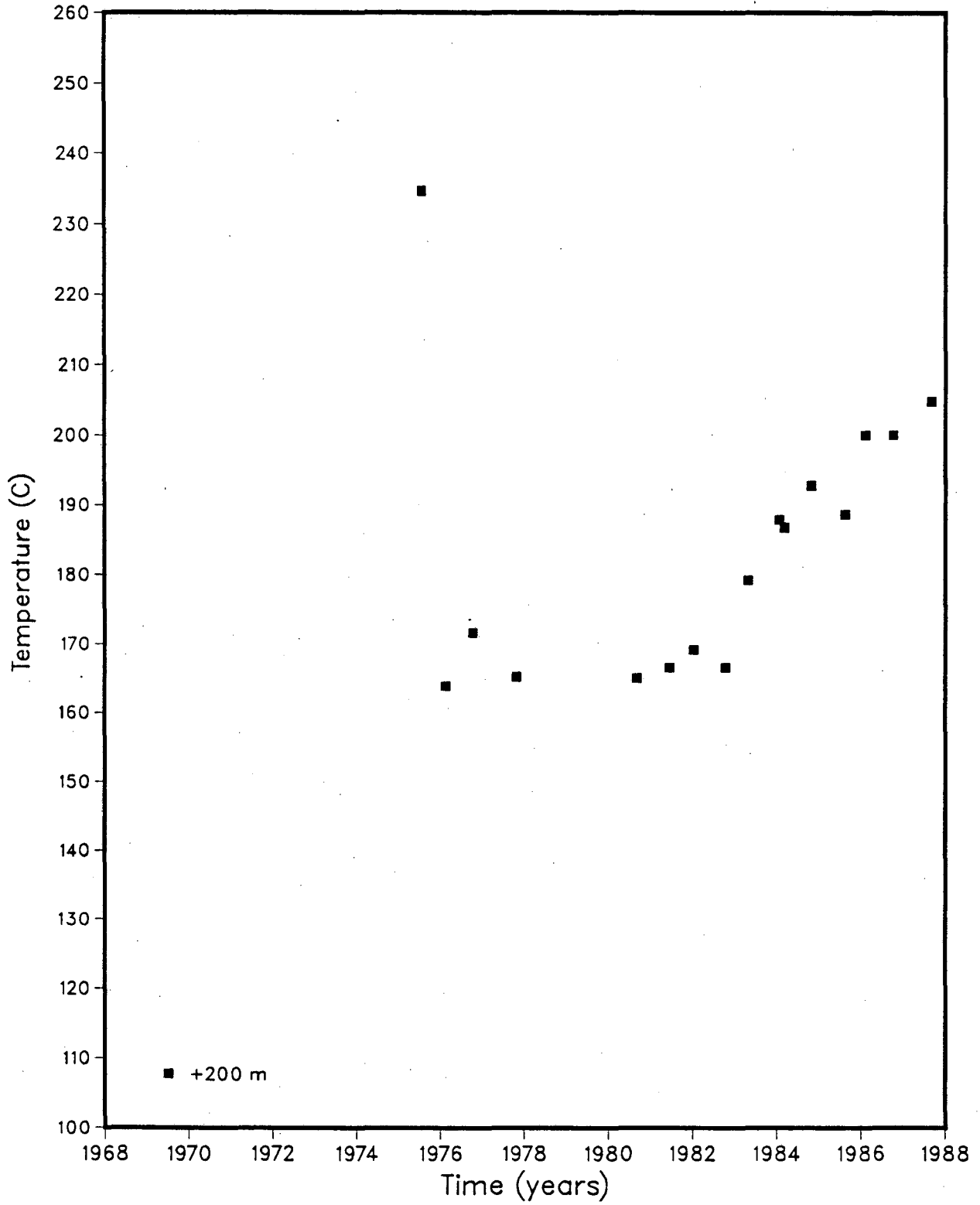
AH6 Temperature Trend



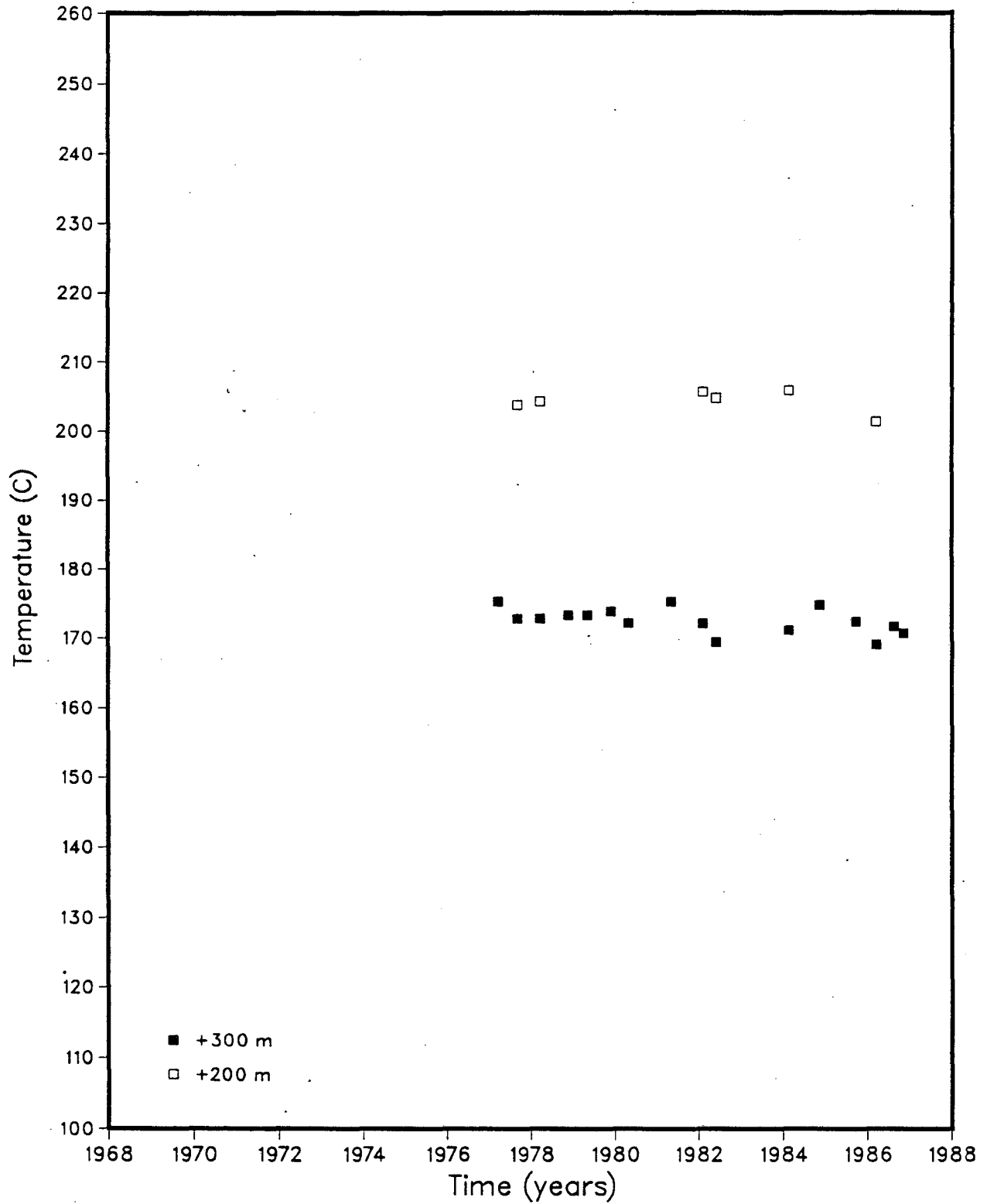
AH7 Temperature Trend



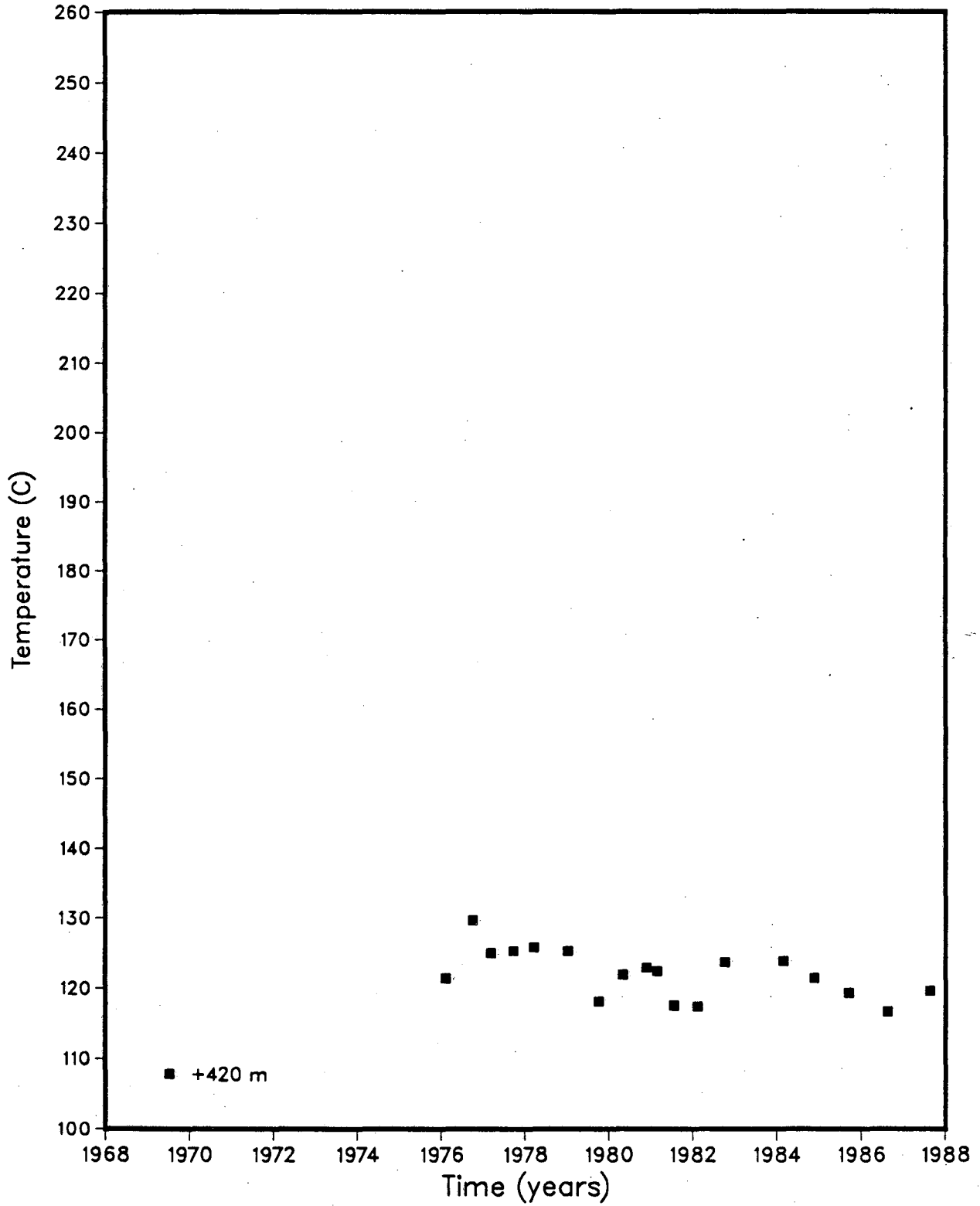
AH8 Temperature Trend



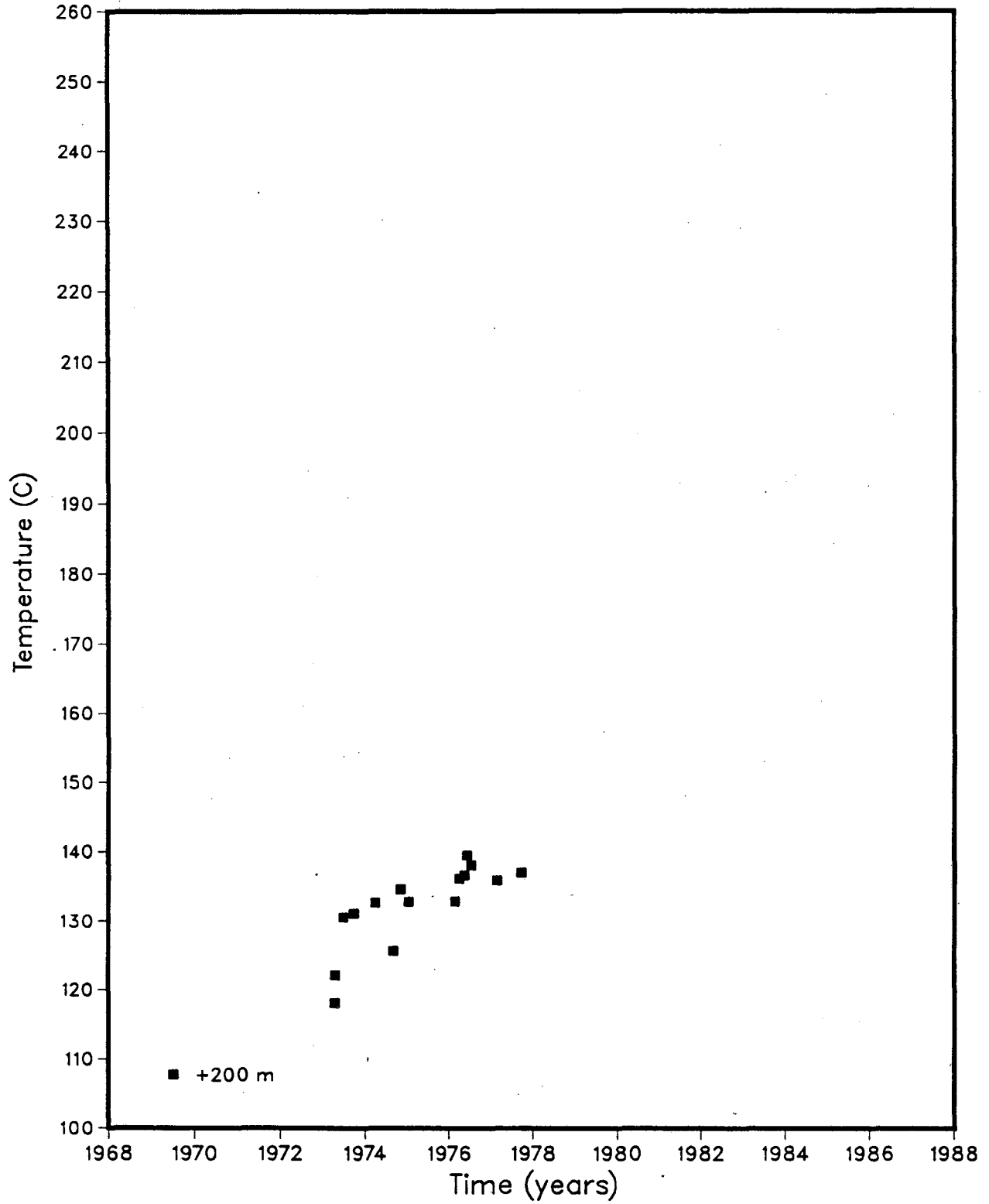
AH9 Temperature Trend



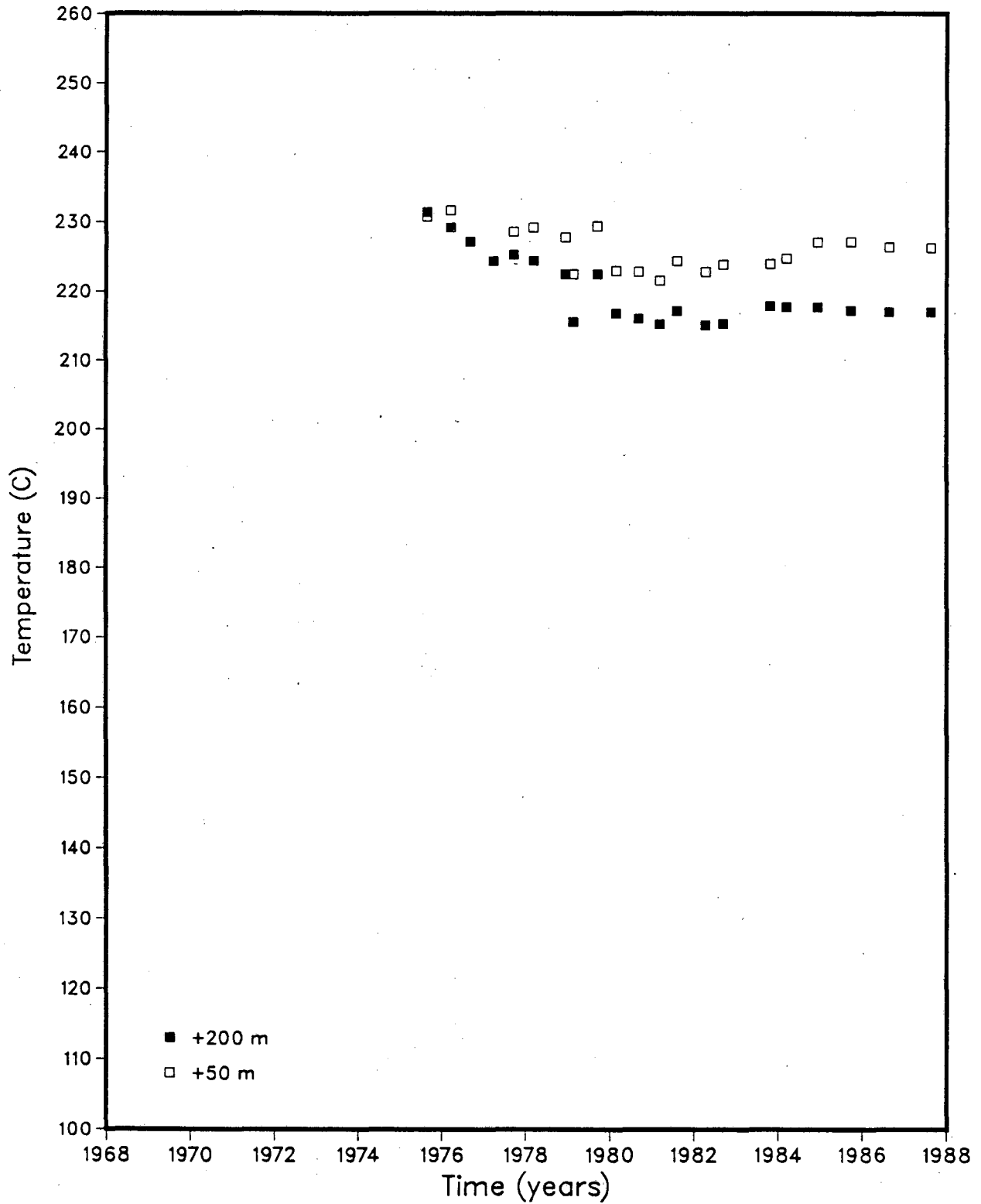
AH11 Temperature Trend



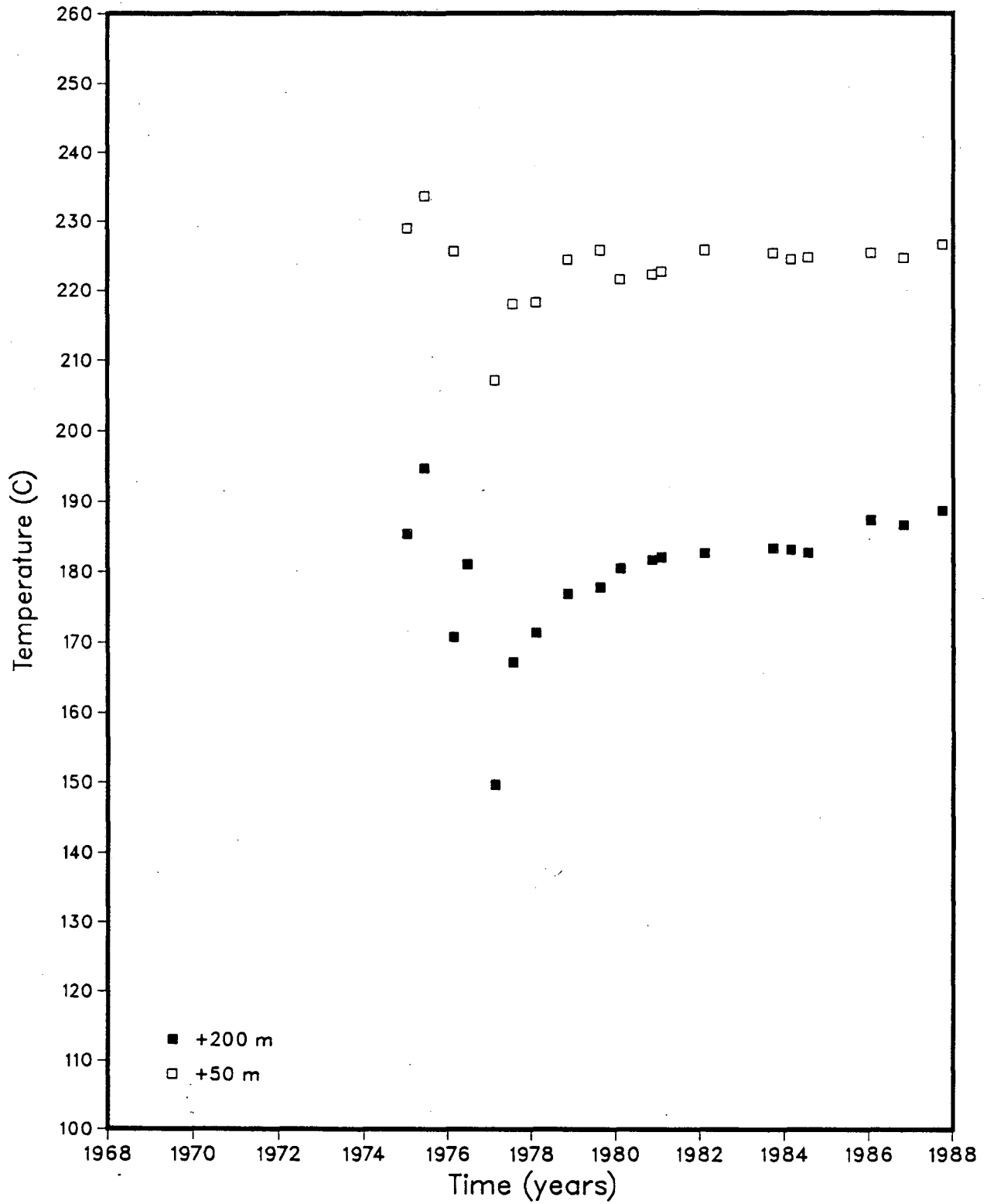
AH12 Temperature Trend



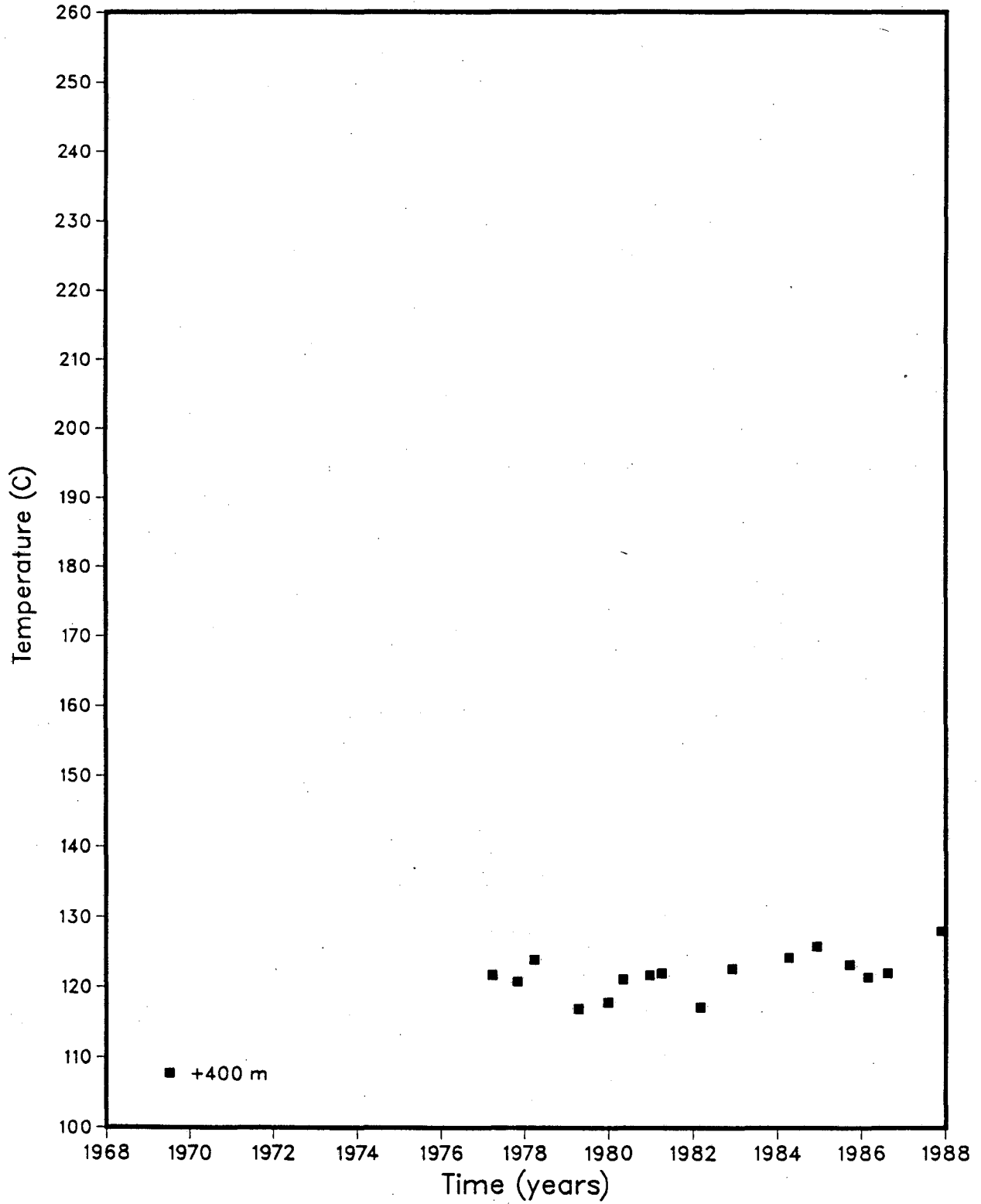
AH13 Temperature Trend



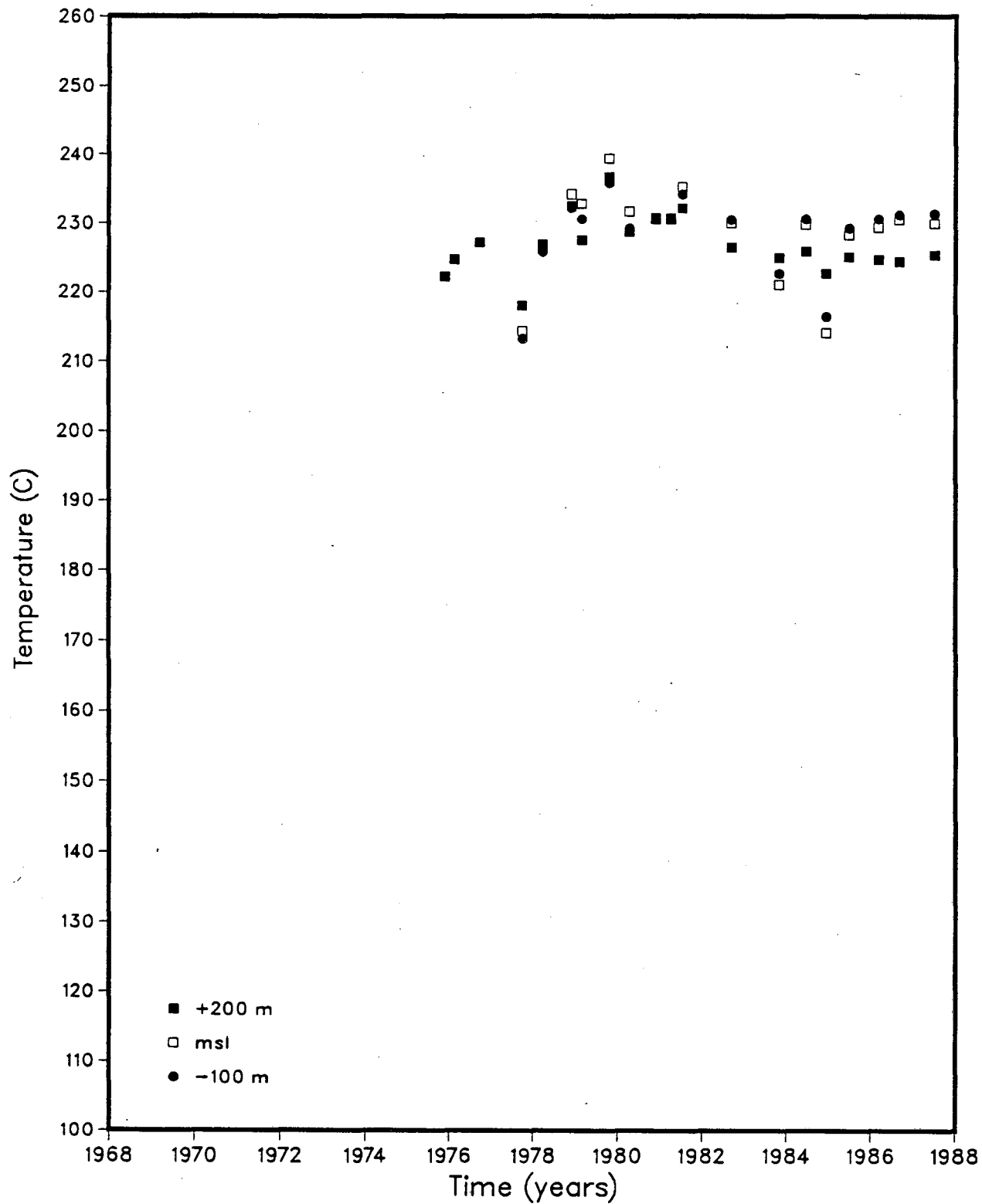
AH14 Temperature Trend



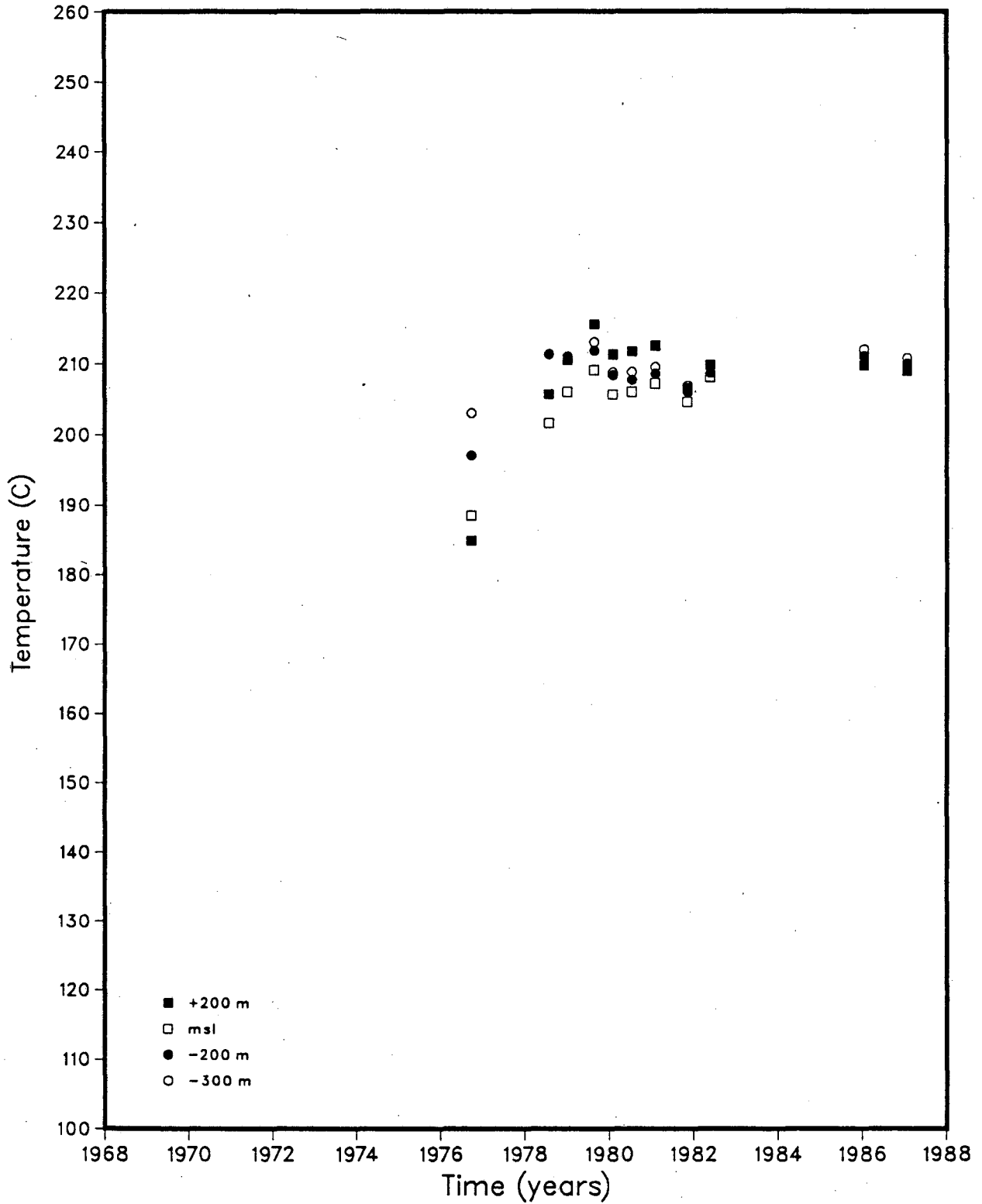
AH15 Temperature Trend



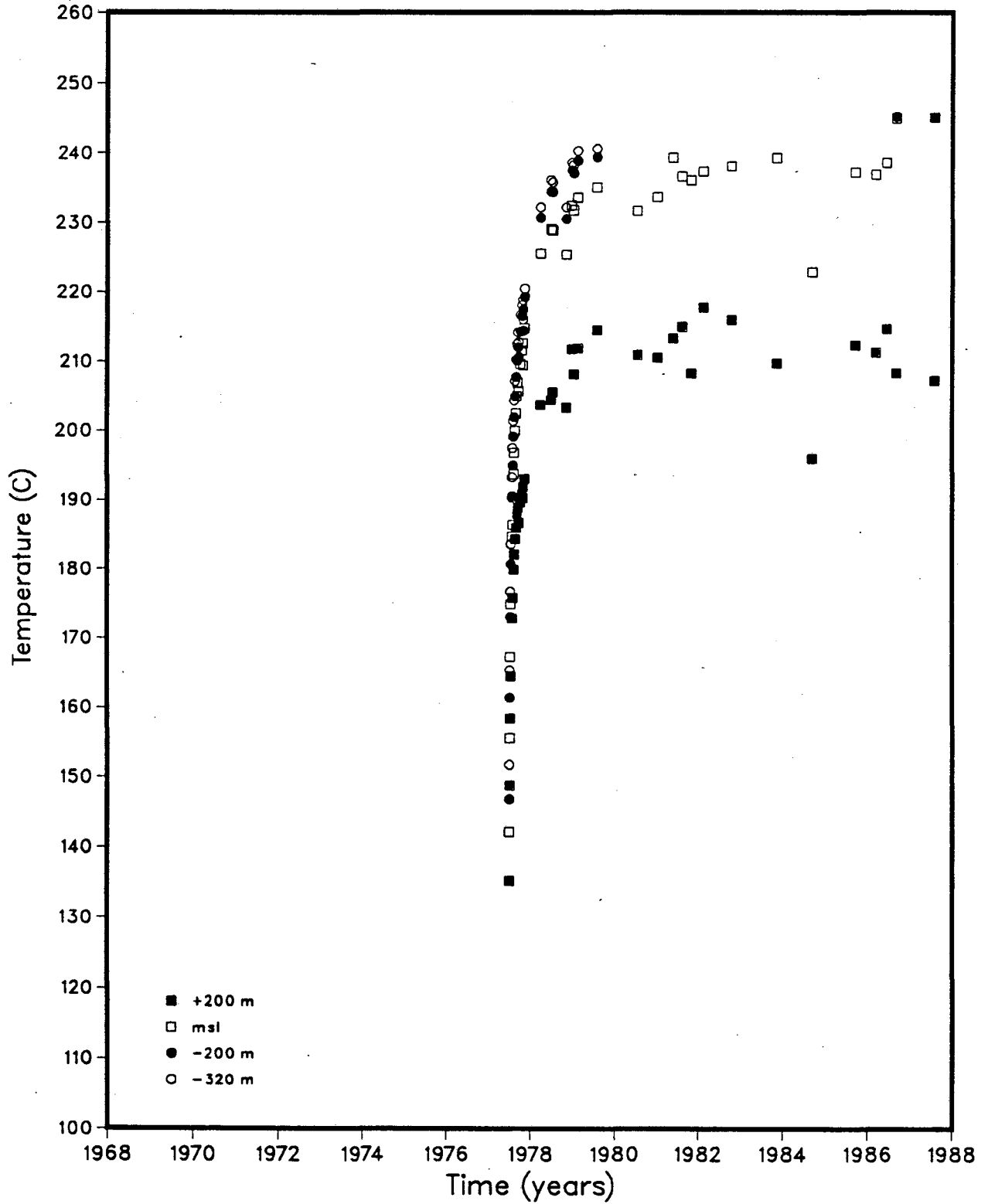
AH16 Temperature Trend



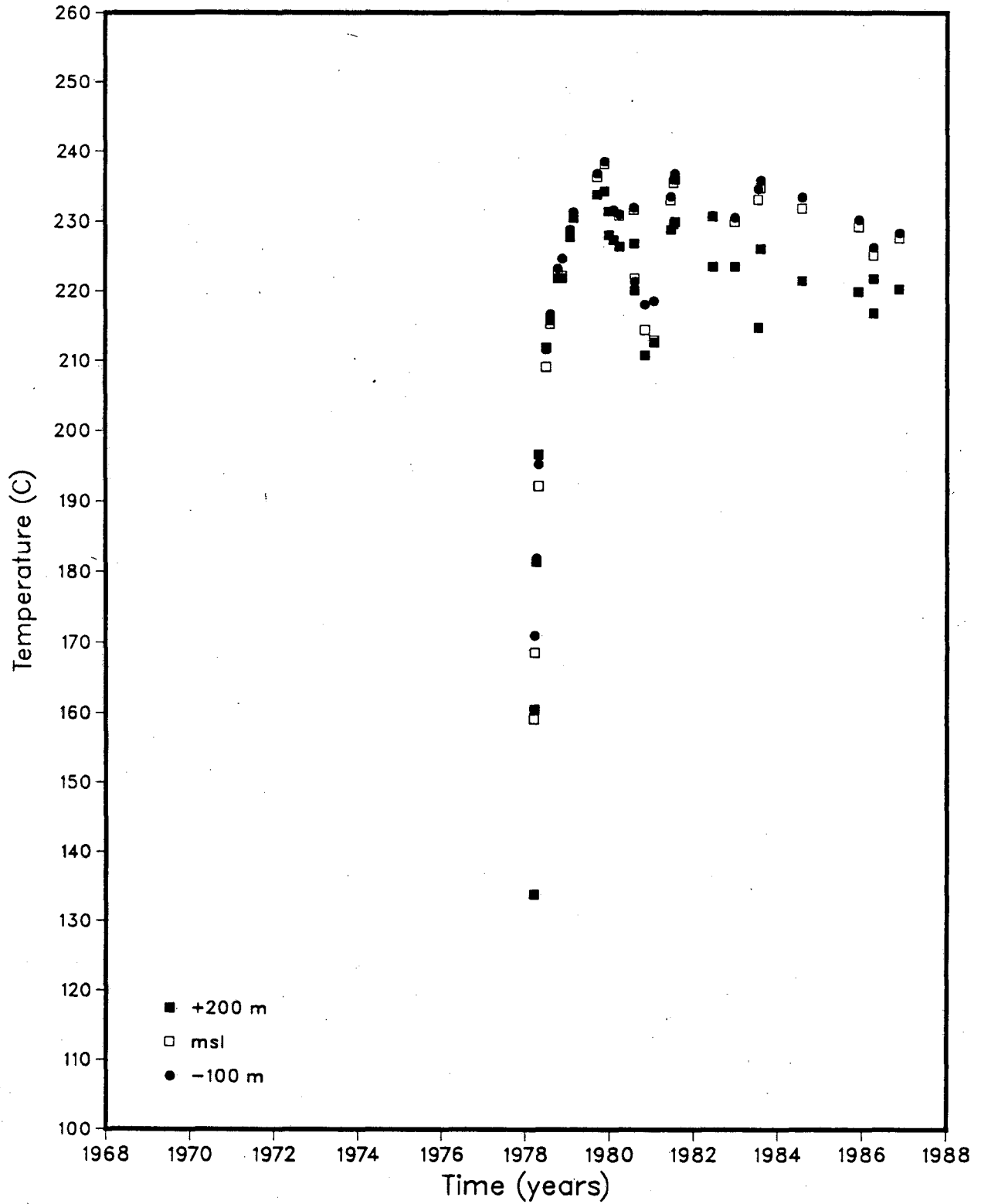
AH17 Temperature Trend



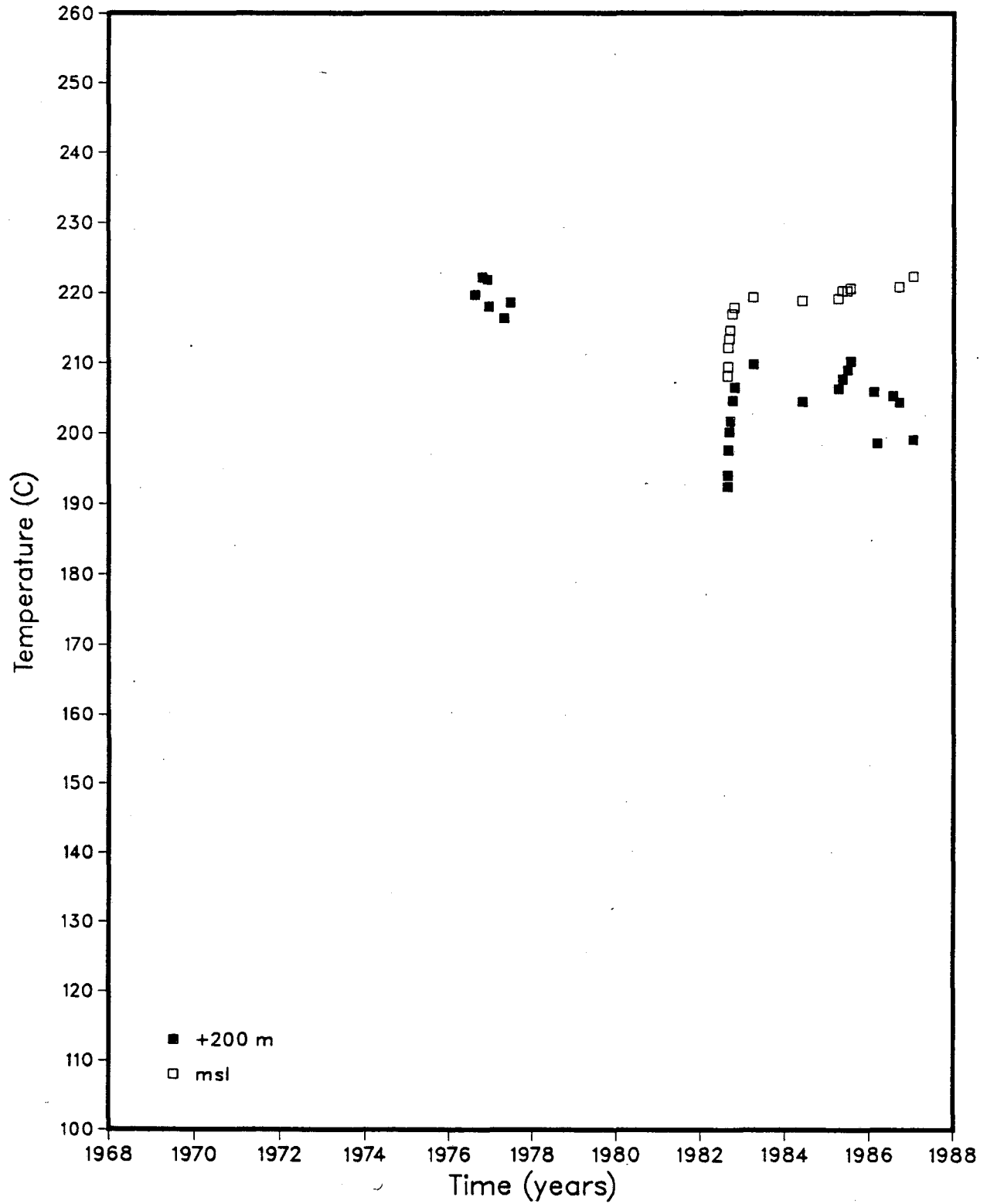
AH18 Temperature Trend



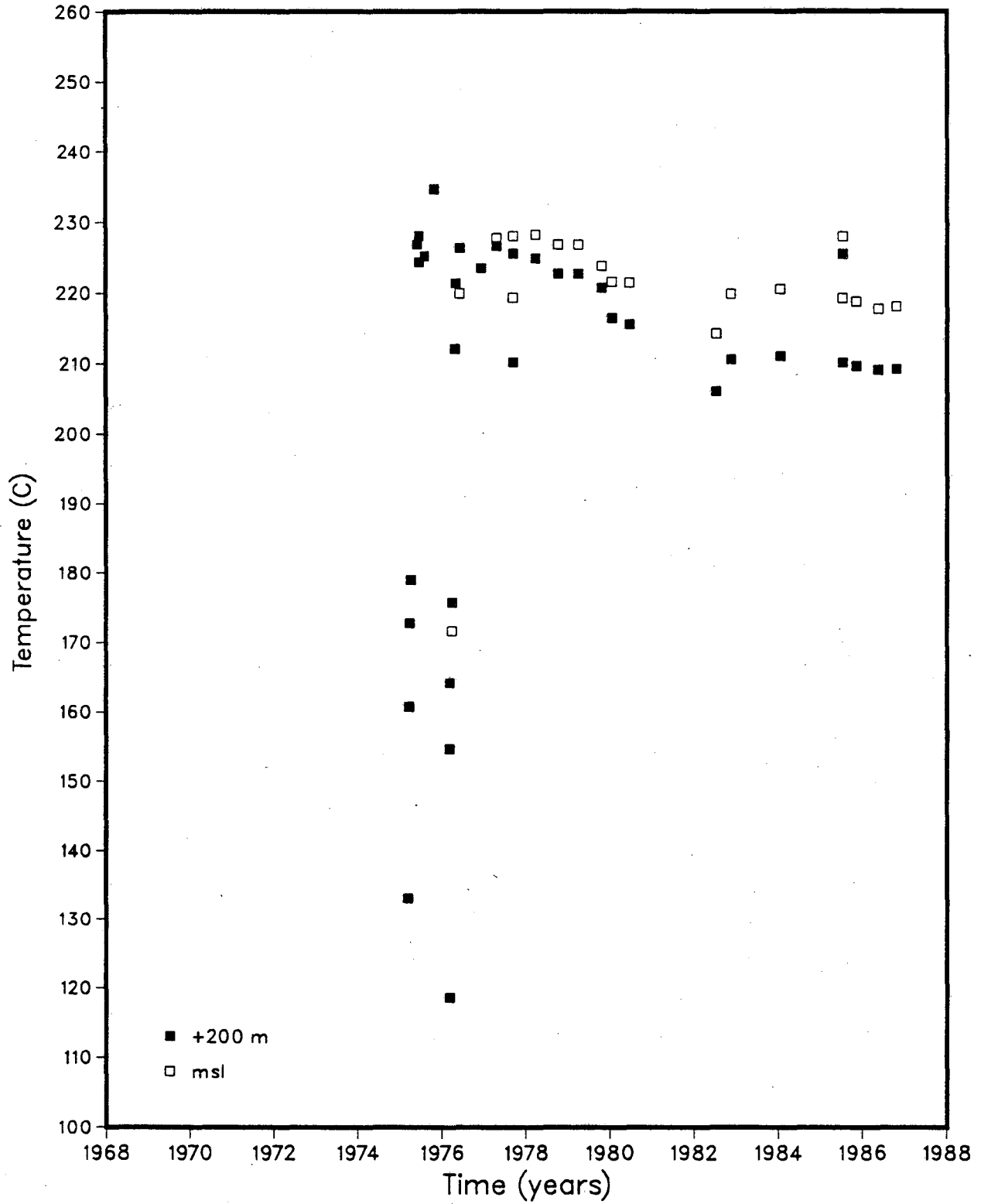
AH19 Temperature Trend



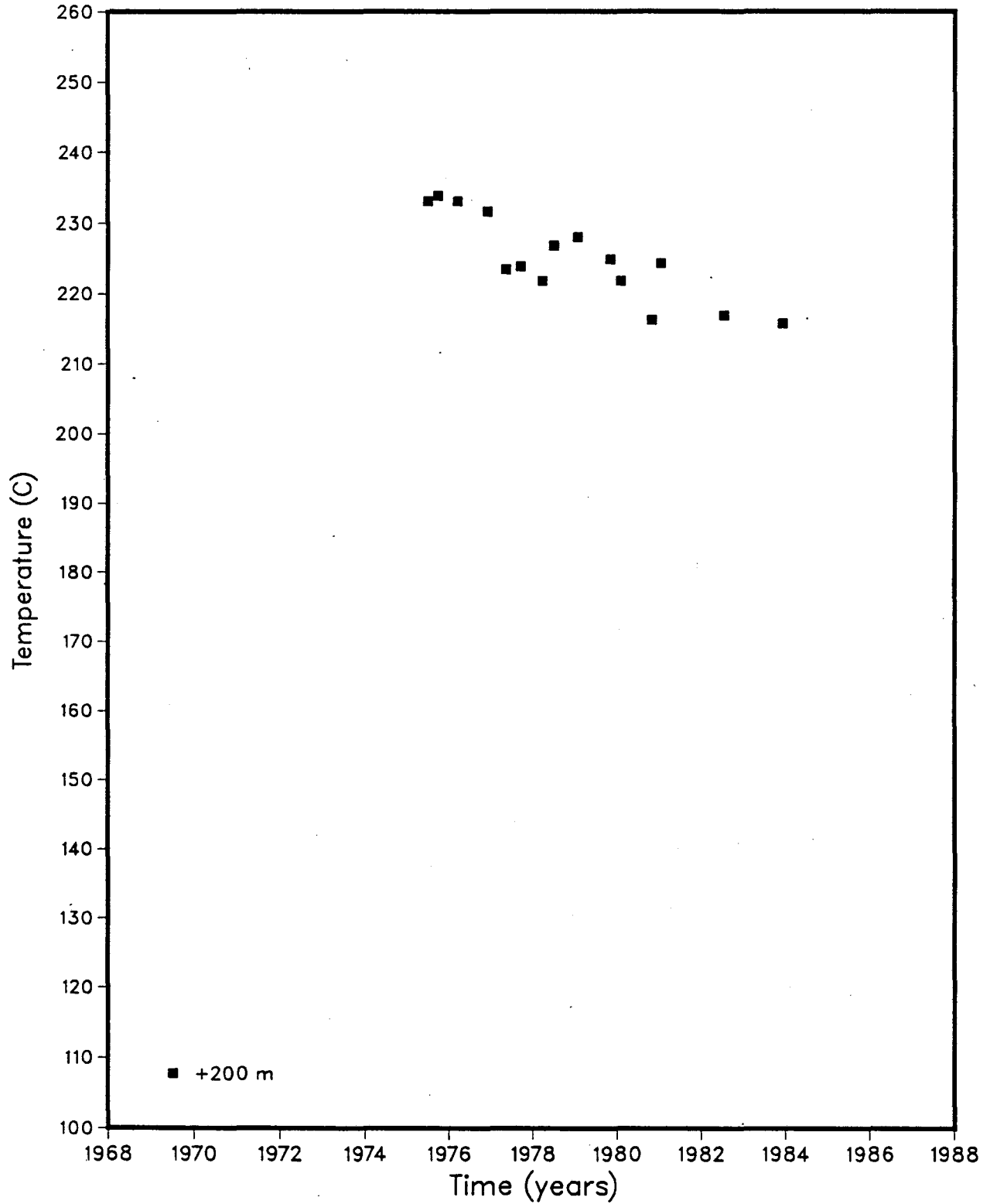
AH20 Temperature Trend



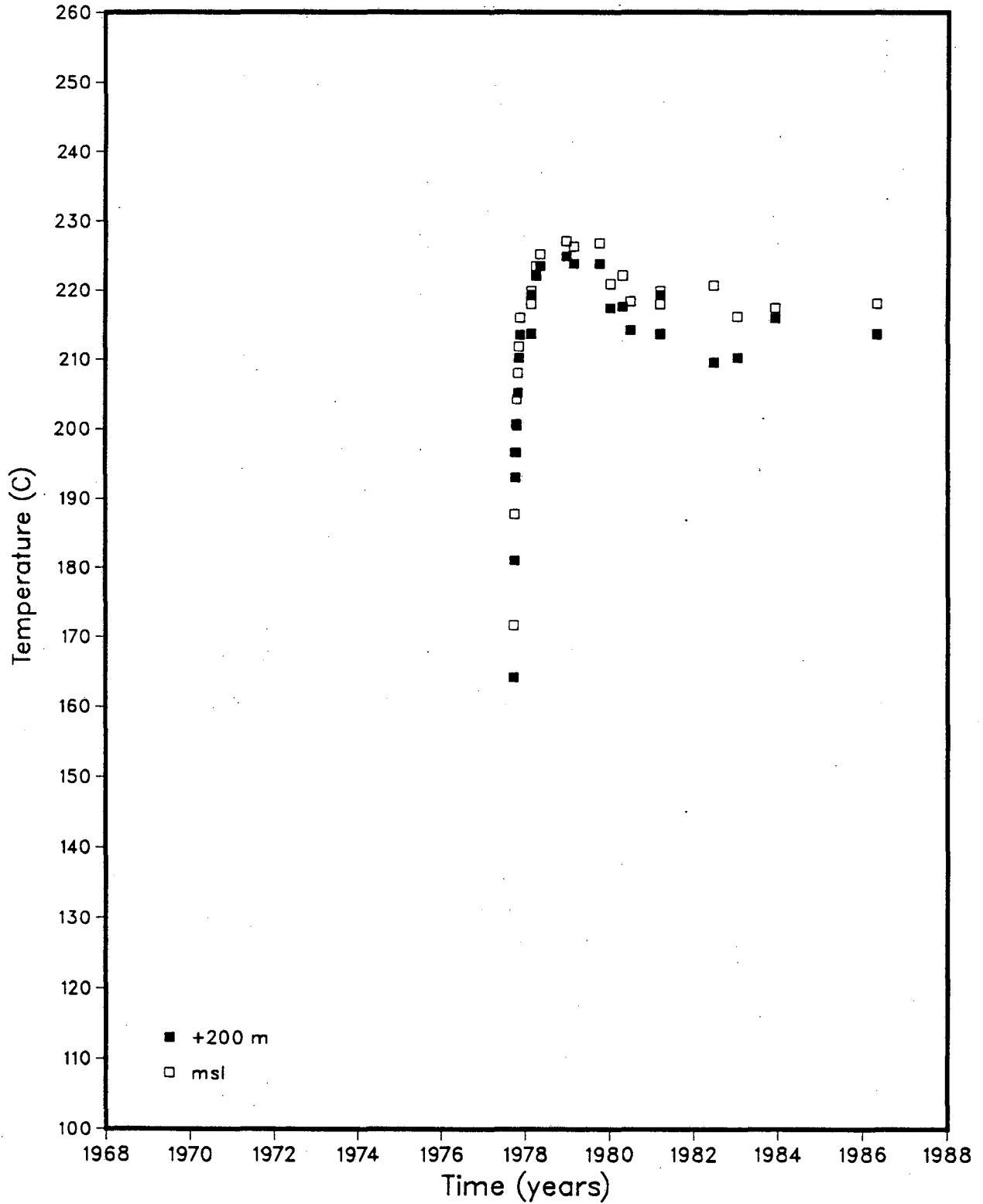
AH21 Temperature Trend



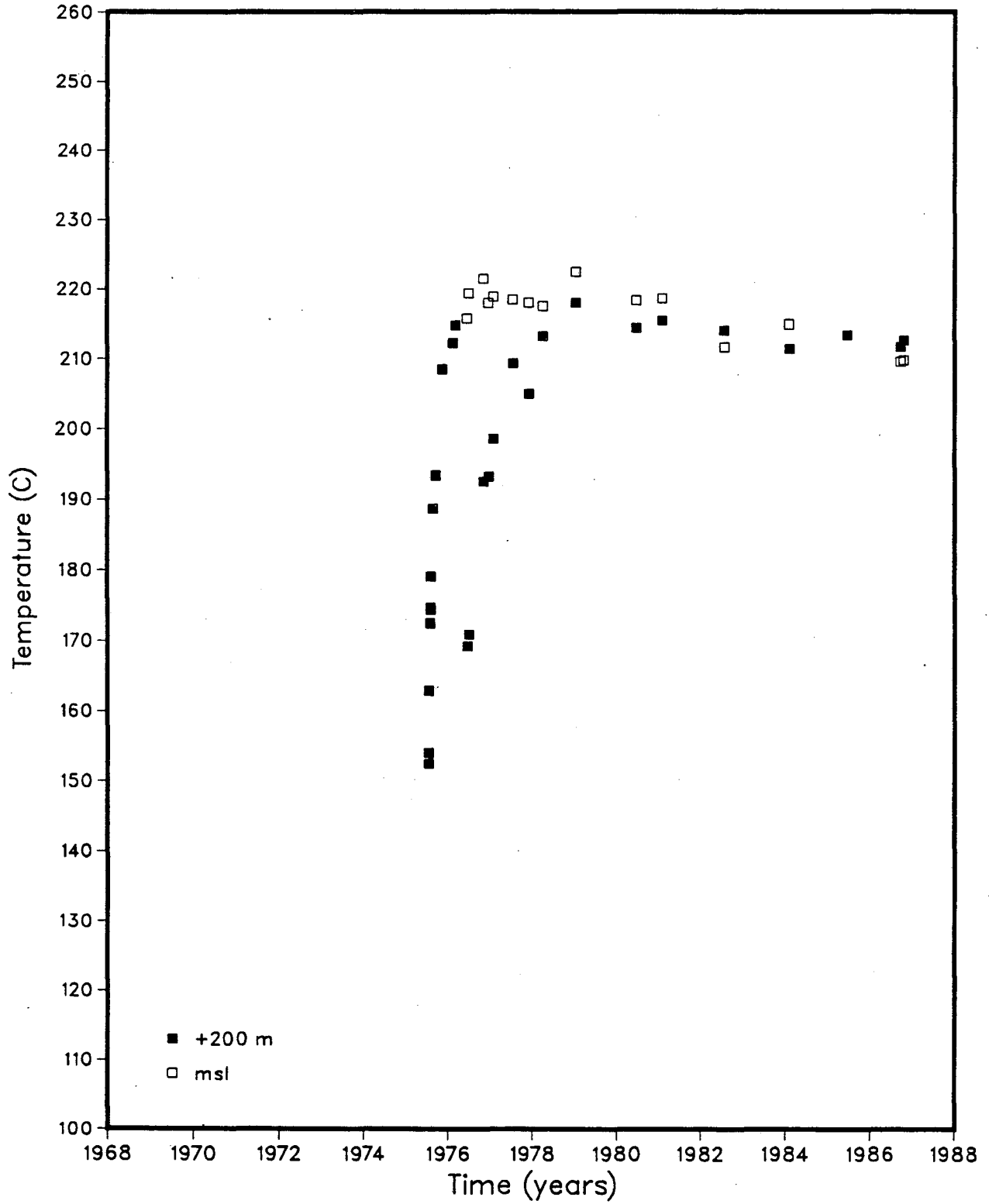
AH22 Temperature Trend



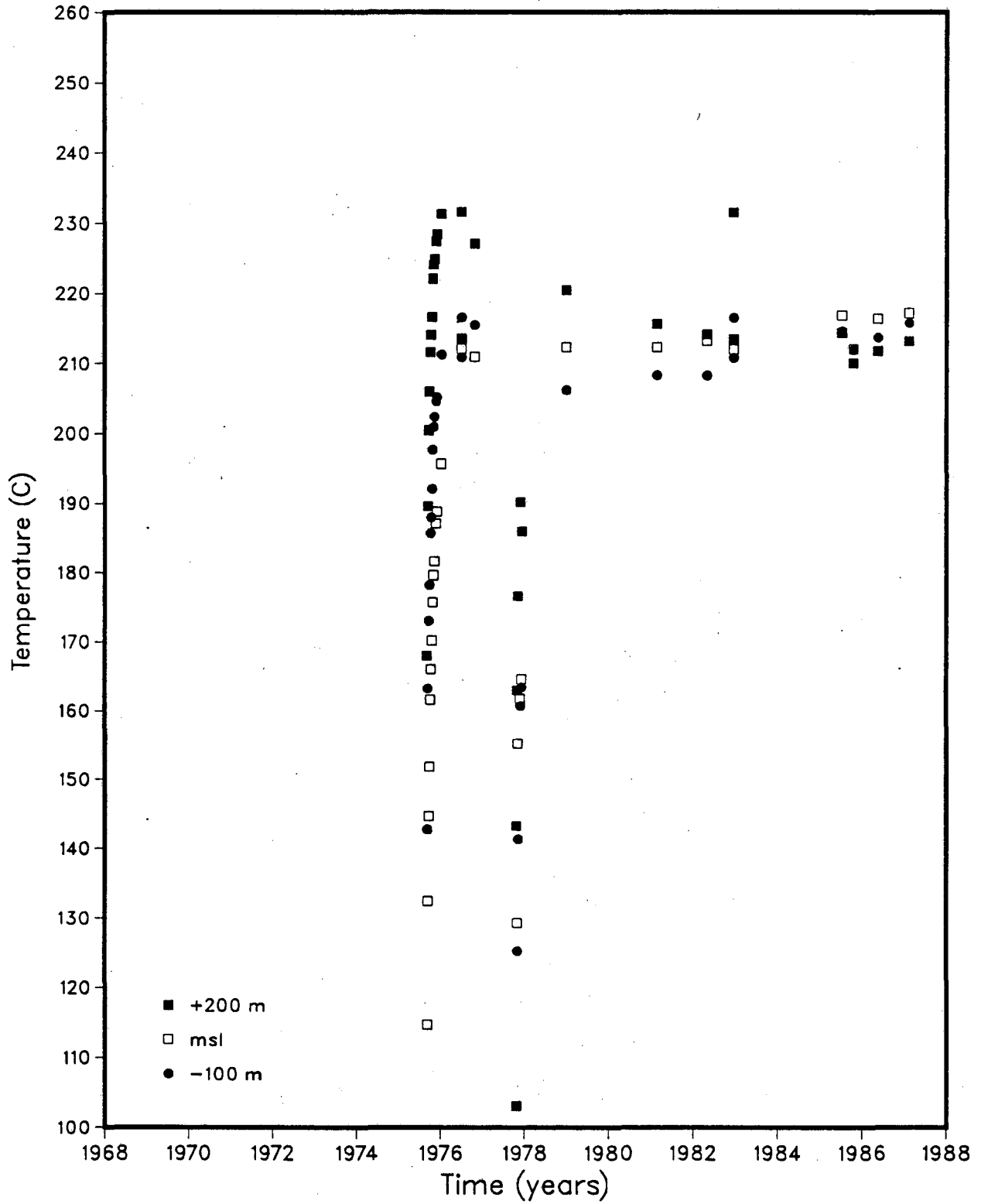
AH23 Temperature Trend



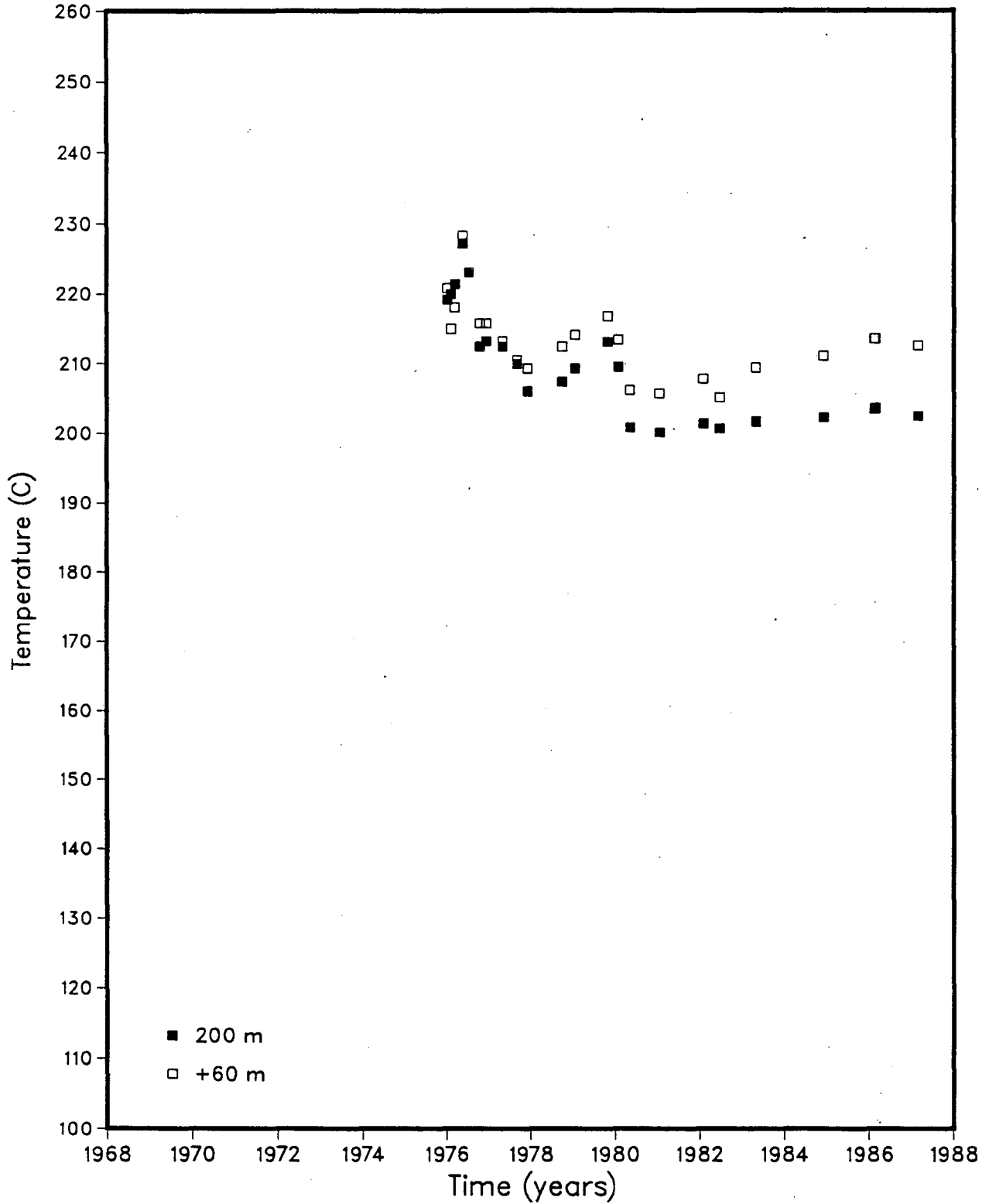
AH24 Temperature Trend



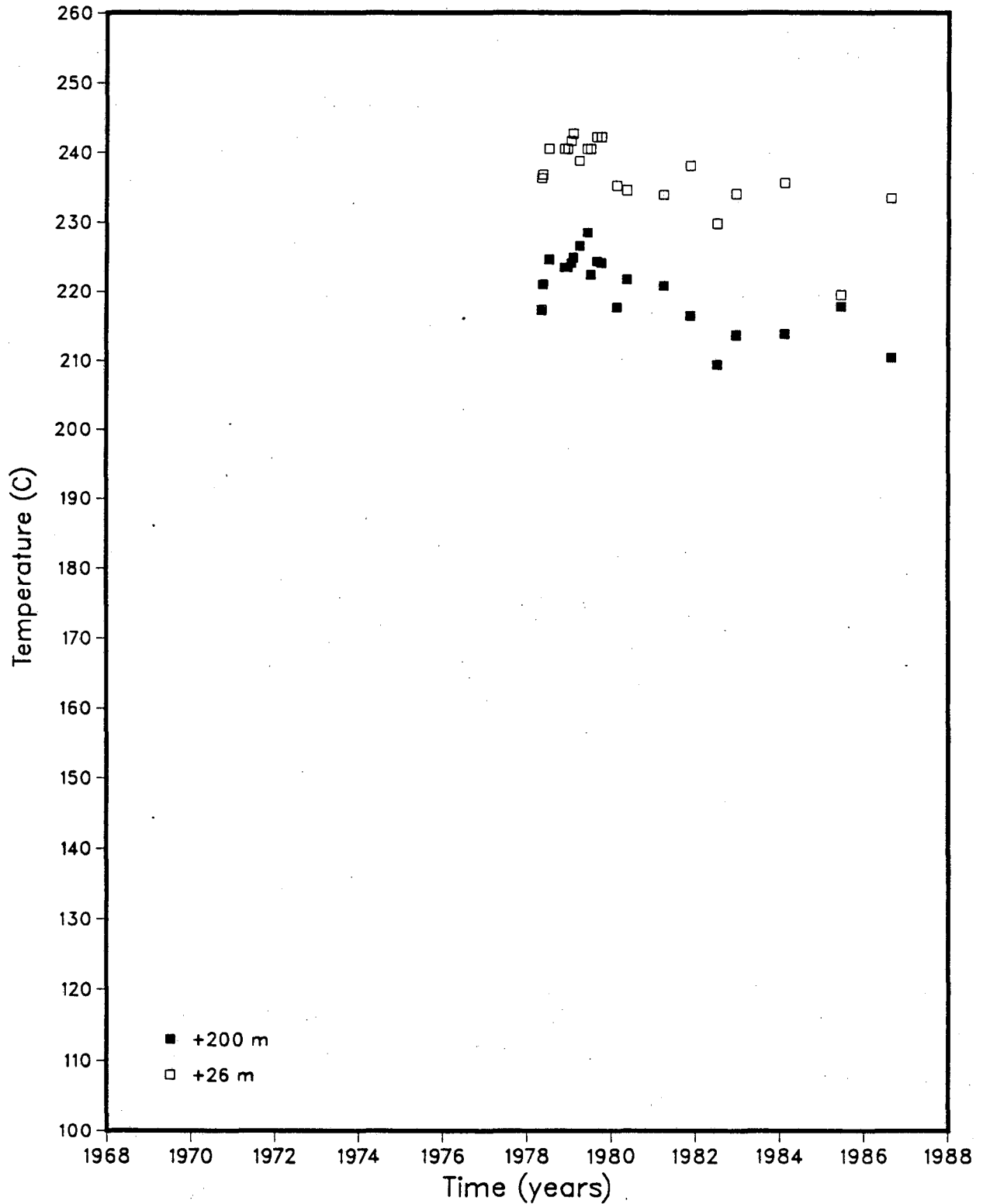
AH25 Temperature Trend



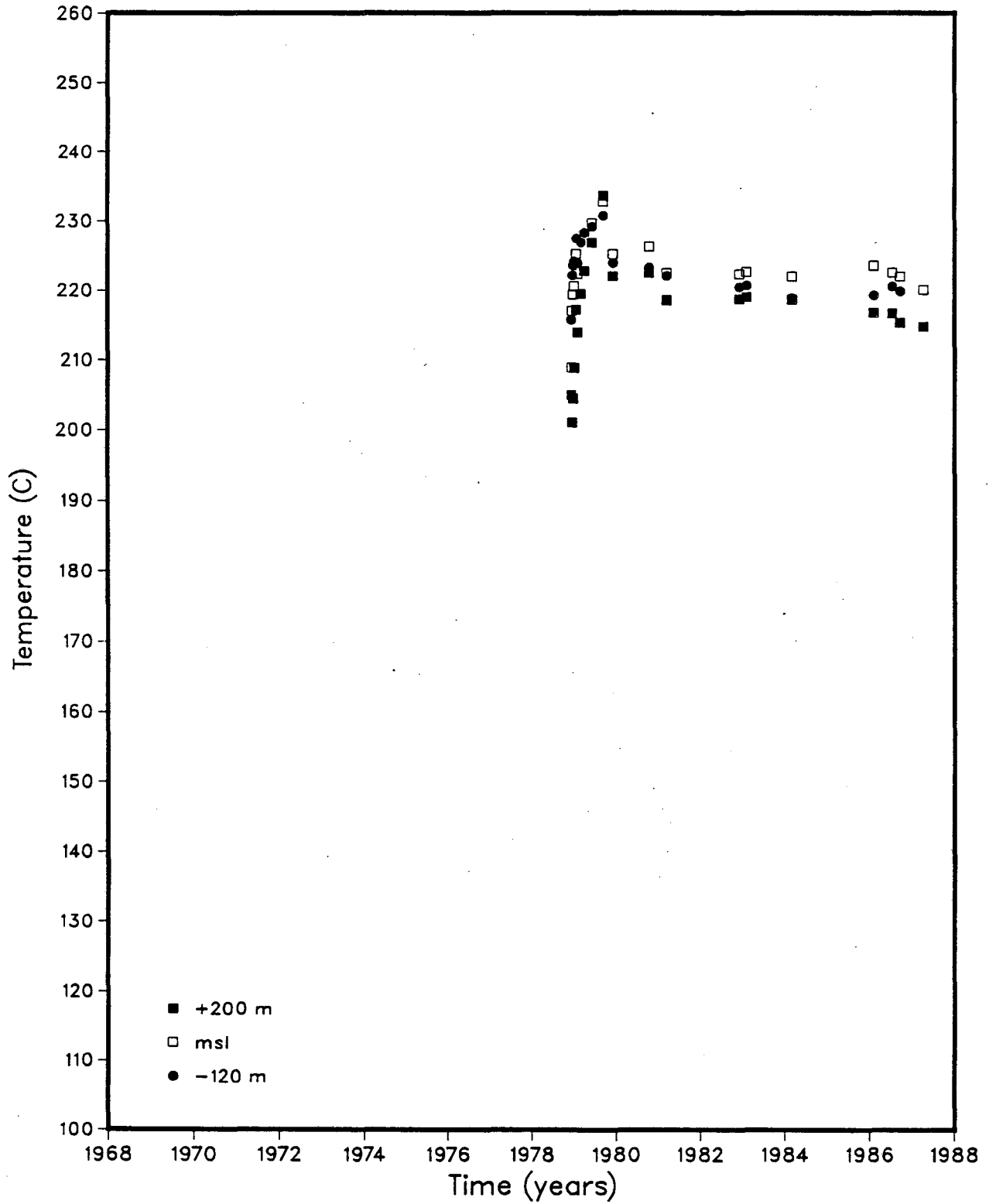
AH26 Temperature Trend



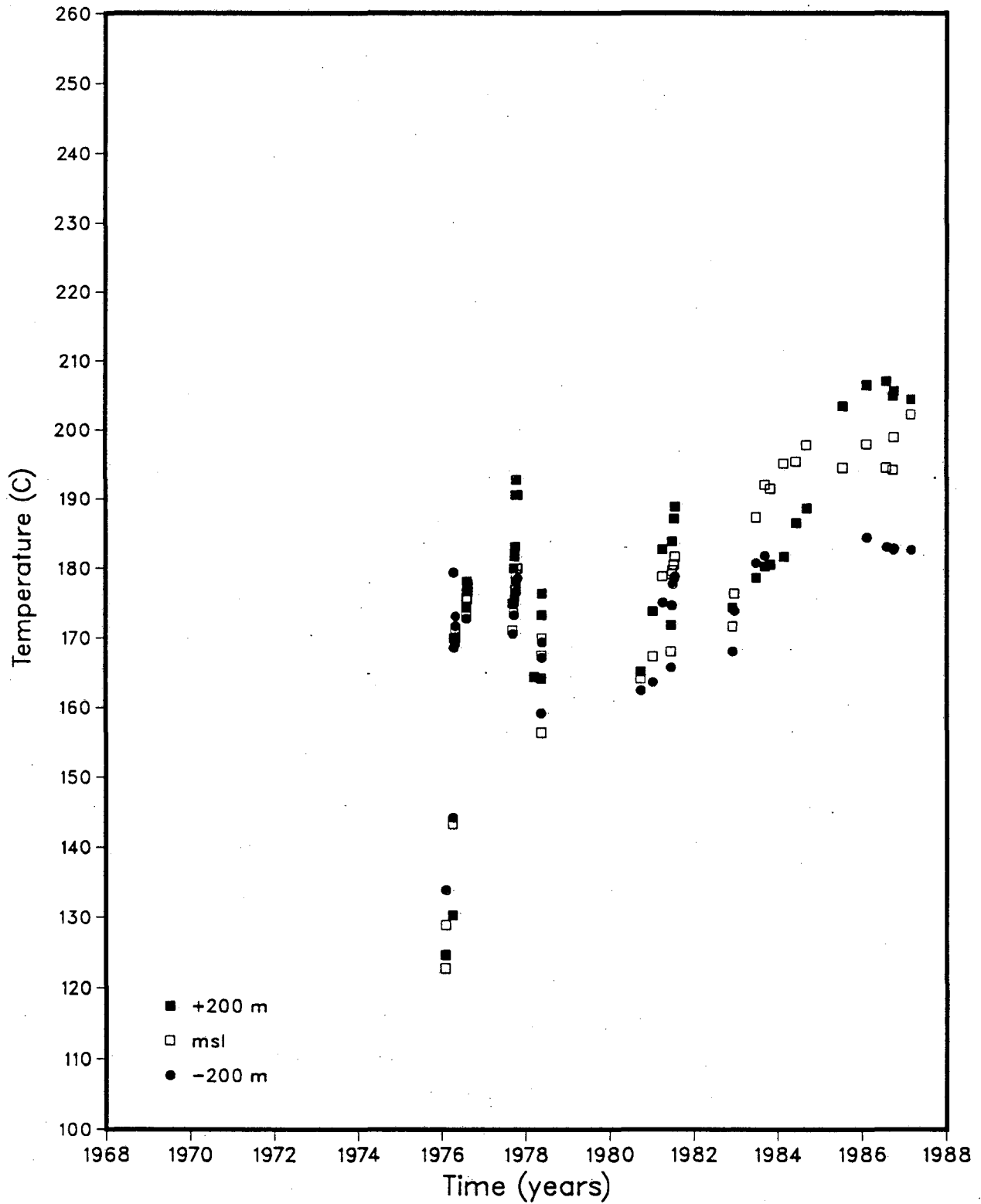
AH27 Temperature Trend



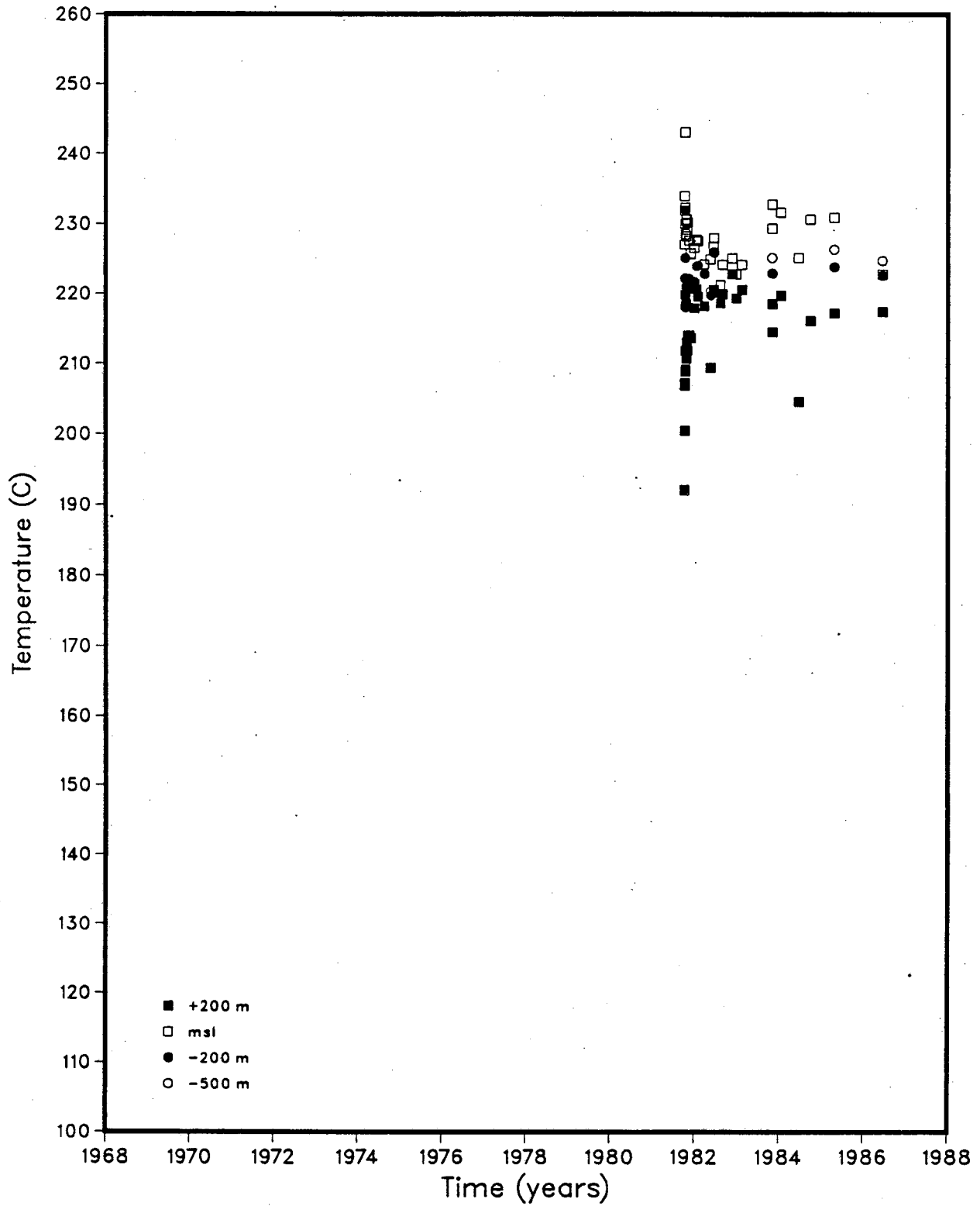
AH28 Temperature Trend



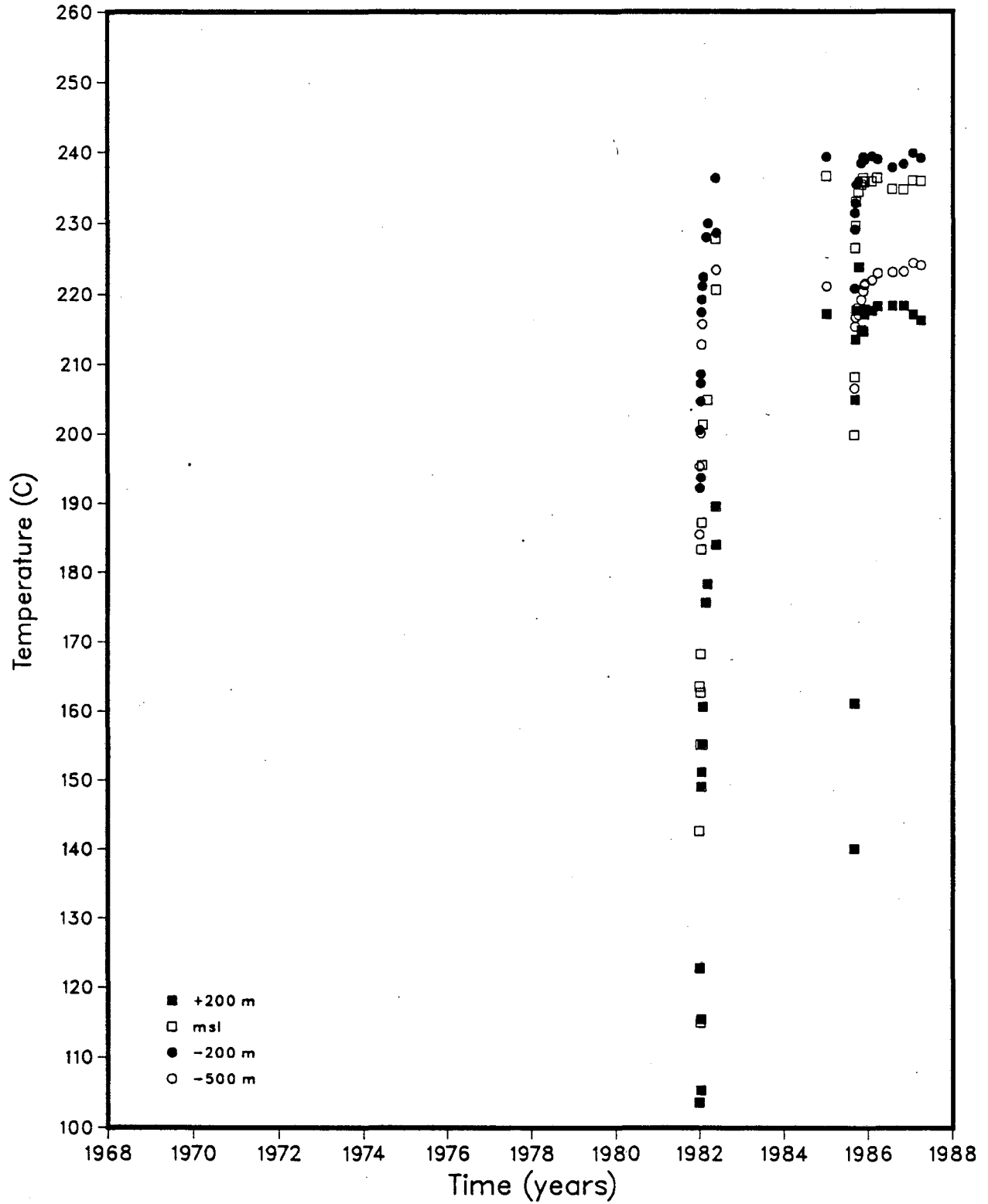
AH29 Temperature Trend



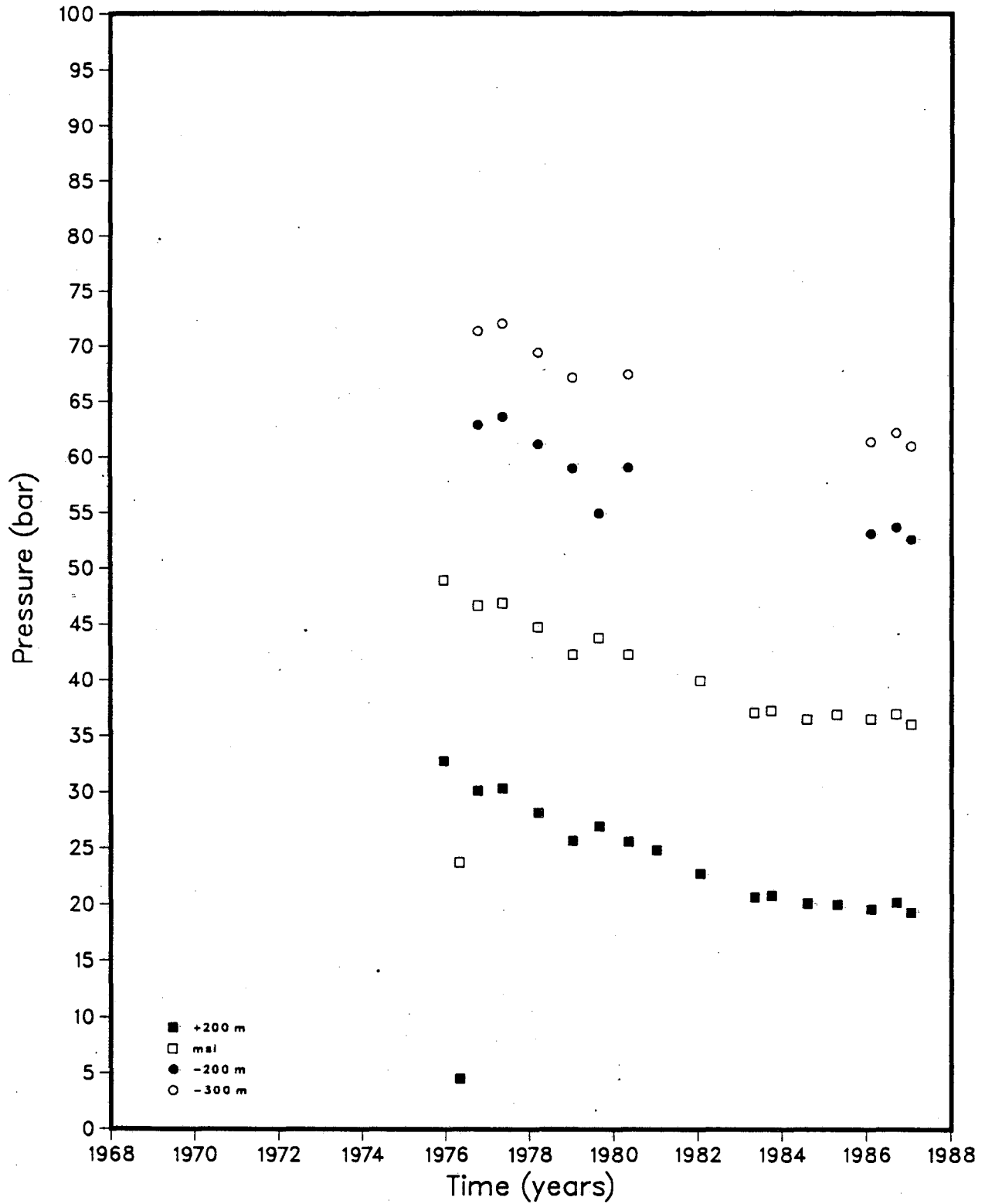
AH31 Temperature Trend



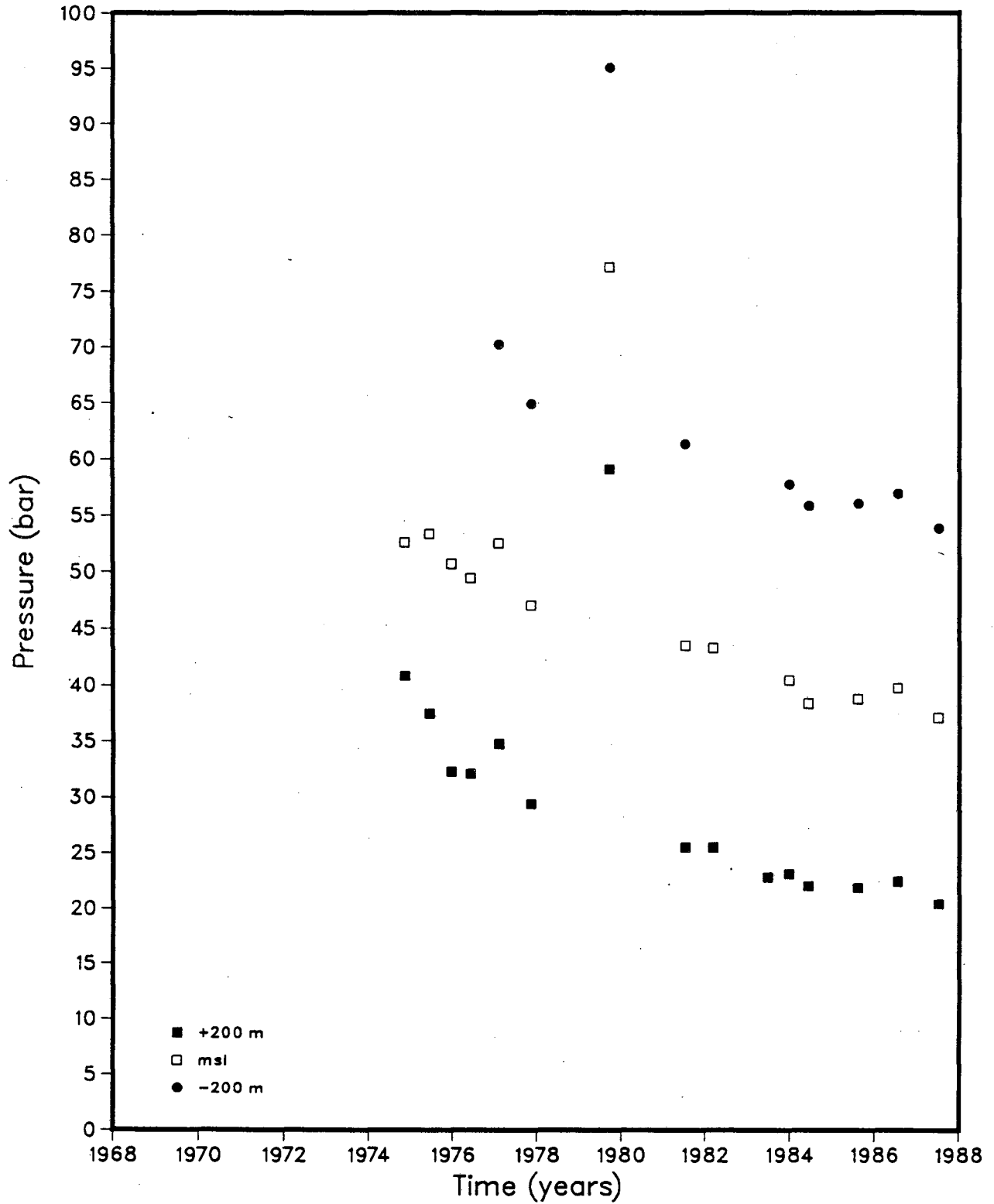
AH32 Temperature Trend



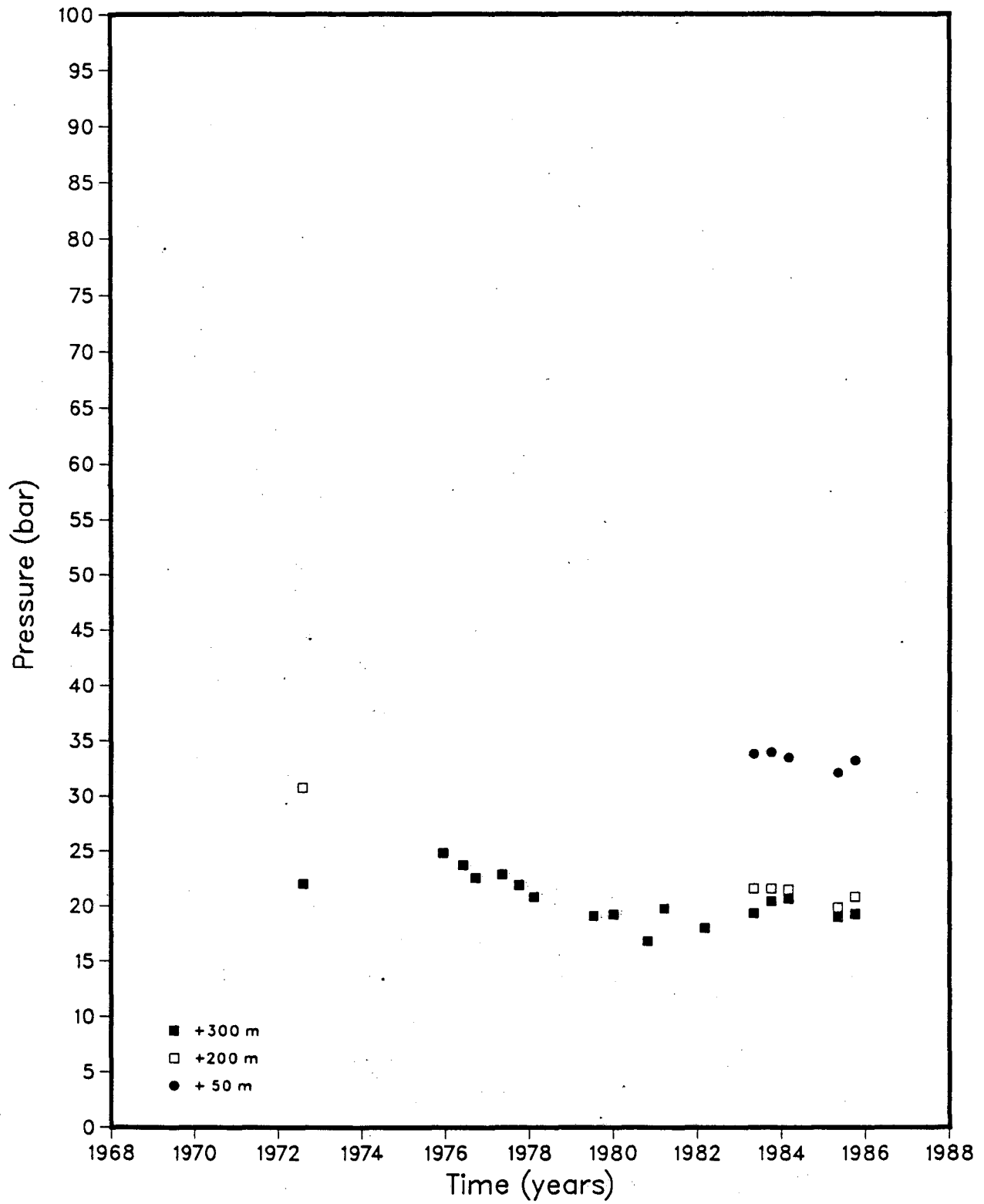
AH1 Pressure Trend



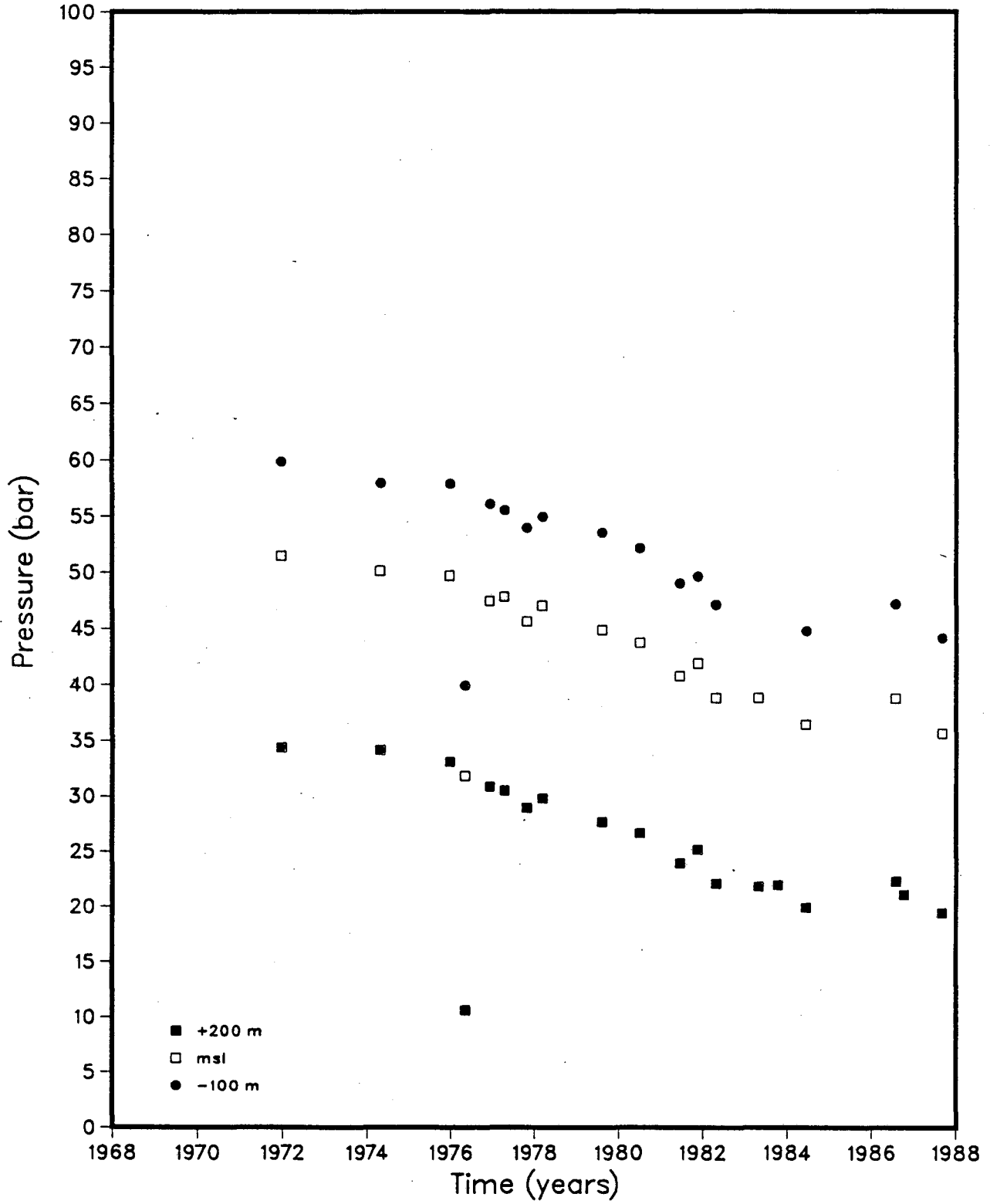
AH2 Pressure Trend



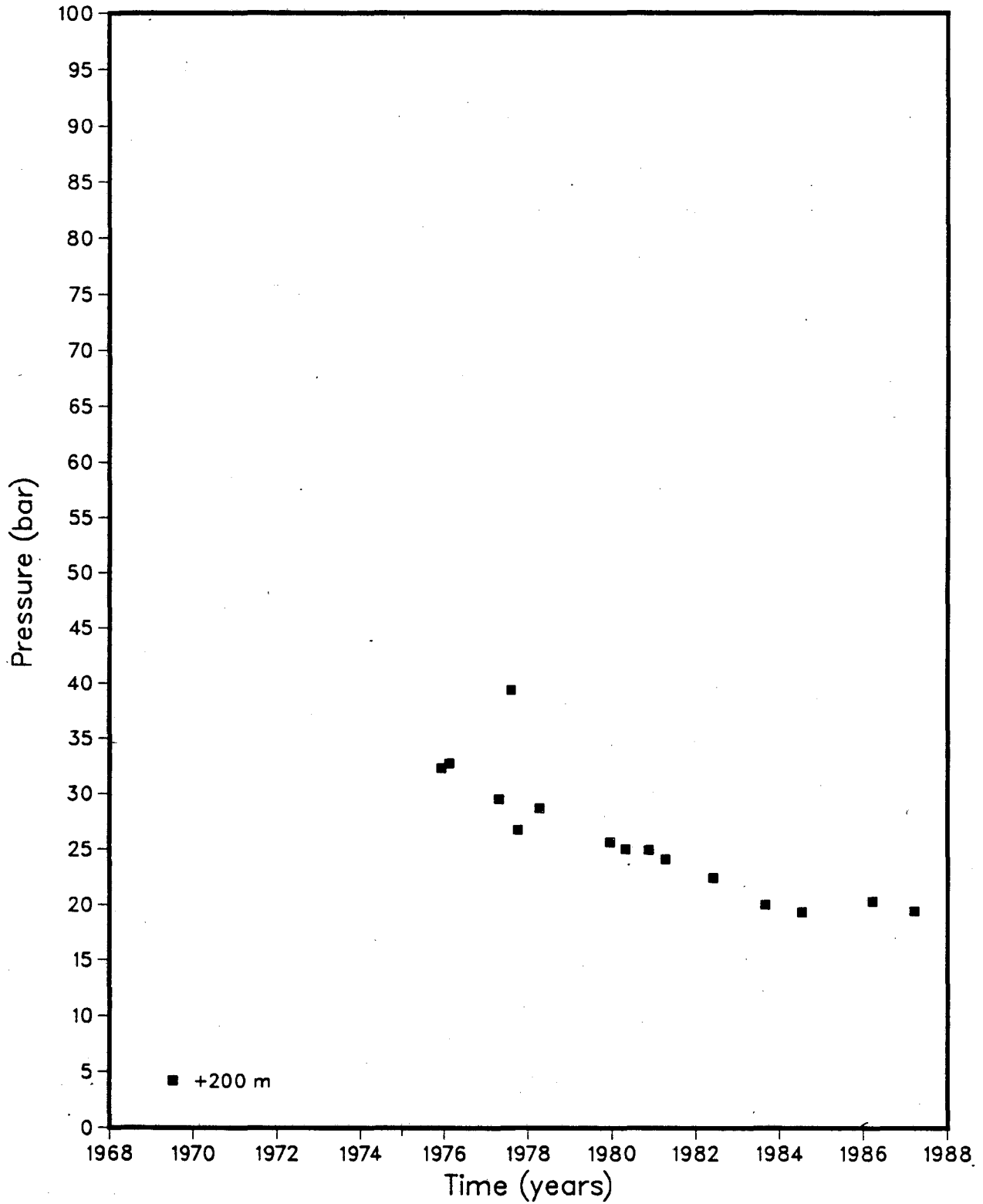
AH4 Pressure Trend



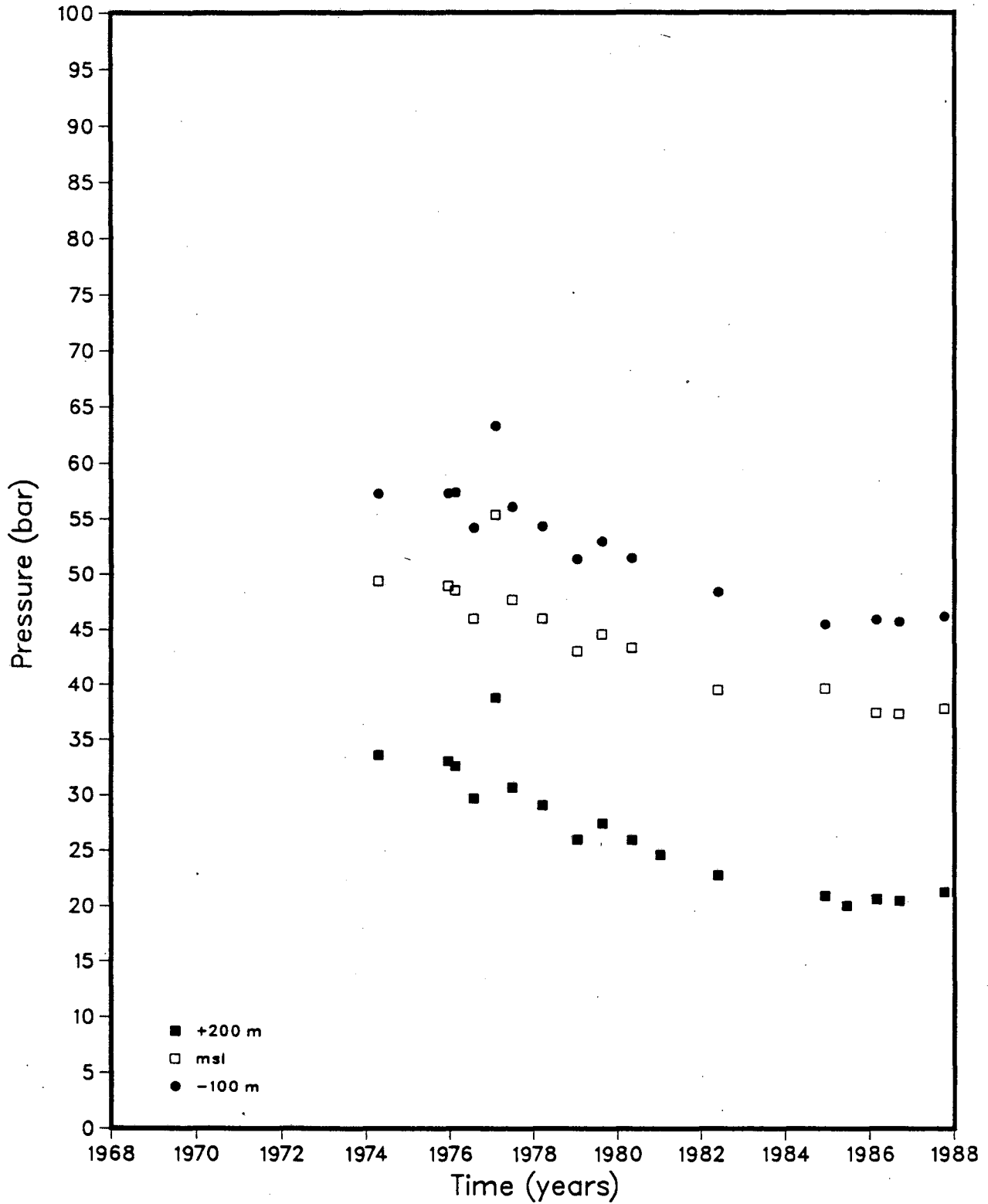
AH5 Pressure Trend



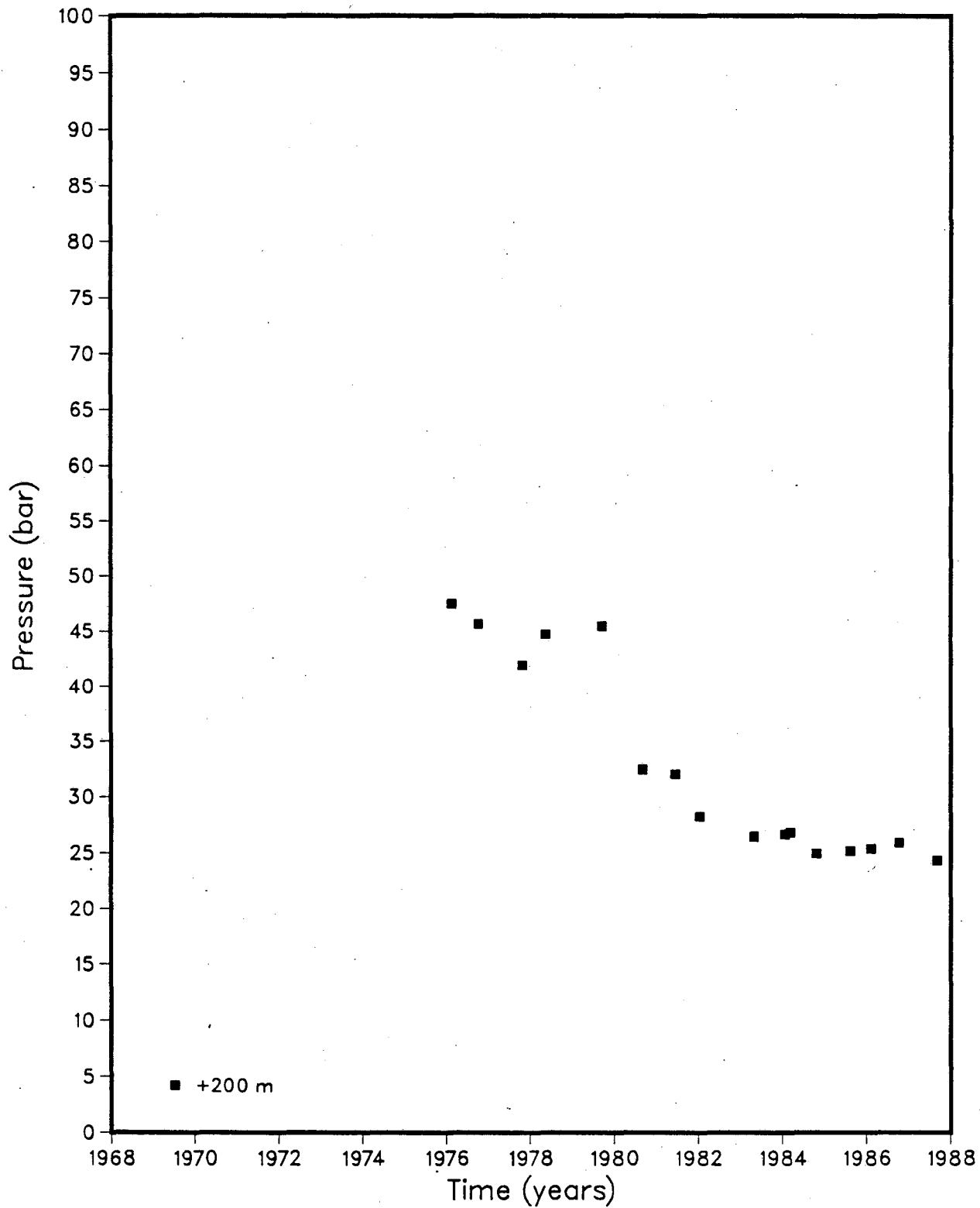
AH6 Pressure Trend



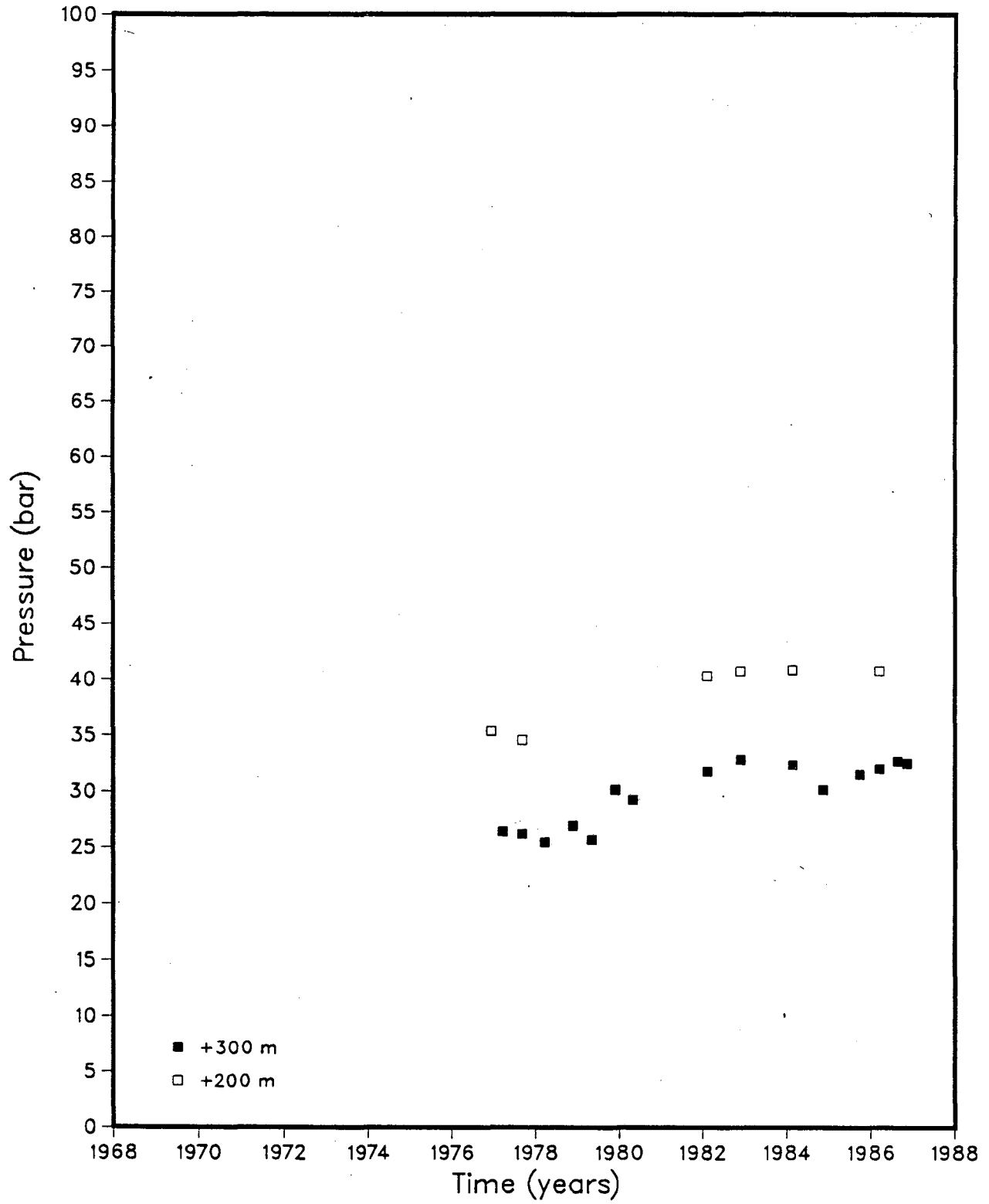
AH7 Pressure Trend



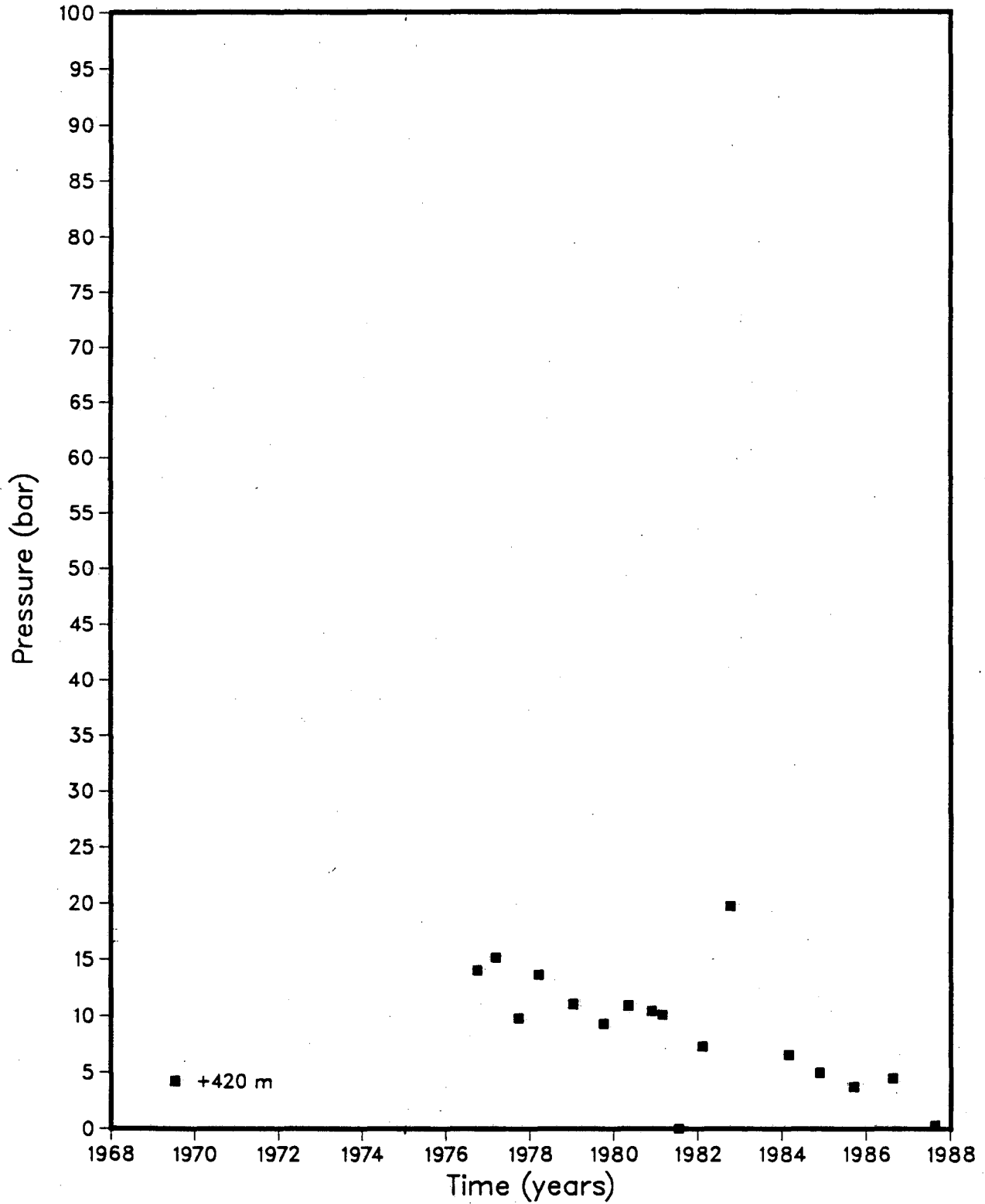
AH8 Pressure Trend



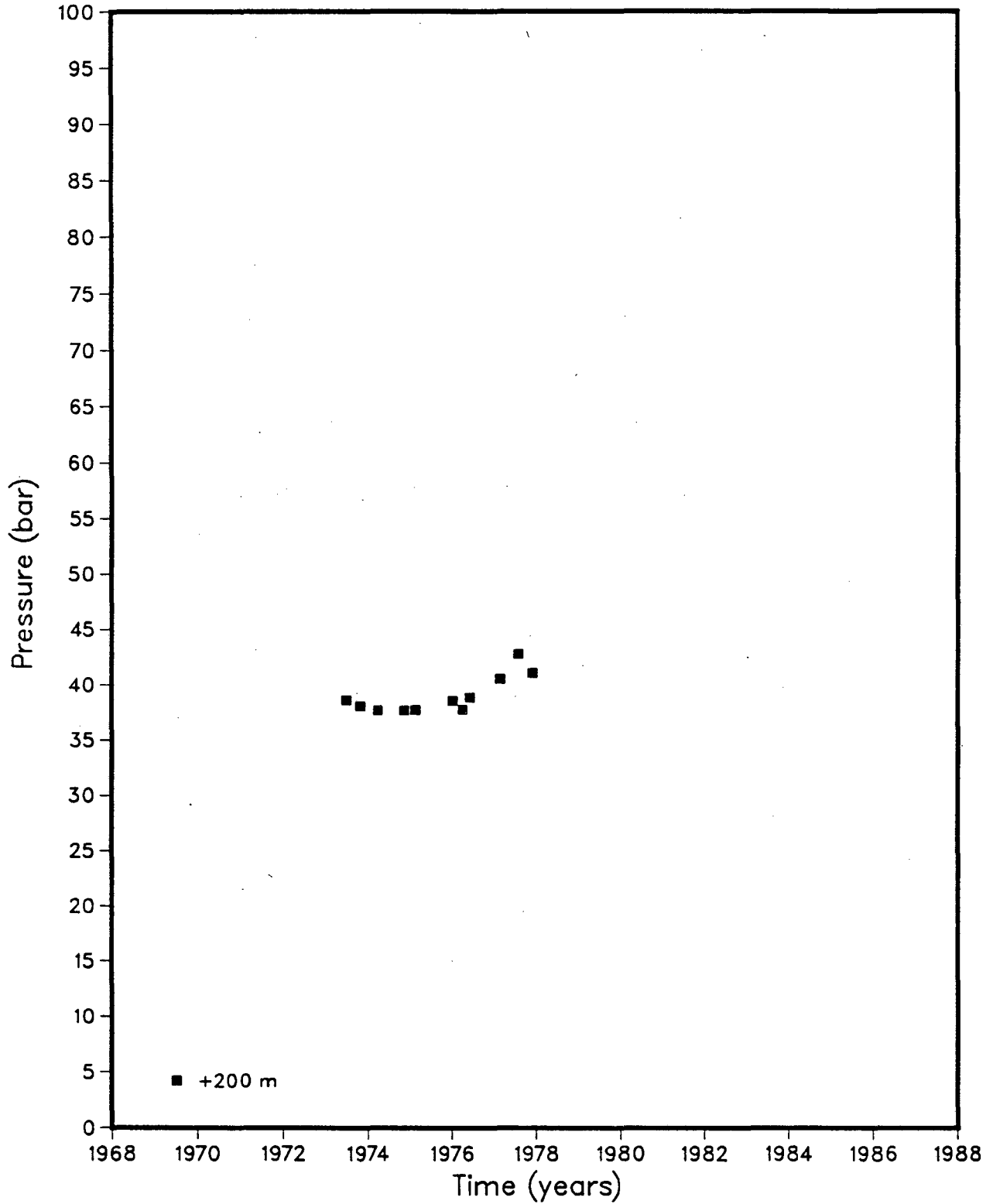
AH9 Pressure Trend



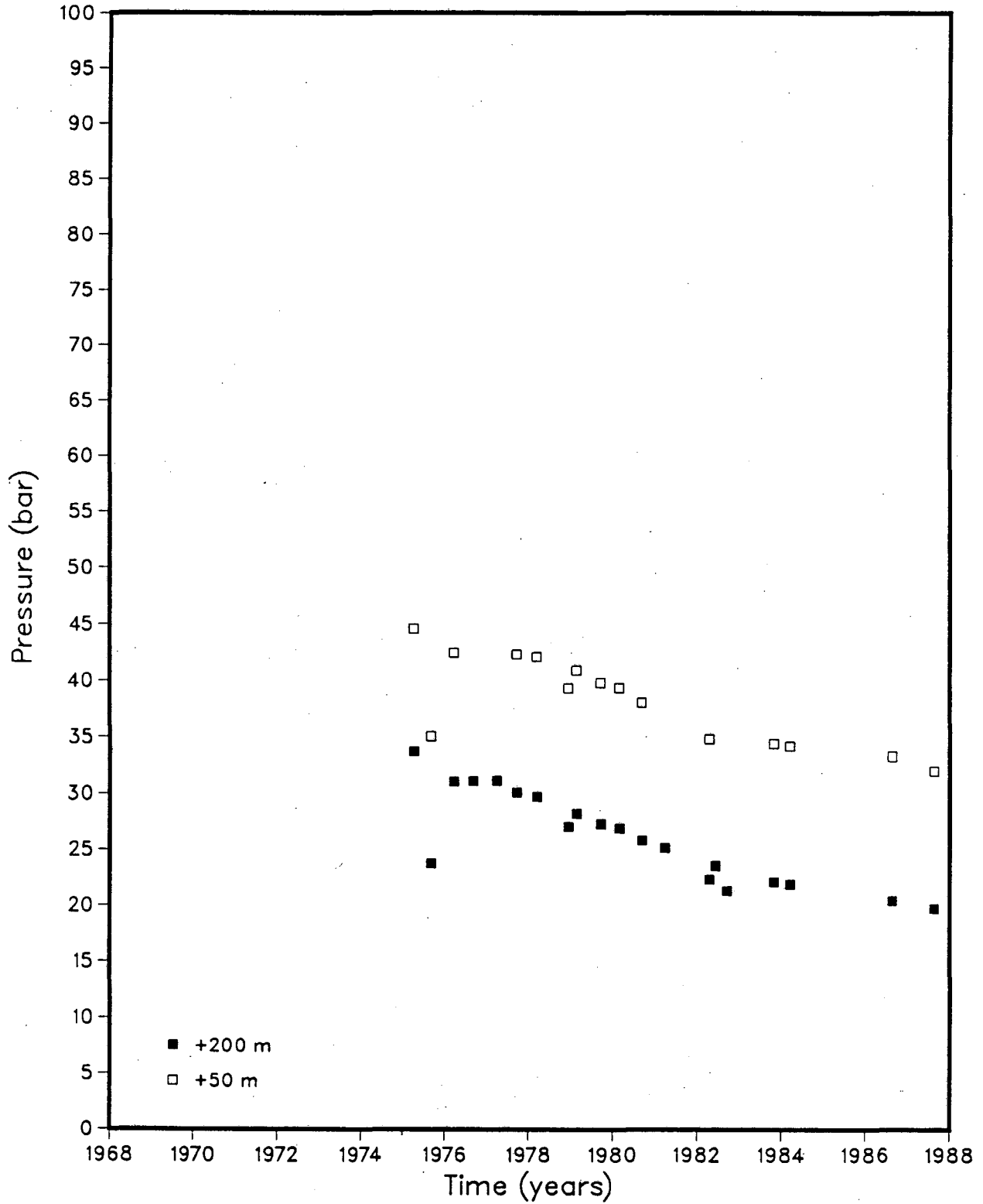
AH11 Pressure Trend



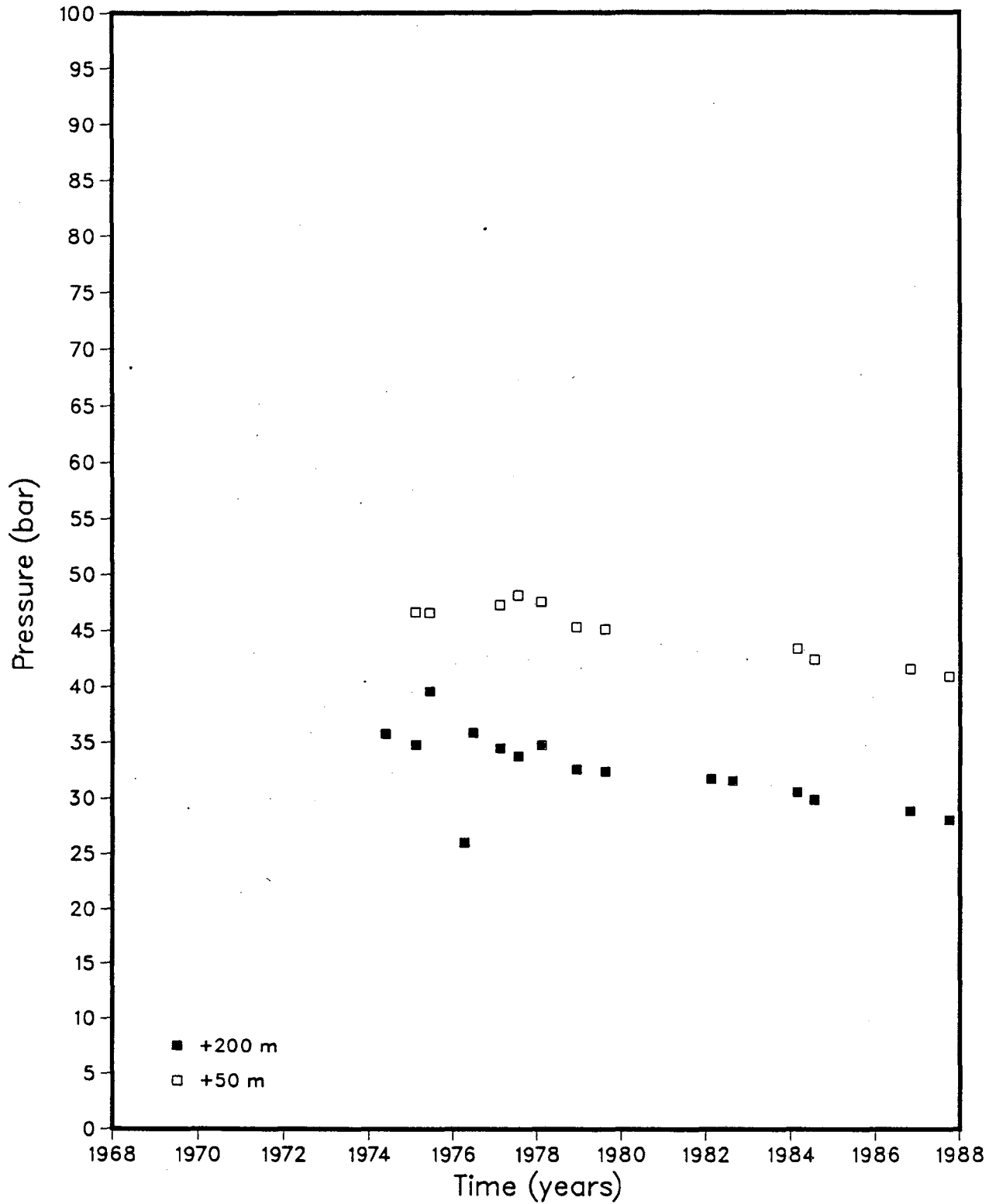
AH12 Pressure Trend



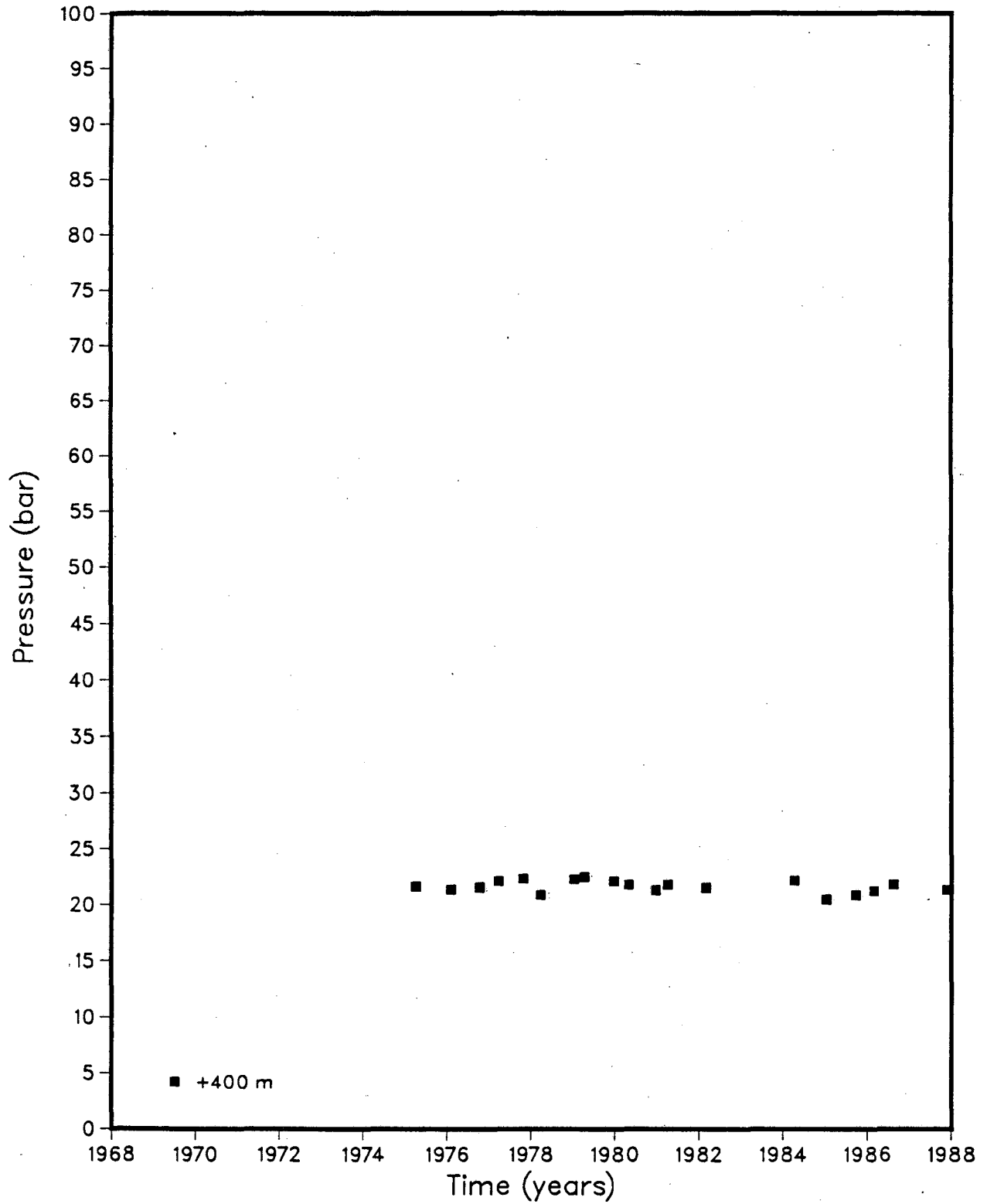
AH13 Pressure Trend



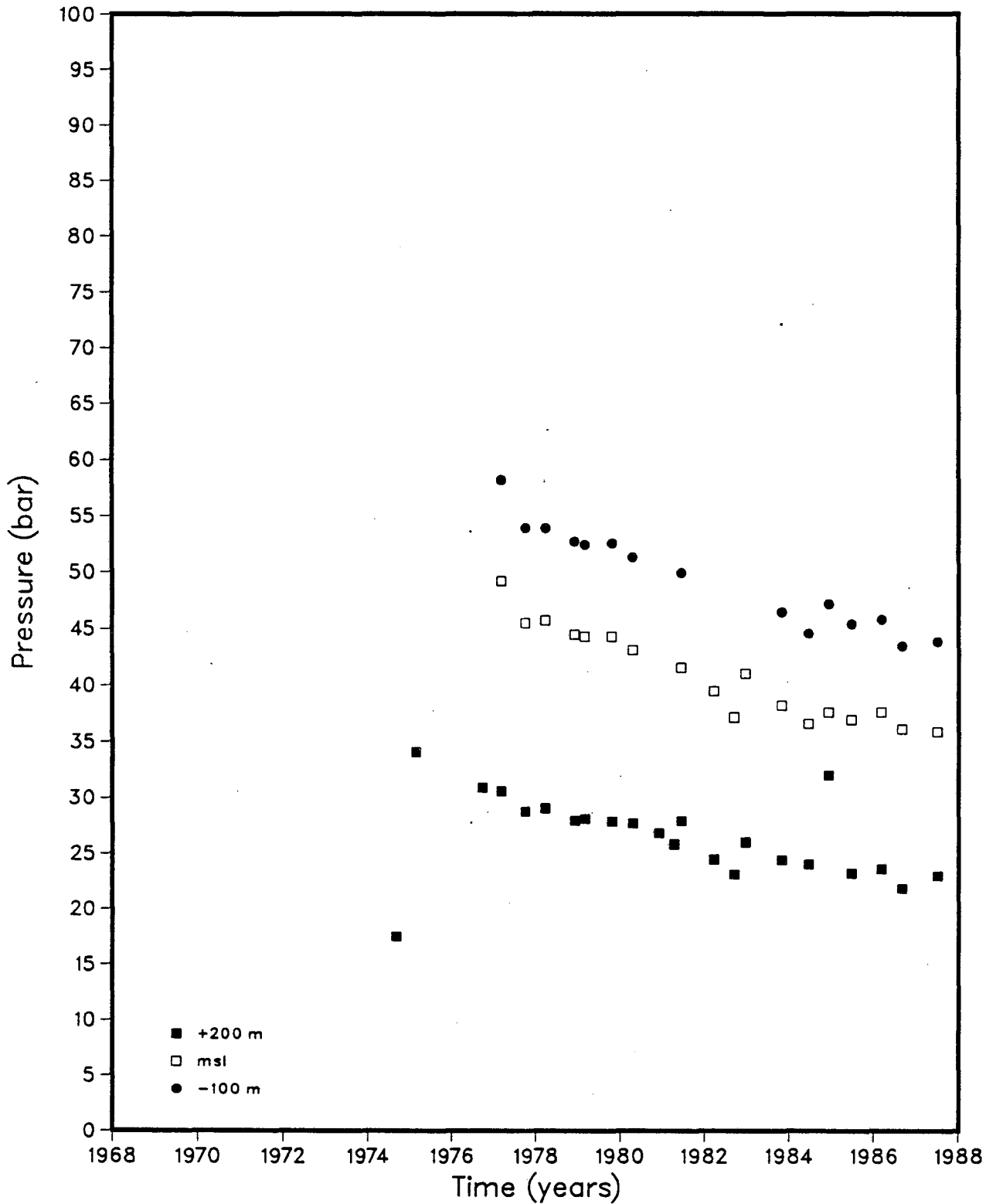
AH14 Pressure Trend



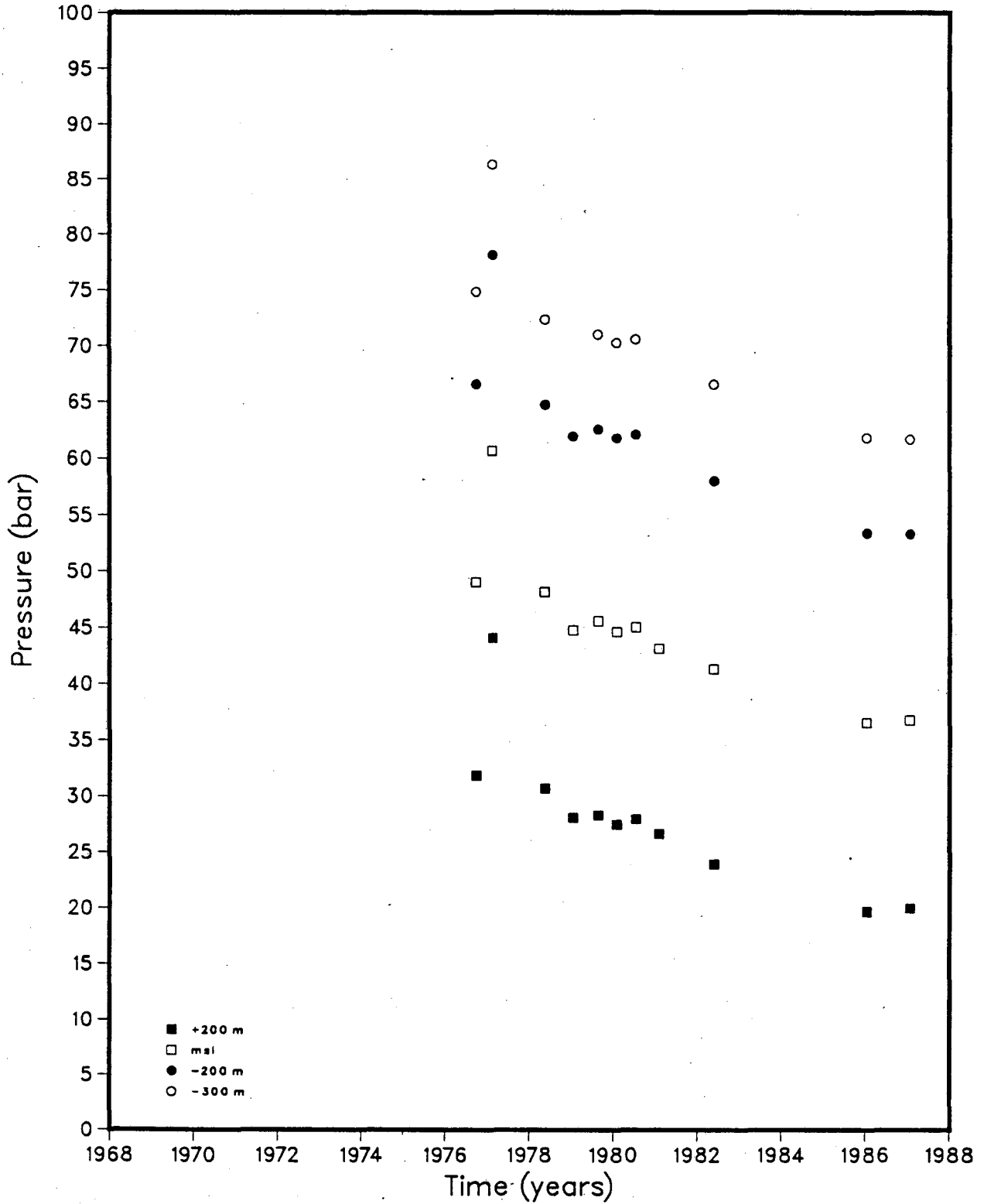
AH15 Pressure Trend



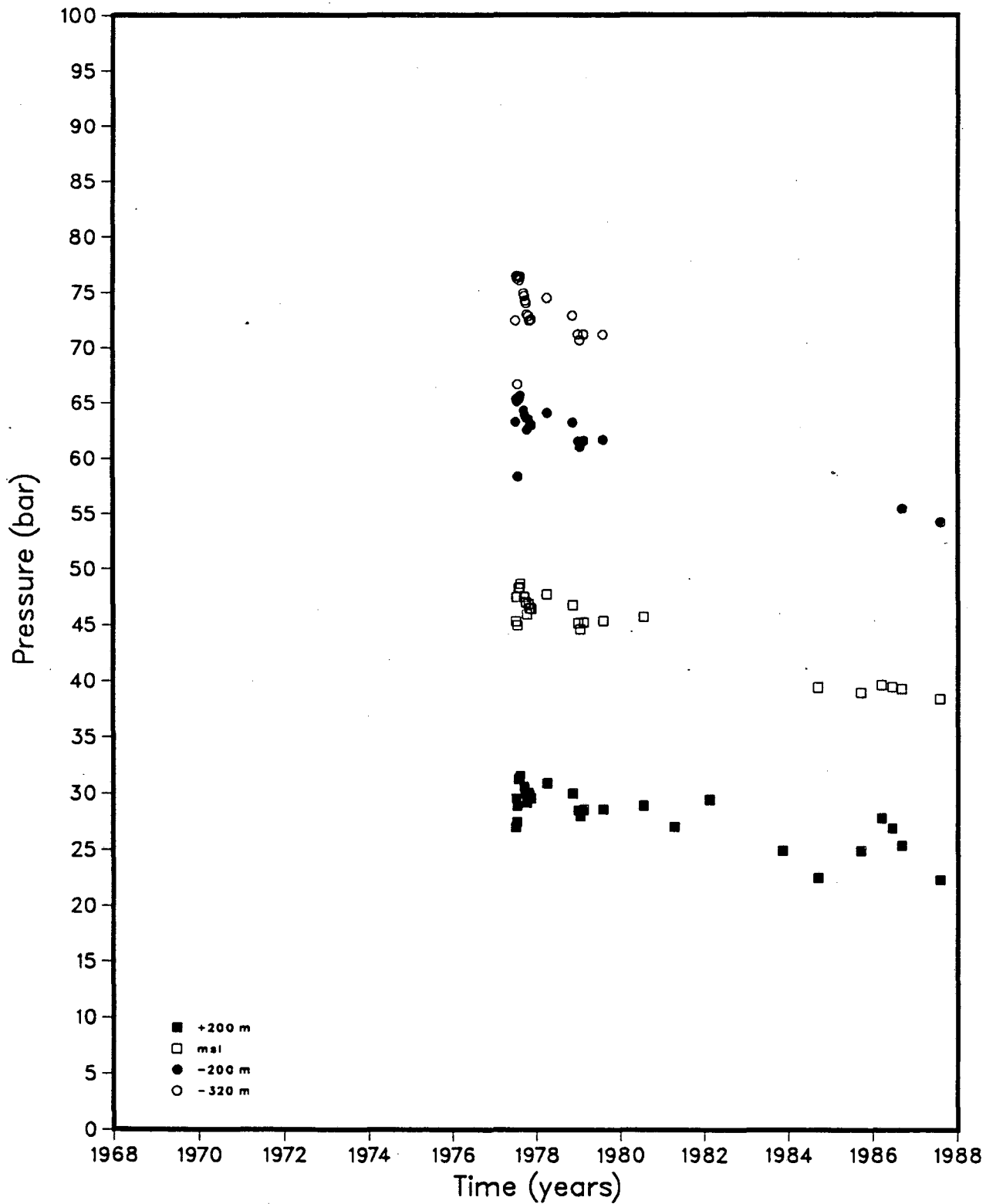
AH16 Pressure Trend



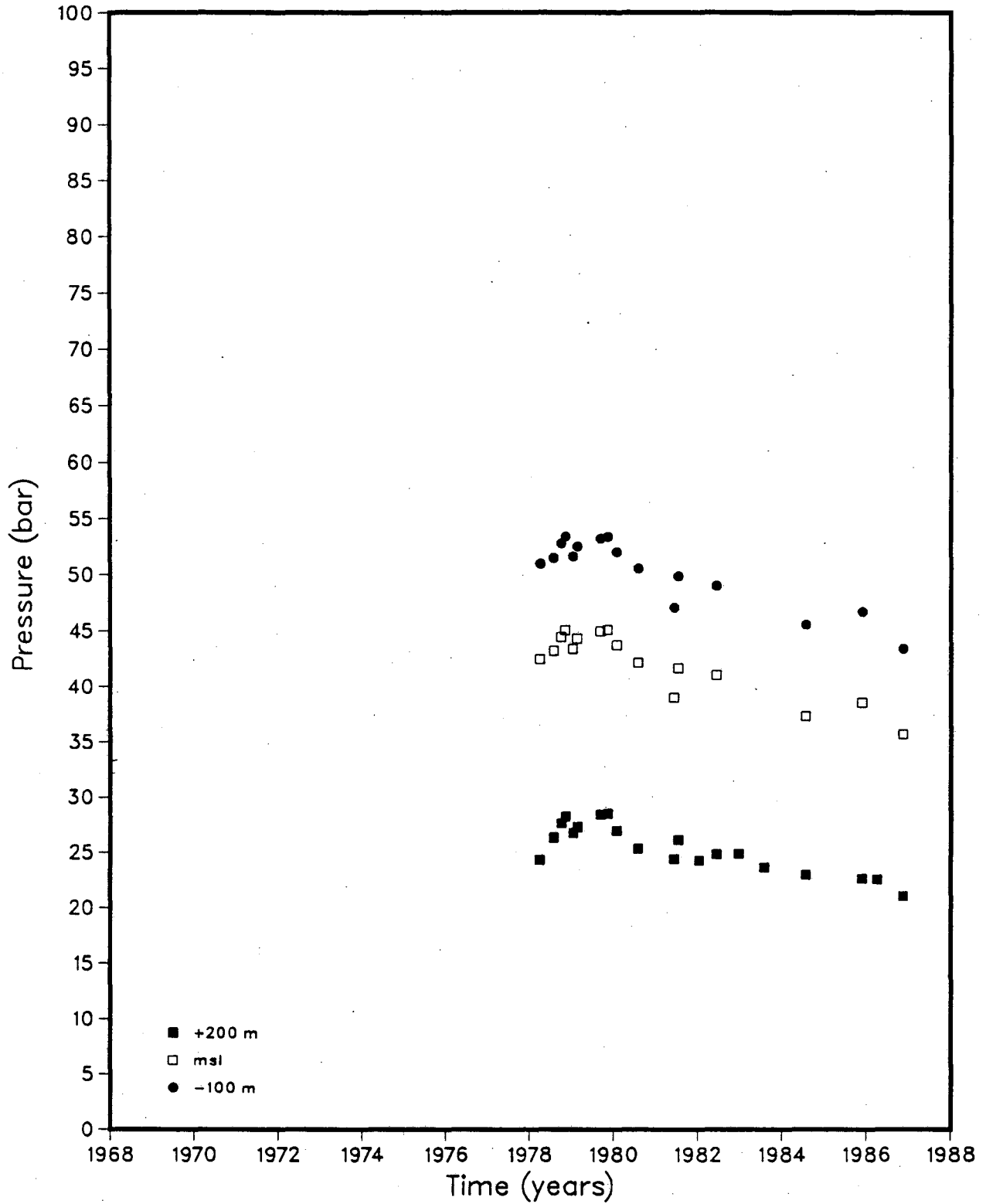
AH17 Pressure Trend



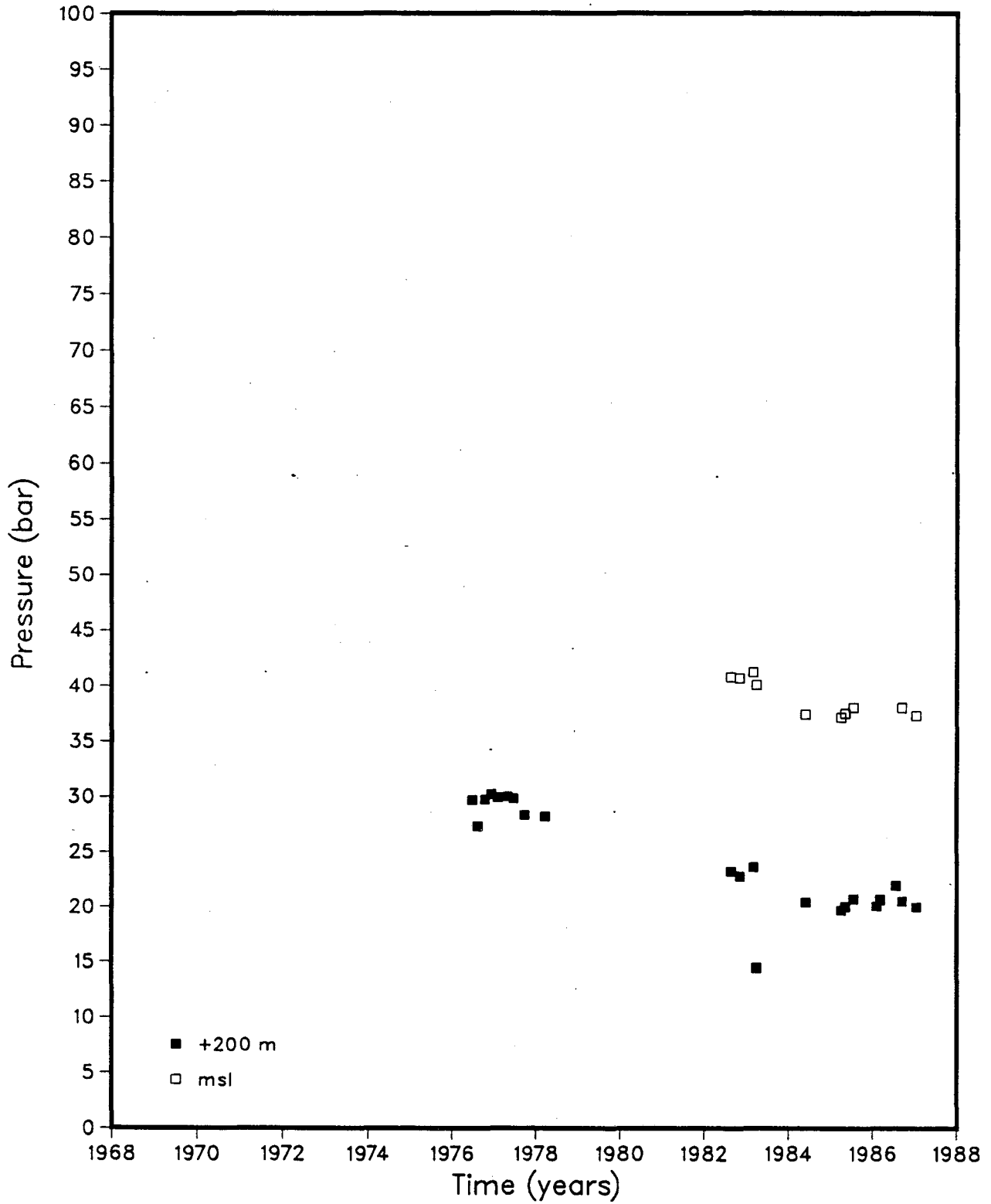
AH18 Pressure Trend



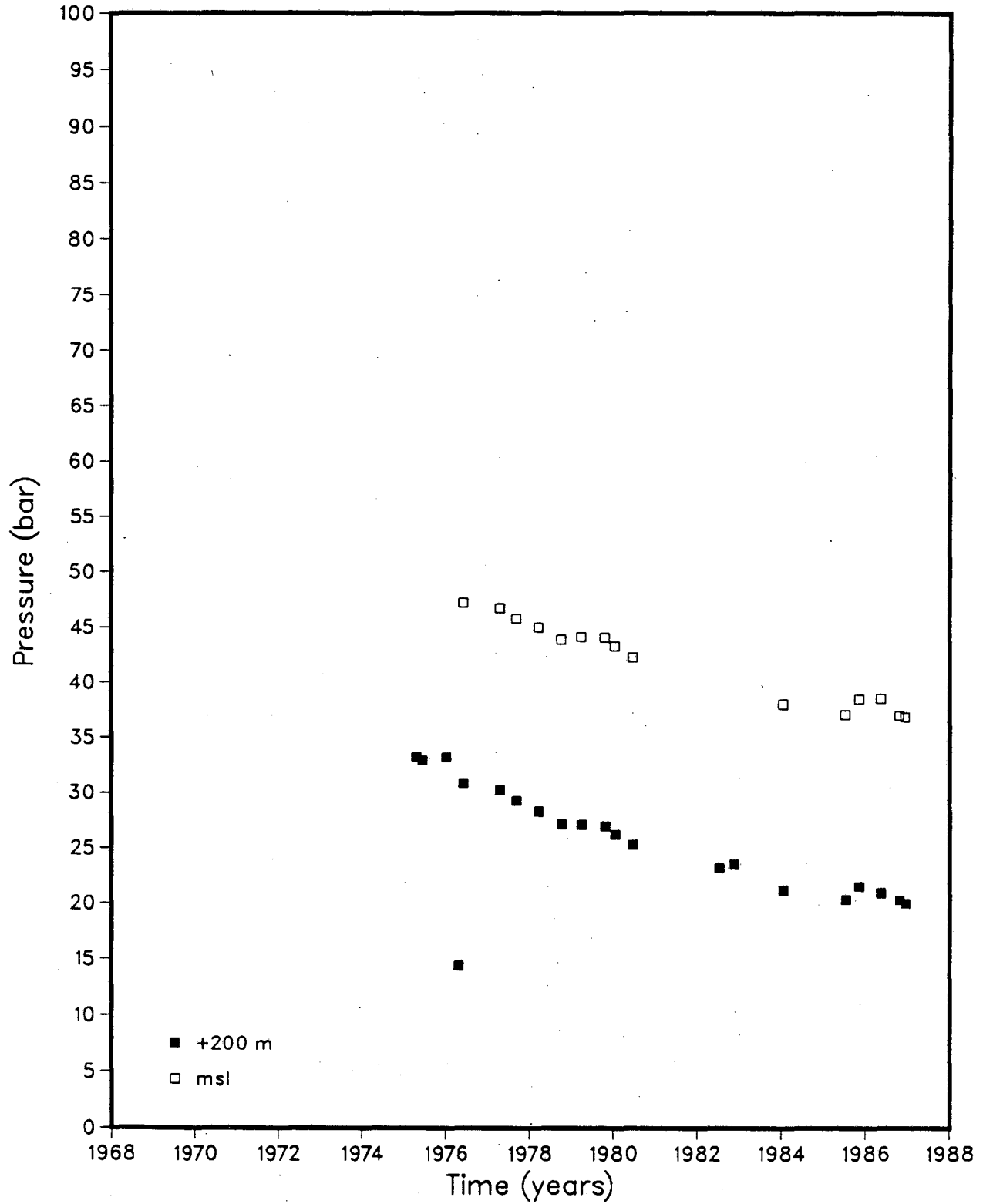
AH19 Pressure Trend



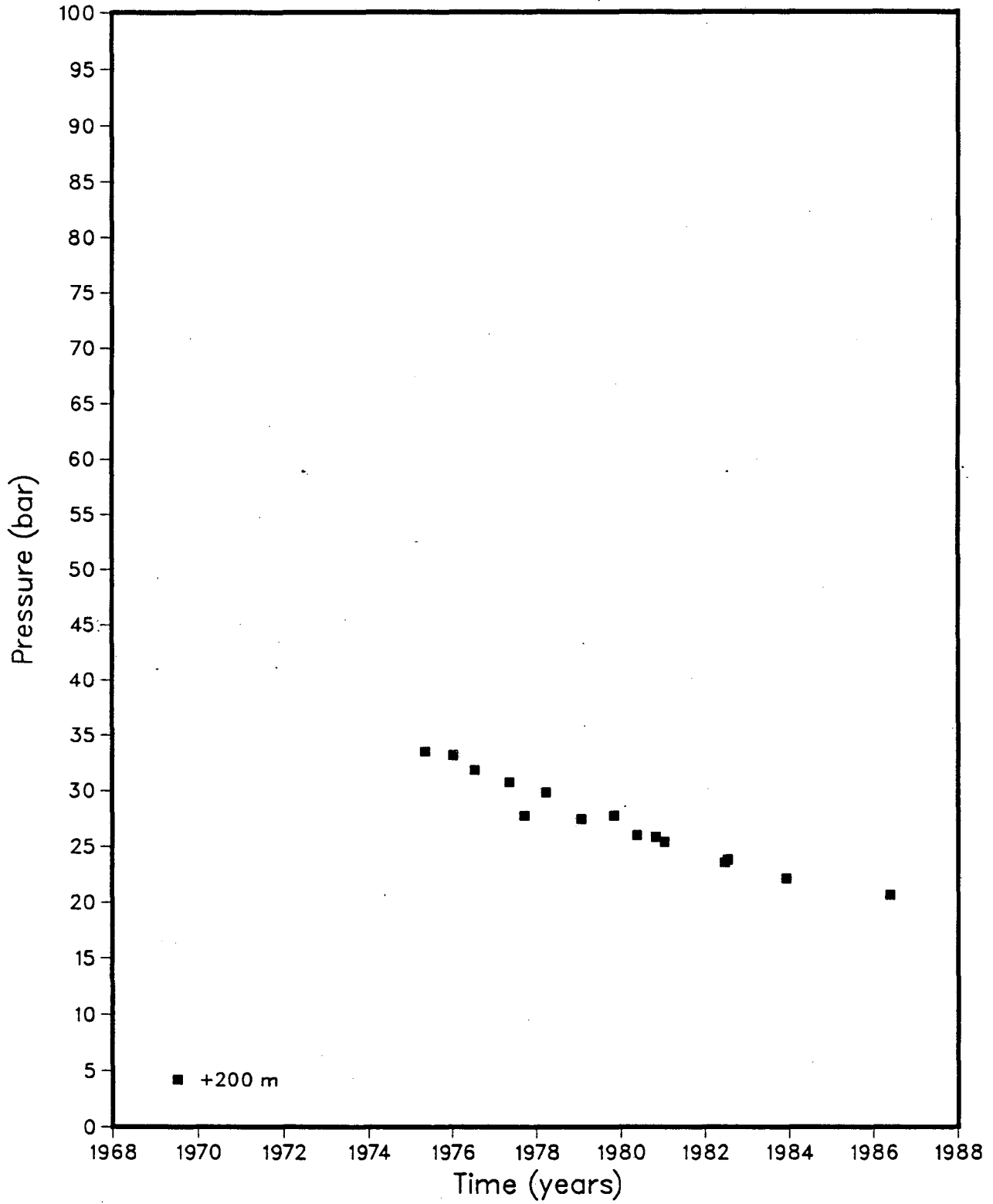
AH20 Pressure Trend



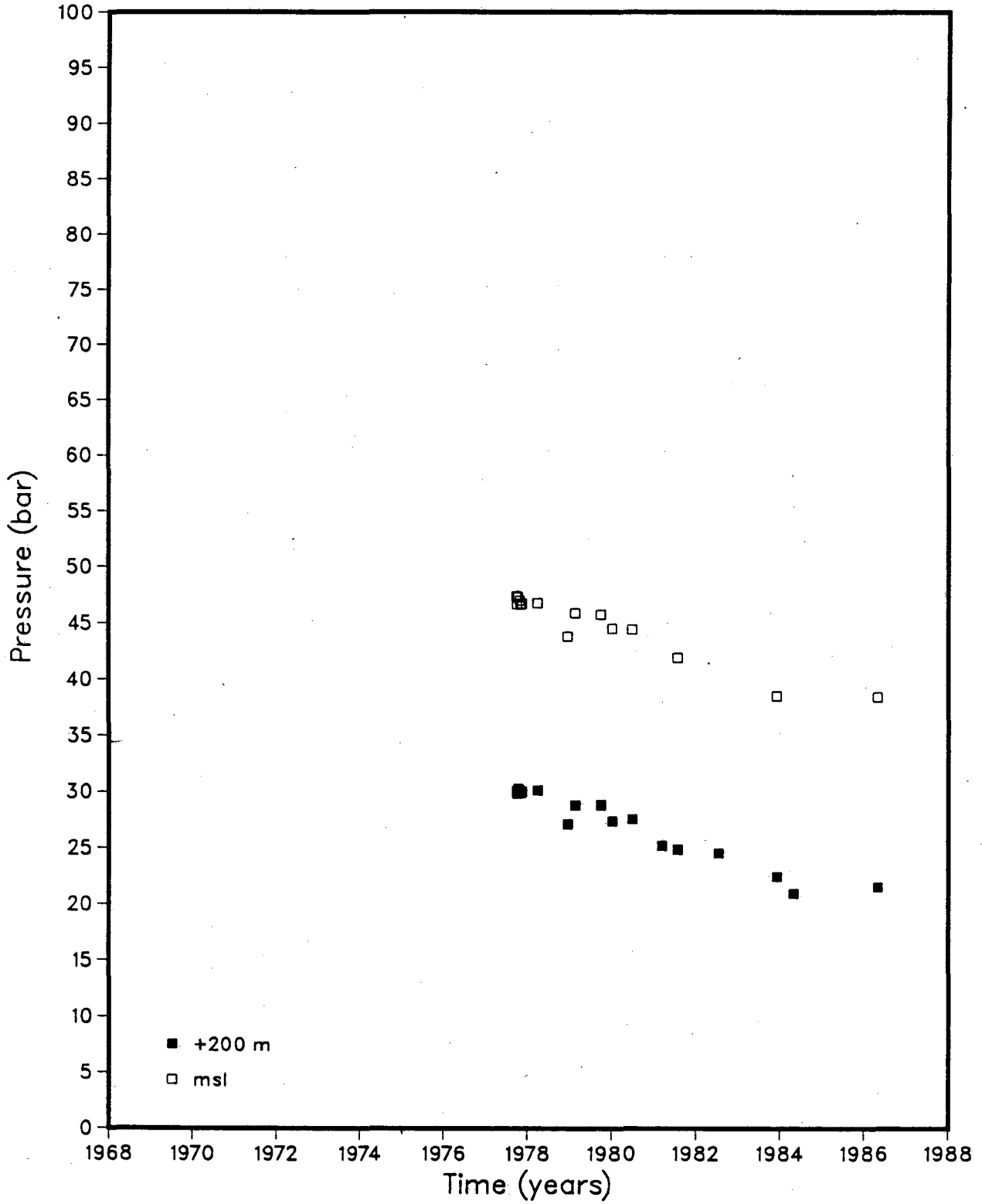
AH21 Pressure Trend



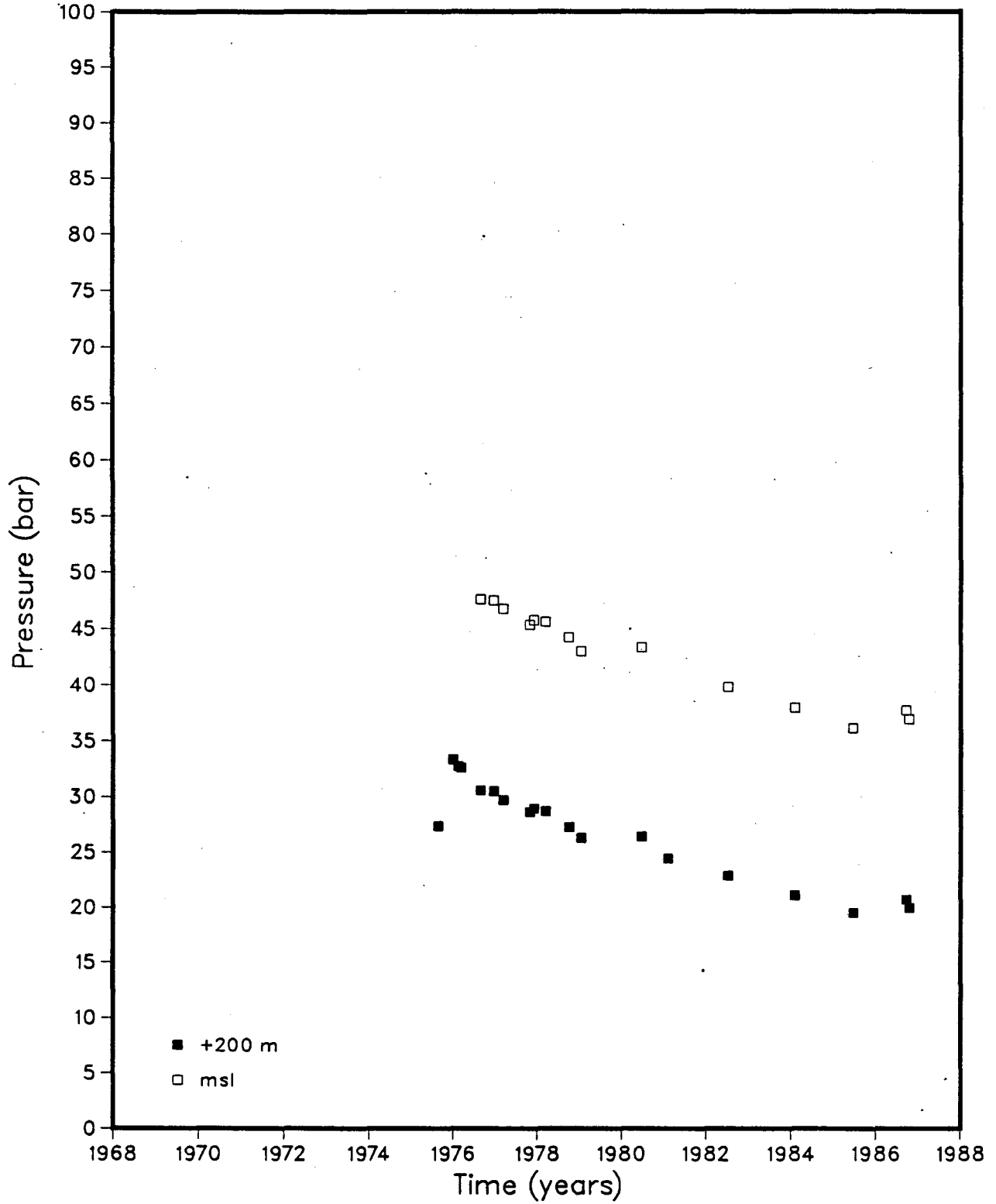
AH22 Pressure Trend



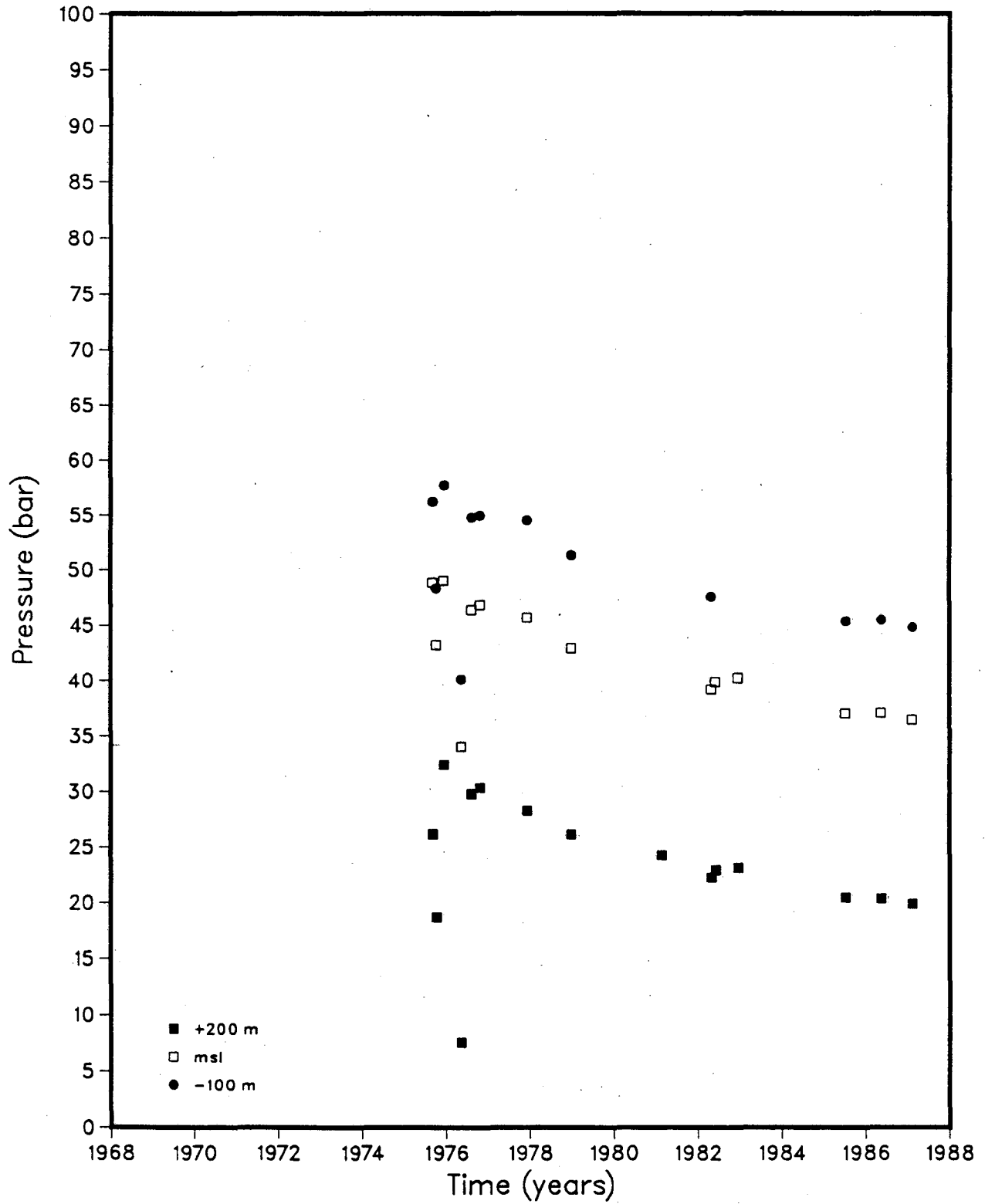
AH23 Pressure Trend



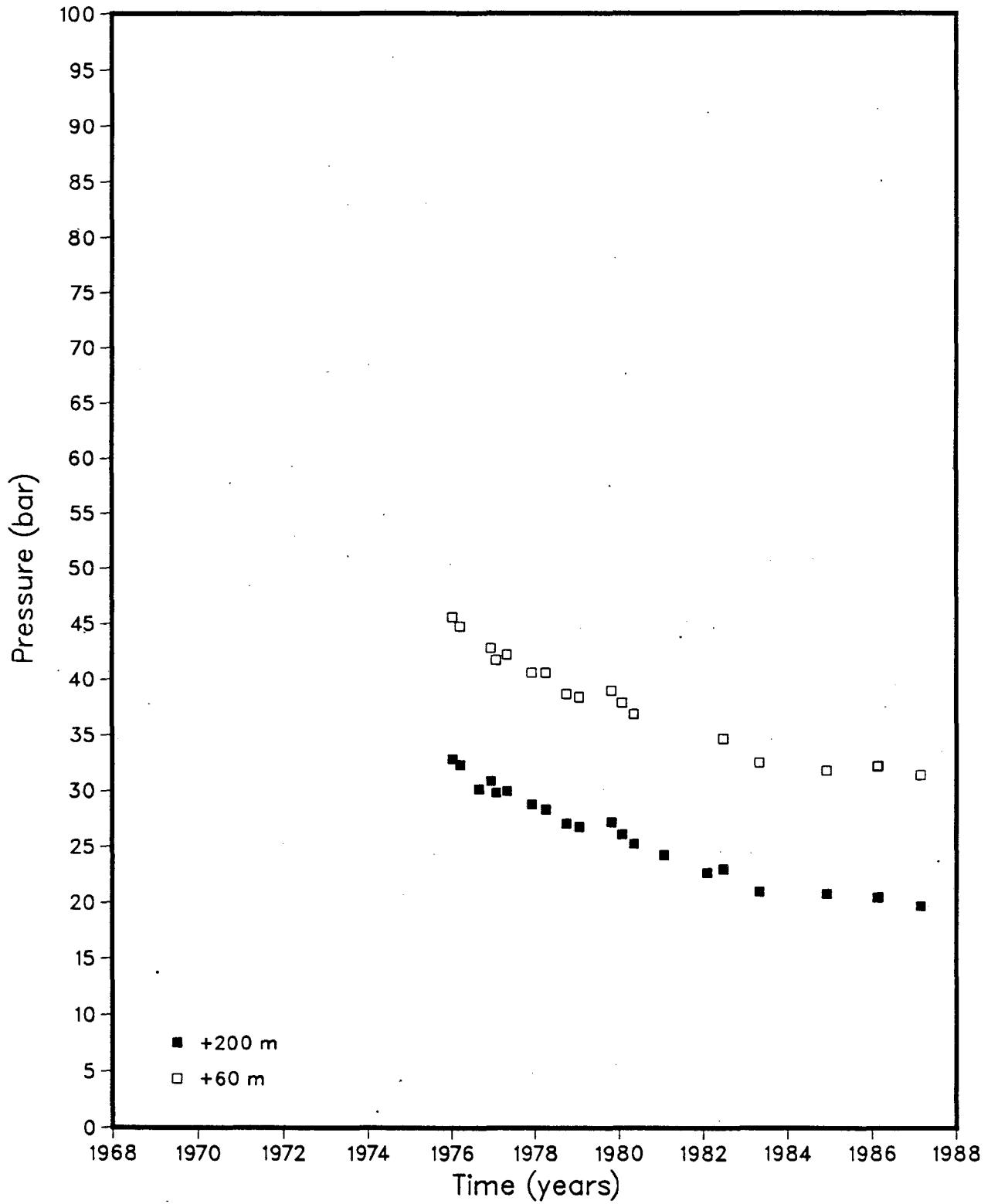
AH24 Pressure Trend



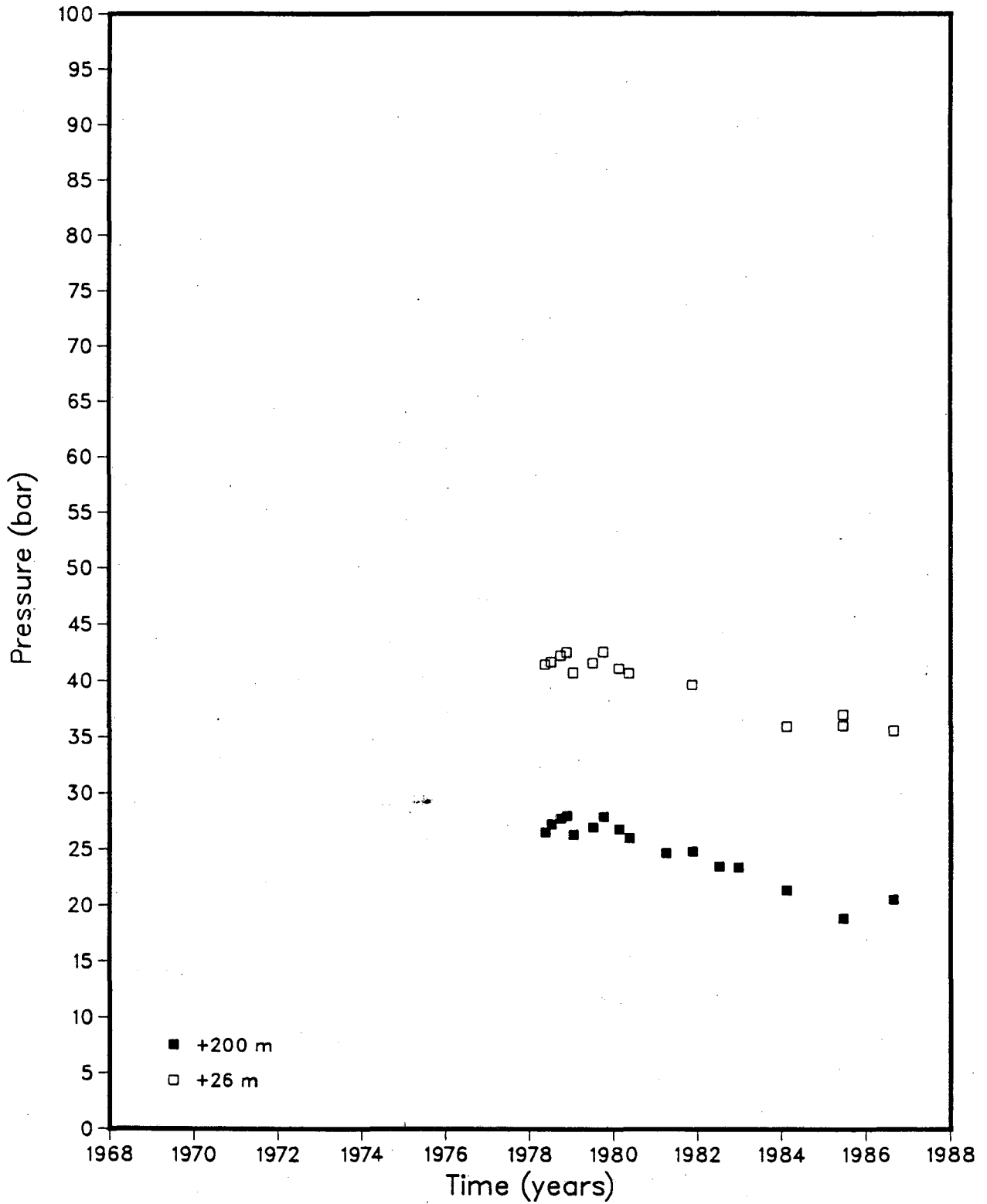
AH25 Pressure Trend



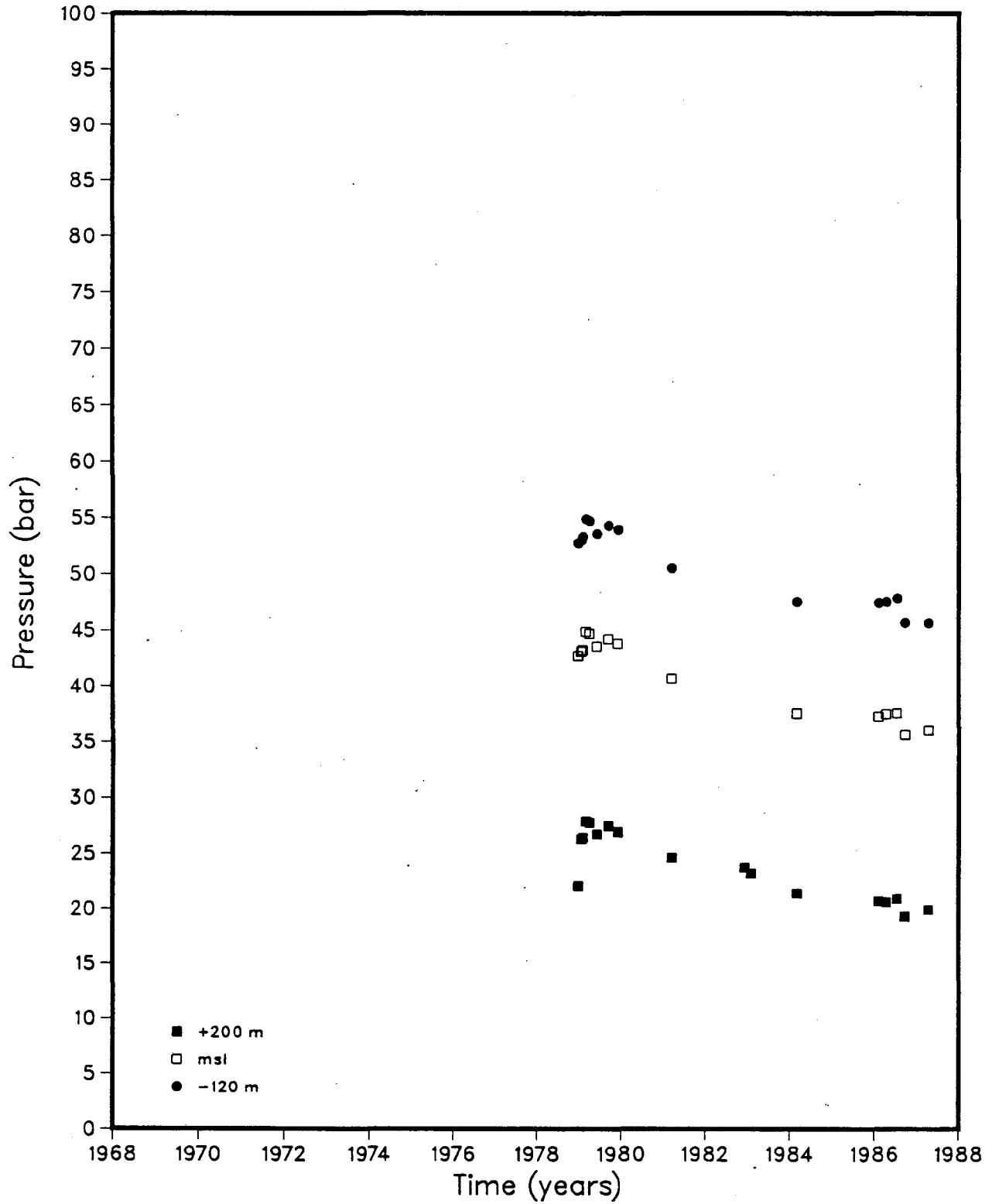
AH26 Pressure Trend



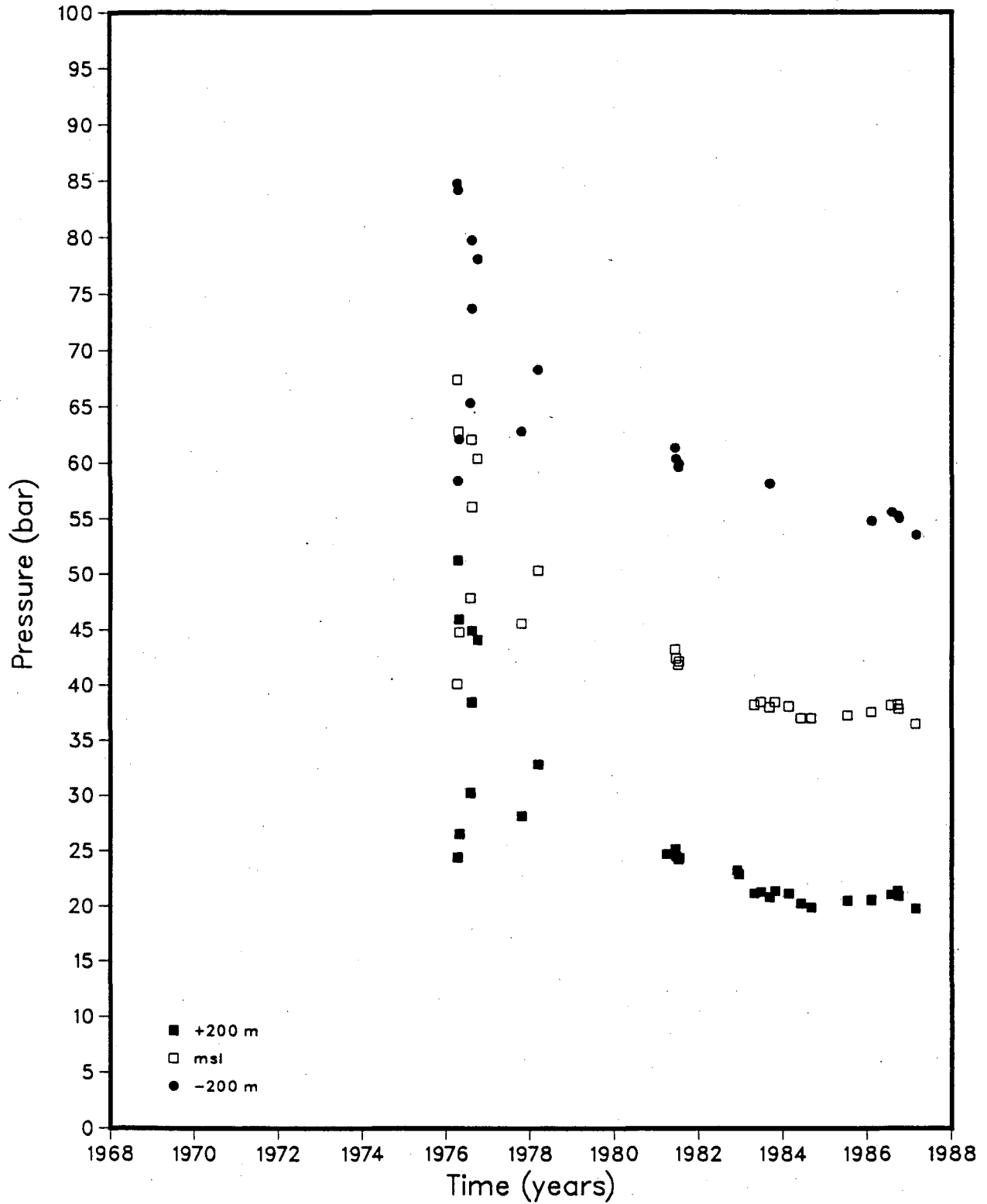
AH27 Pressure Trend



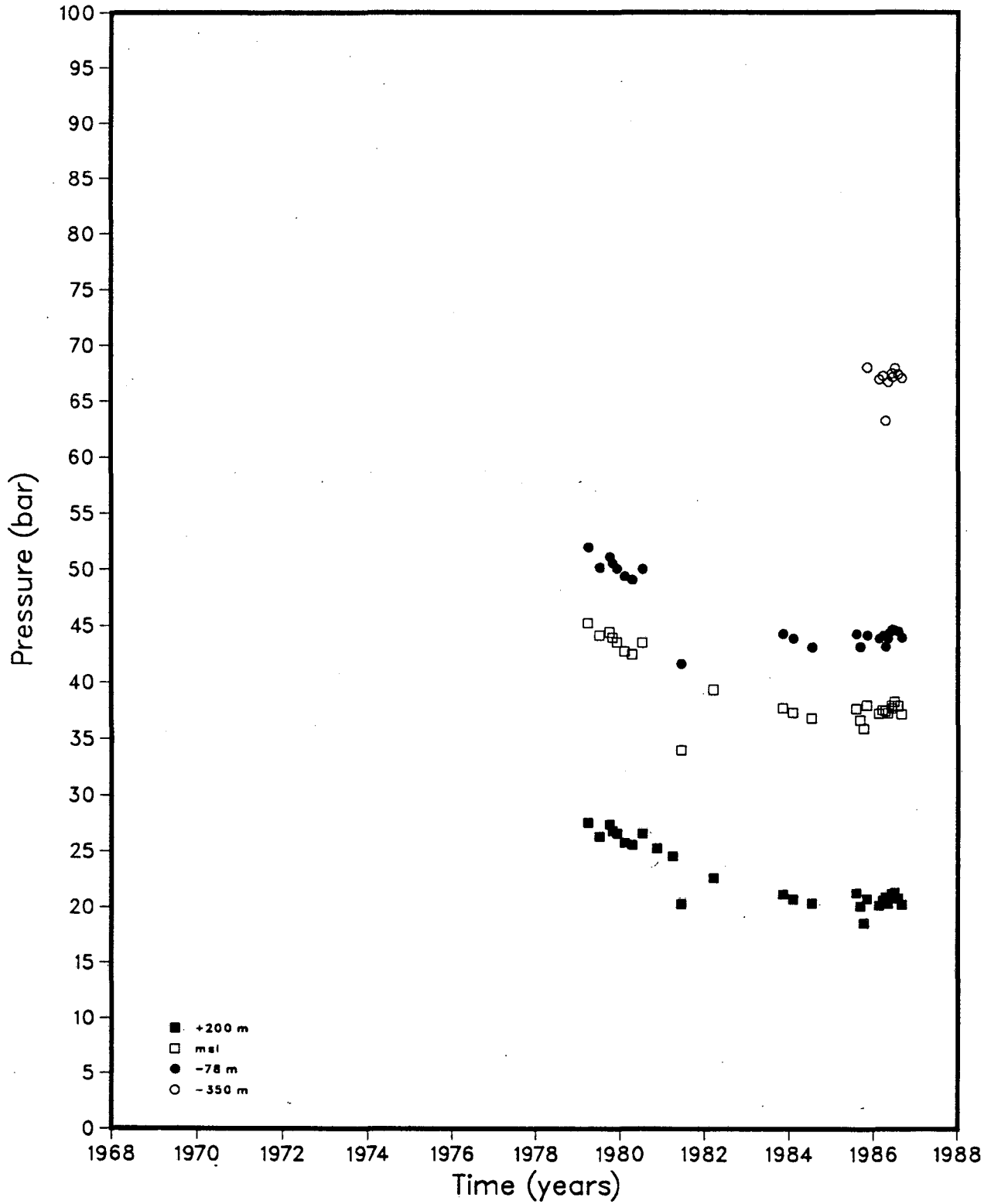
AH28 Pressure Trend



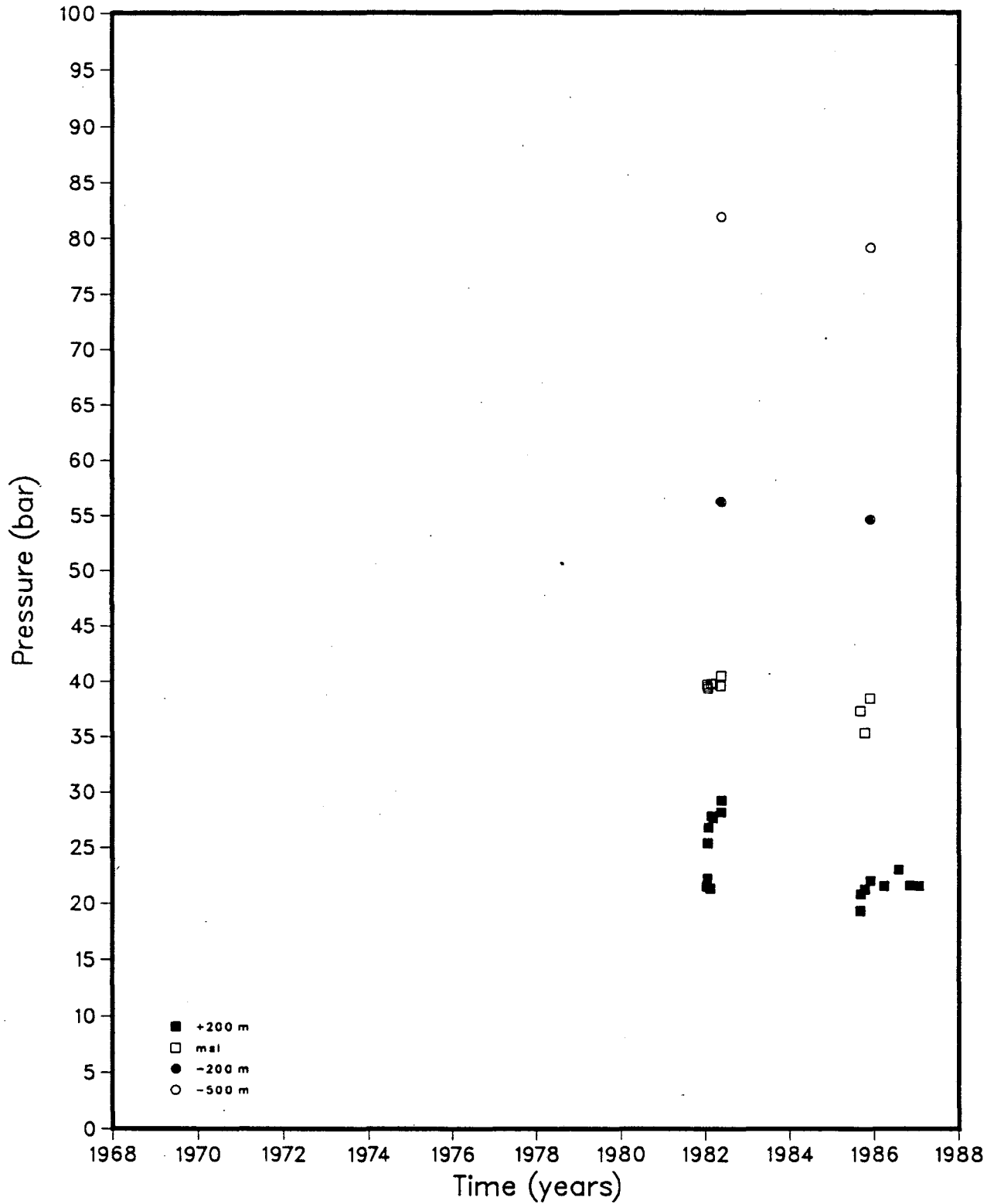
AH29 Pressure Trend



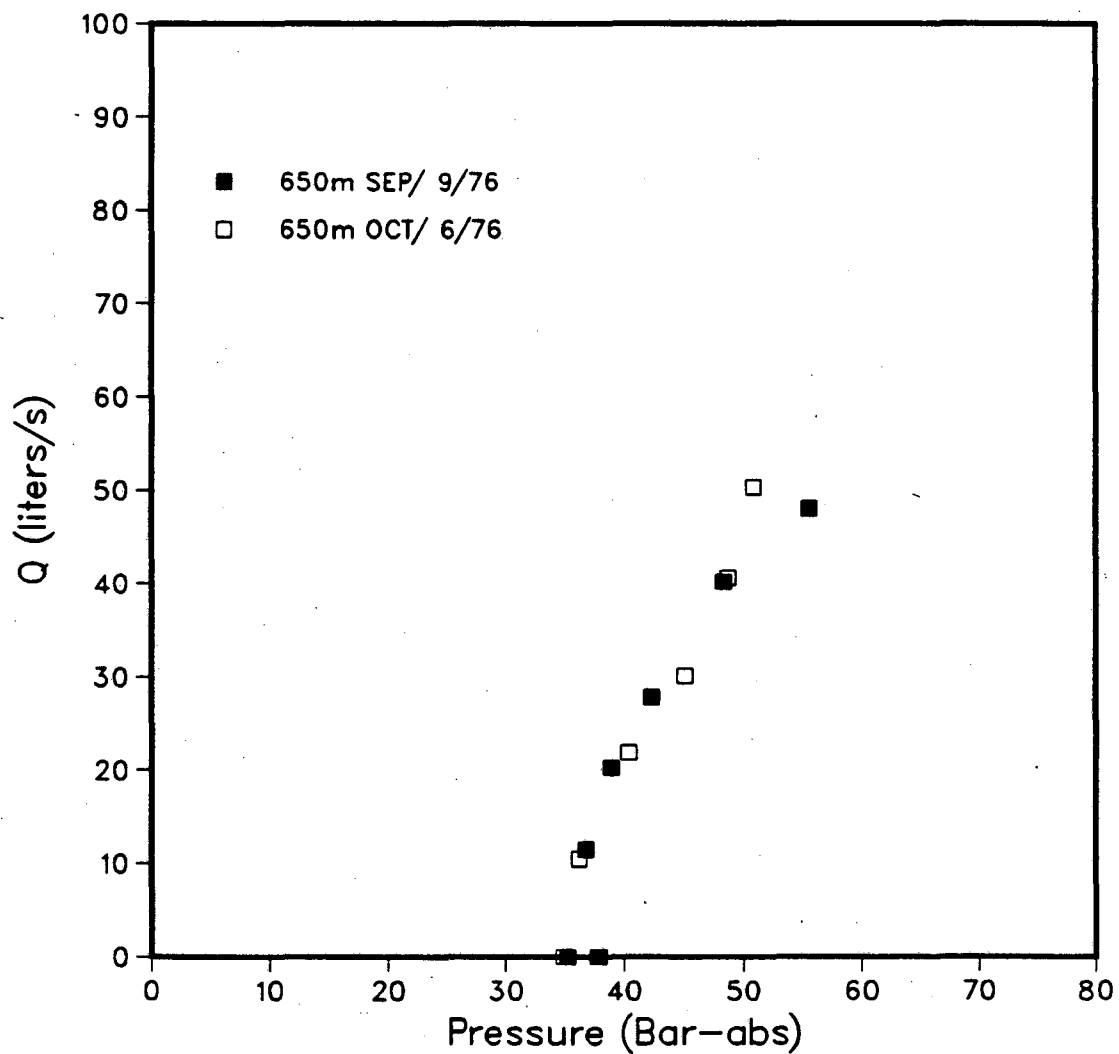
AH30 Pressure Trend



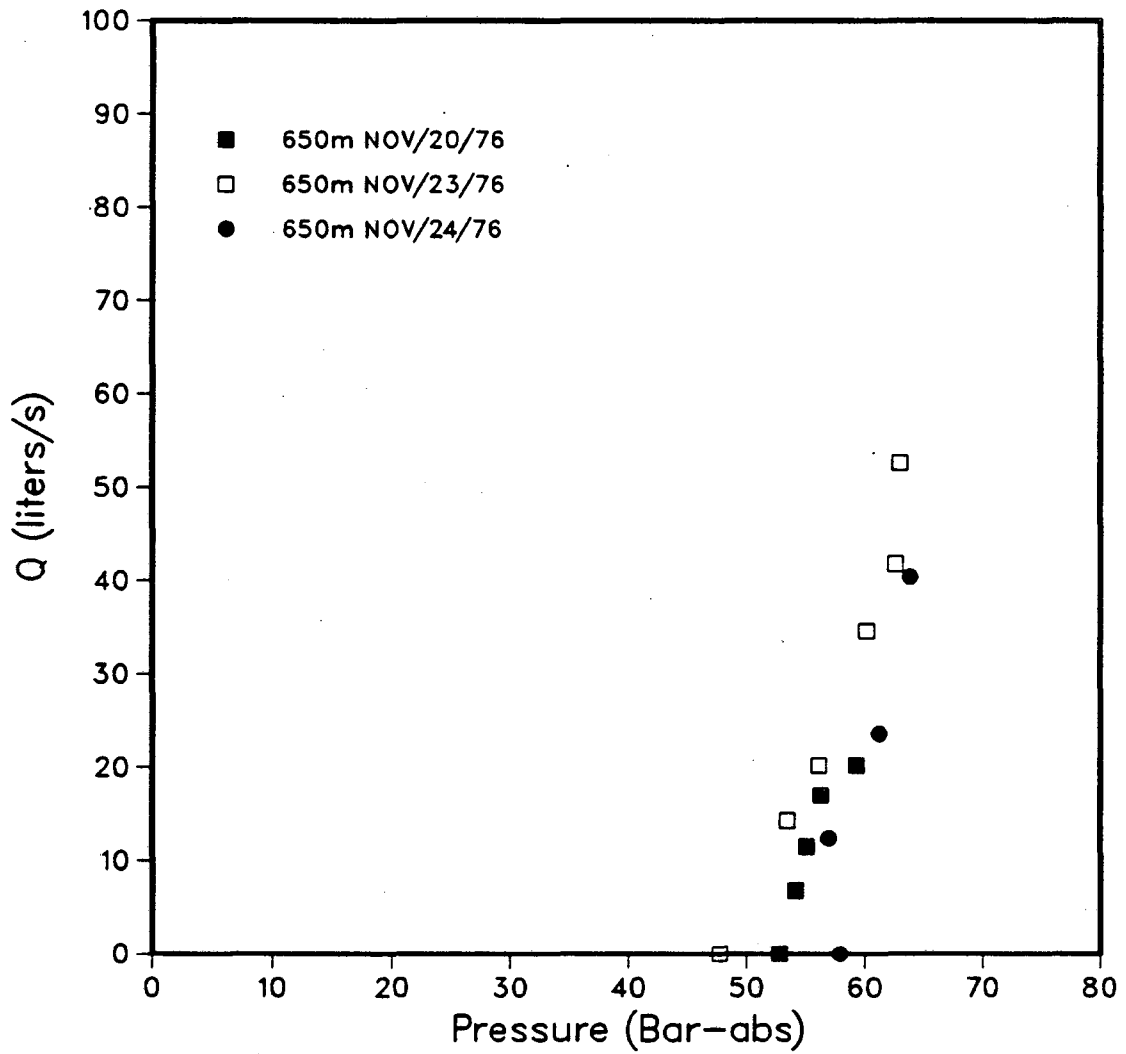
AH32 Pressure Trend



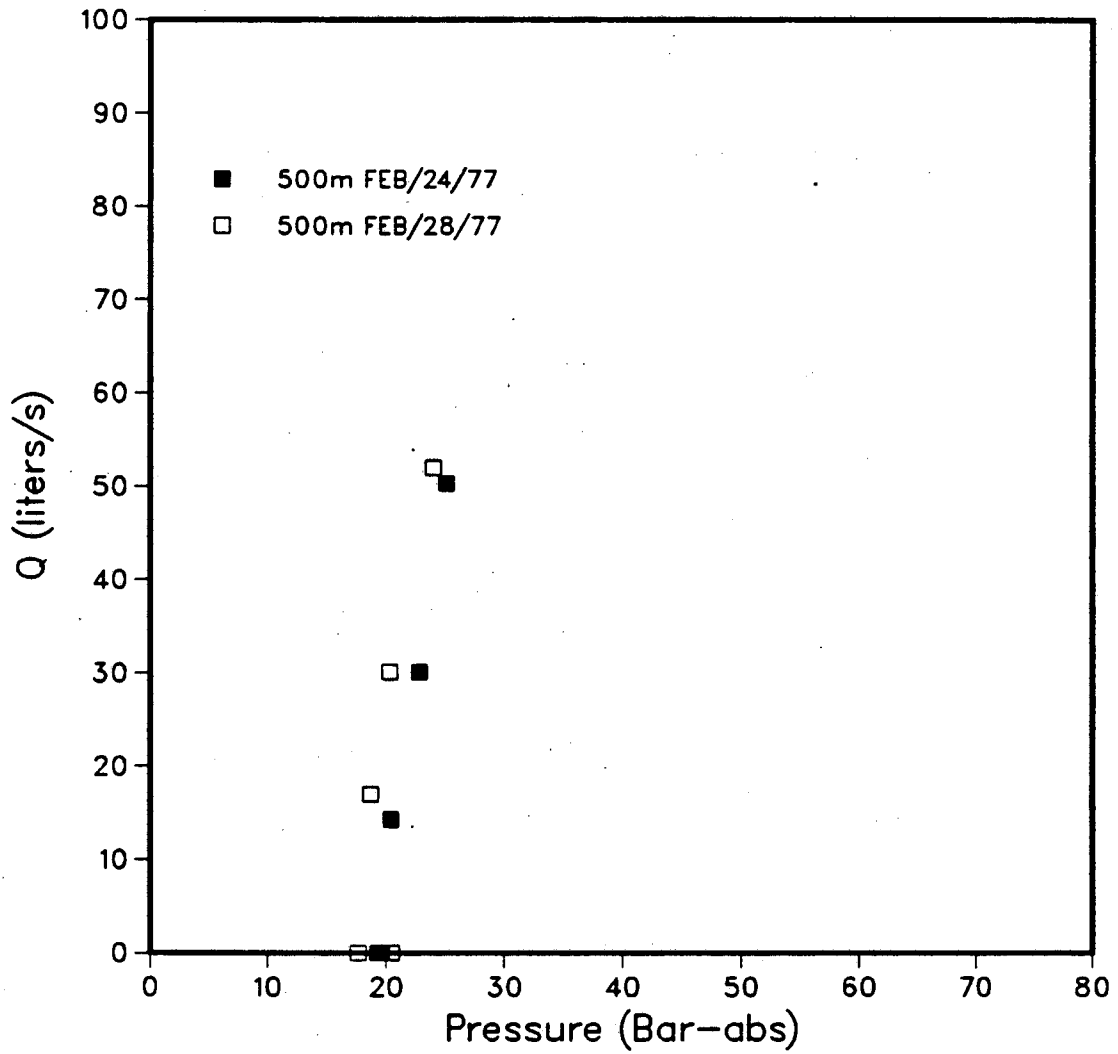
AH2 Injectivity Index Test



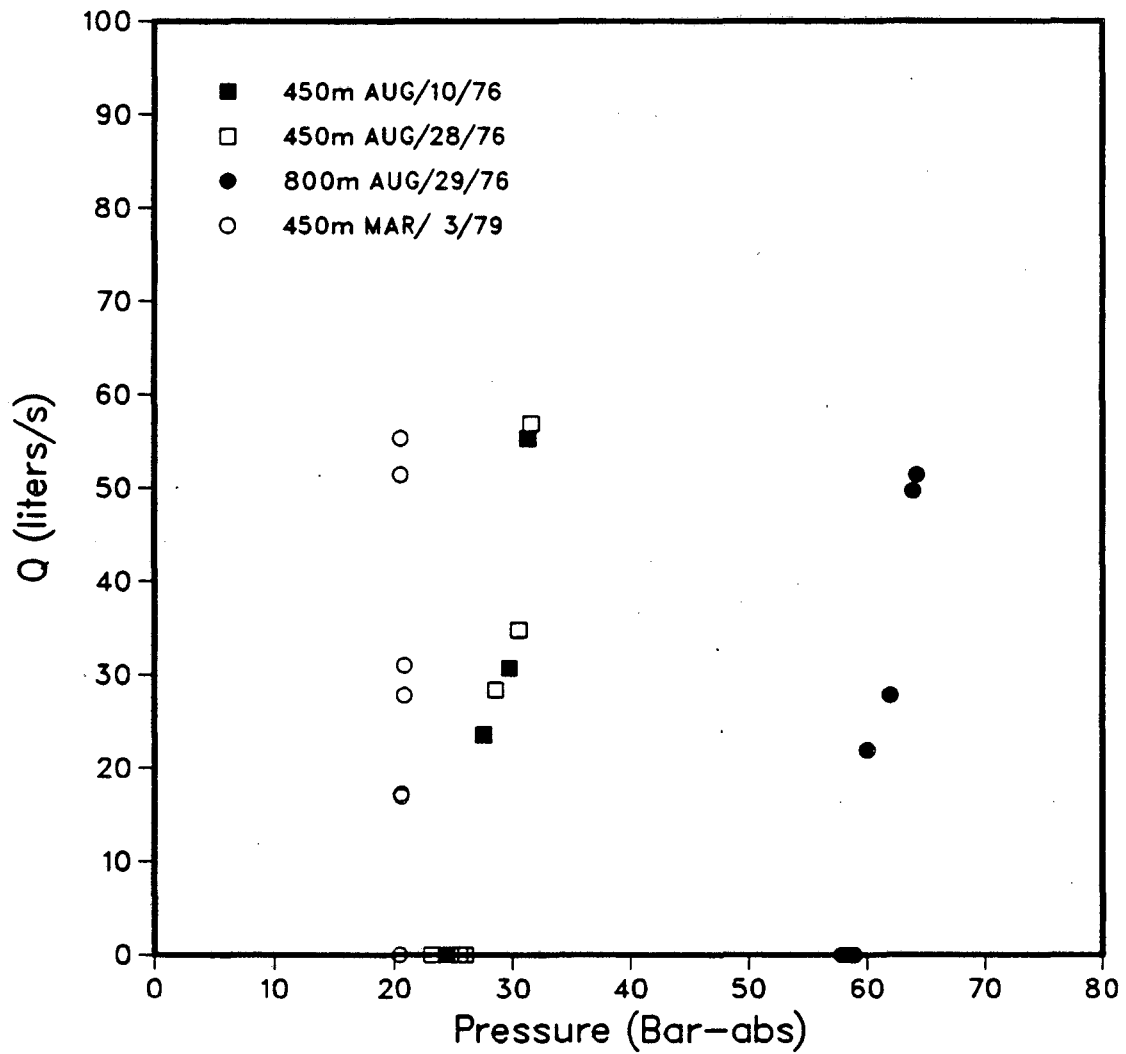
AH14 Injectivity Index Test



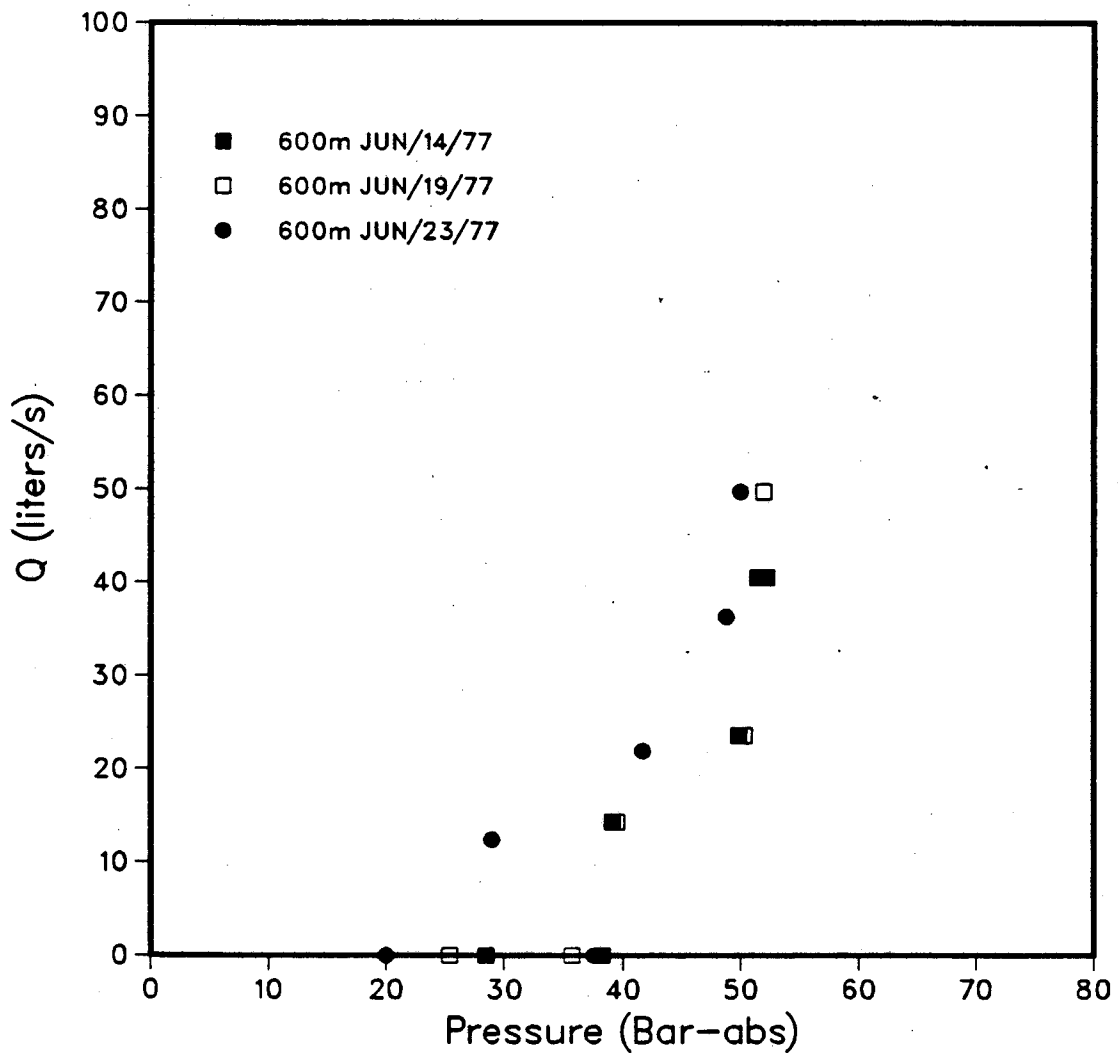
AH16 Injectivity Index Test



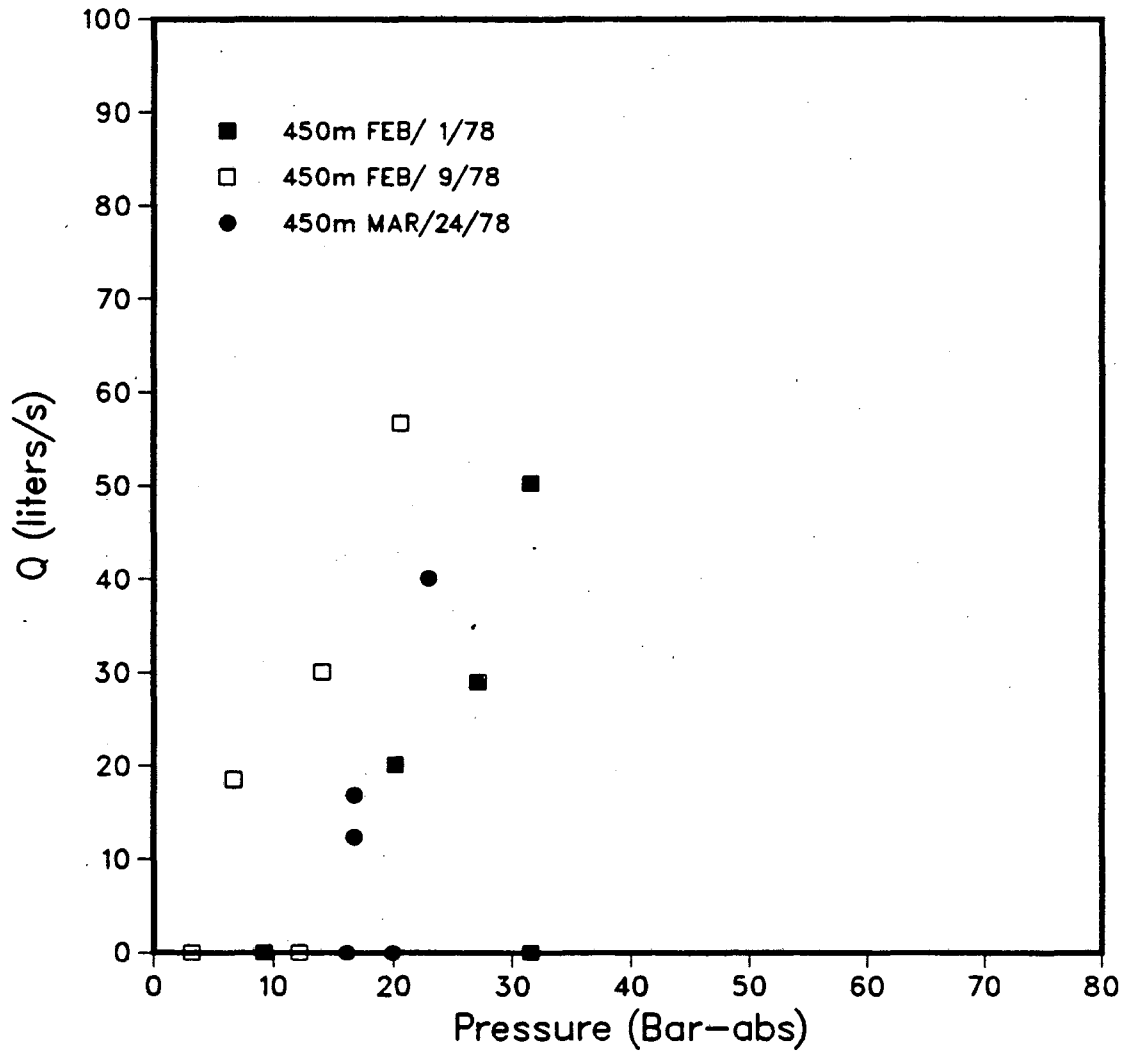
AH17 Injectivity Index Test



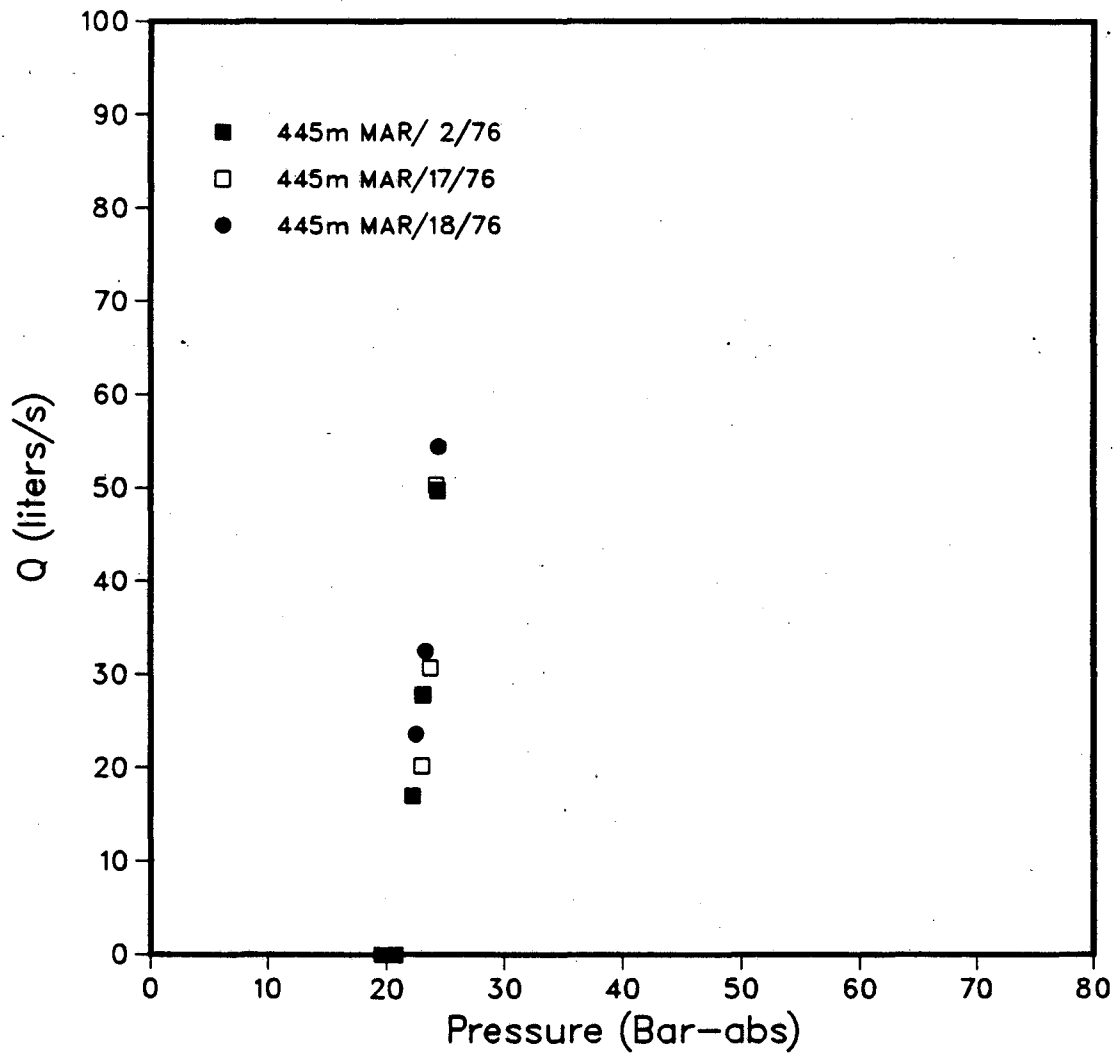
AH18 Injectivity Index Test



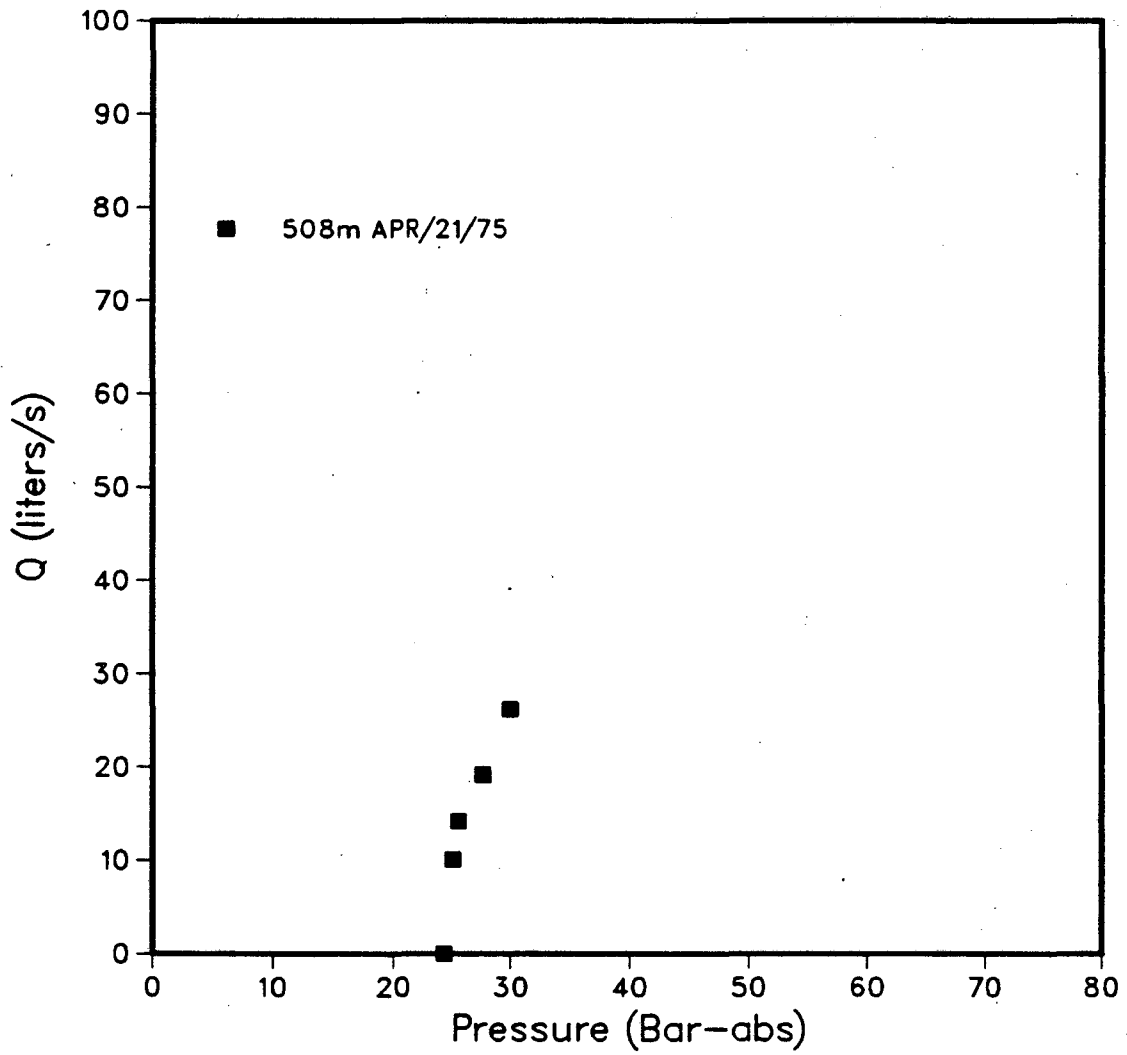
AH19 Injectivity Index Test



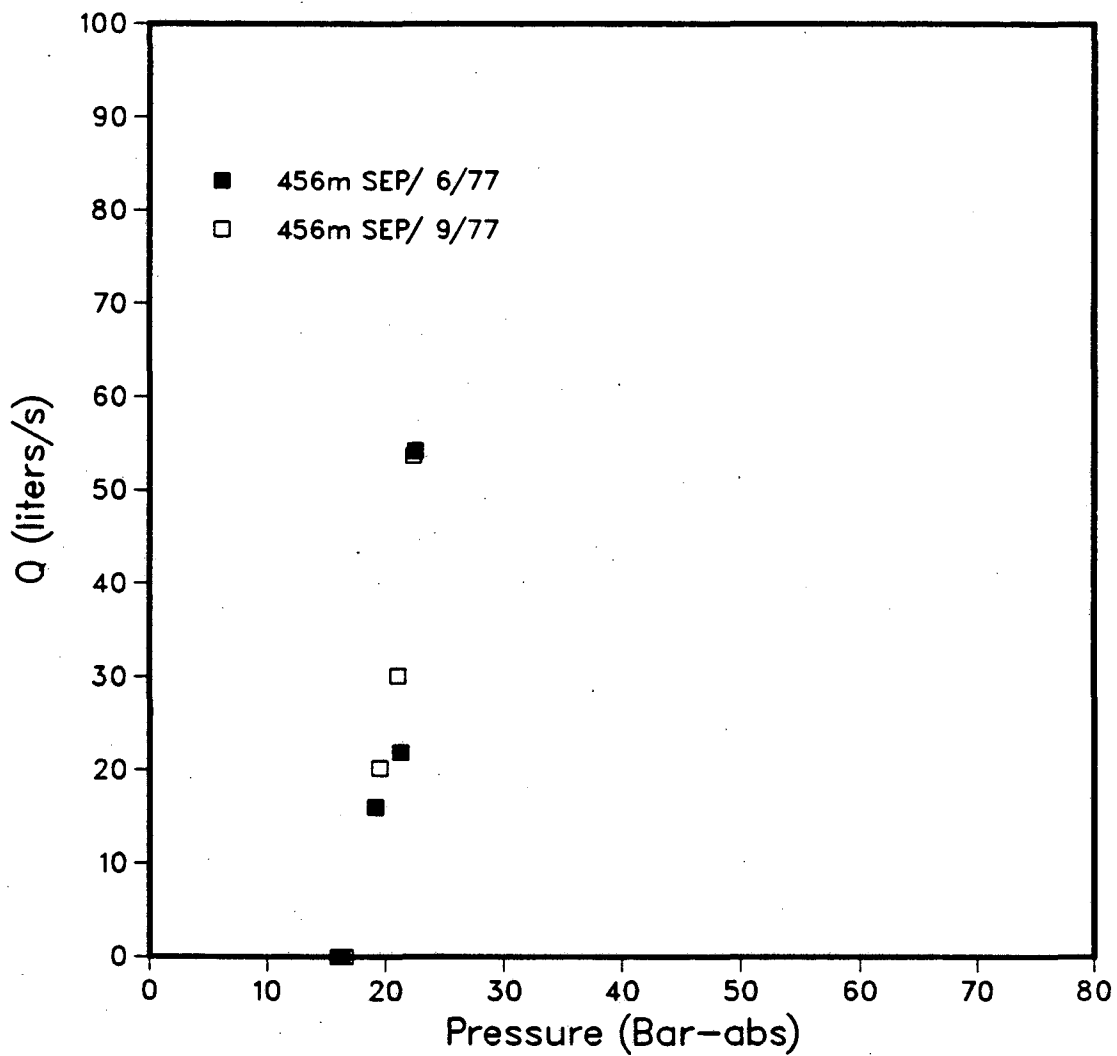
AH21 Injectivity Index Test



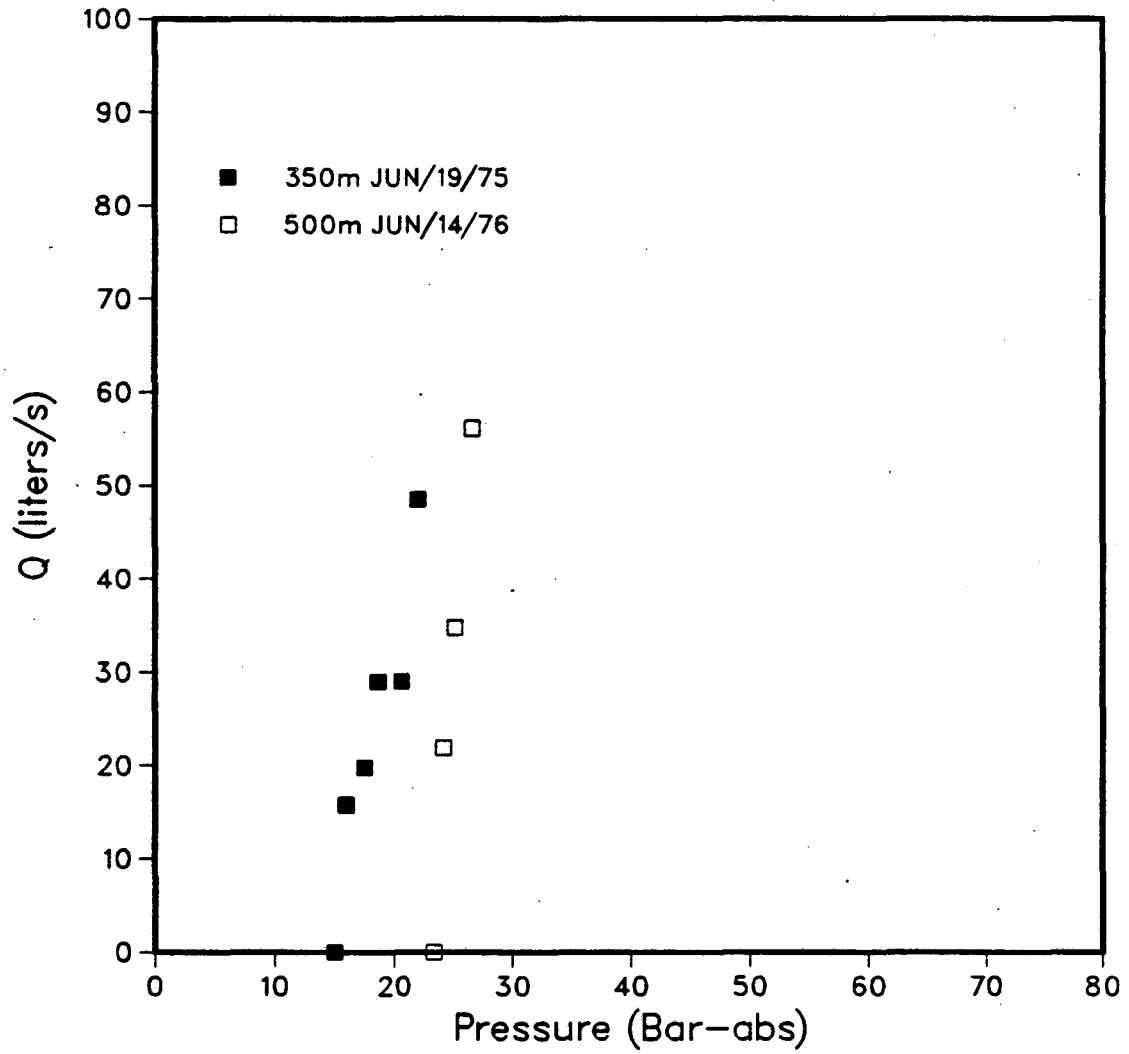
AH22 Injectivity Index Test



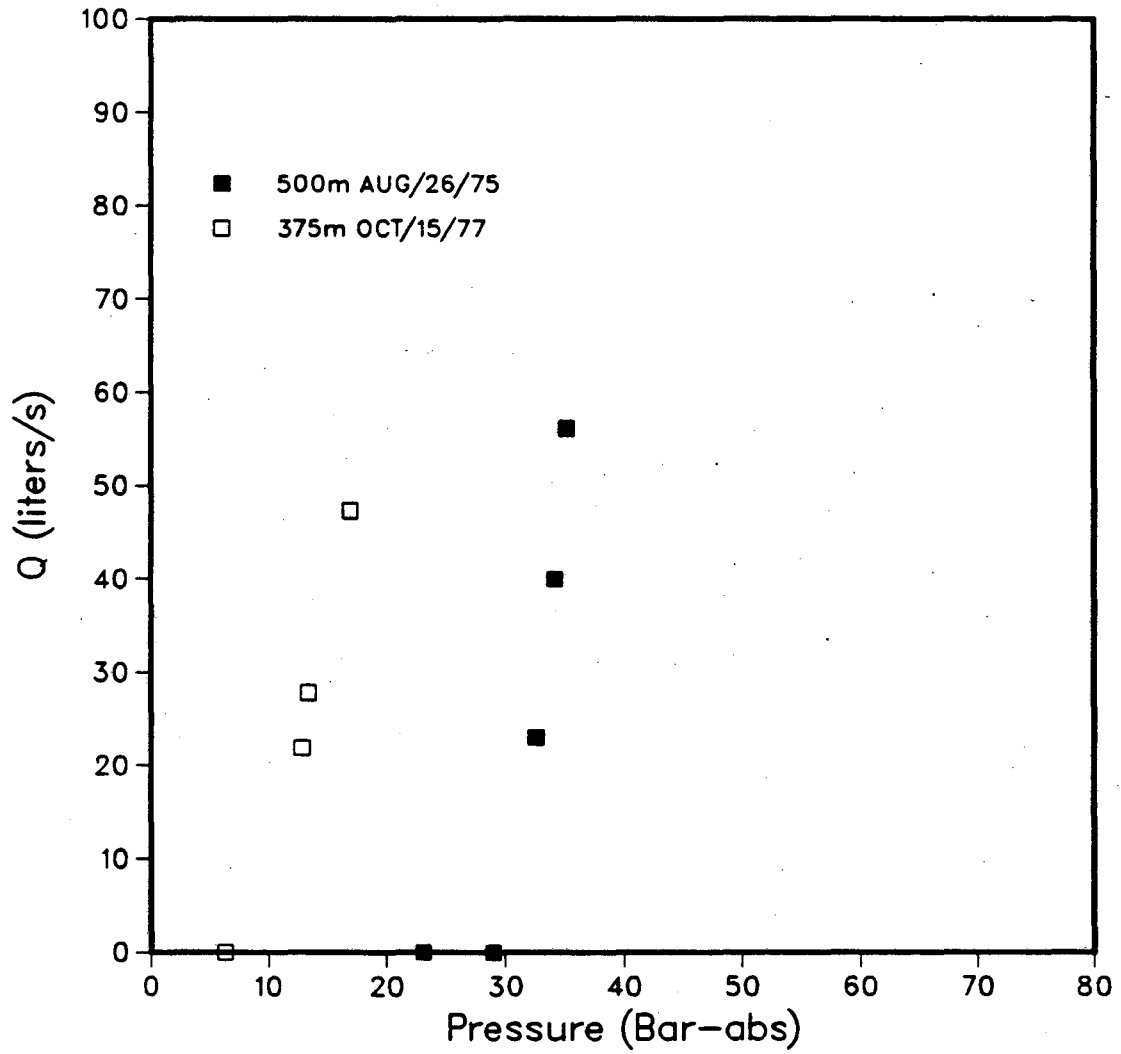
AH23 Injectivity Index Test



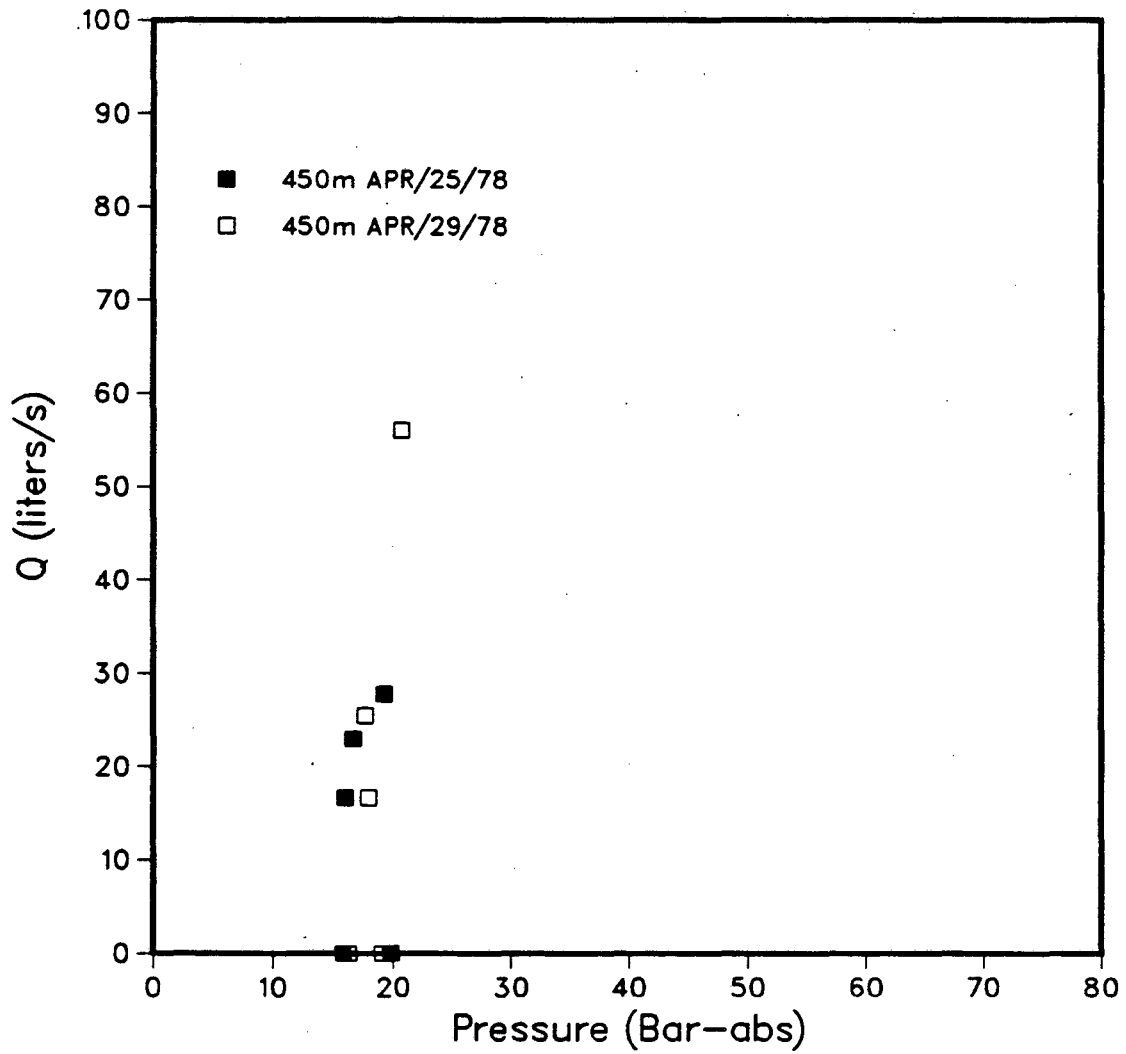
AH24 Injectivity Index Test



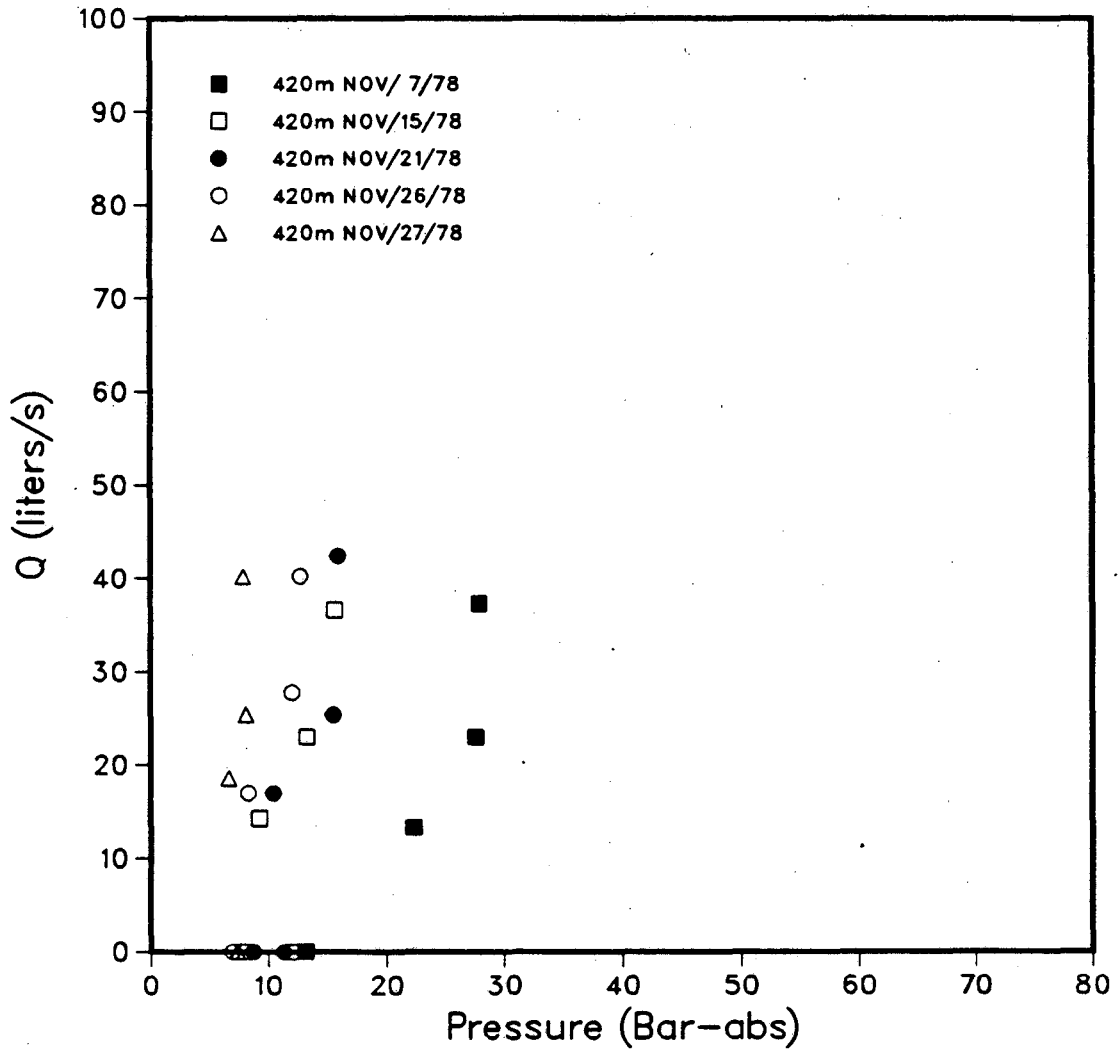
AH25 Injectivity Index Test



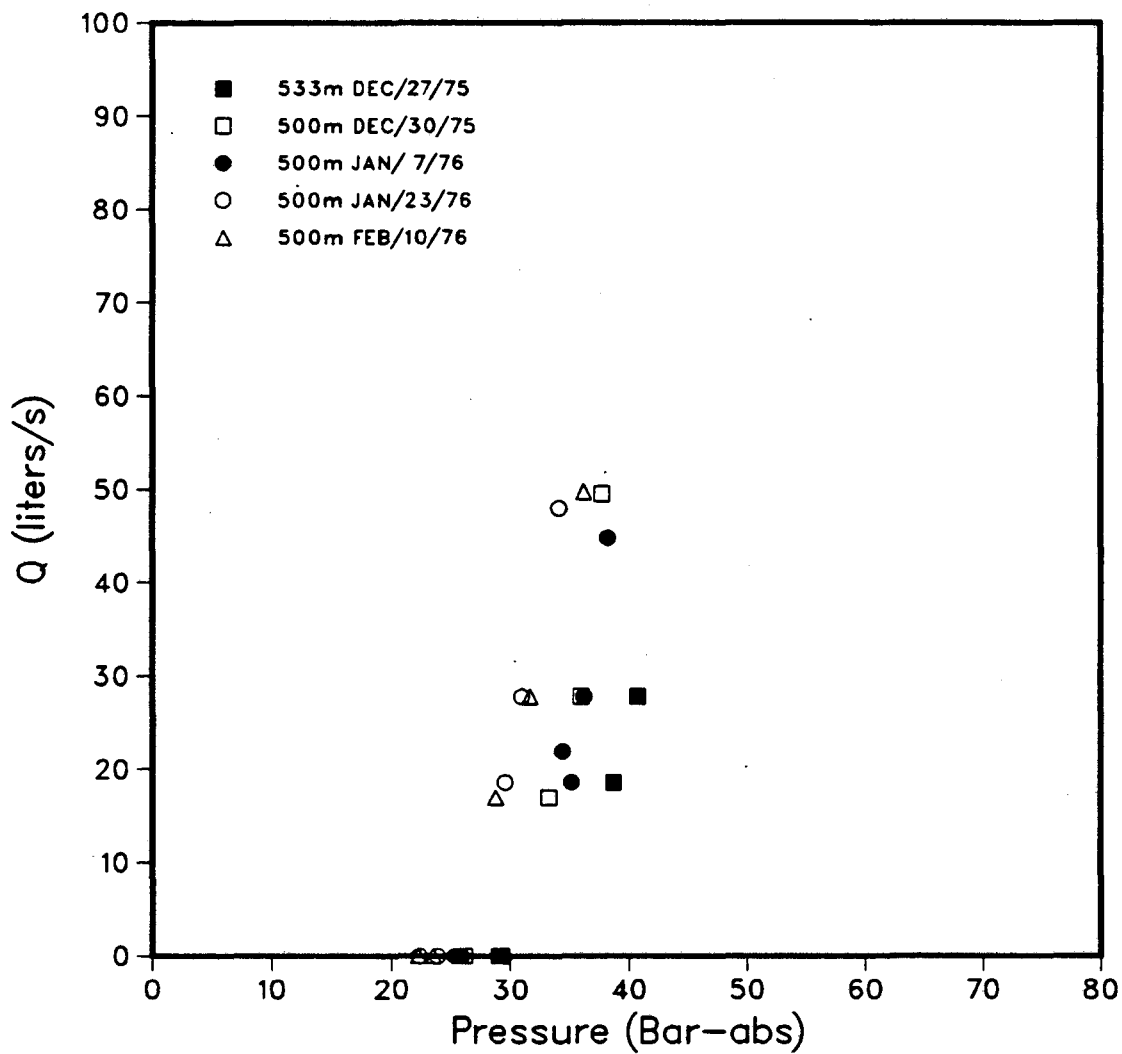
AH27 Injectivity Index Test



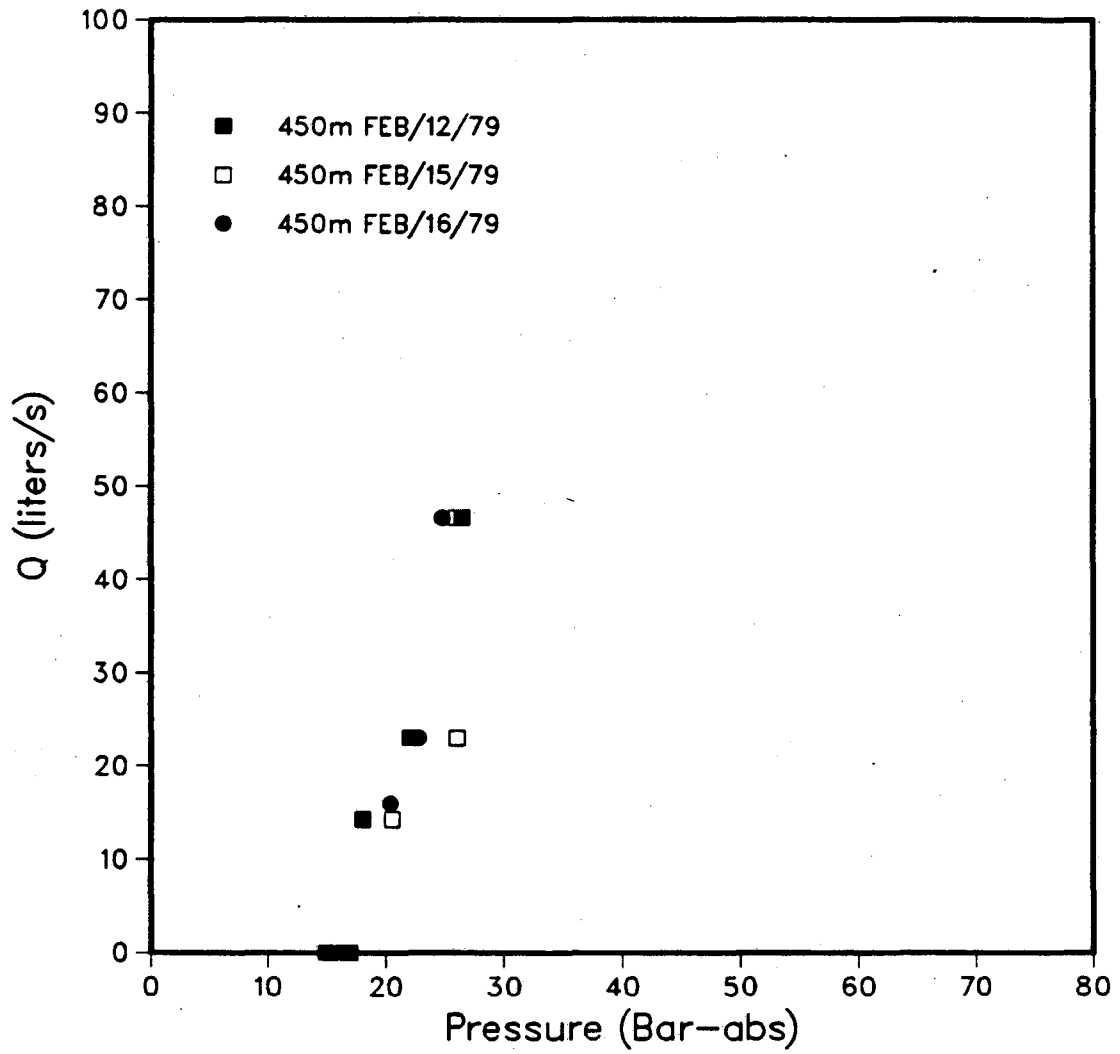
AH28 Injectivity Index Test



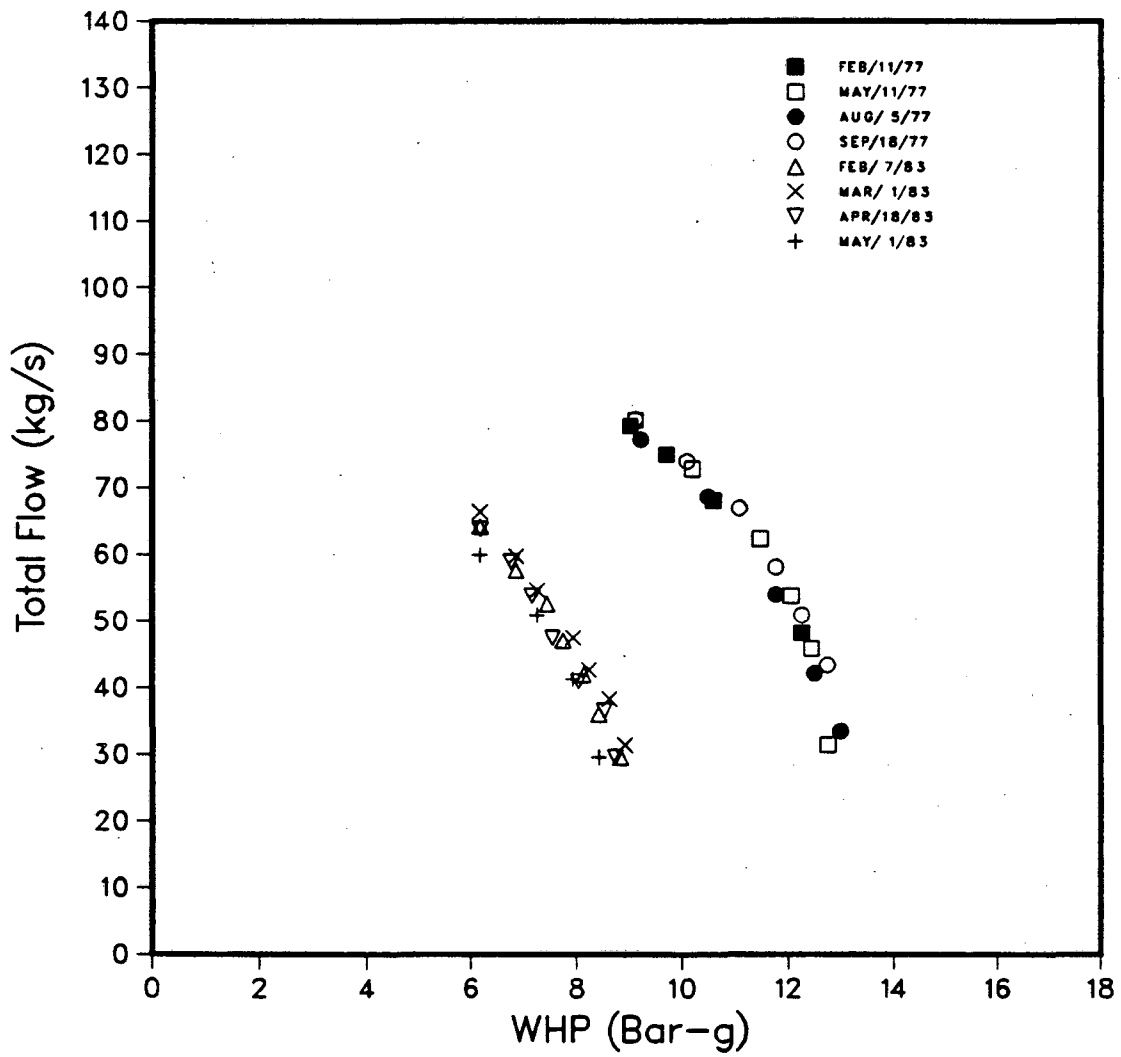
AH29 Injectivity Index Test



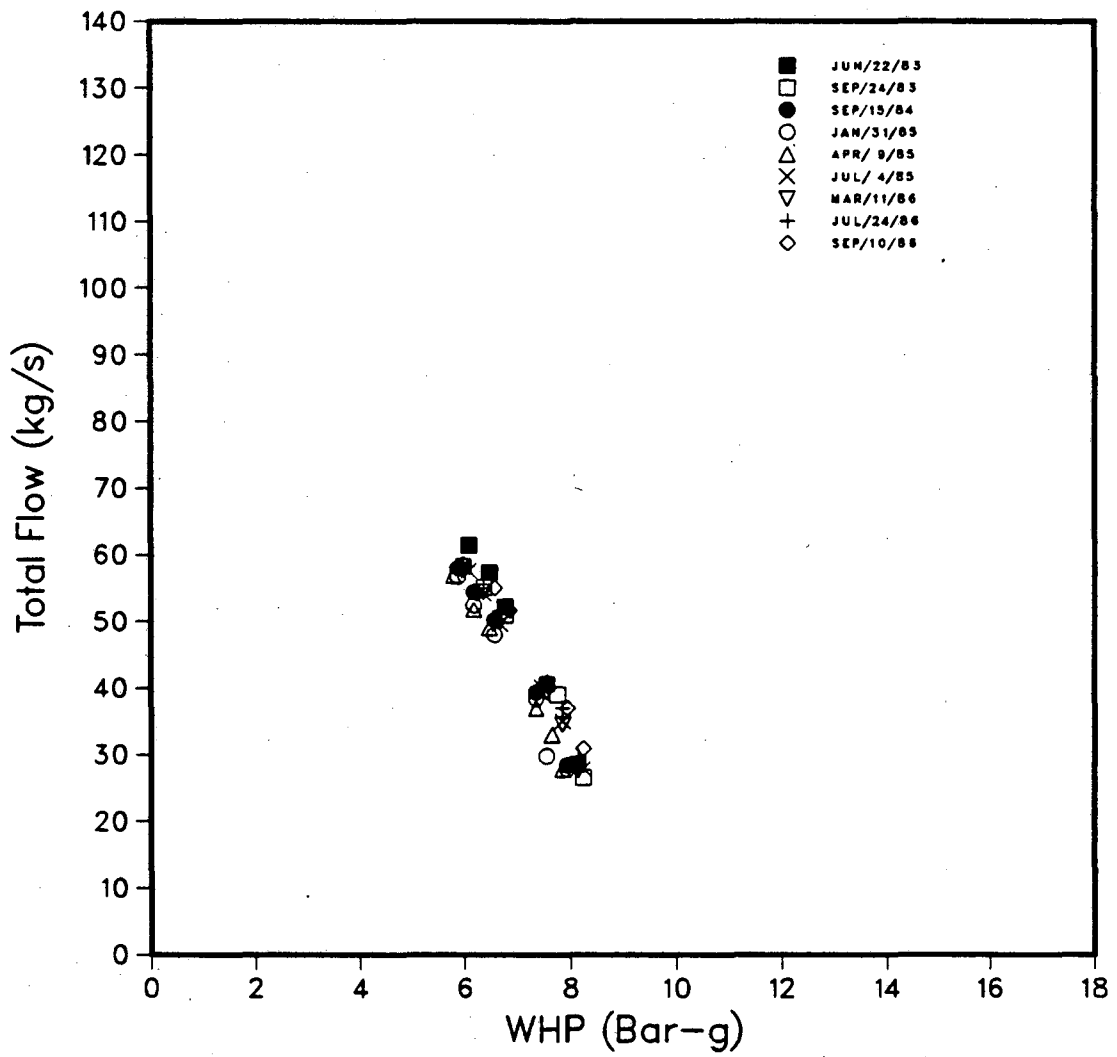
AH30 Injectivity Index Test



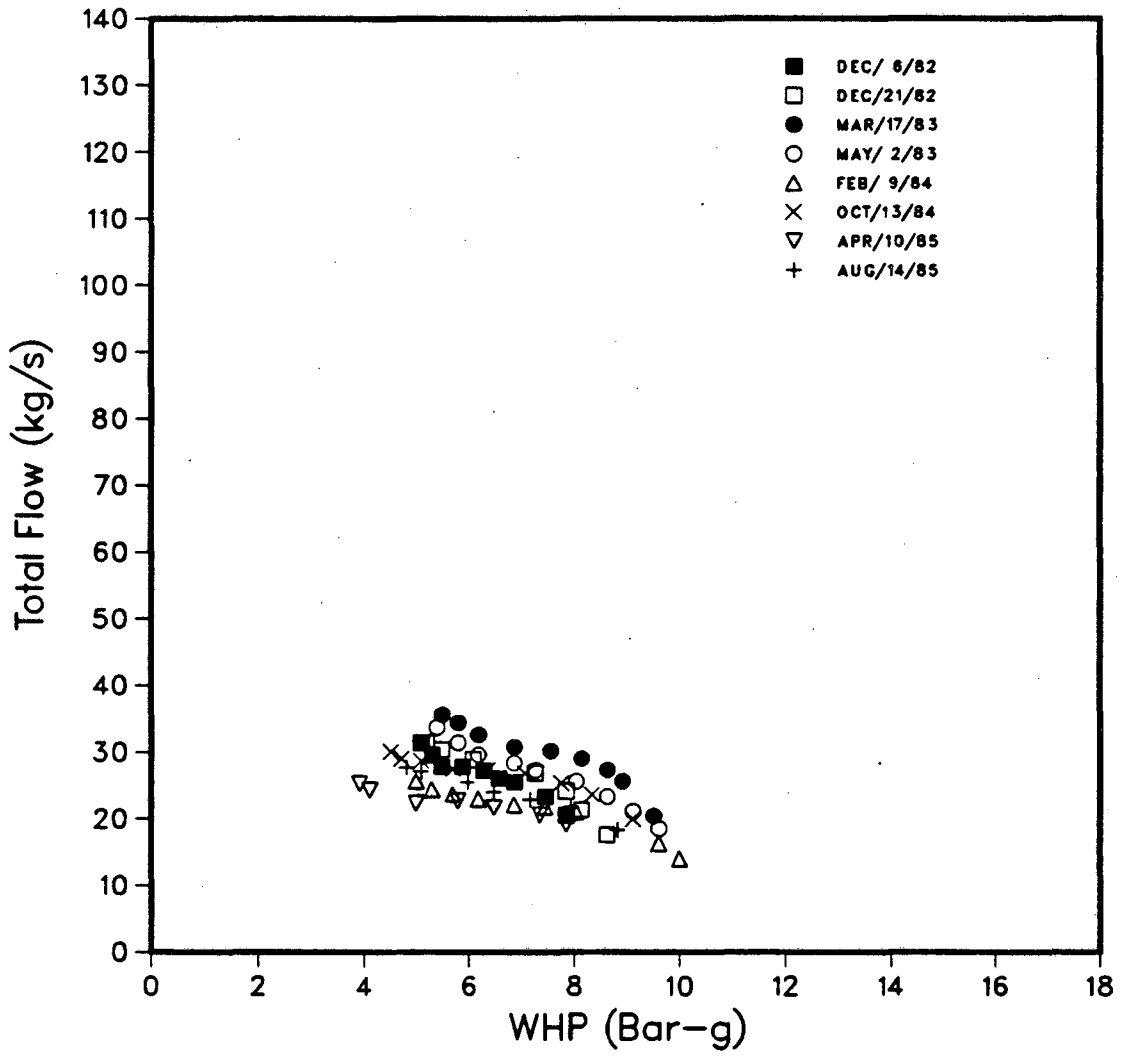
AH1 WHP vs. Flow



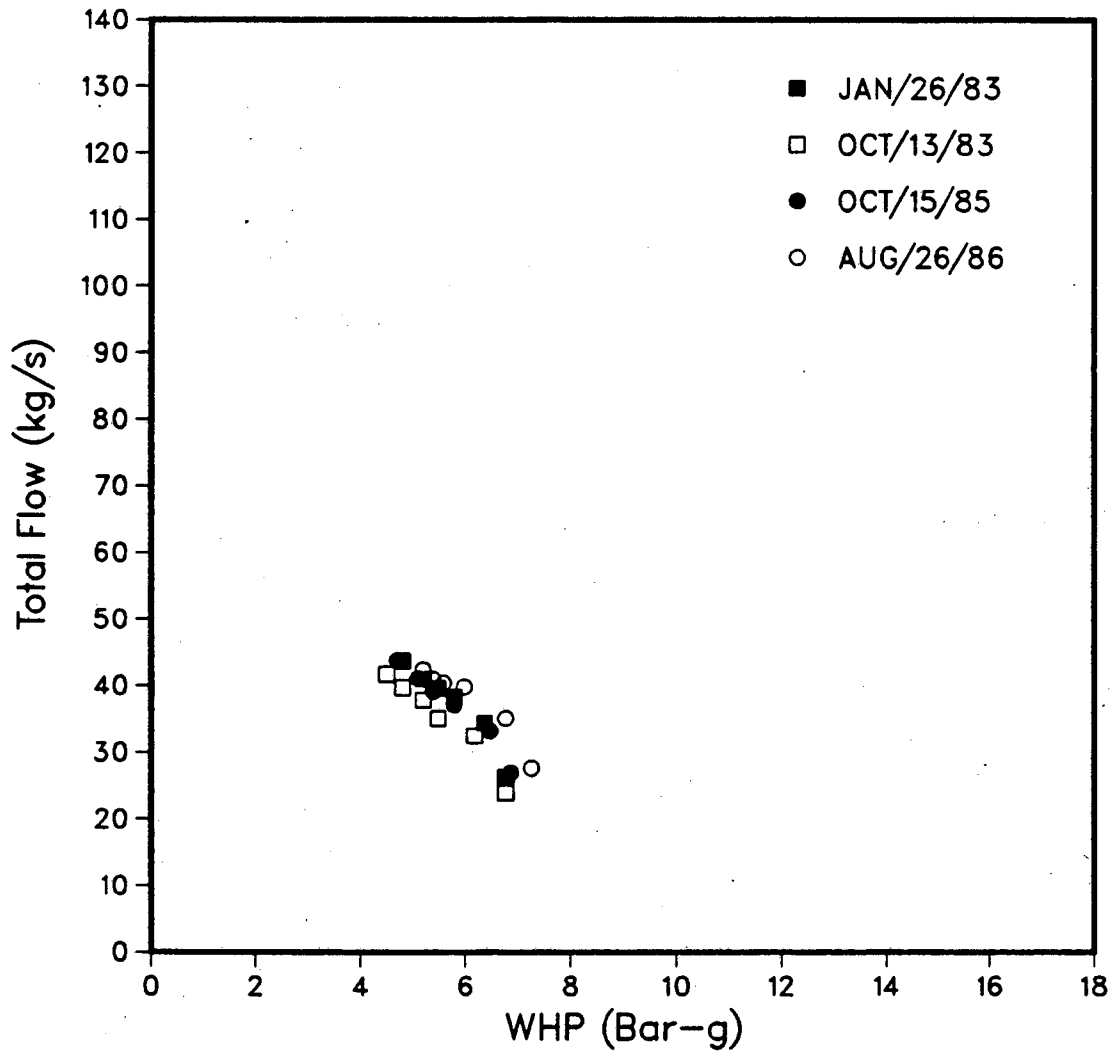
AH1 WHP vs. Flow



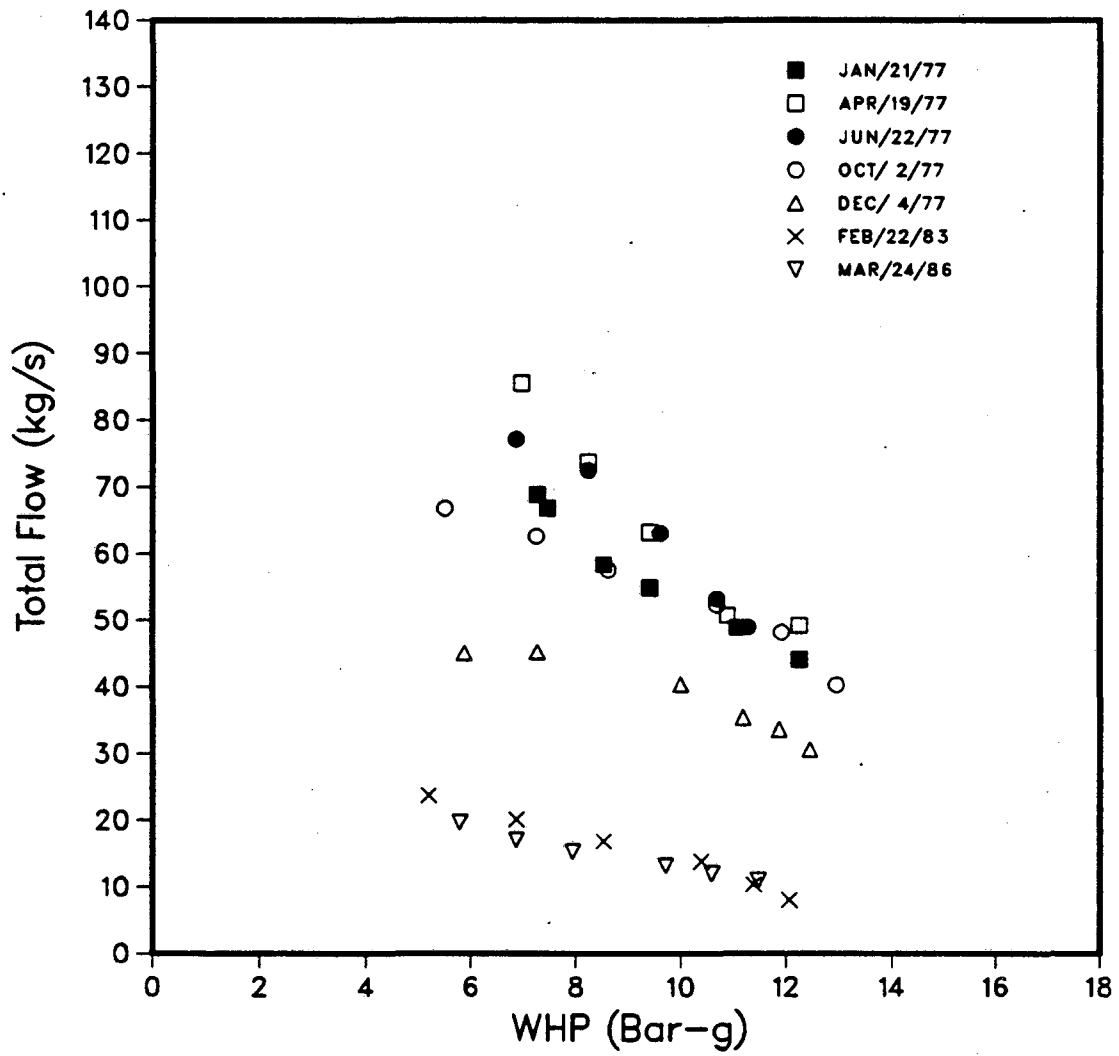
AH4 WHP vs. Flow



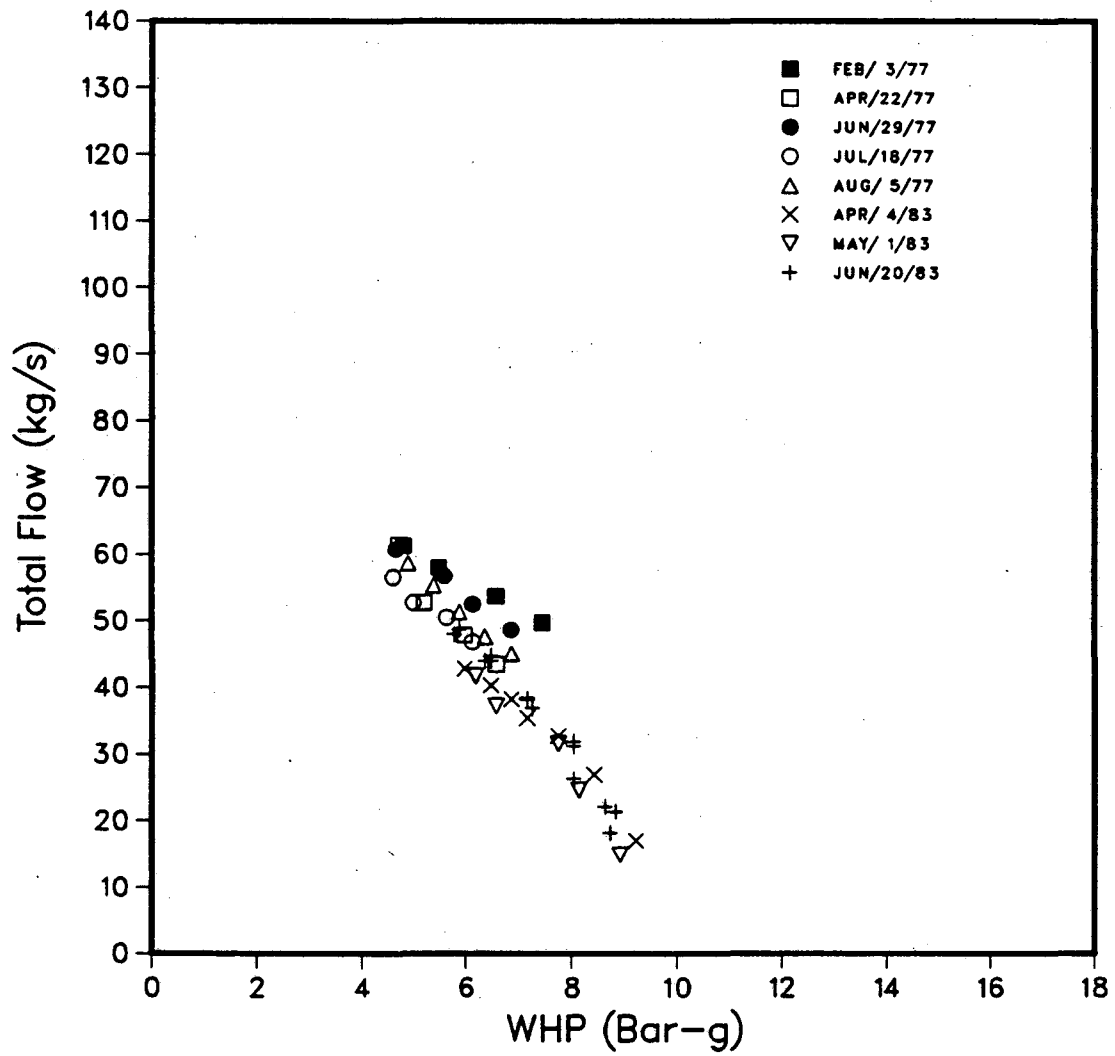
AH5 WHP vs. Flow



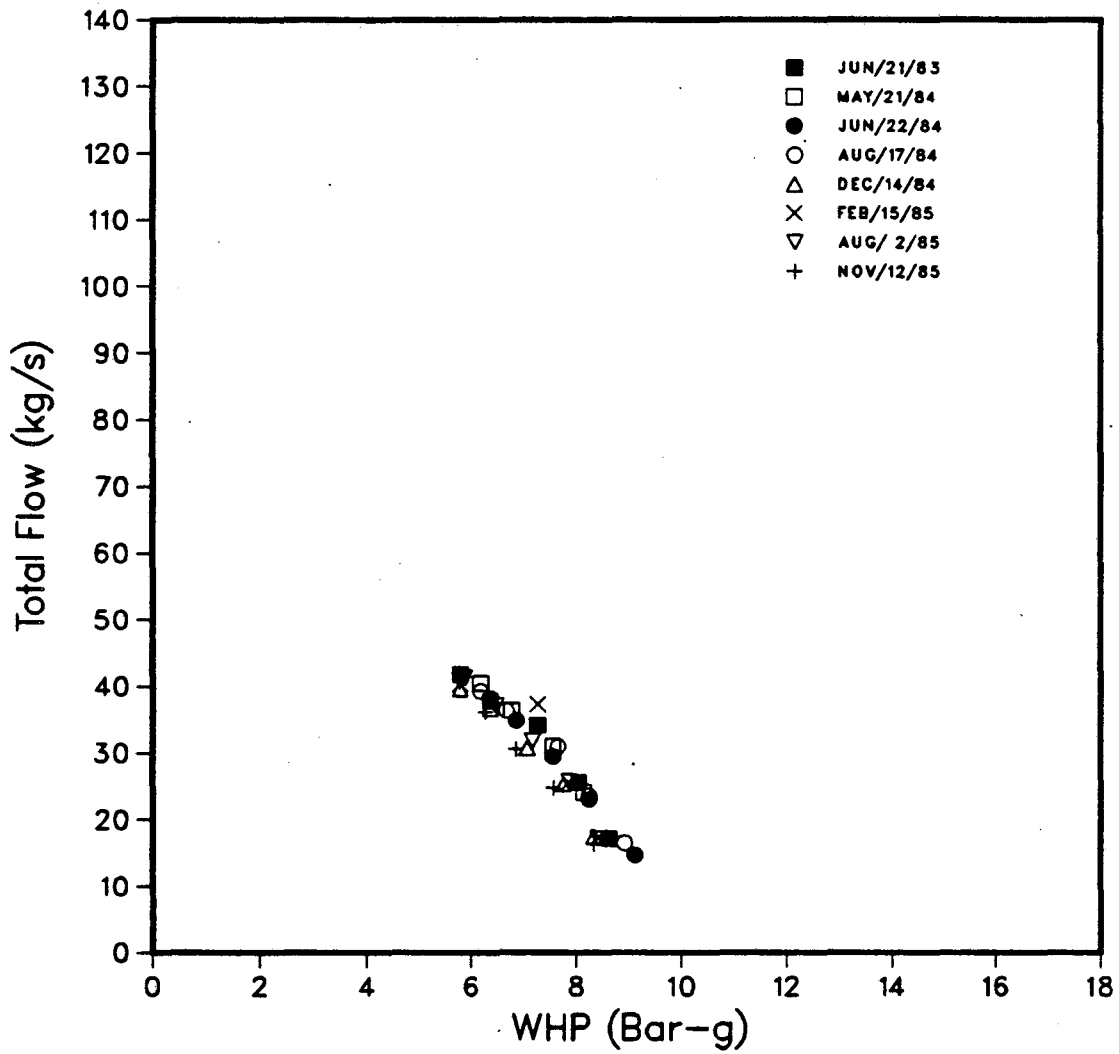
AH6 WHP vs. Flow



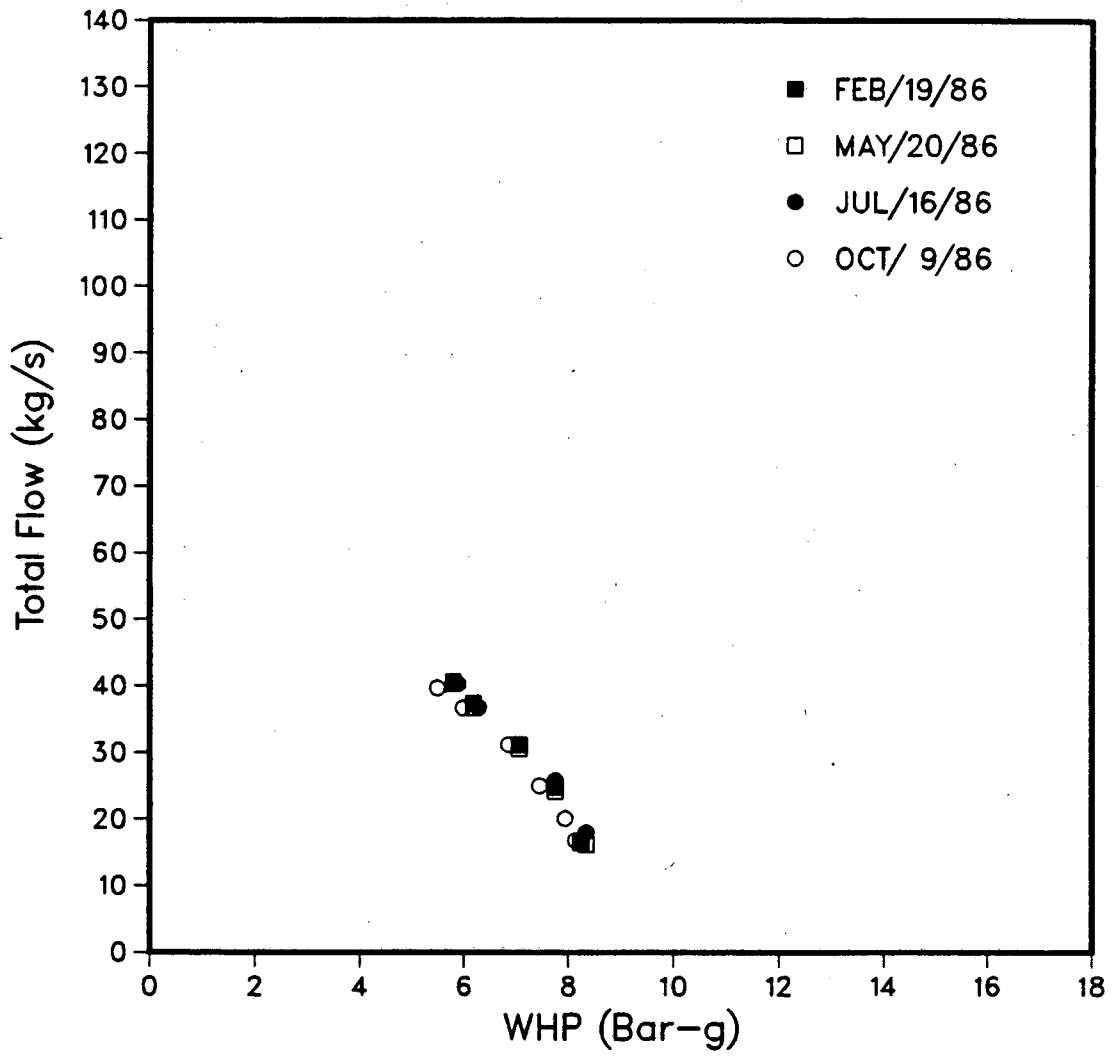
AH7 WHP vs. Flow



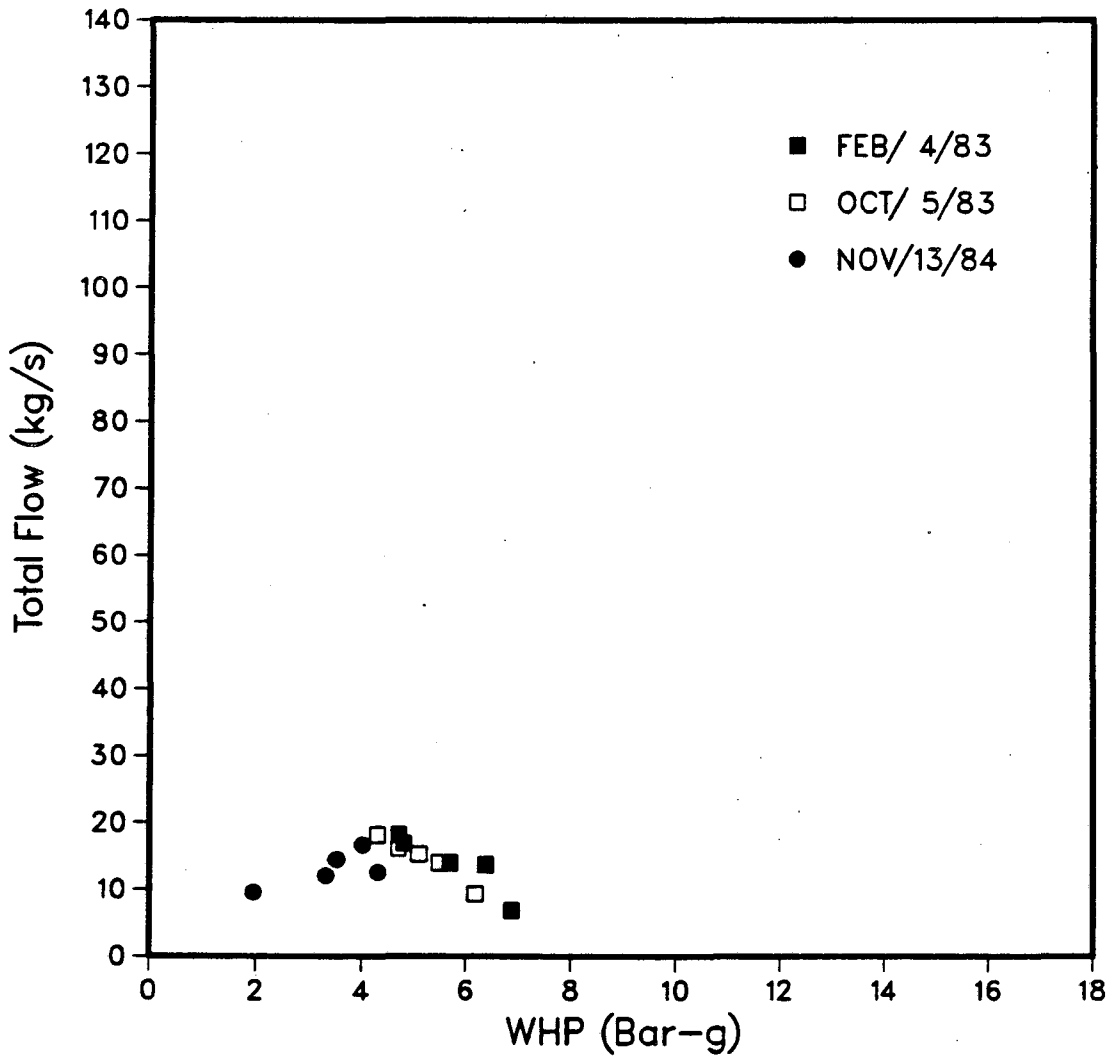
AH7 WHP vs. Flow



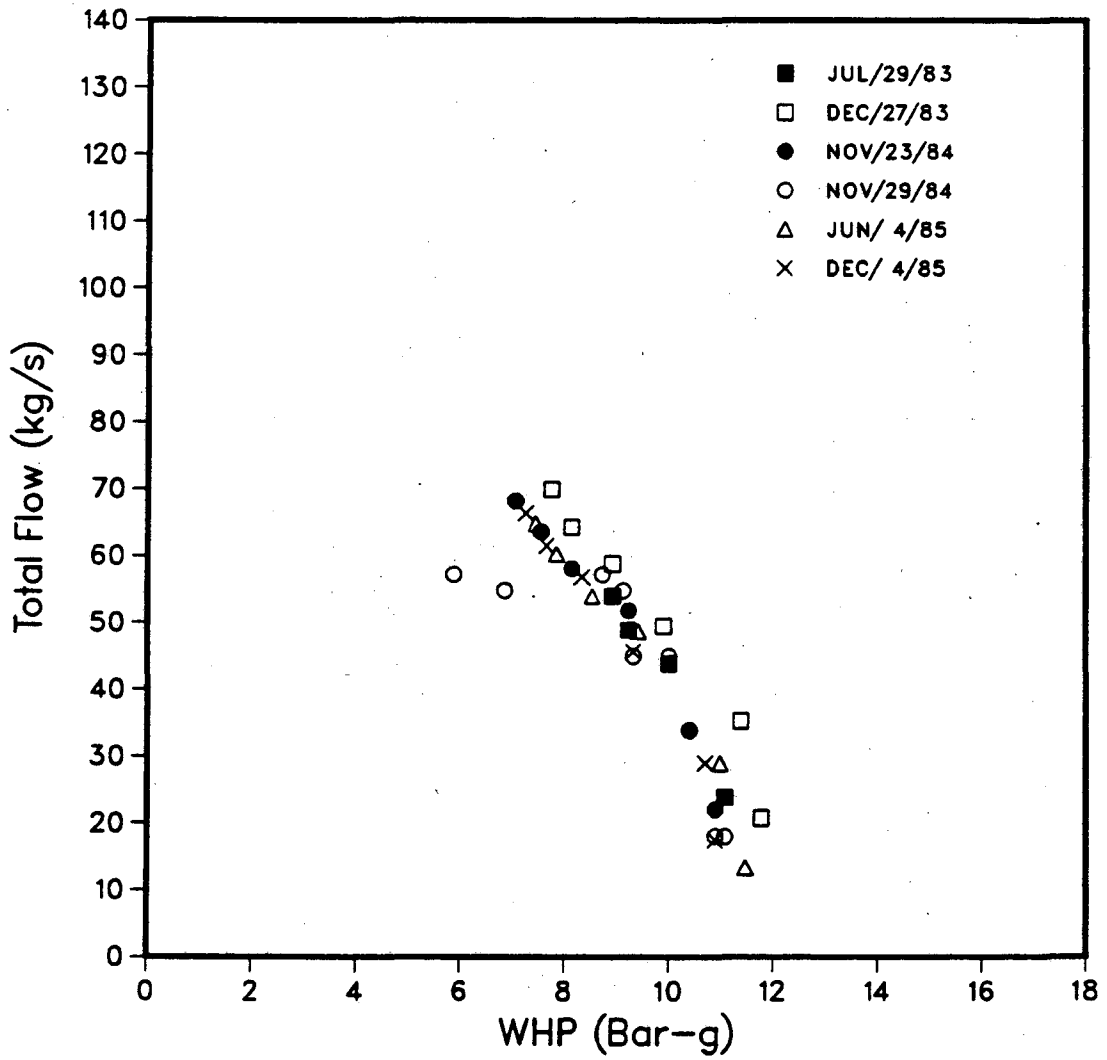
AH7 WHP vs. Flow



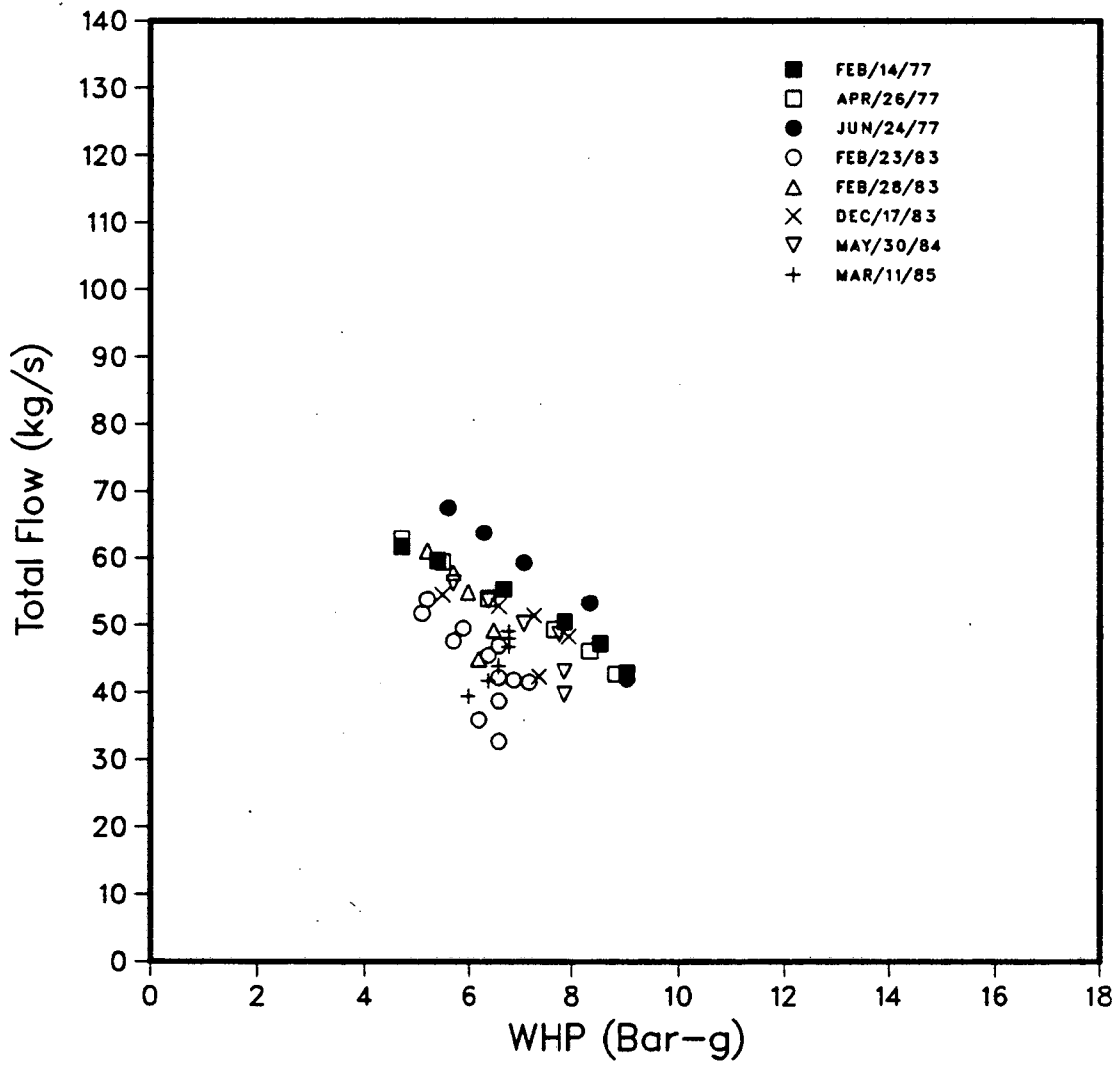
AH16 WHP vs. Flow



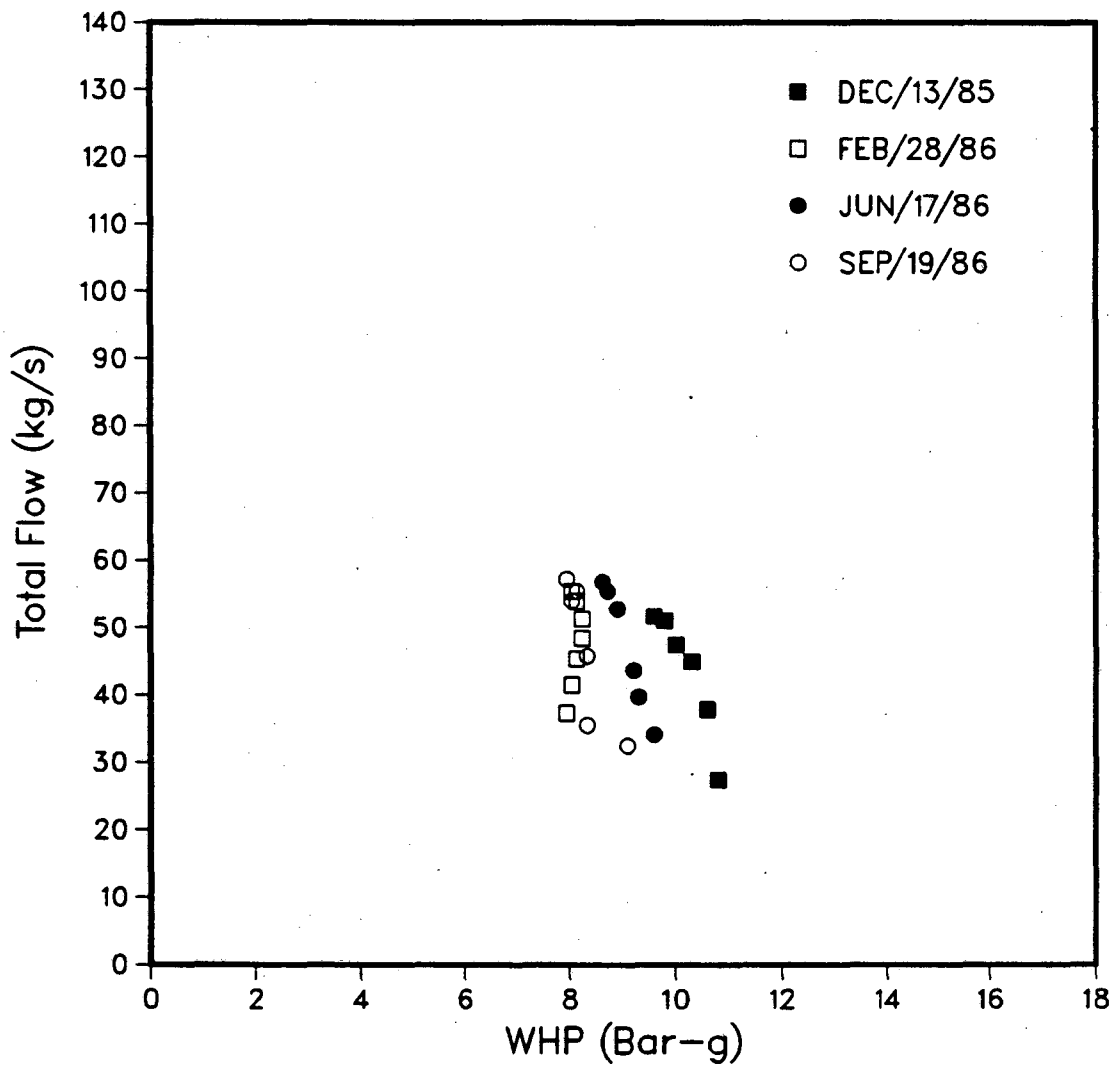
AH19 WHP vs. Flow



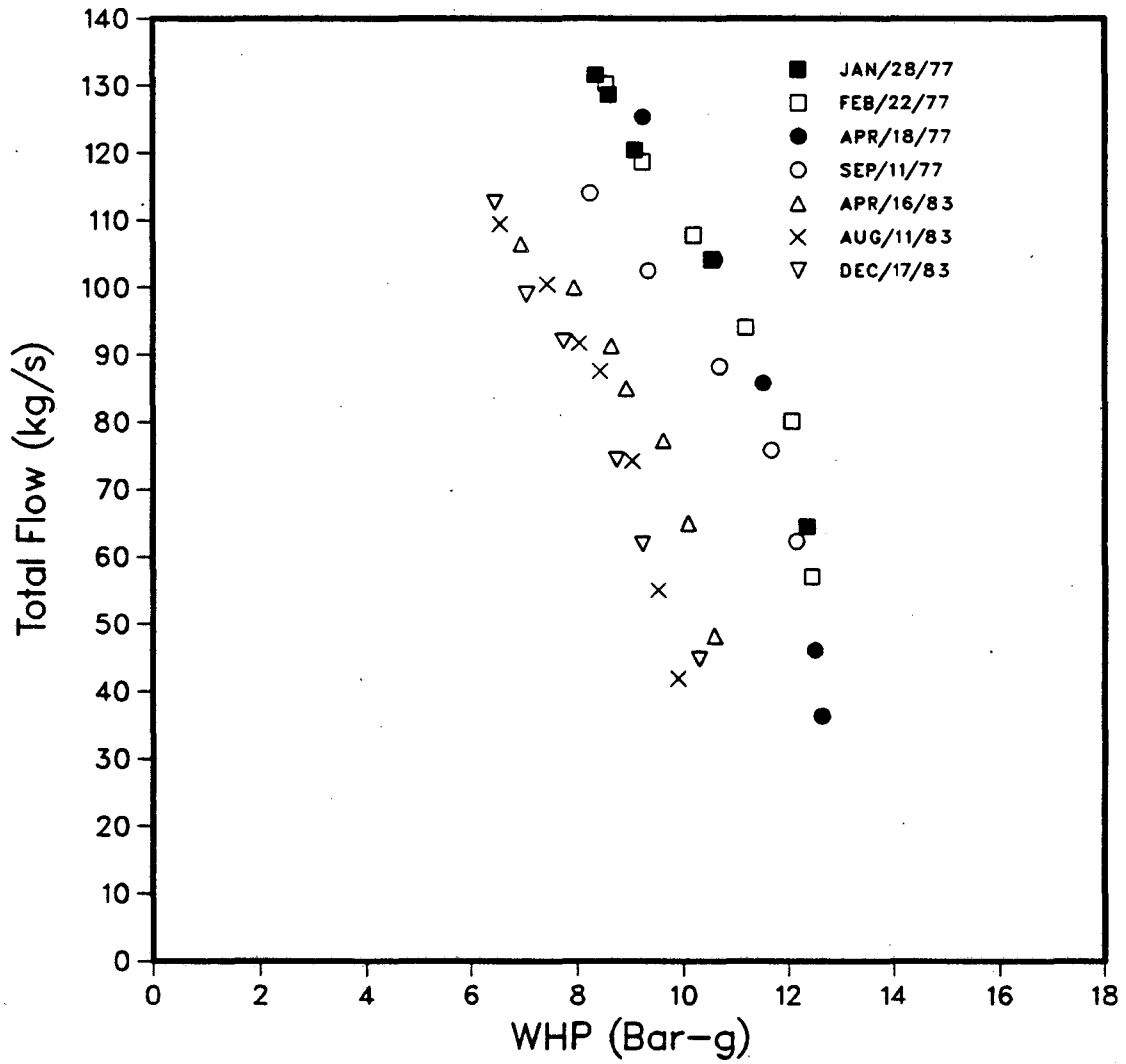
AH20 WHP vs. Flow



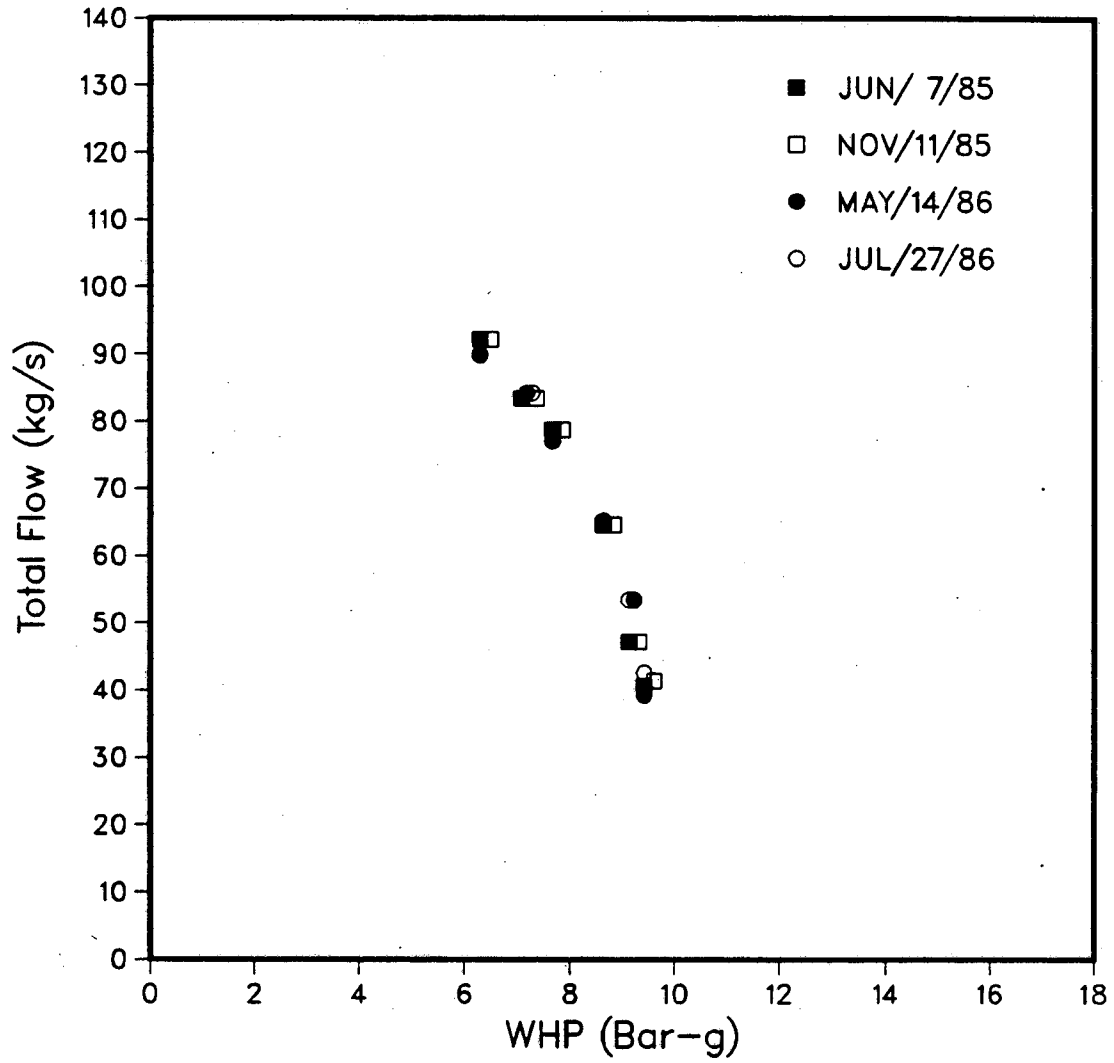
AH20 WHP vs. Flow



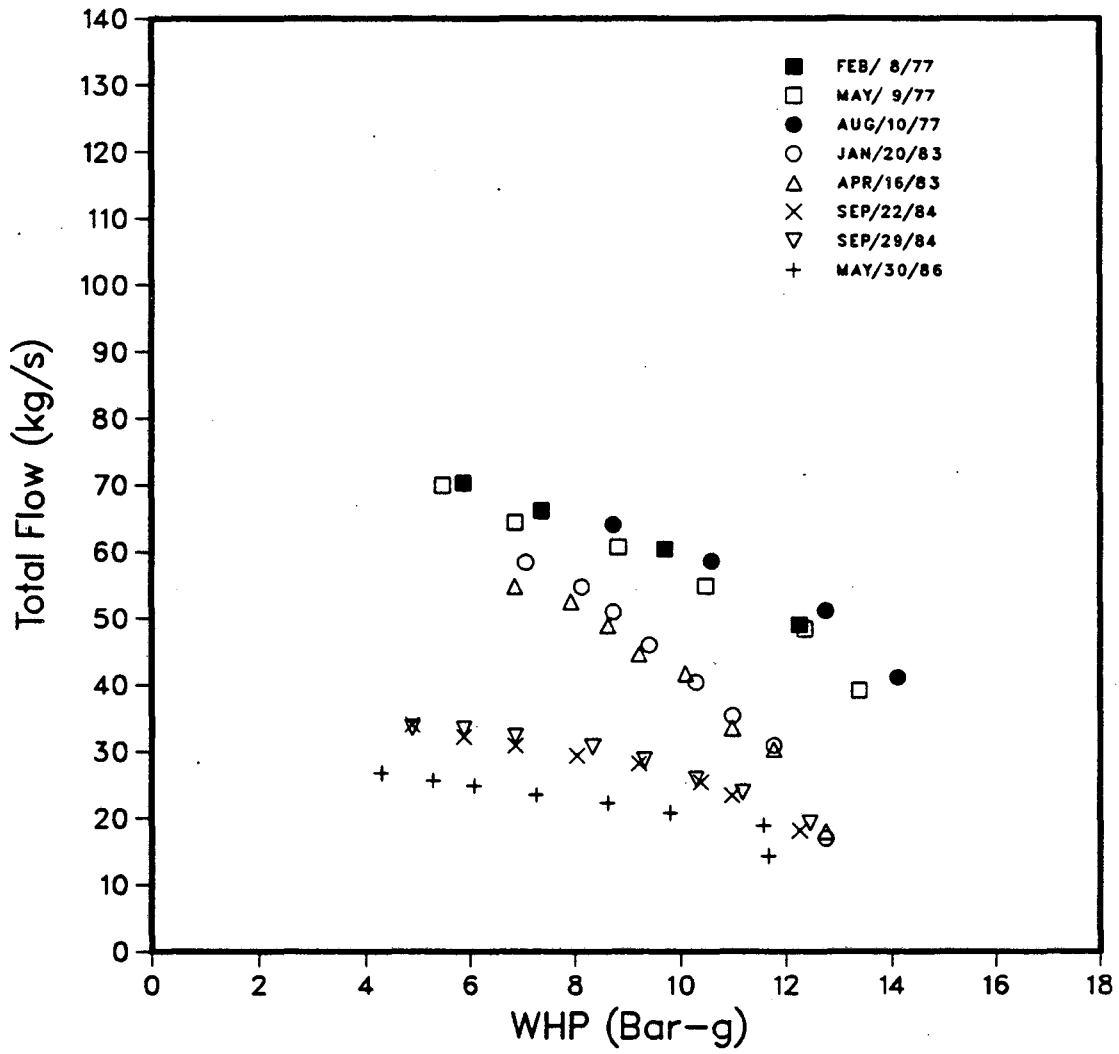
AH21 WHP vs. Flow



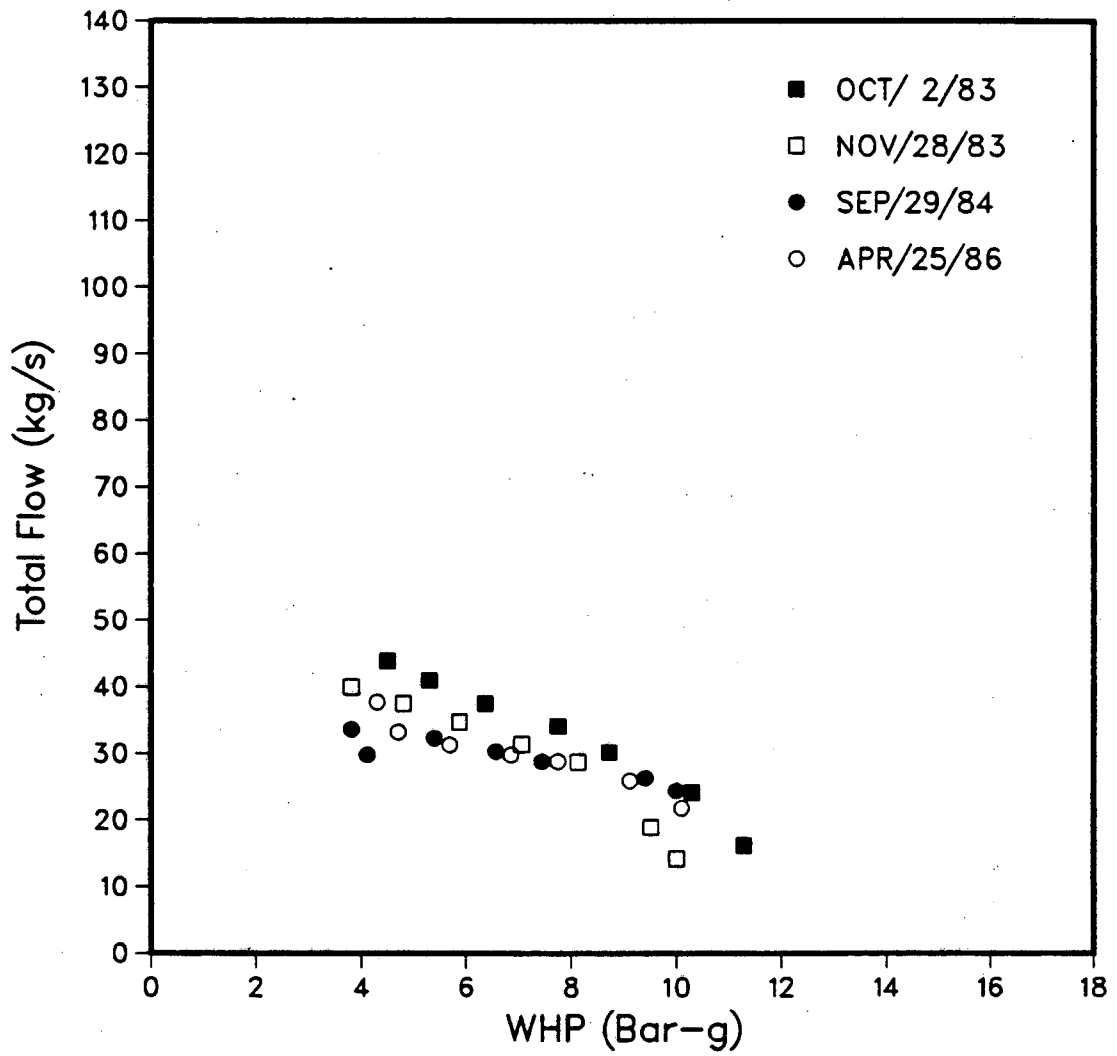
AH21 WHP vs. Flow



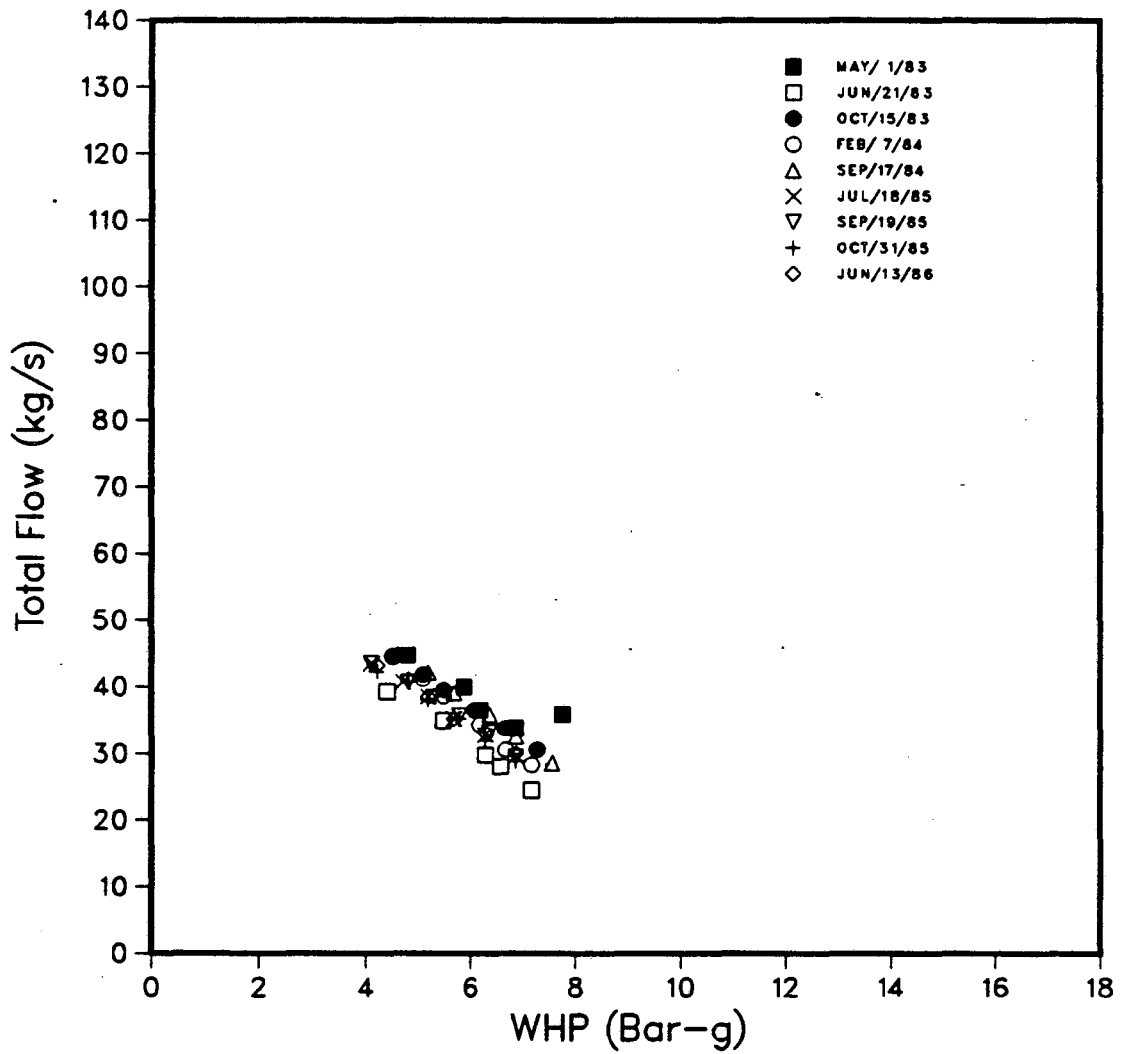
AH22 WHP vs. Flow



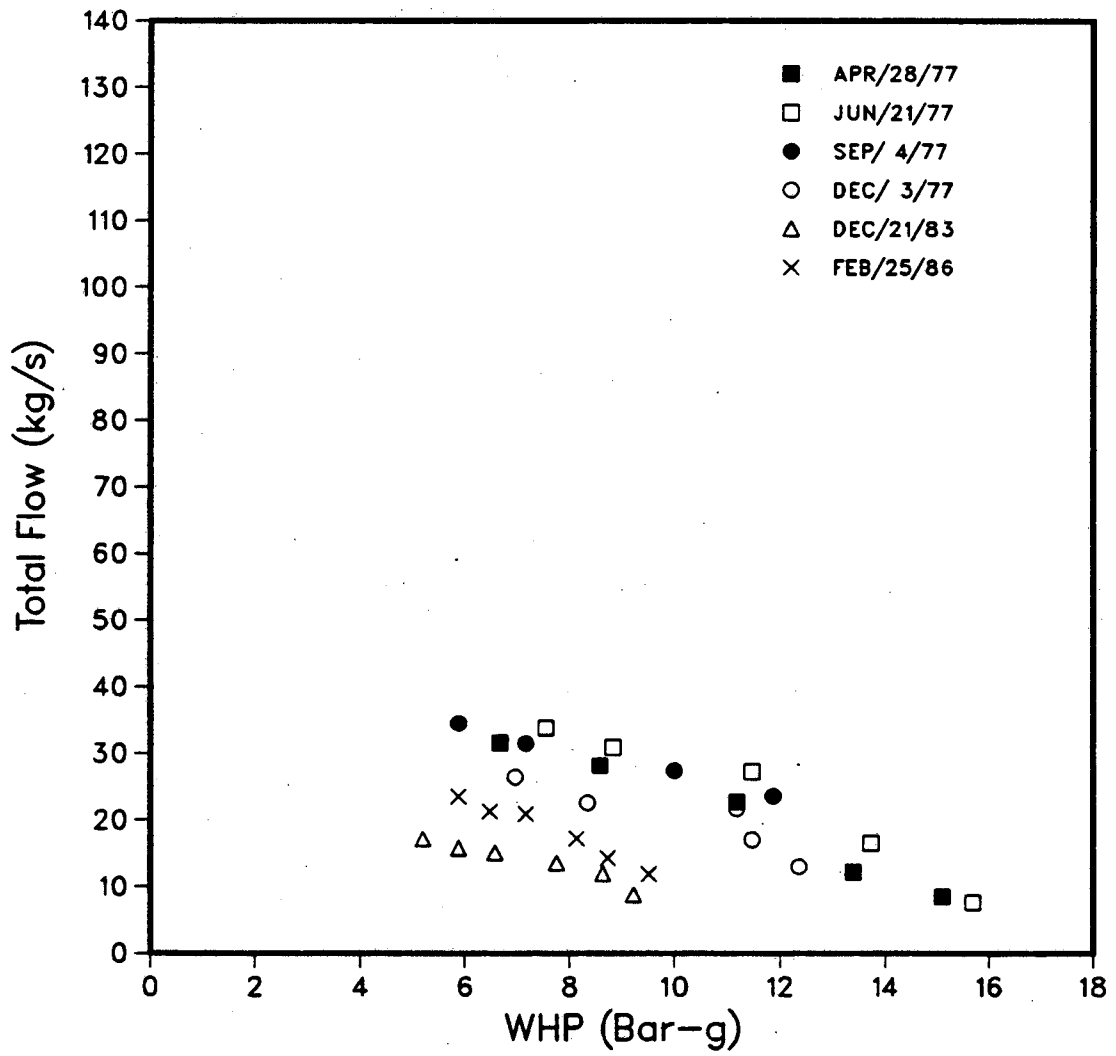
AH23 WHP vs. Flow



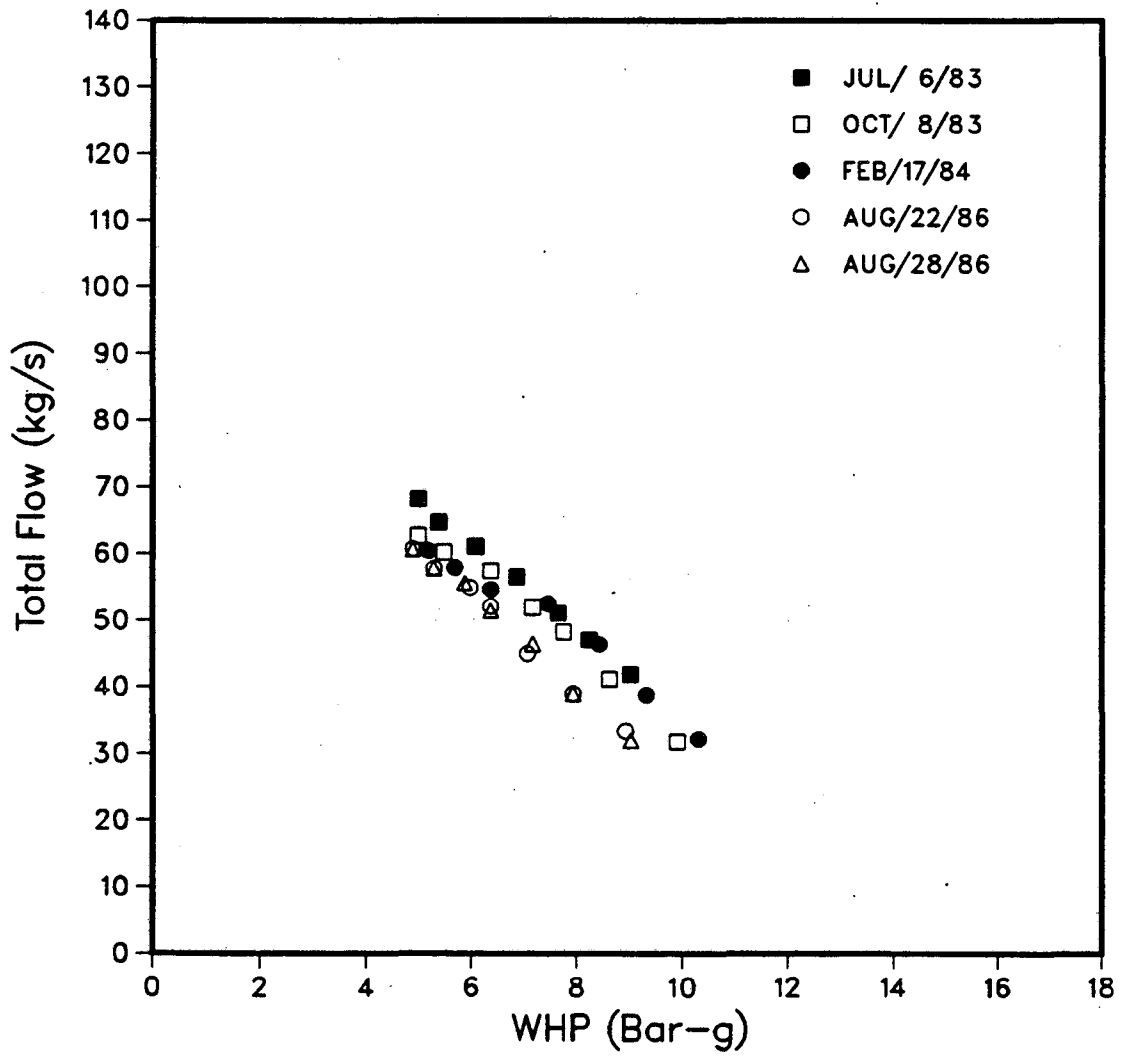
AH24 WHP vs. Flow



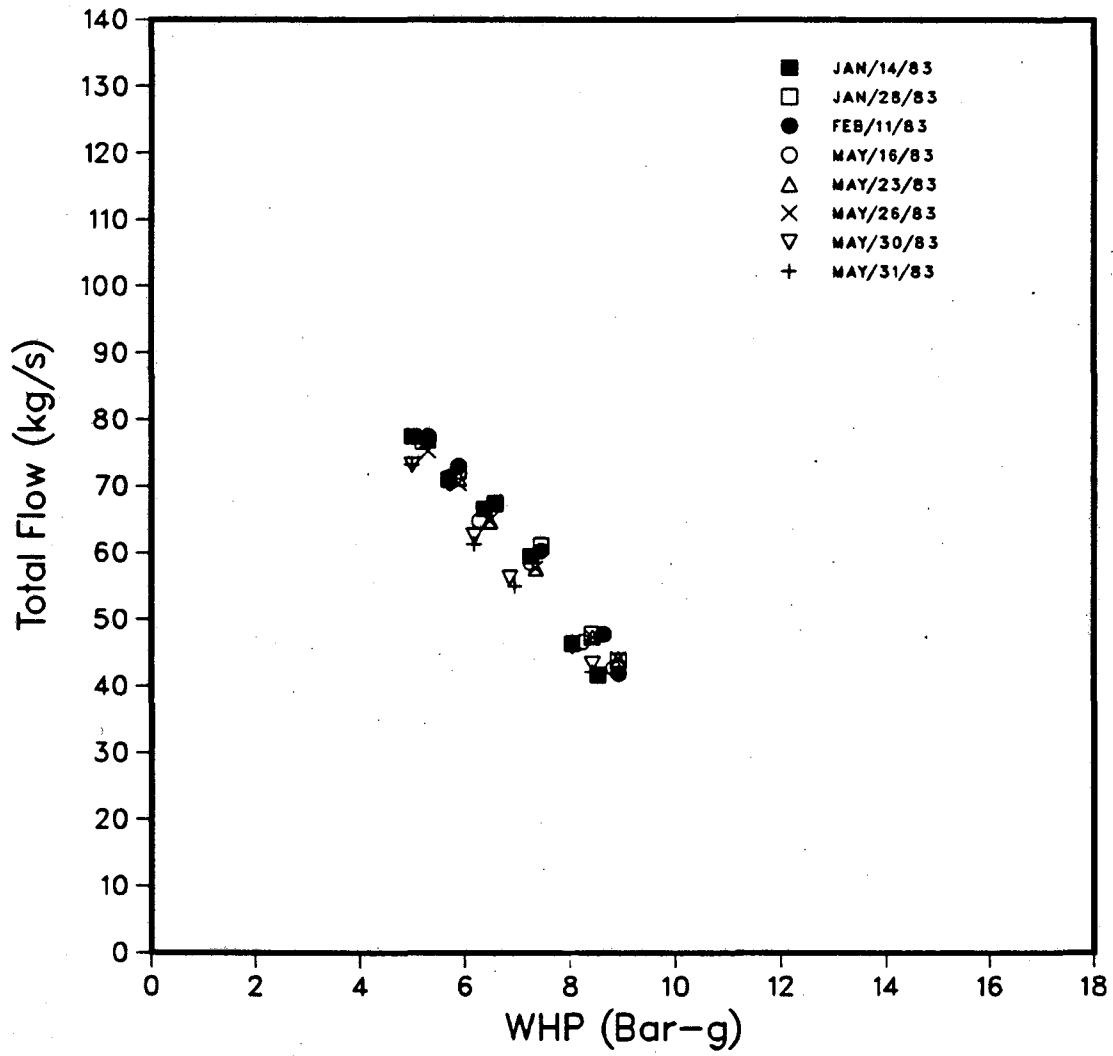
AH26 WHP vs. Flow



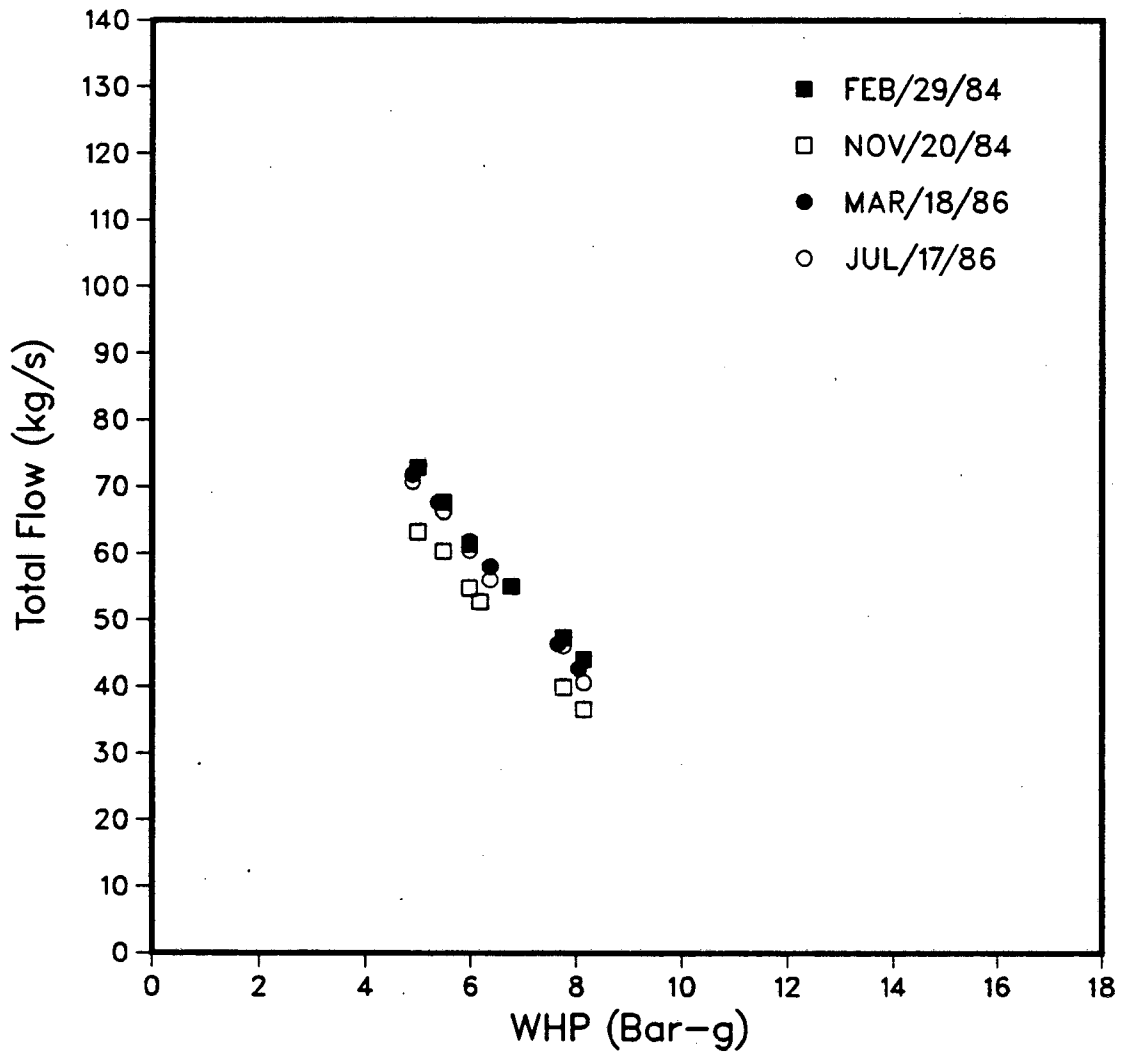
AH27 WHP vs. Flow



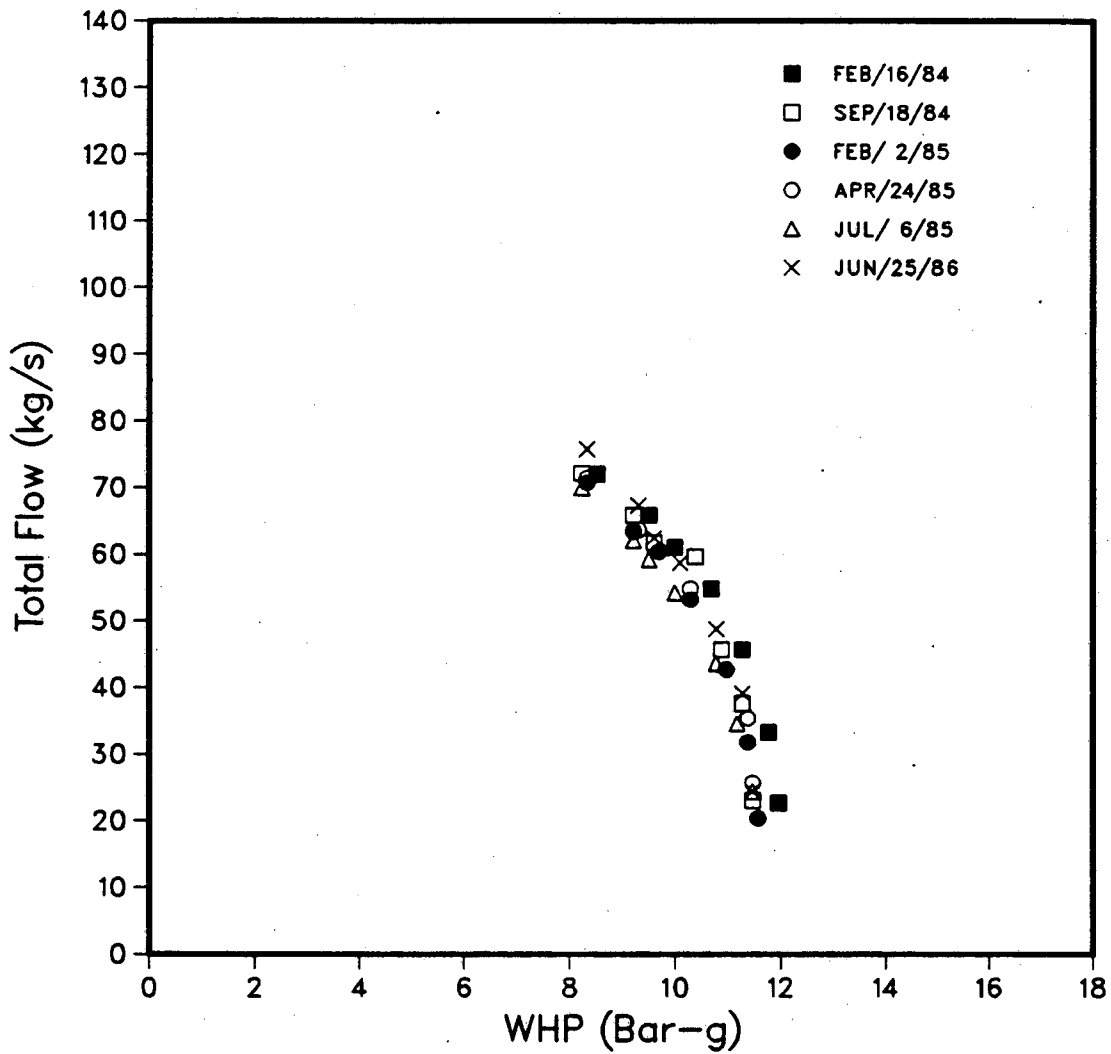
AH28 WHP vs. Flow



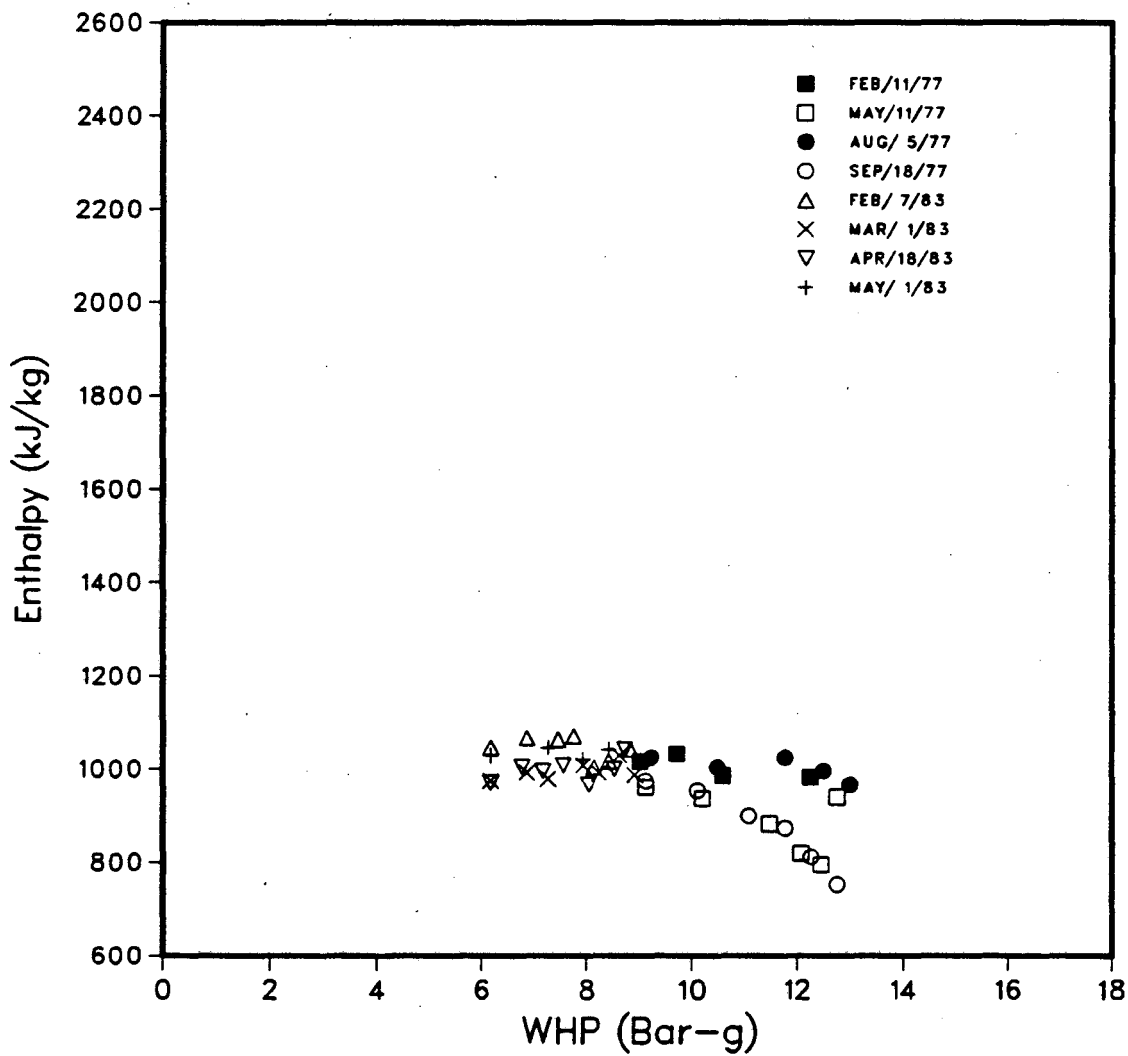
AH28 WHP vs. Flow



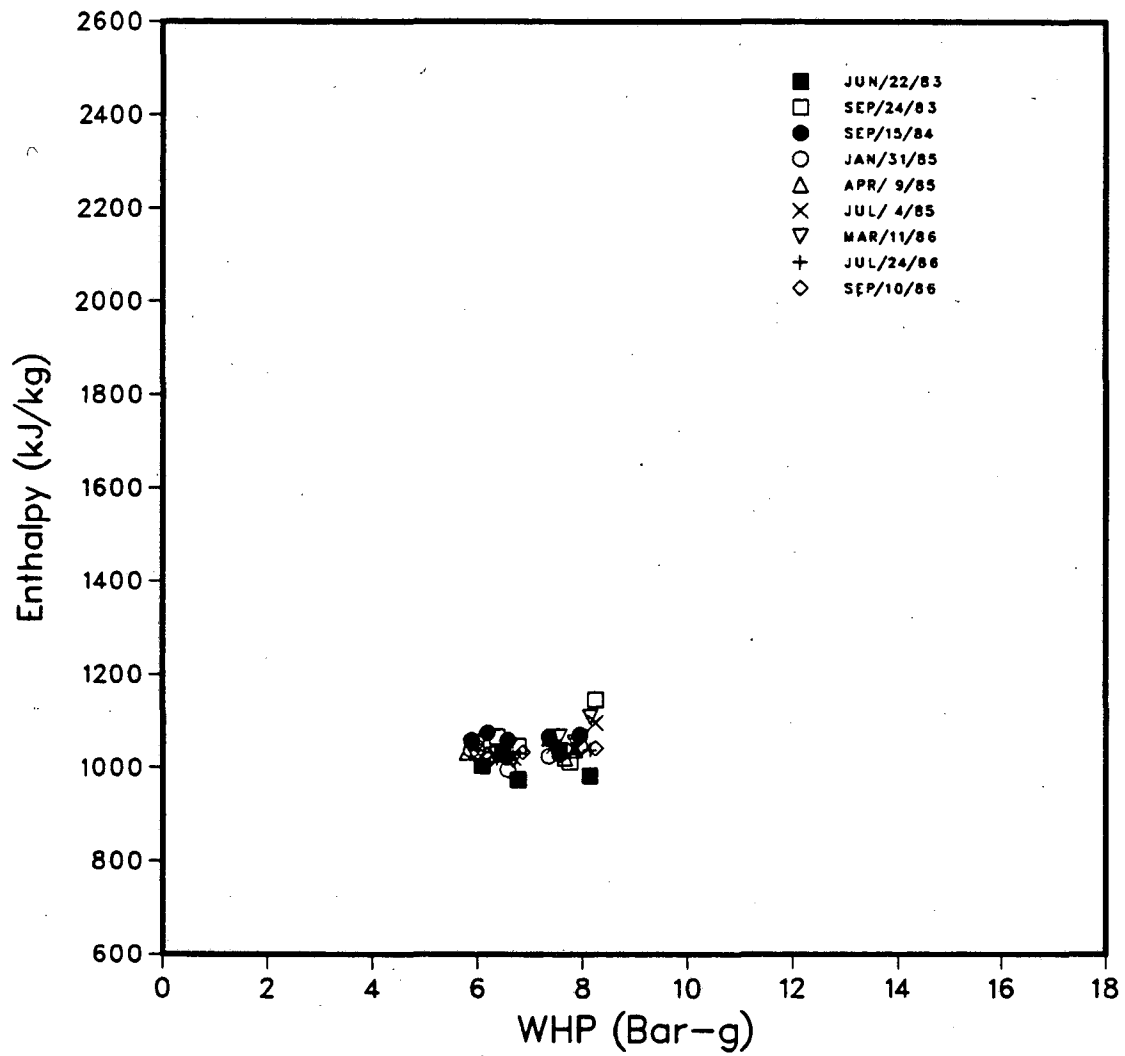
AH31 WHP vs. Flow



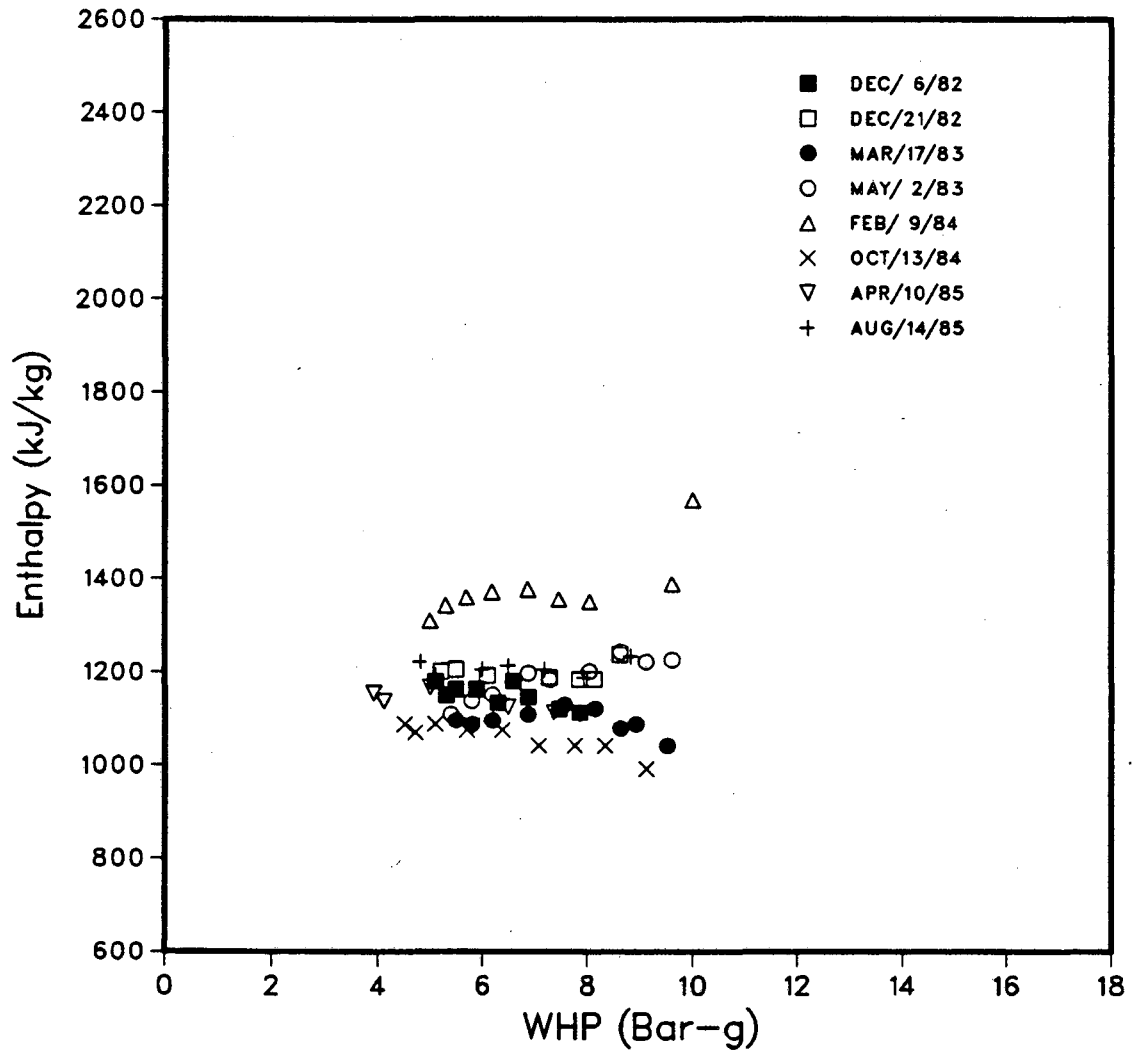
AH1 WHP vs. Enthalpy



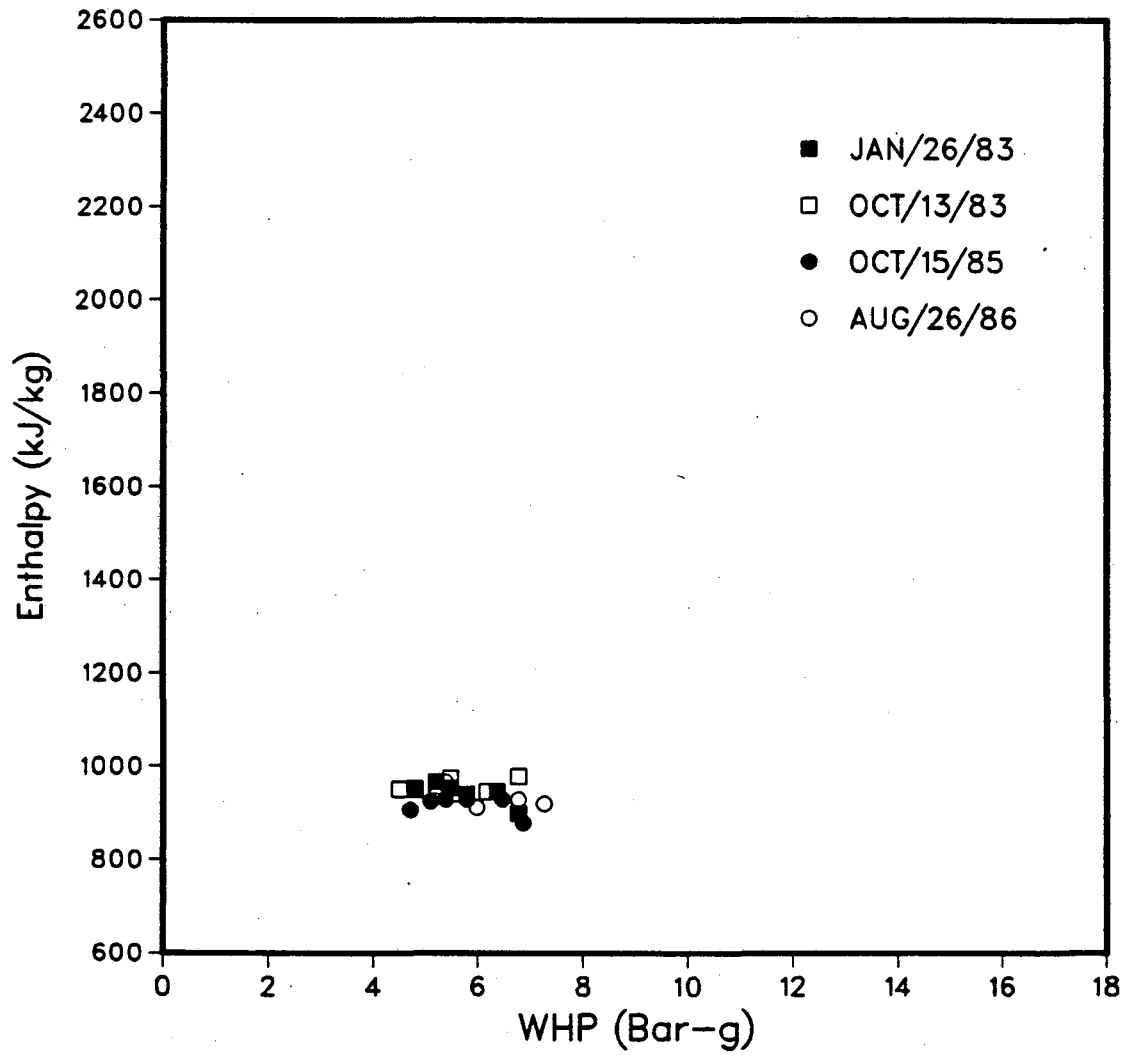
AH1 WHP vs. Enthalpy



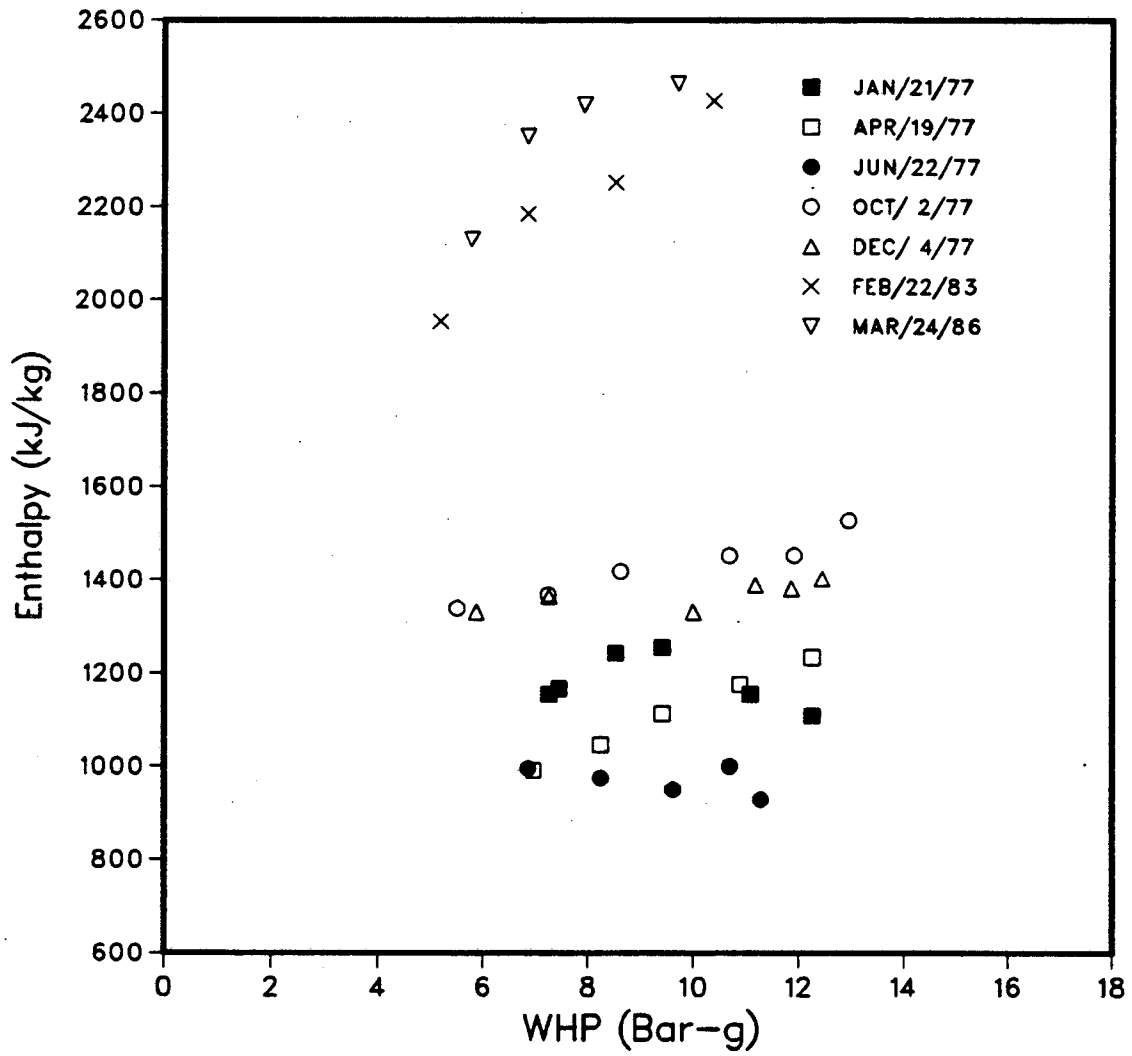
AH4 WHP vs. Enthalpy



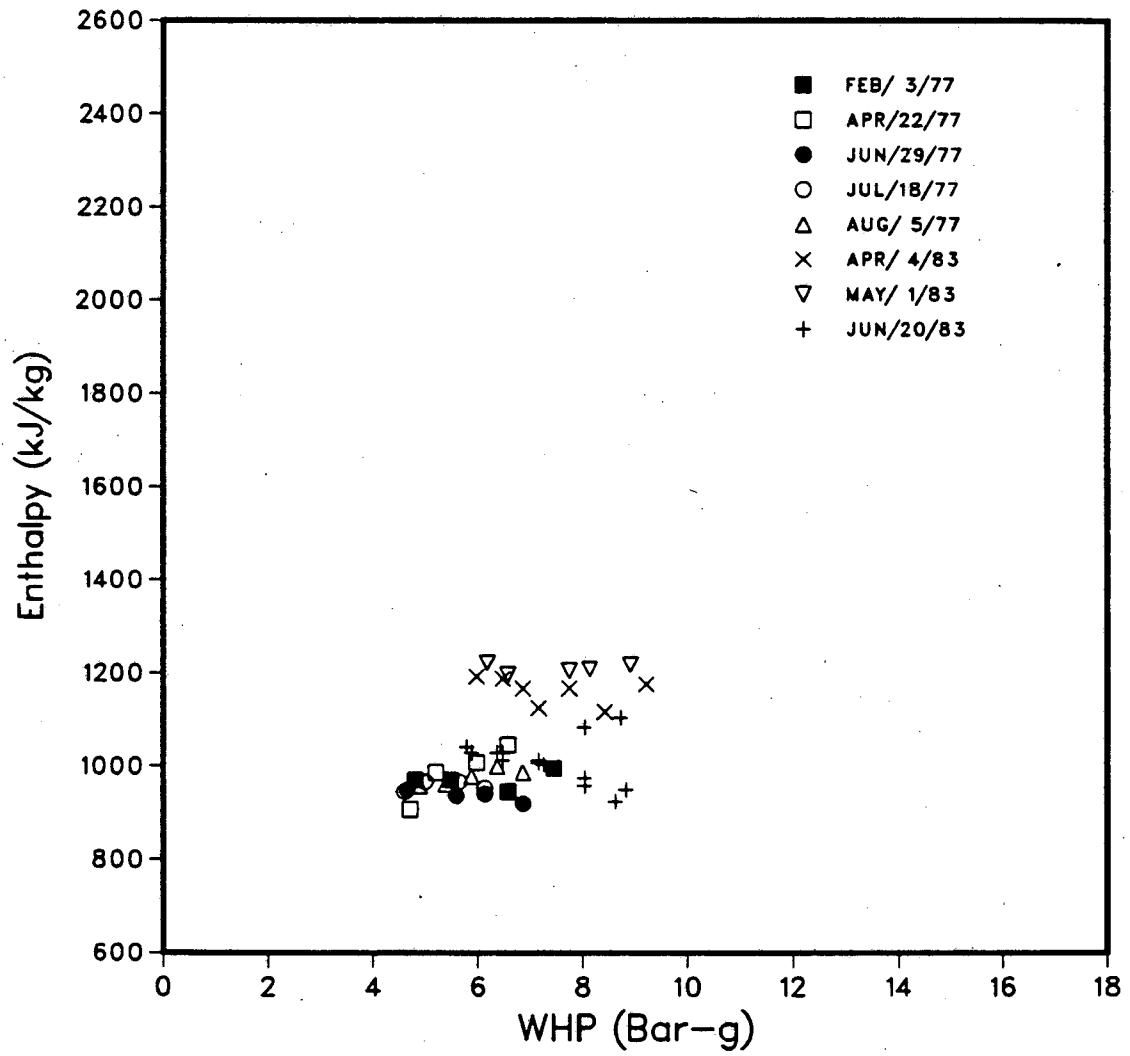
AH5 WHP vs. Enthalpy



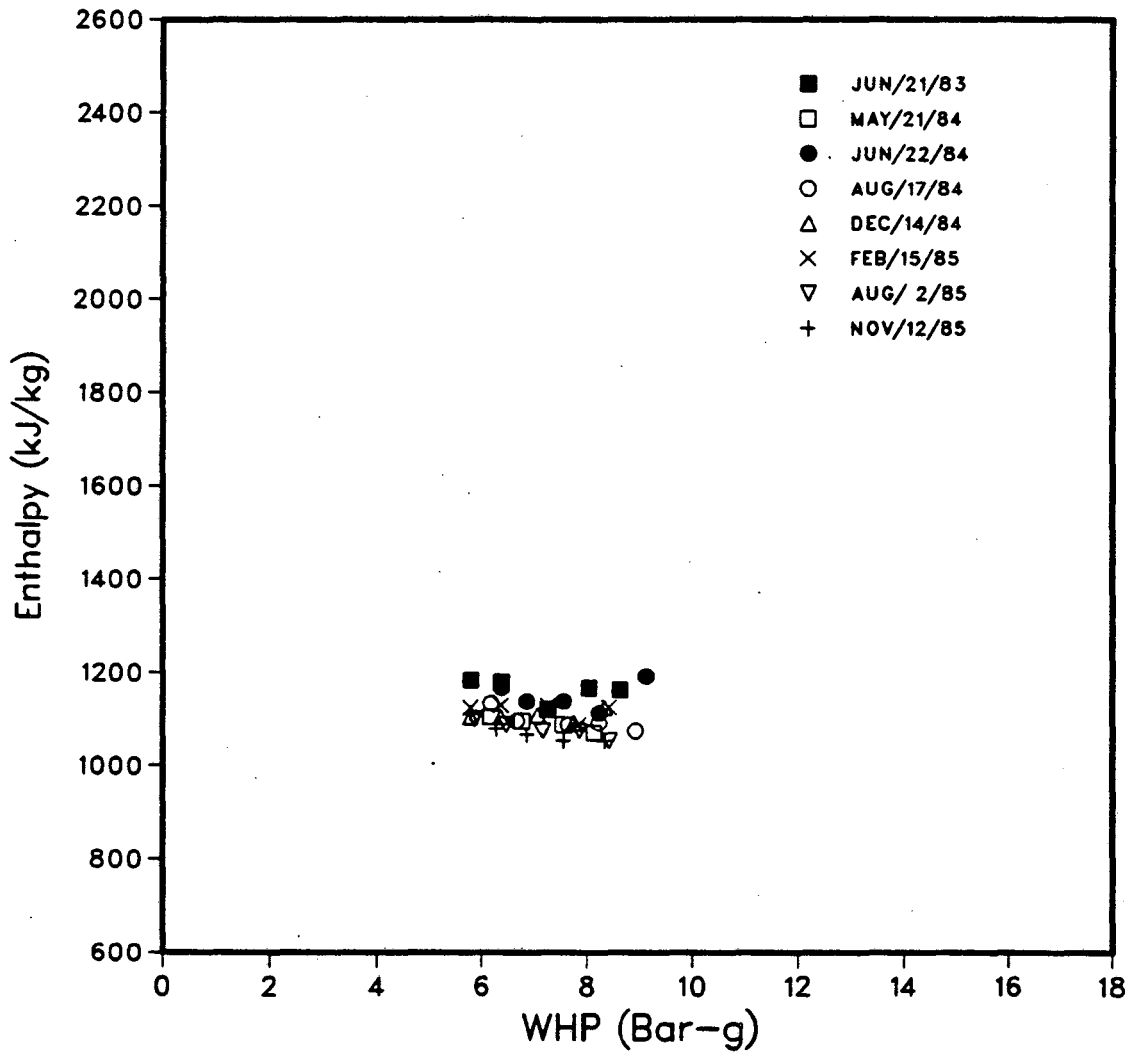
AH6 WHP vs. Enthalpy



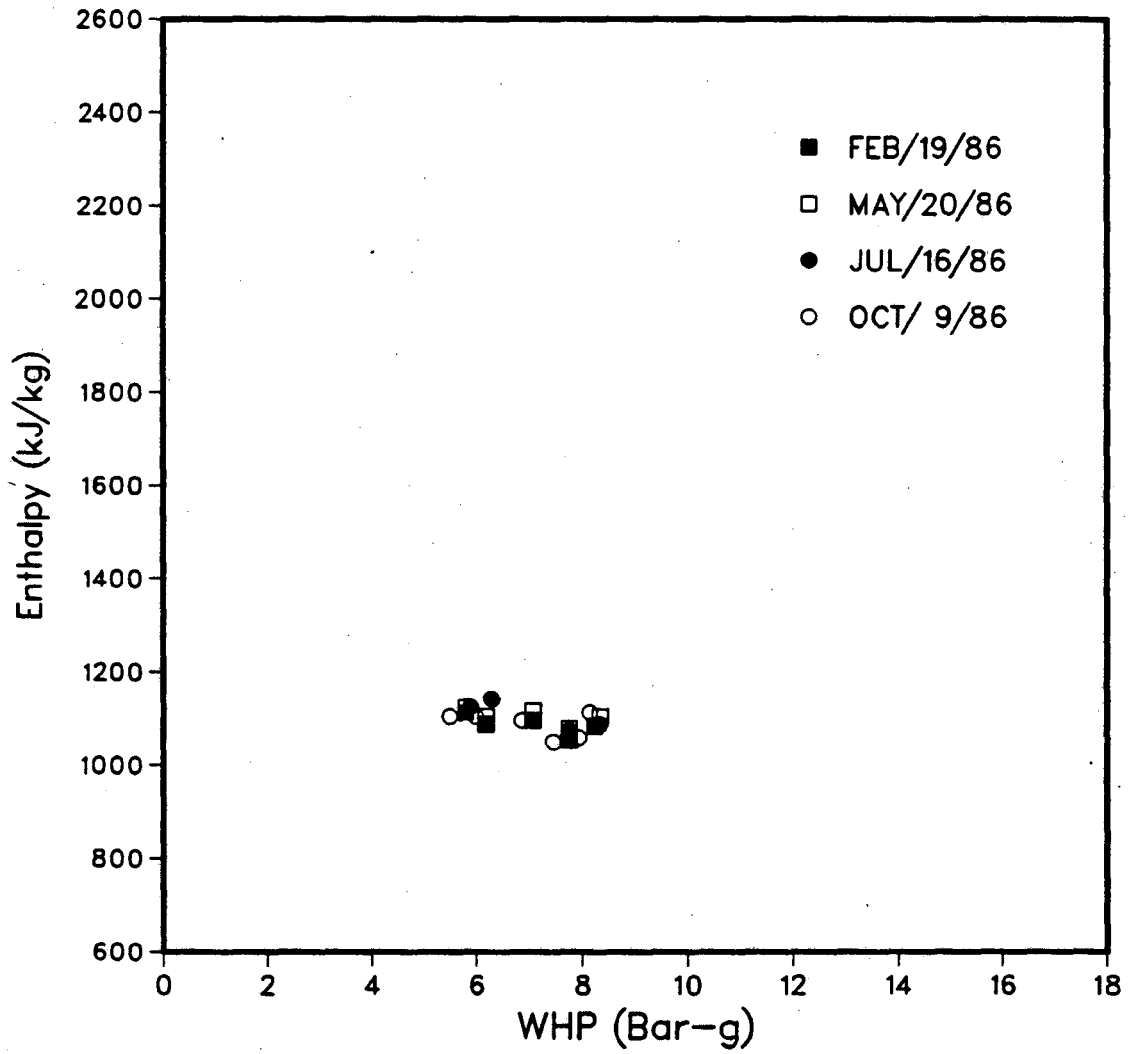
AH7 WHP vs. Enthalpy



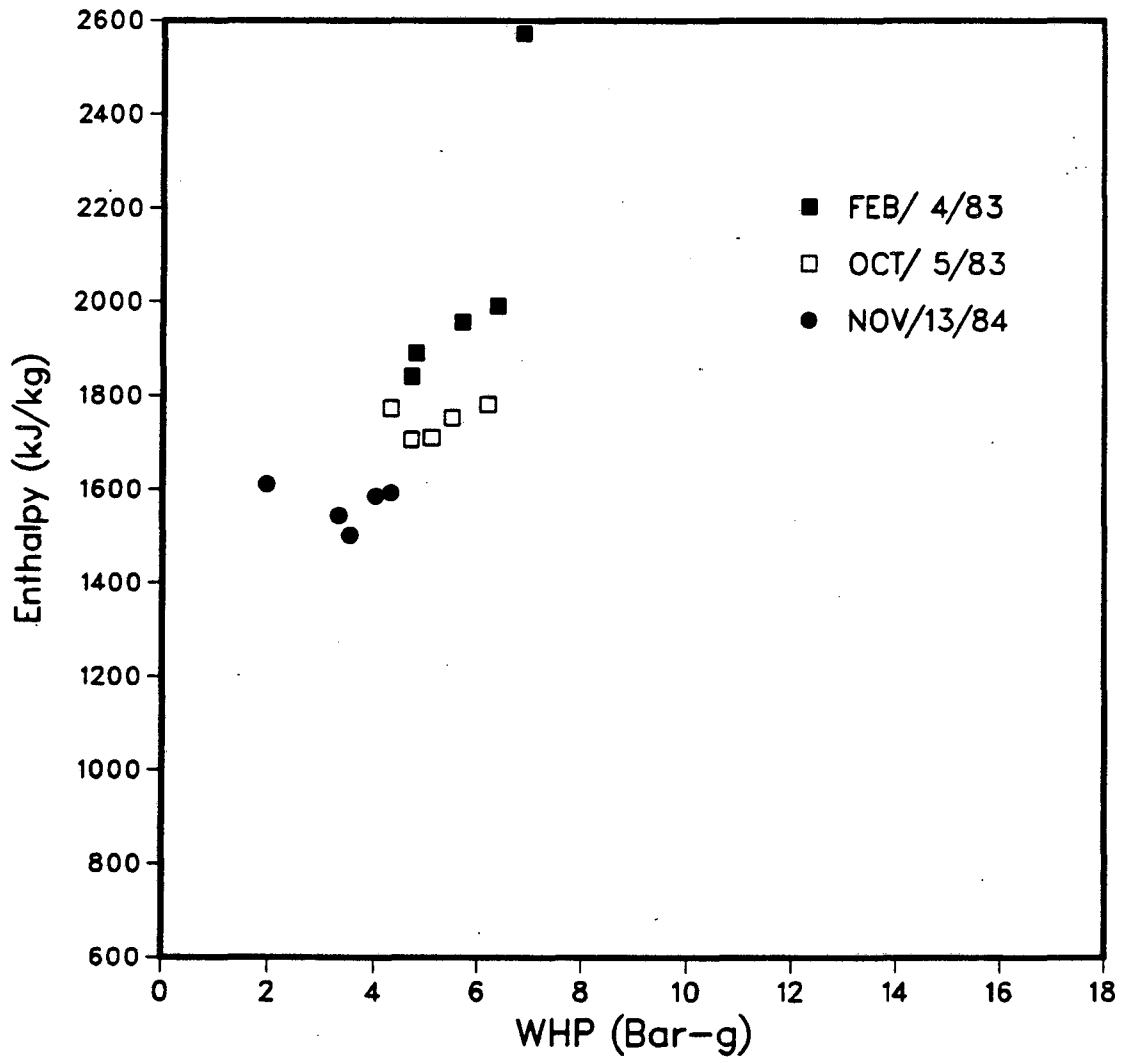
AH7 WHP vs. Enthalpy



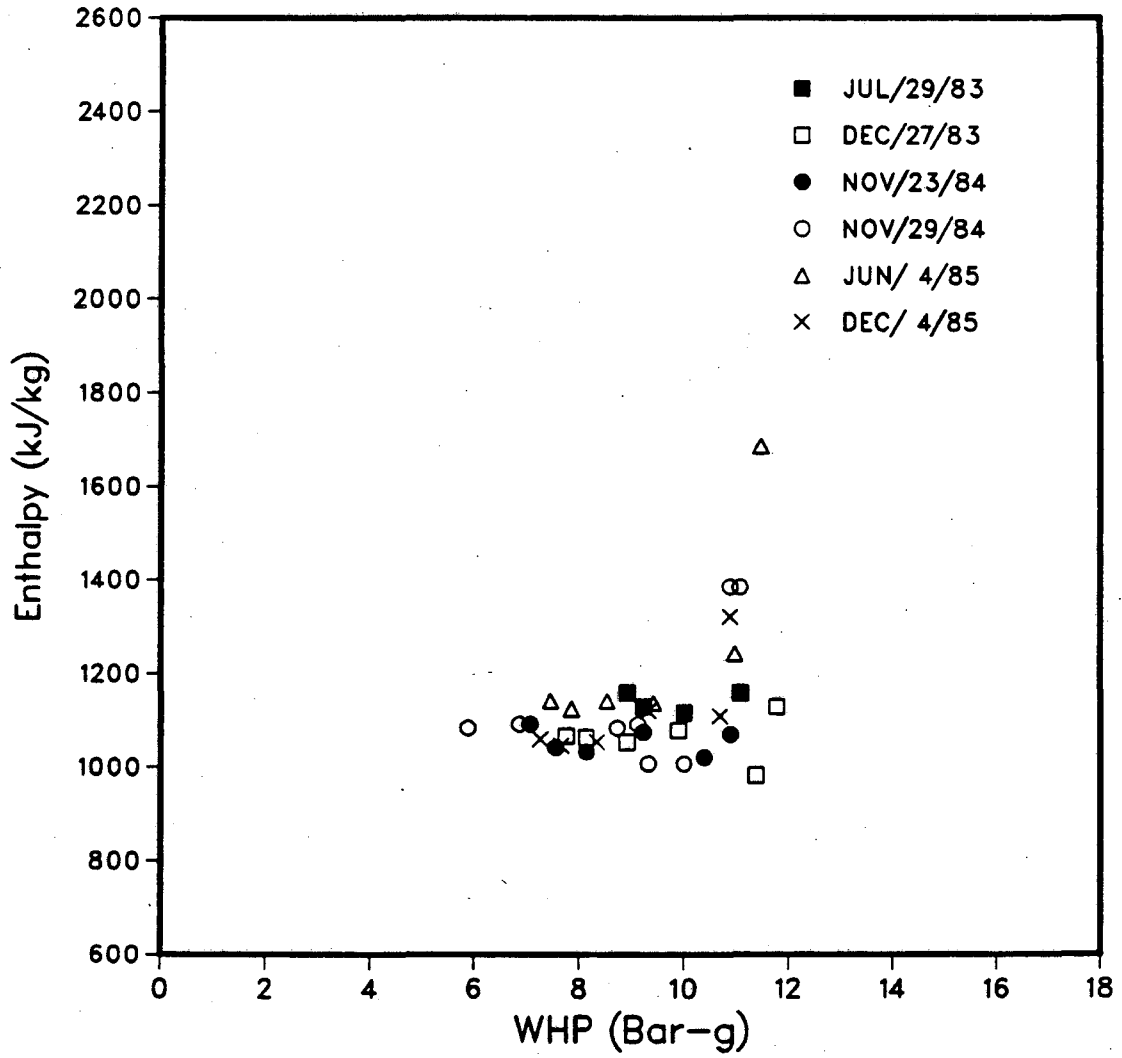
AH7 WHP vs. Enthalpy



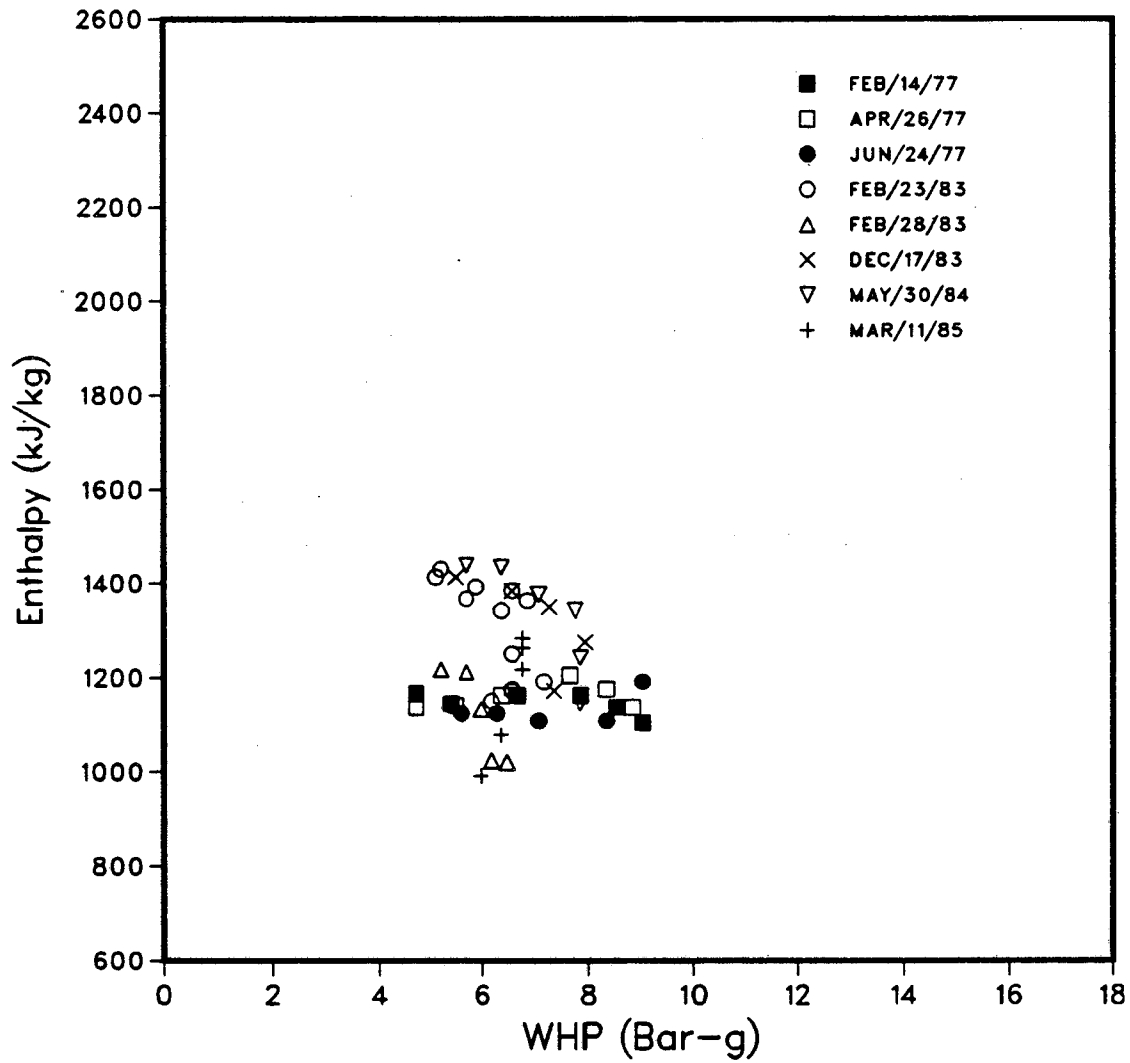
AH16 WHP vs. Enthalpy



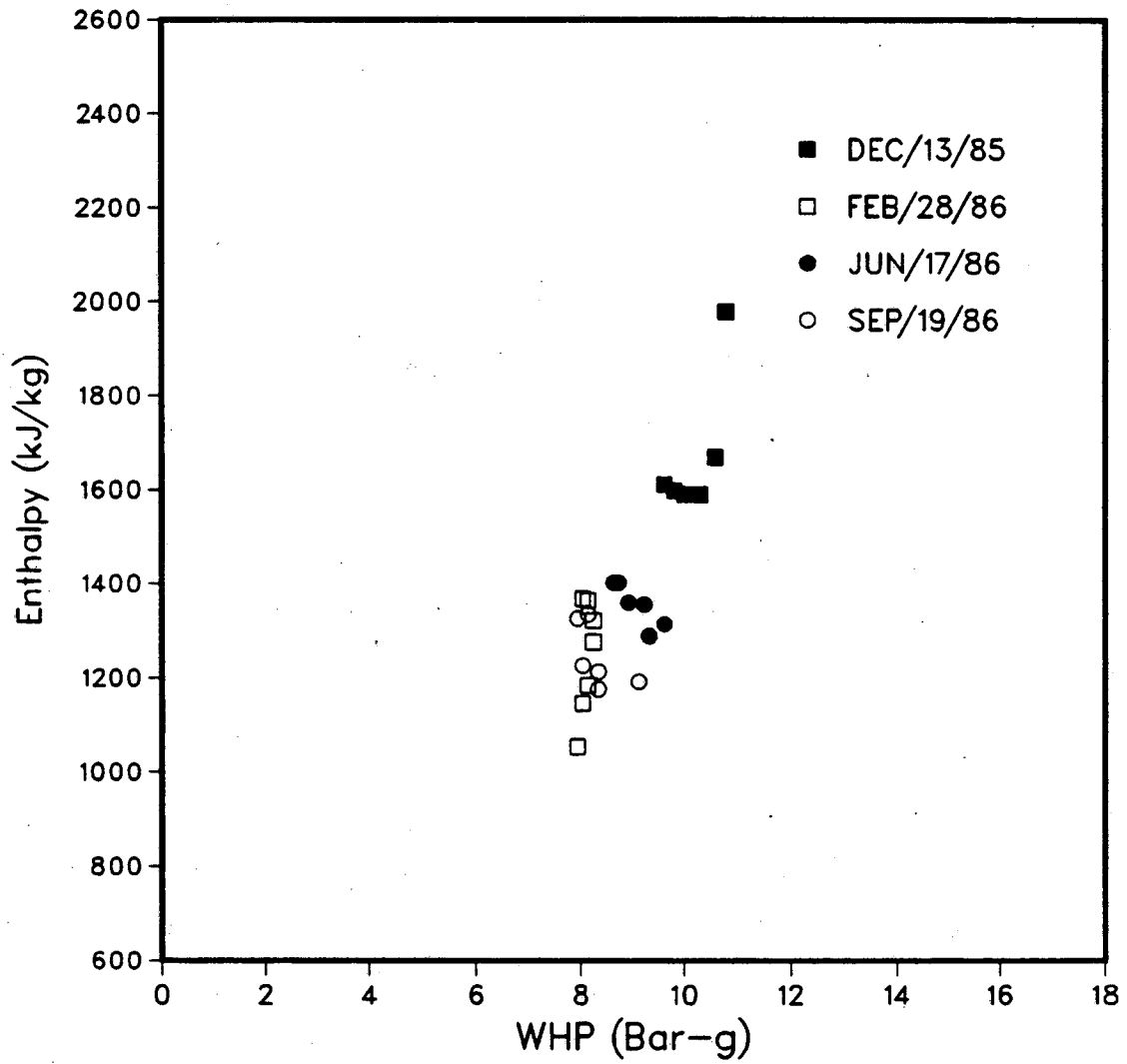
AH19 WHP vs. Enthalpy



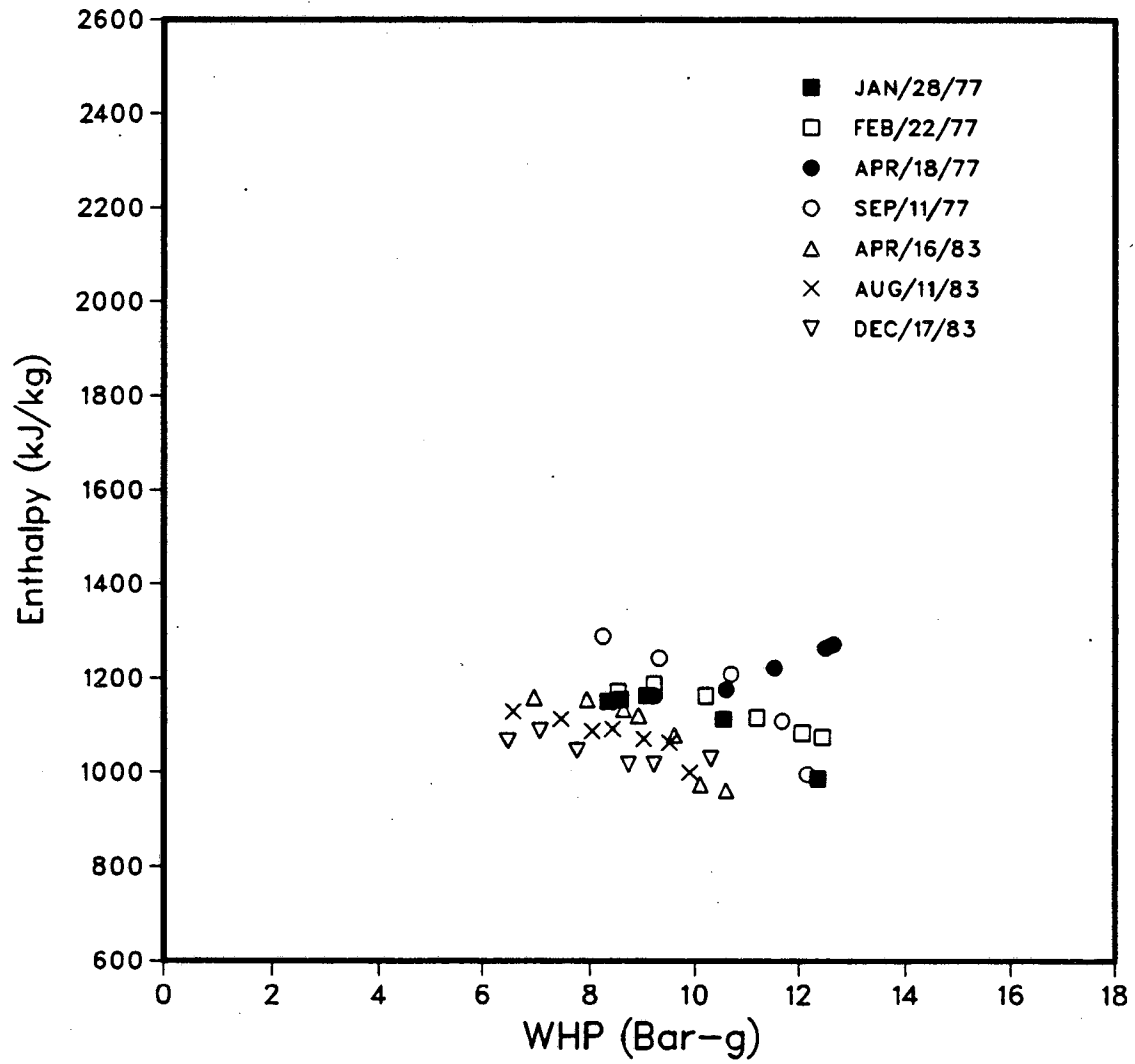
AH20 WHP vs. Enthalpy



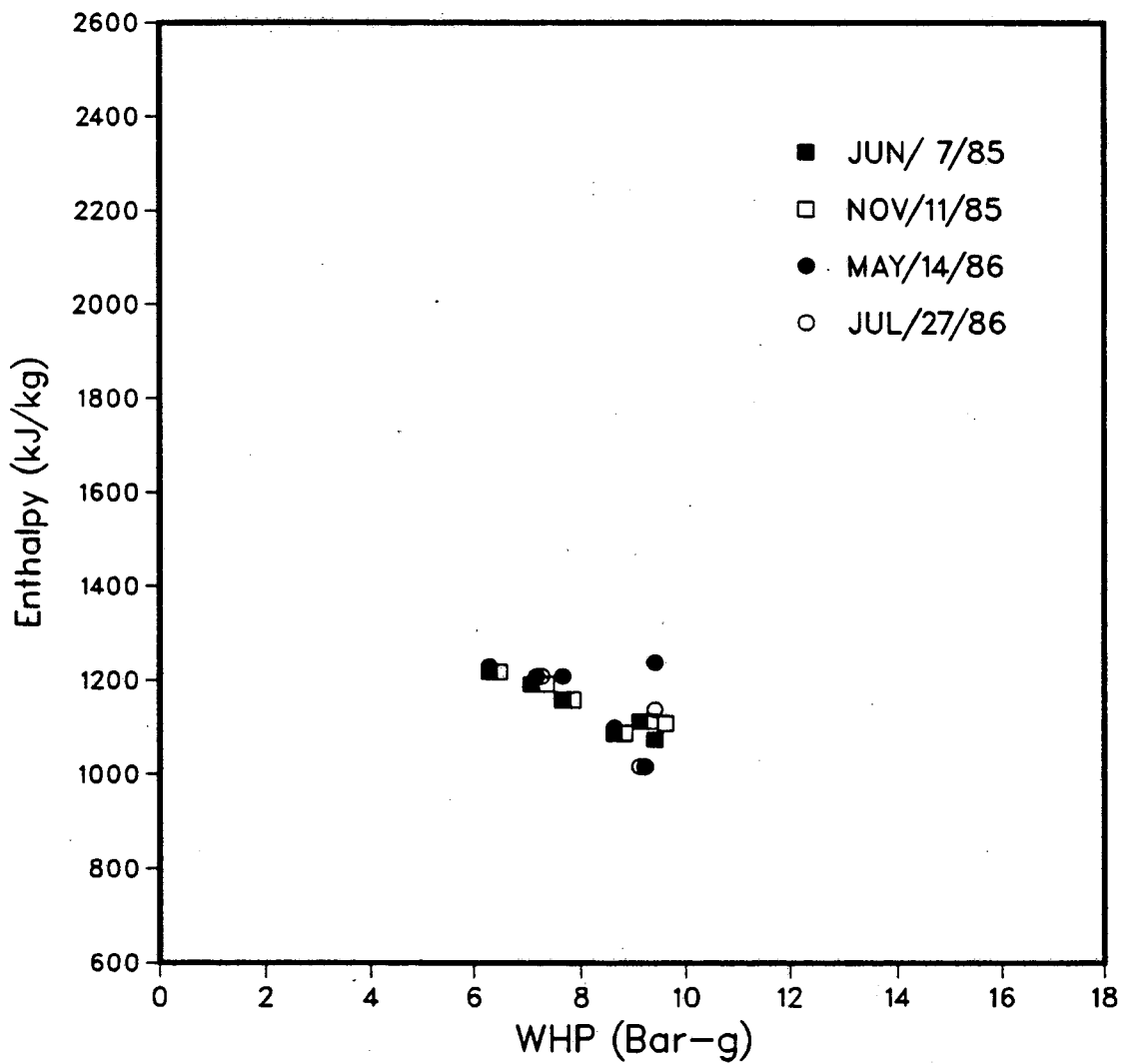
AH20 WHP vs. Enthalpy



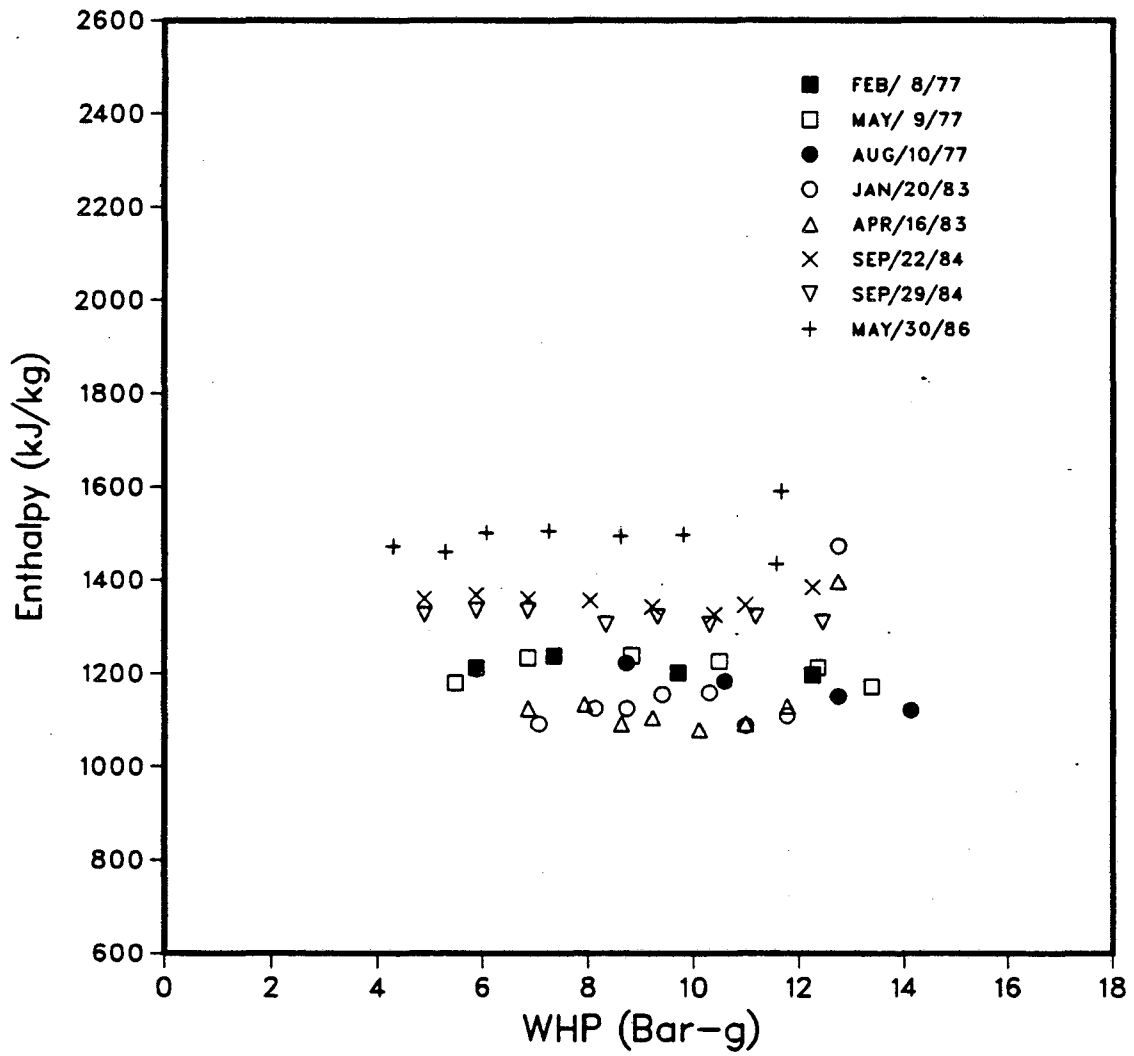
AH21 WHP vs. Enthalpy



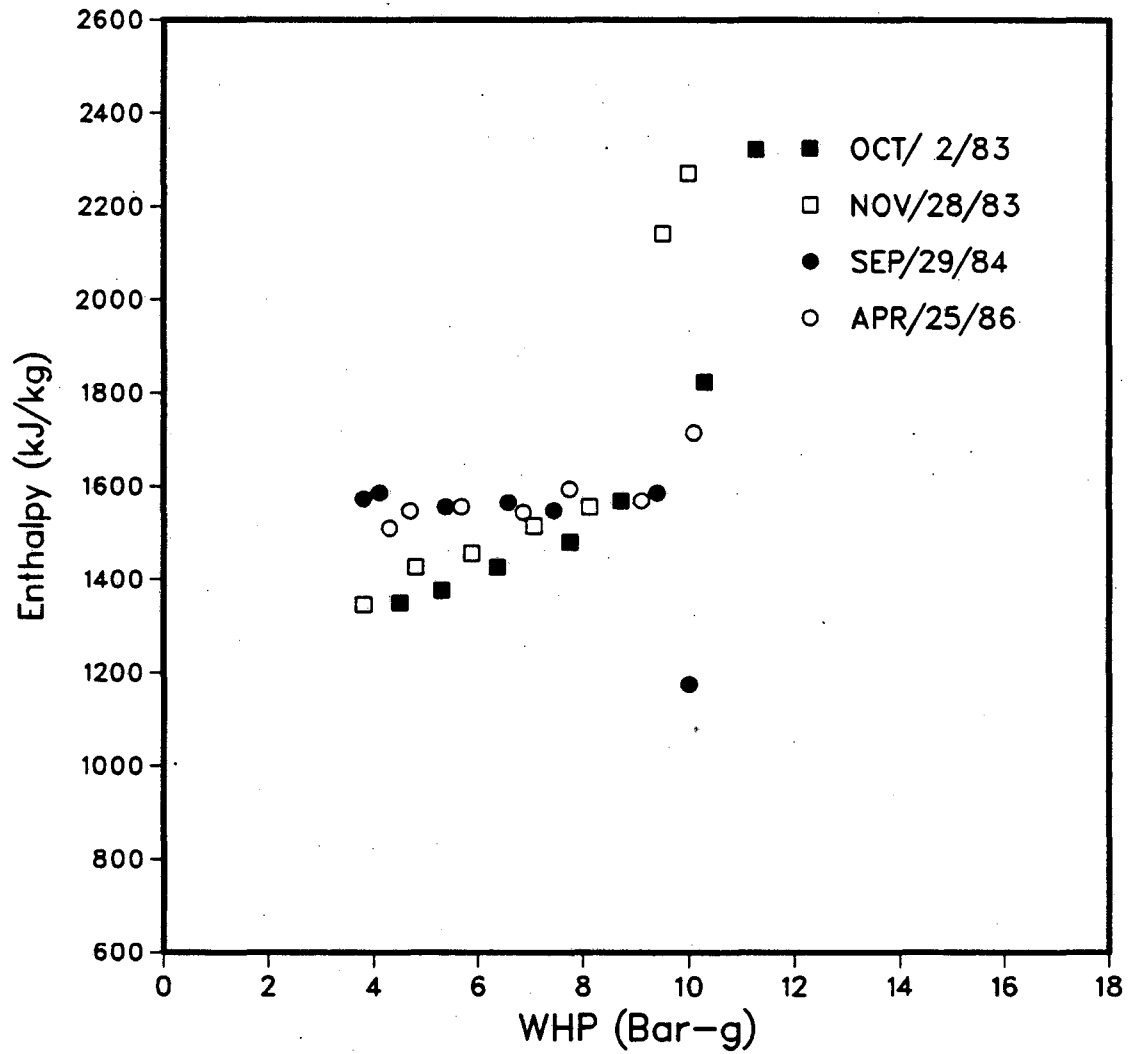
AH21 WHP vs. Enthalpy



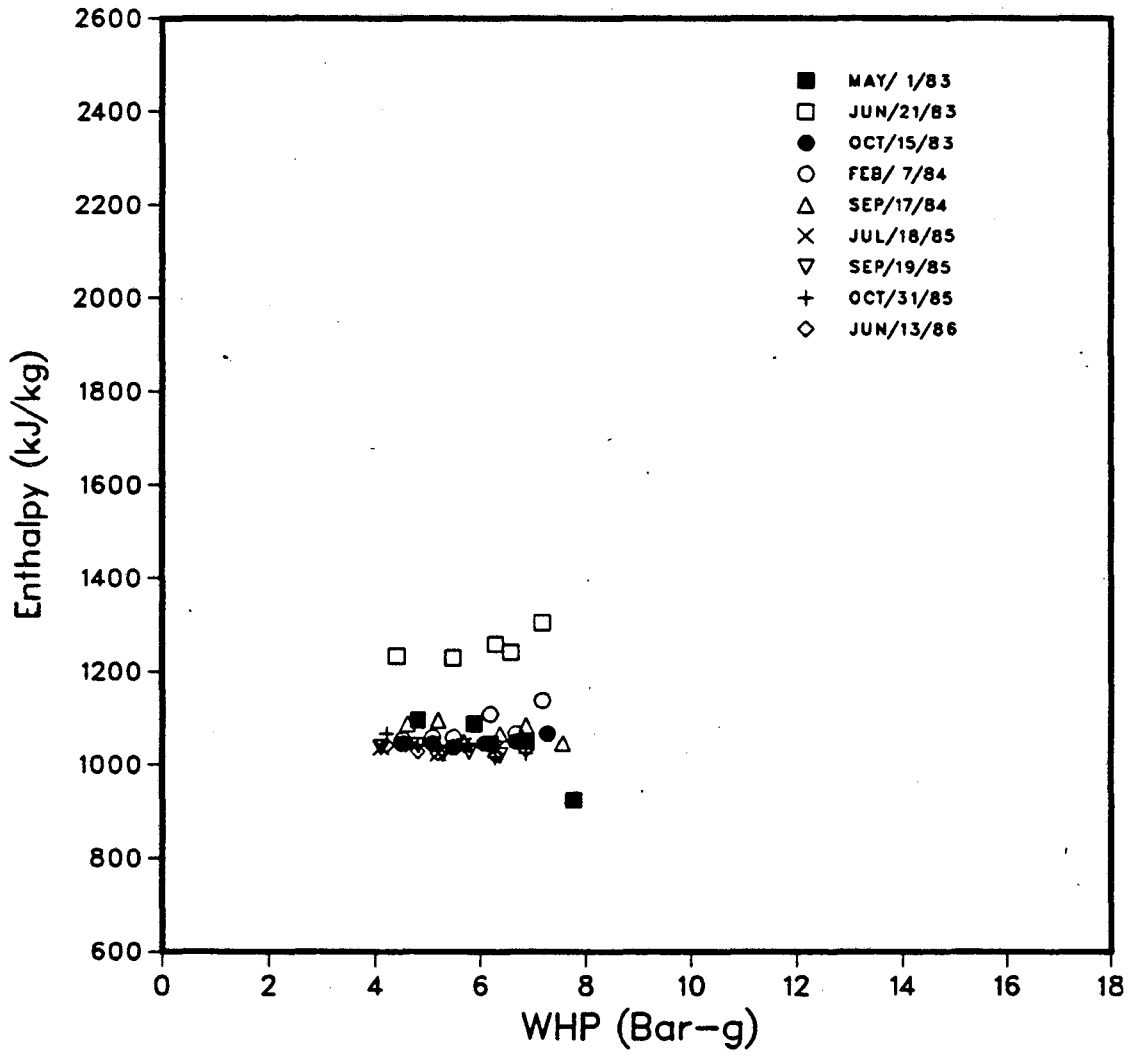
AH22 WHP vs. Enthalpy



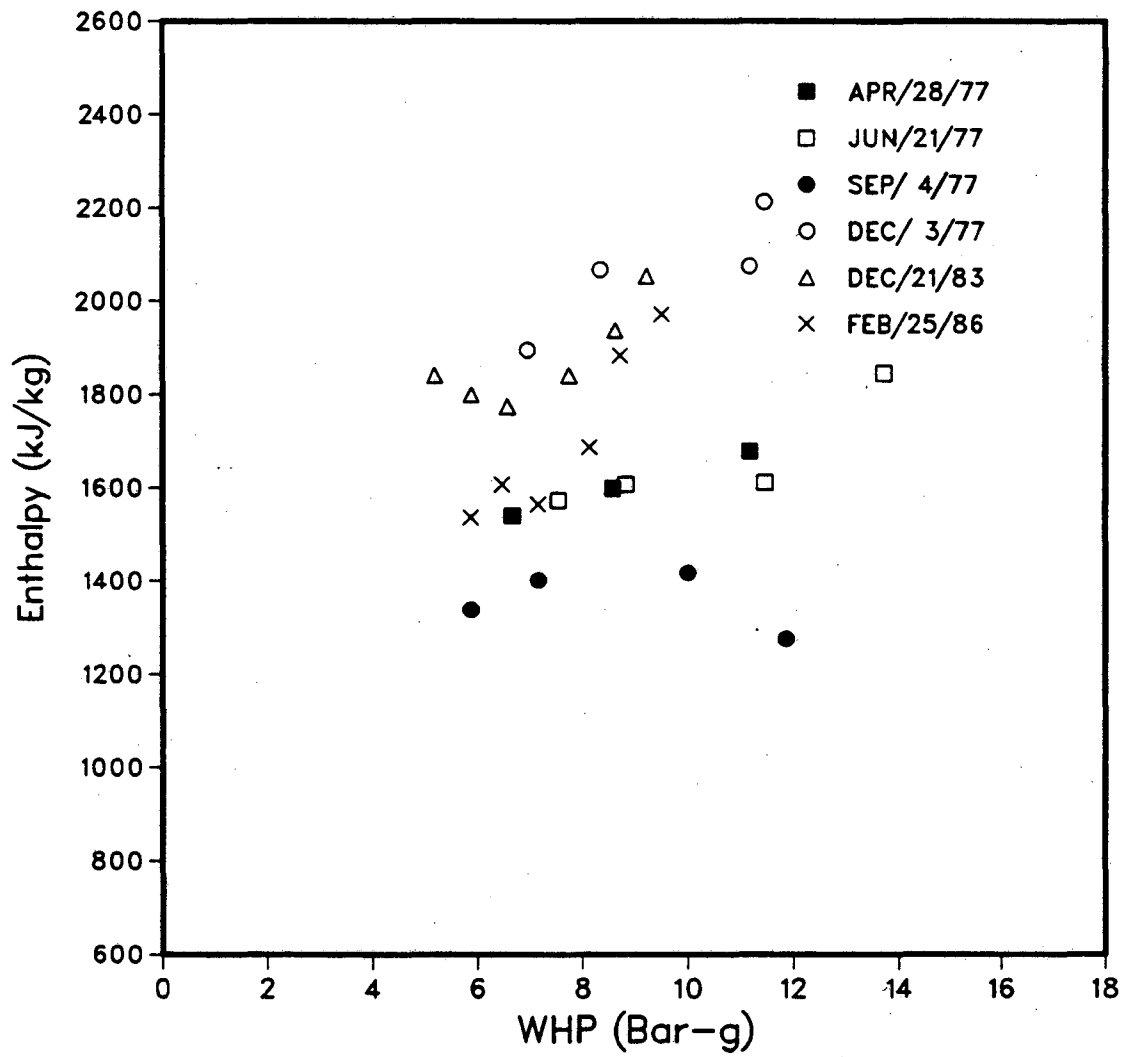
AH23 WHP vs. Enthalpy



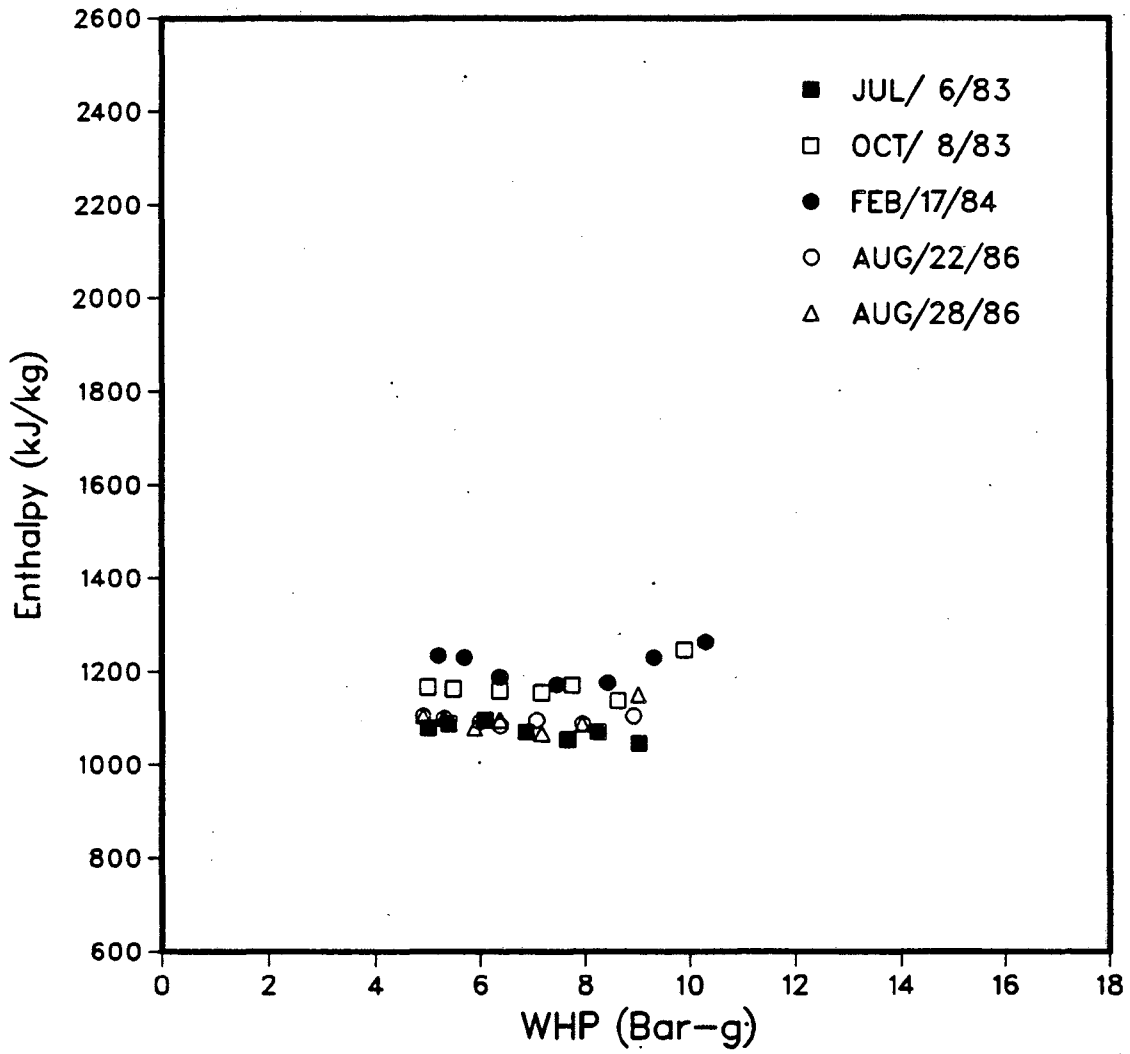
AH24 WHP vs. Enthalpy



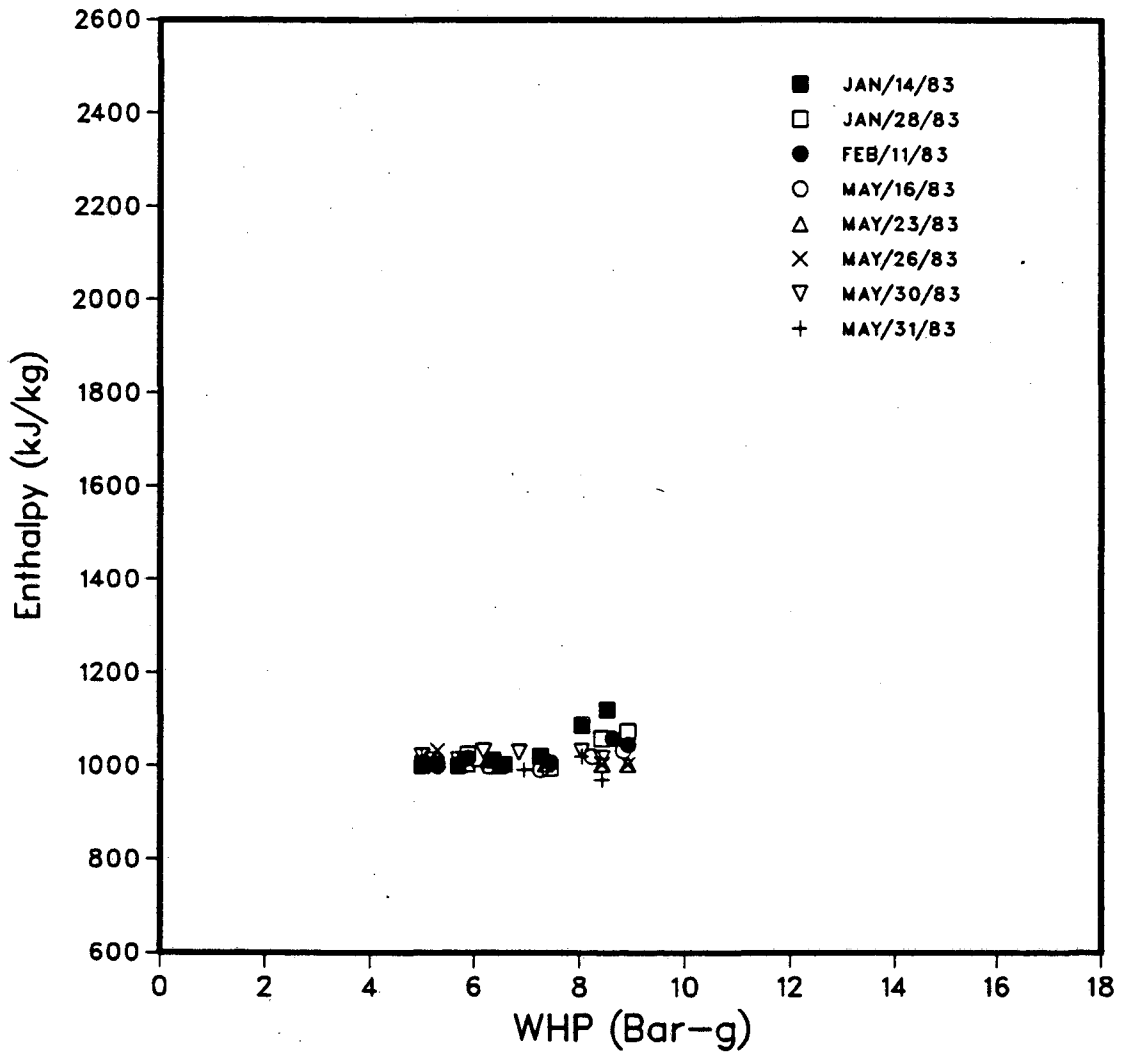
AH26 WHP vs. Enthalpy



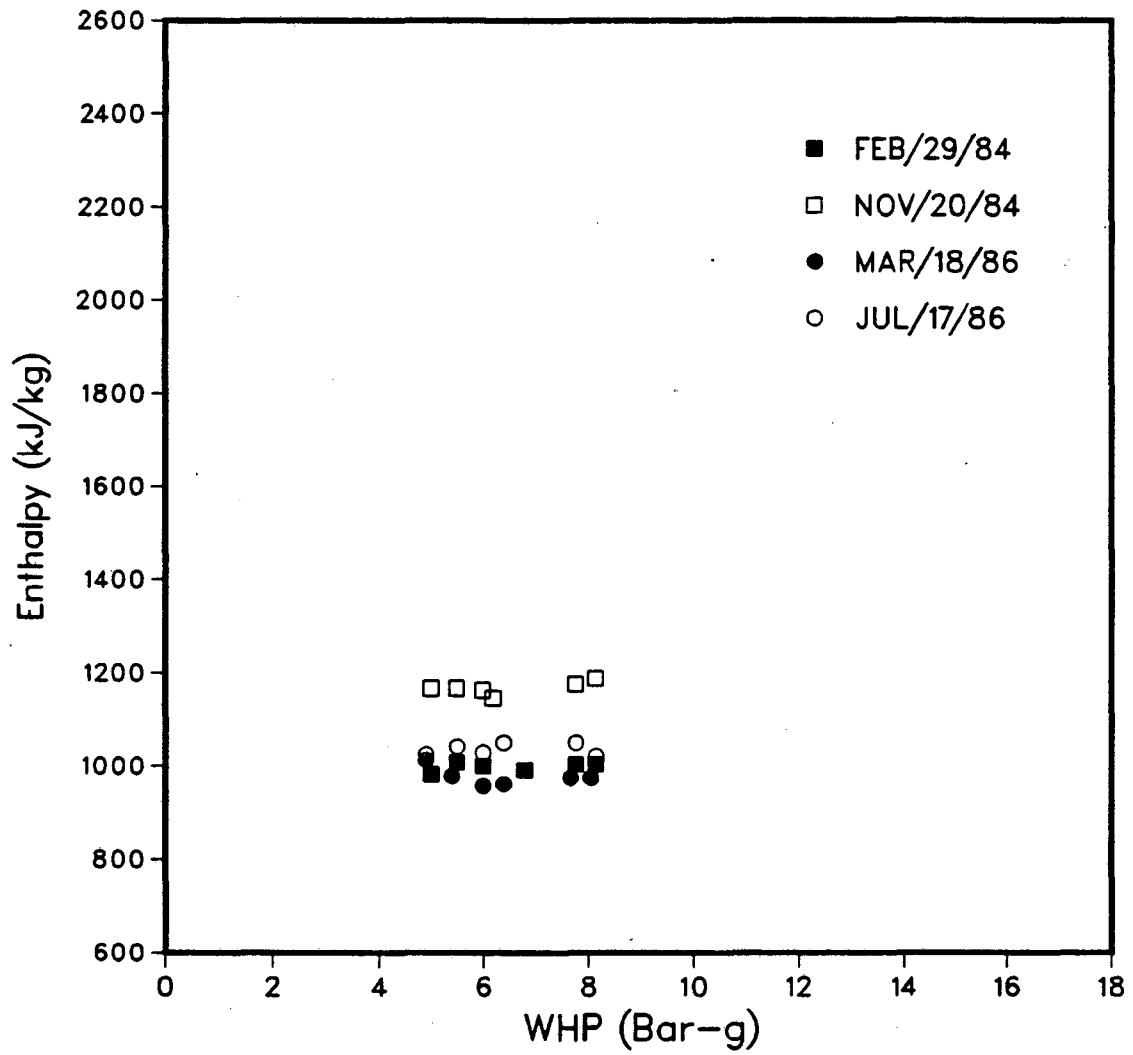
AH27 WHP vs. Enthalpy



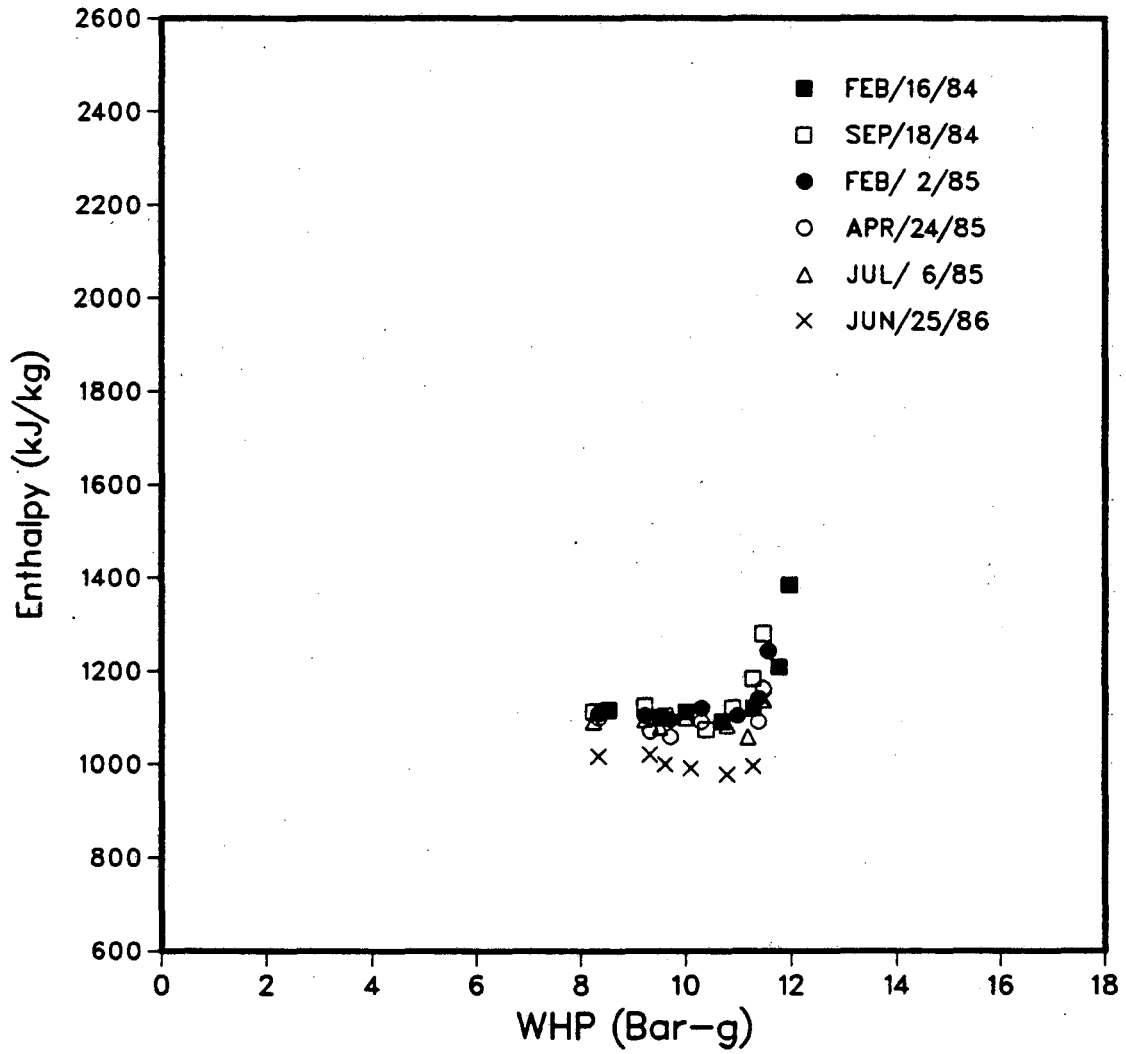
AH28 WHP vs. Enthalpy



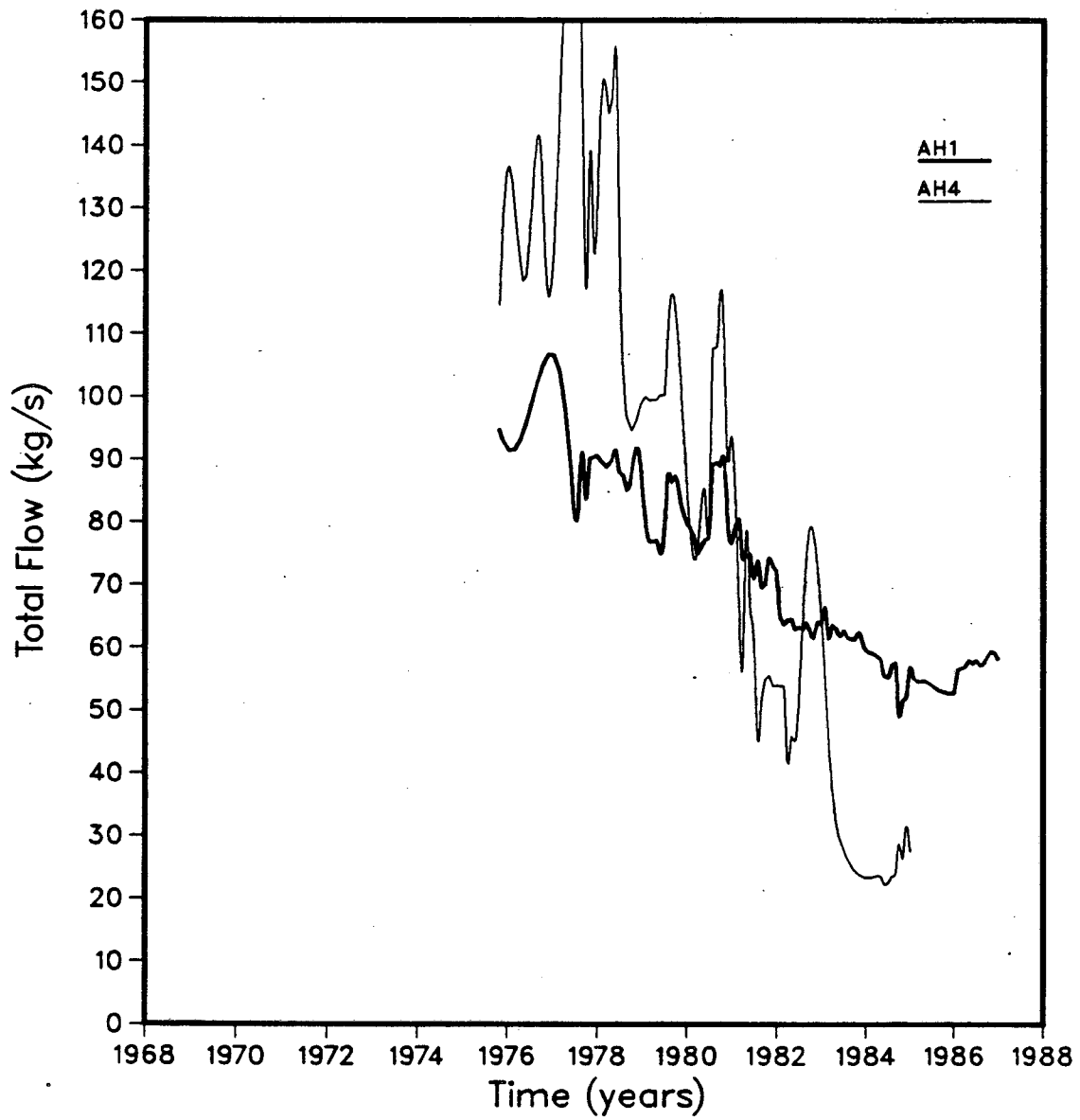
AH28 WHP vs. Enthalpy



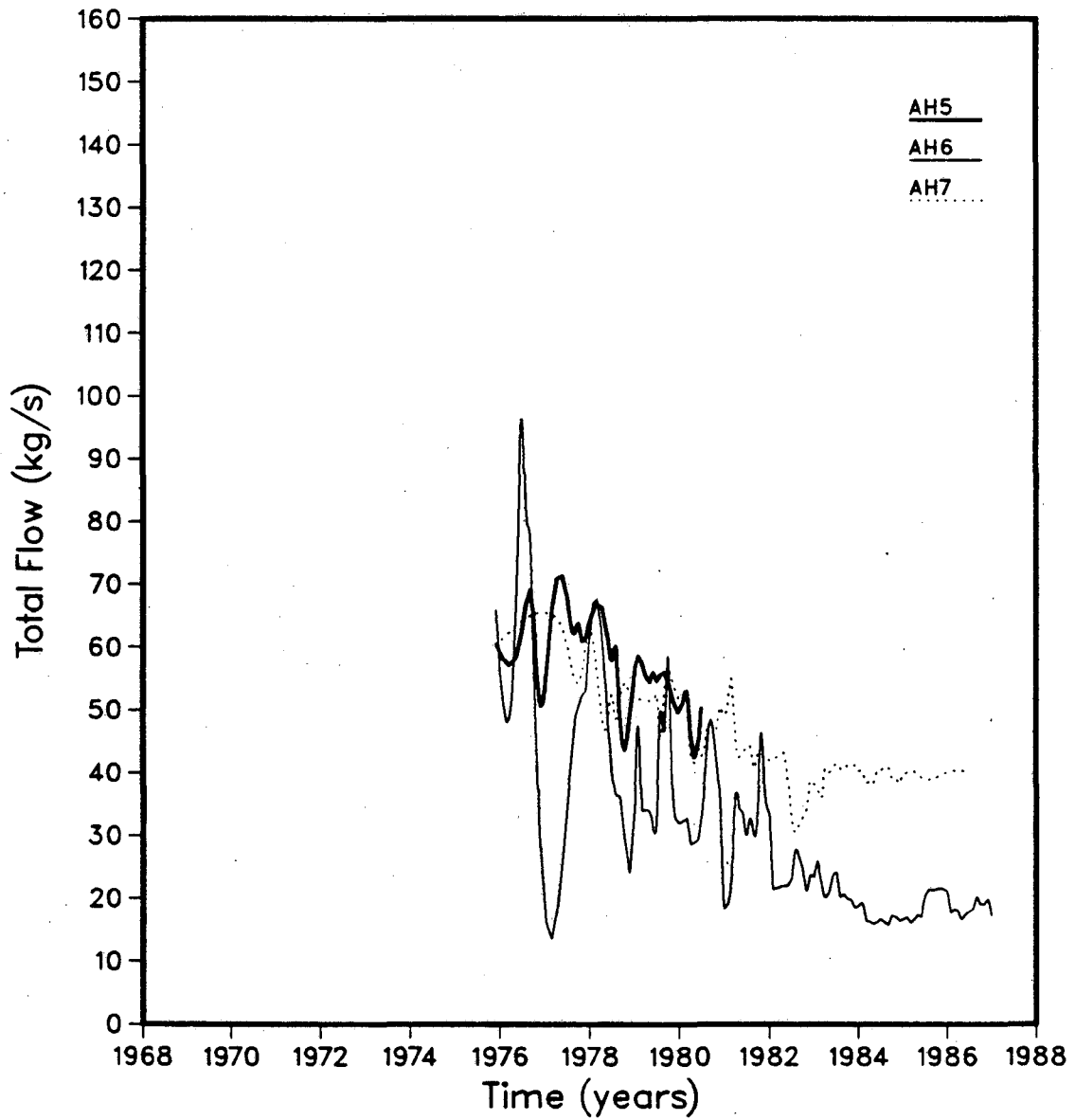
AH31 WHP vs. Enthalpy



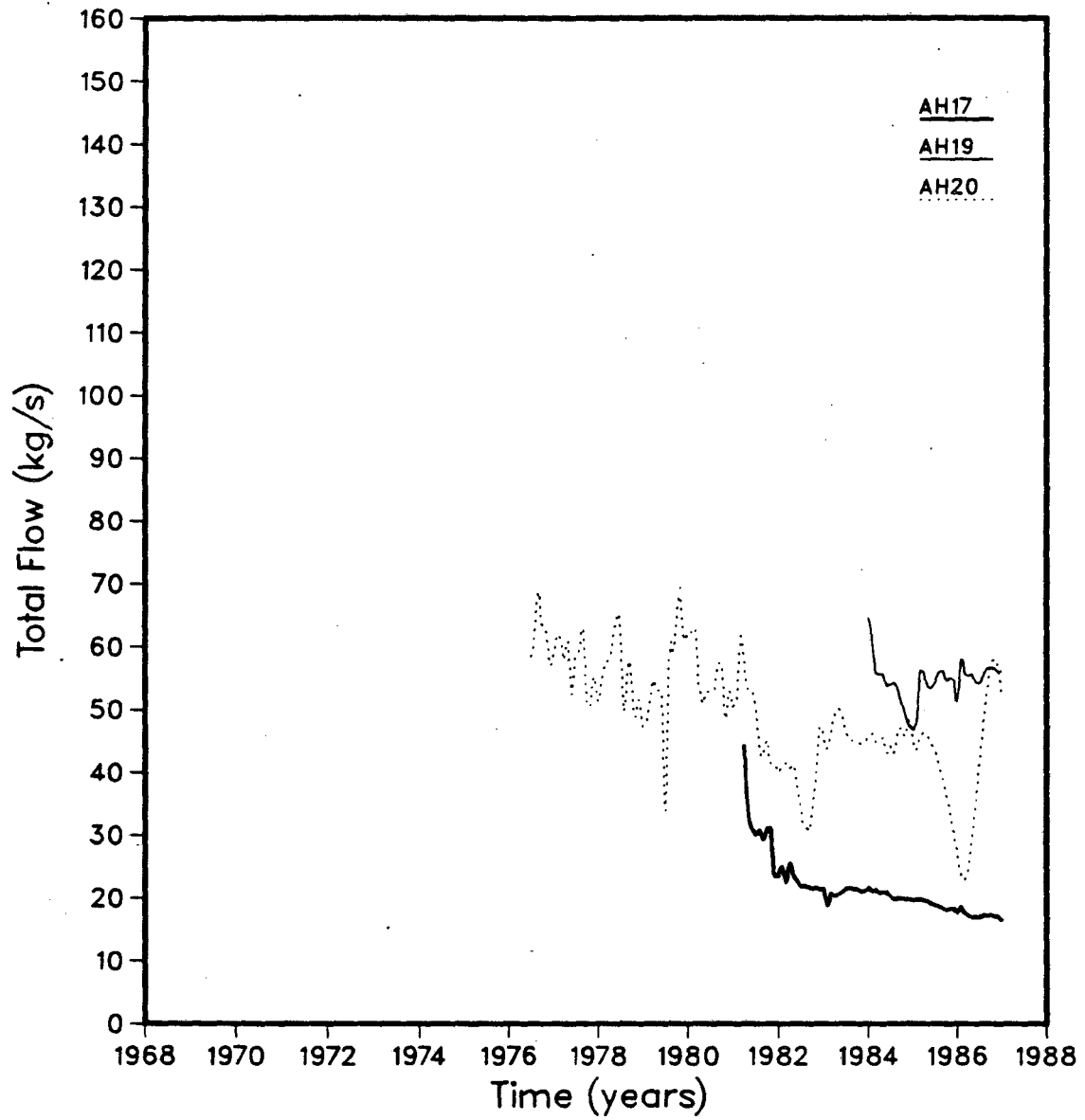
Mass Flow Trend



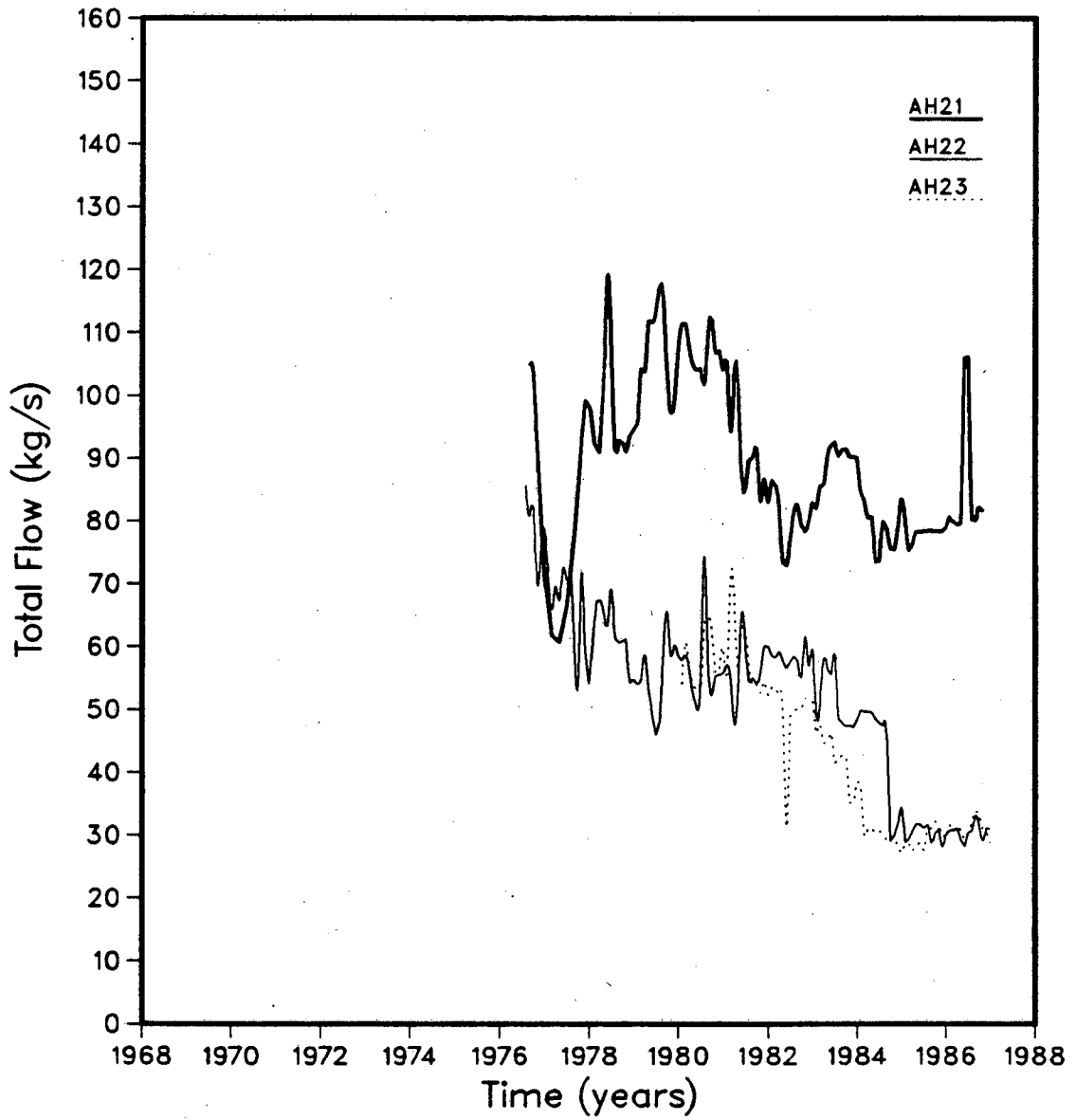
Mass Flow Trend



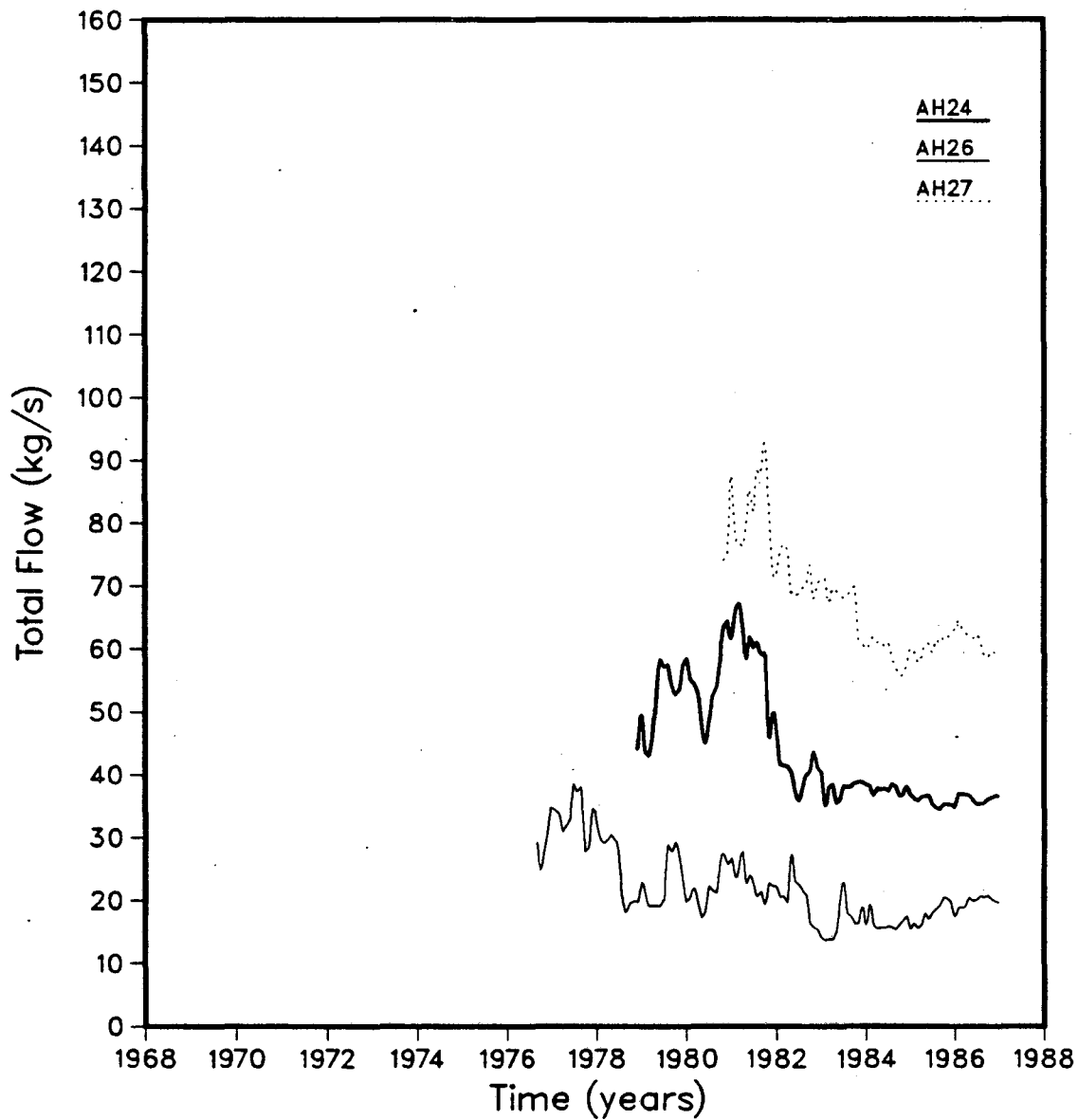
Mass Flow Trend



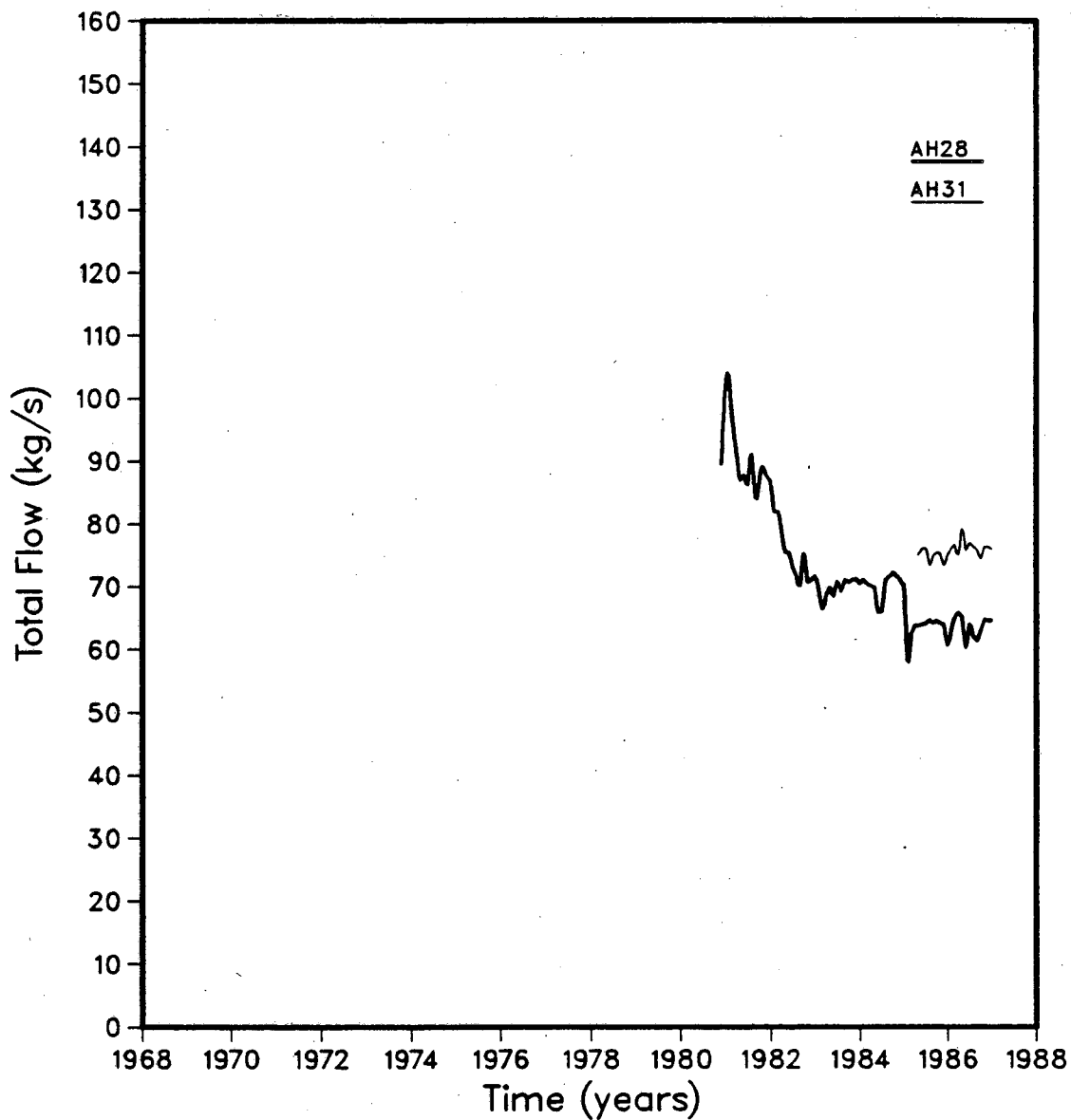
Mass Flow Trend



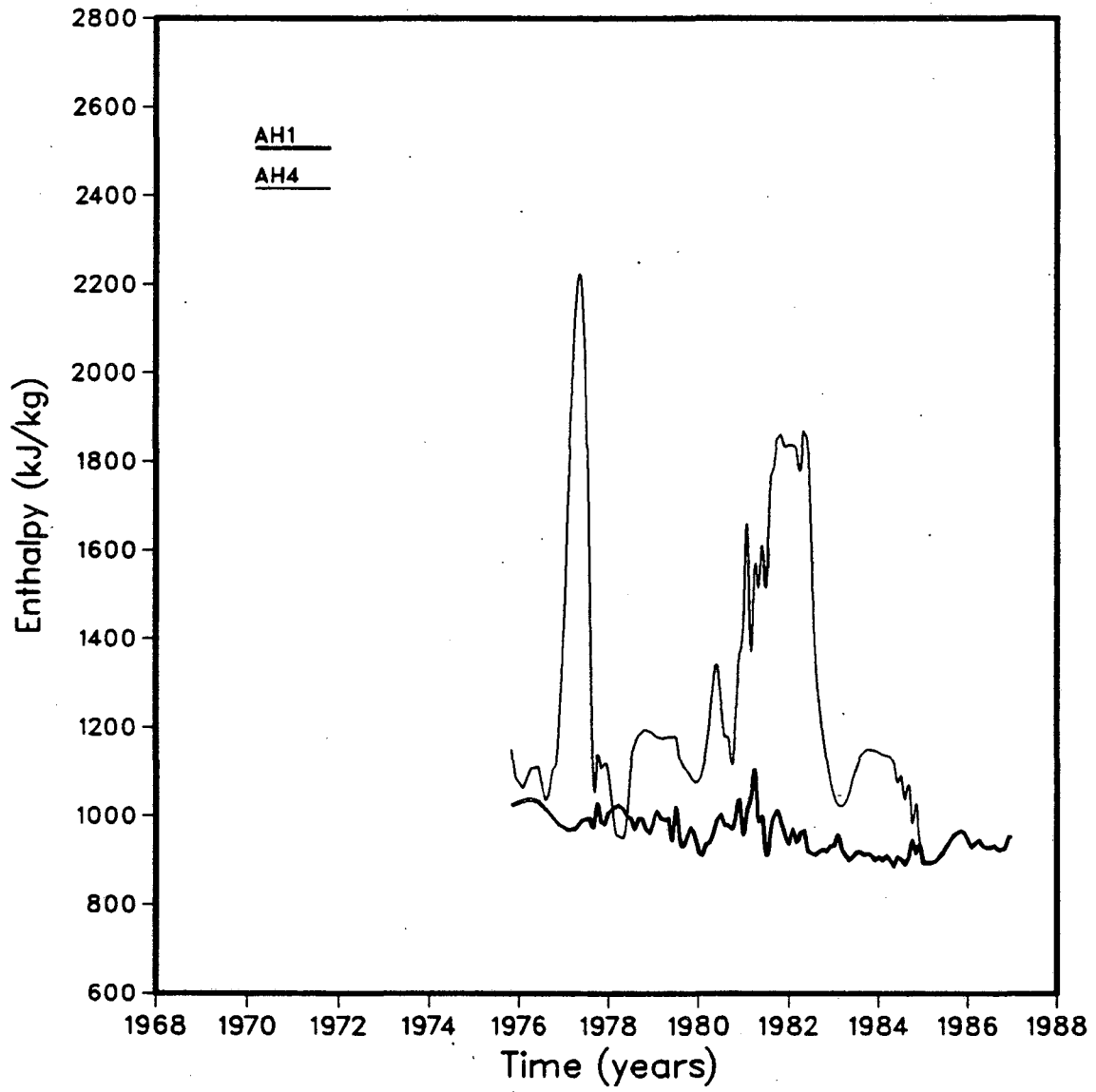
Mass Flow Trend



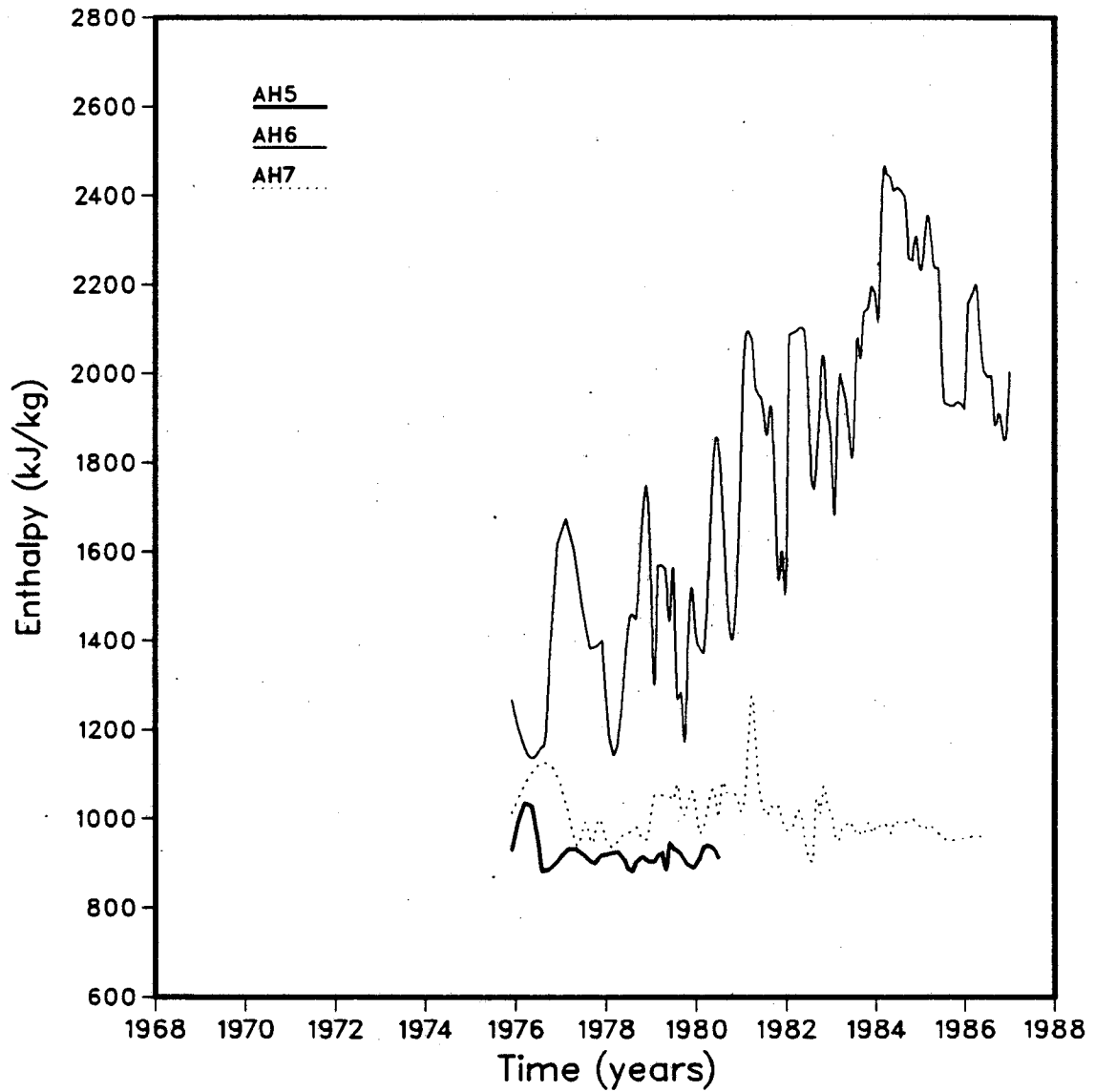
Mass Flow Trend



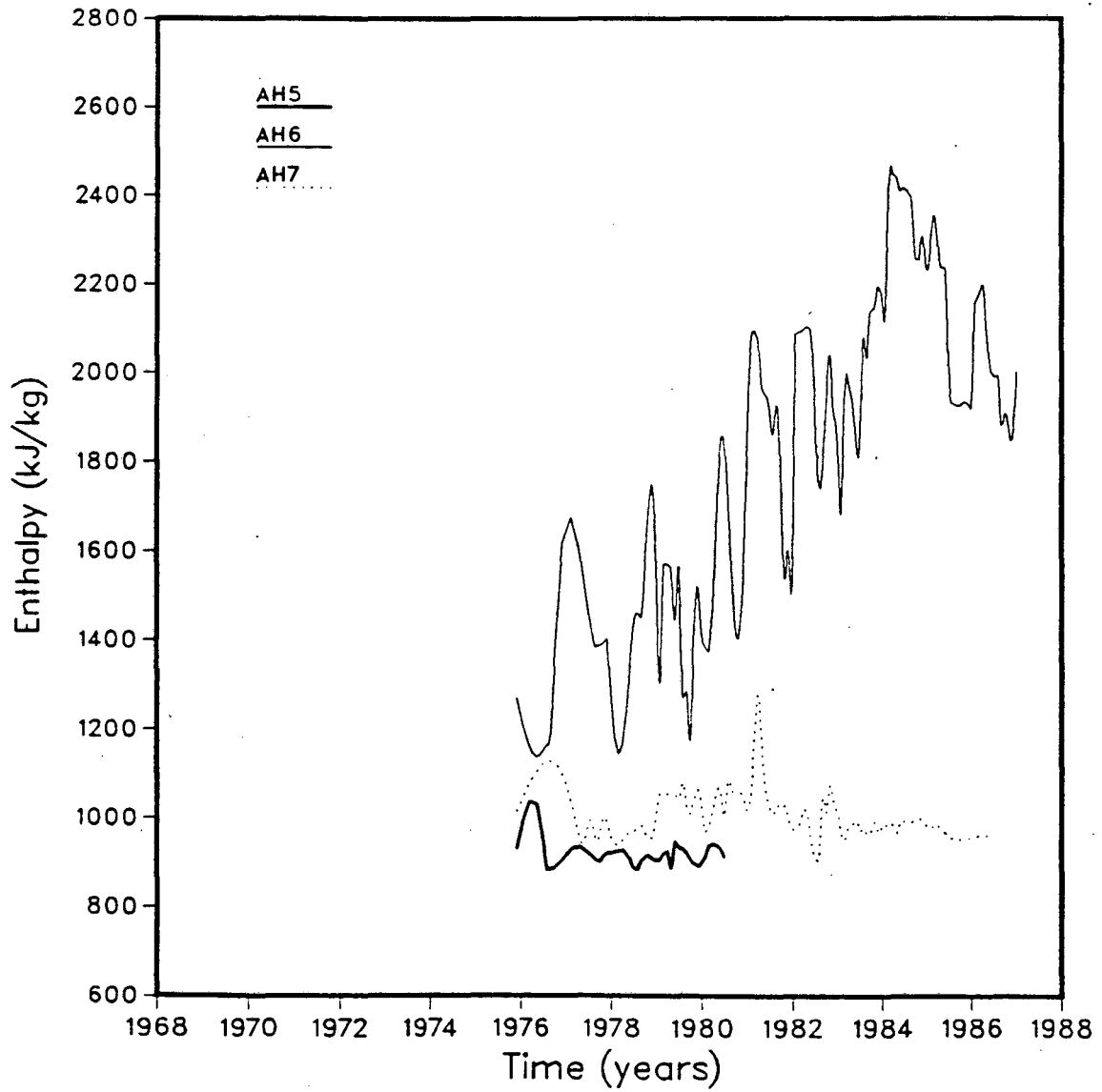
Enthalpy Trend



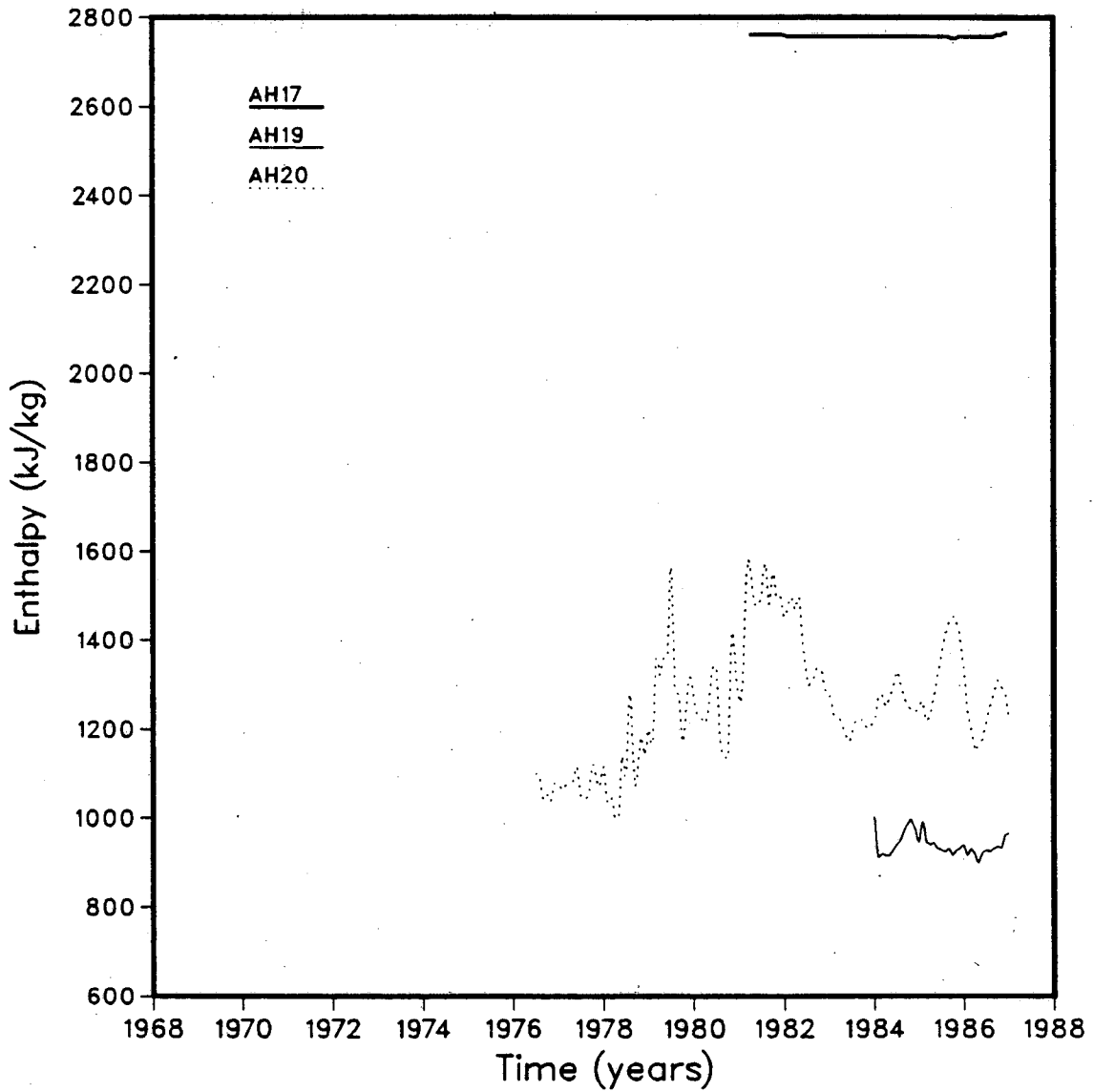
Enthalpy Trend



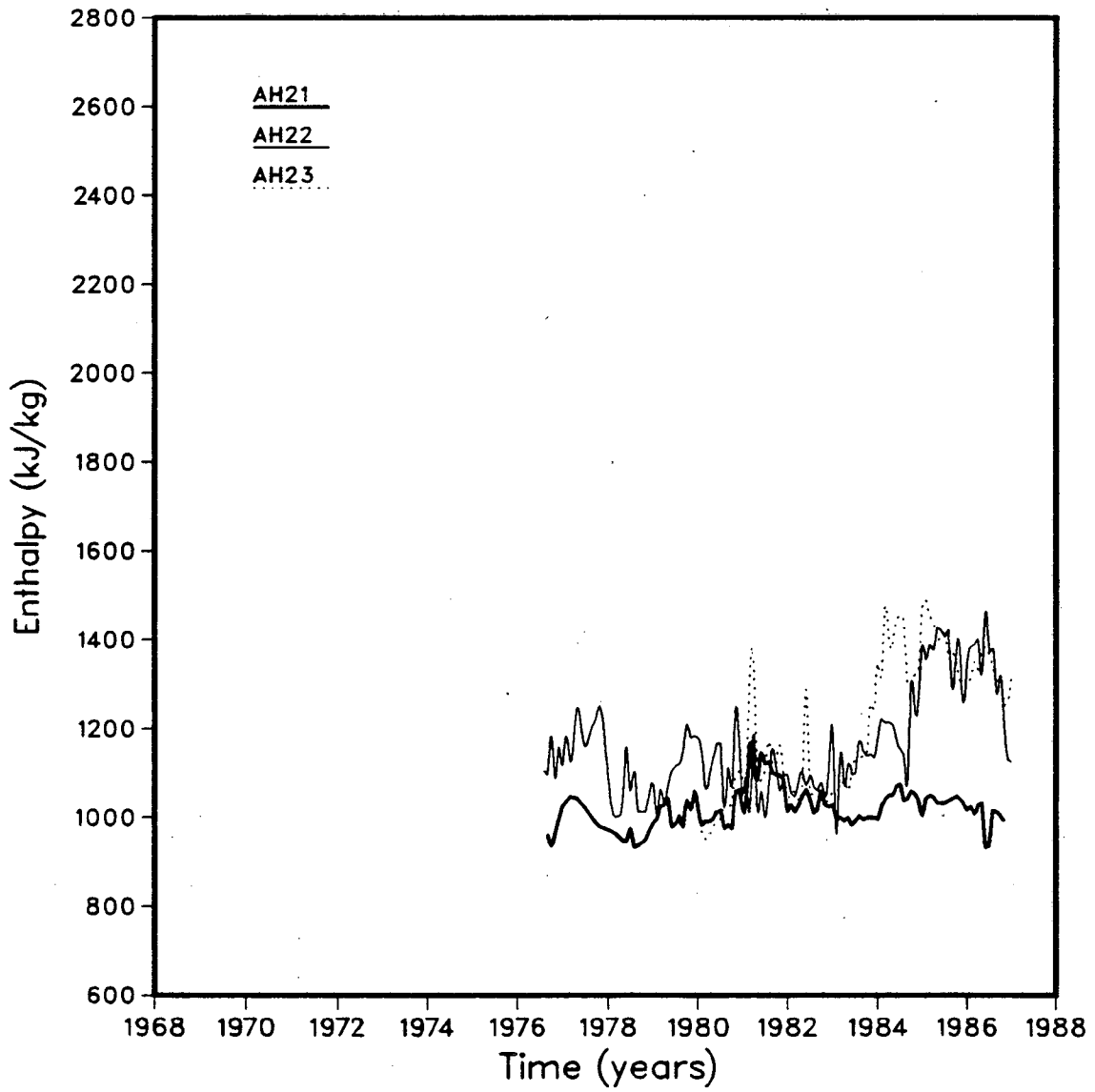
Enthalpy Trend



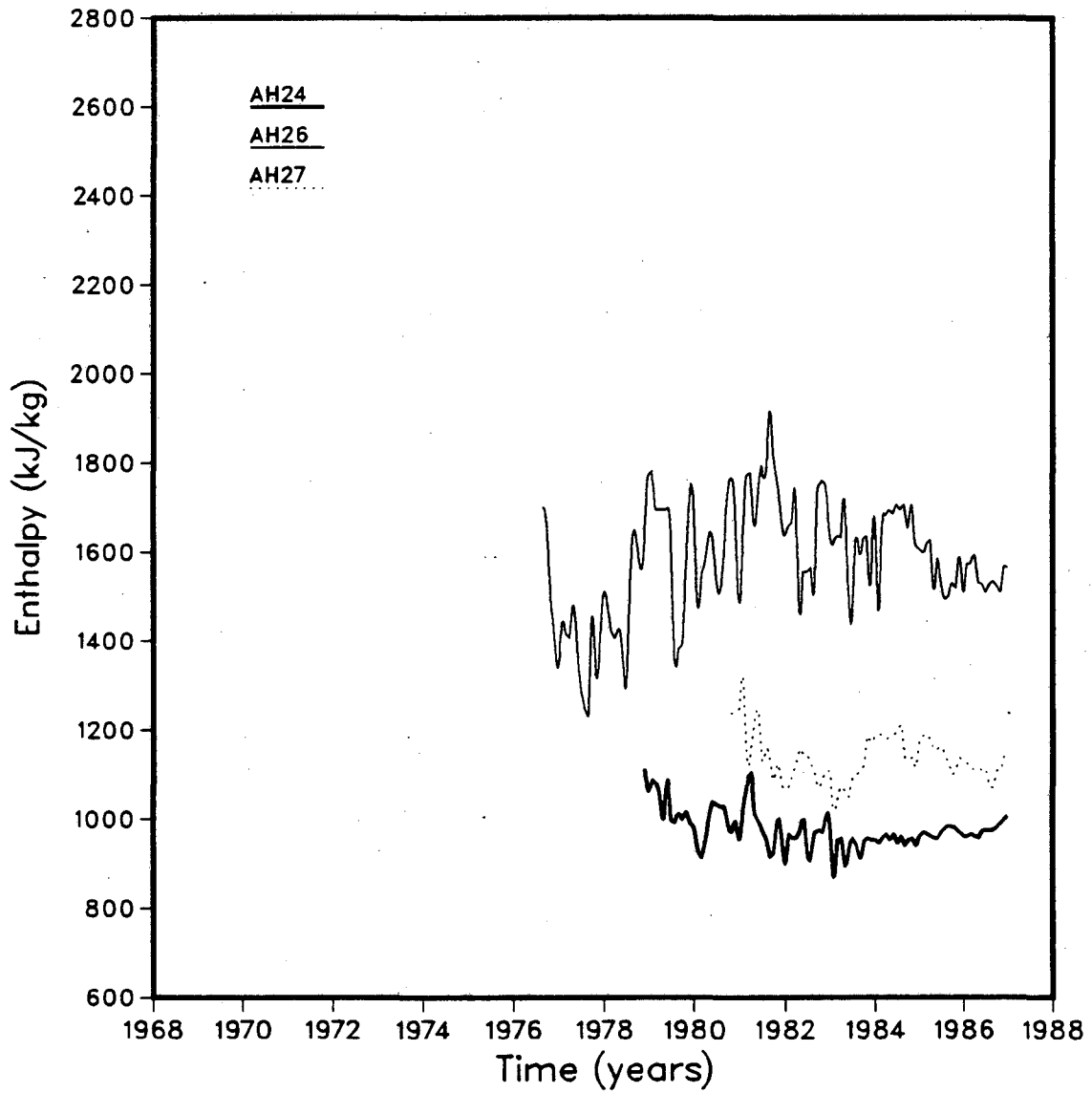
Enthalpy Trend



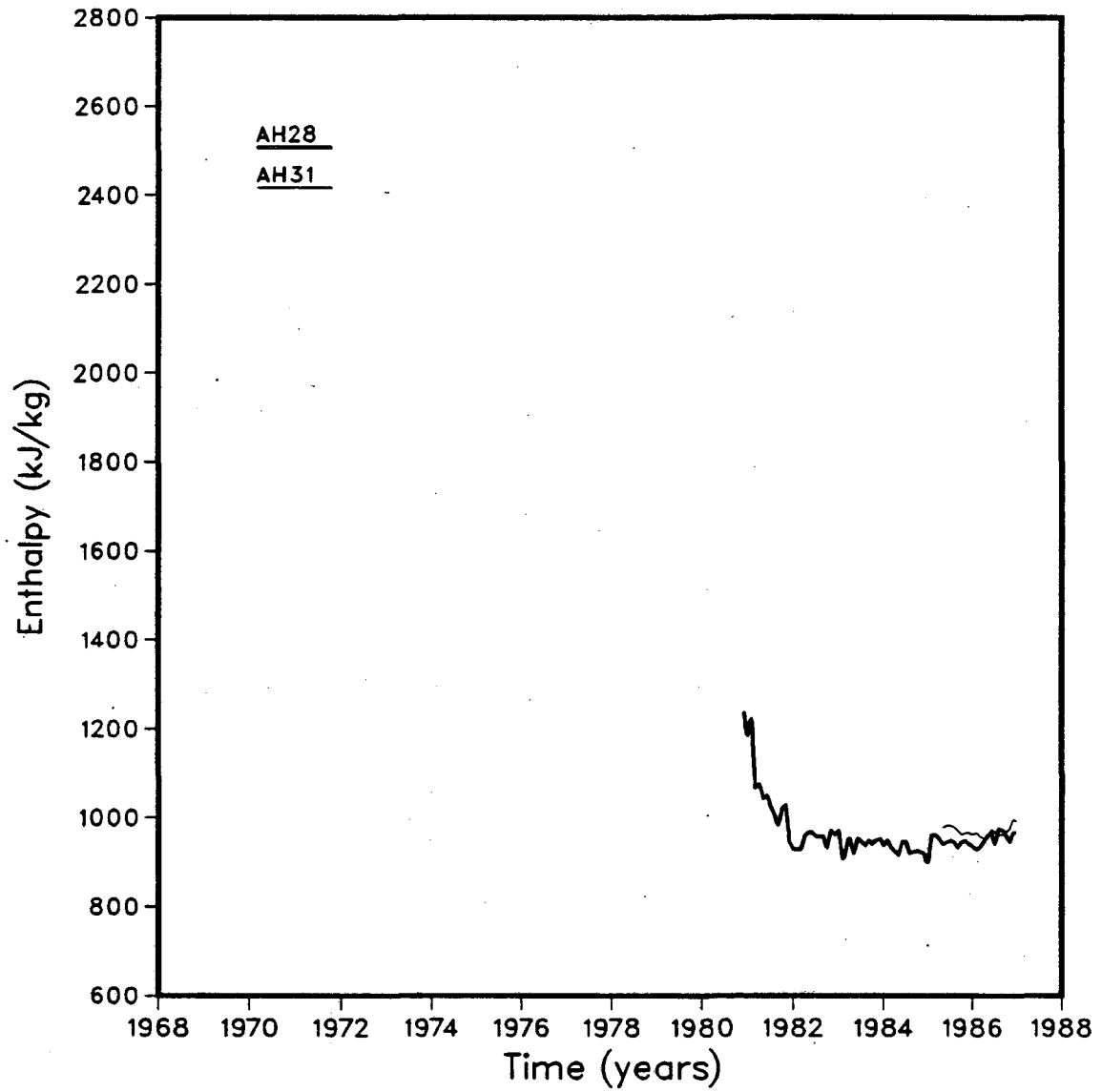
Enthalpy Trend



Enthalpy Trend



Enthalpy Trend



APPENDIX I

(Geochemical Temperatures and Chloride Trends)

KEY

TEMPERATURE PLOTS:

□ : T_{NKC}

+ : T_{SIL}

△ : T_E

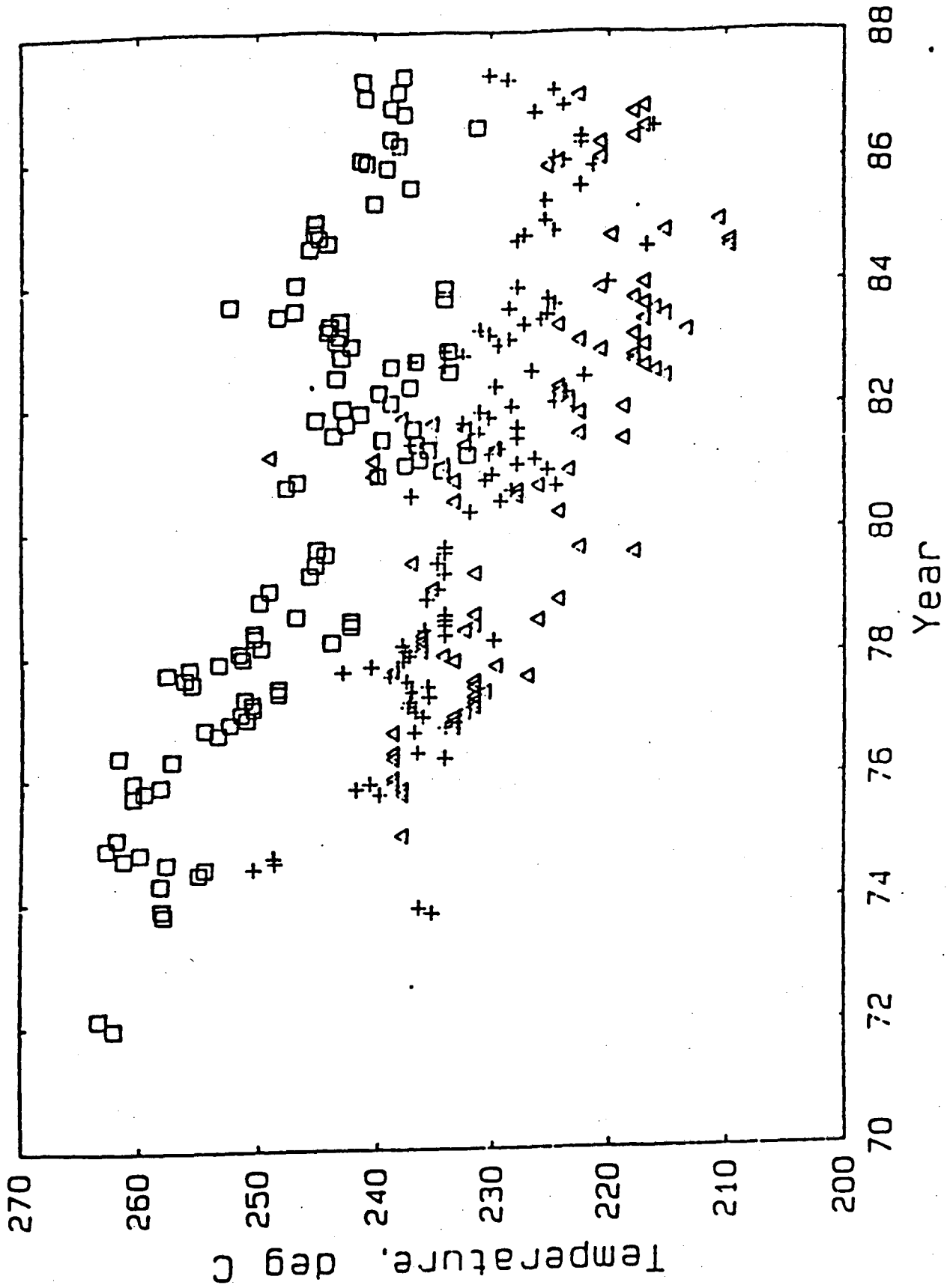
CHLORIDE PLOTS:

+ : Chloride (as analyzed)

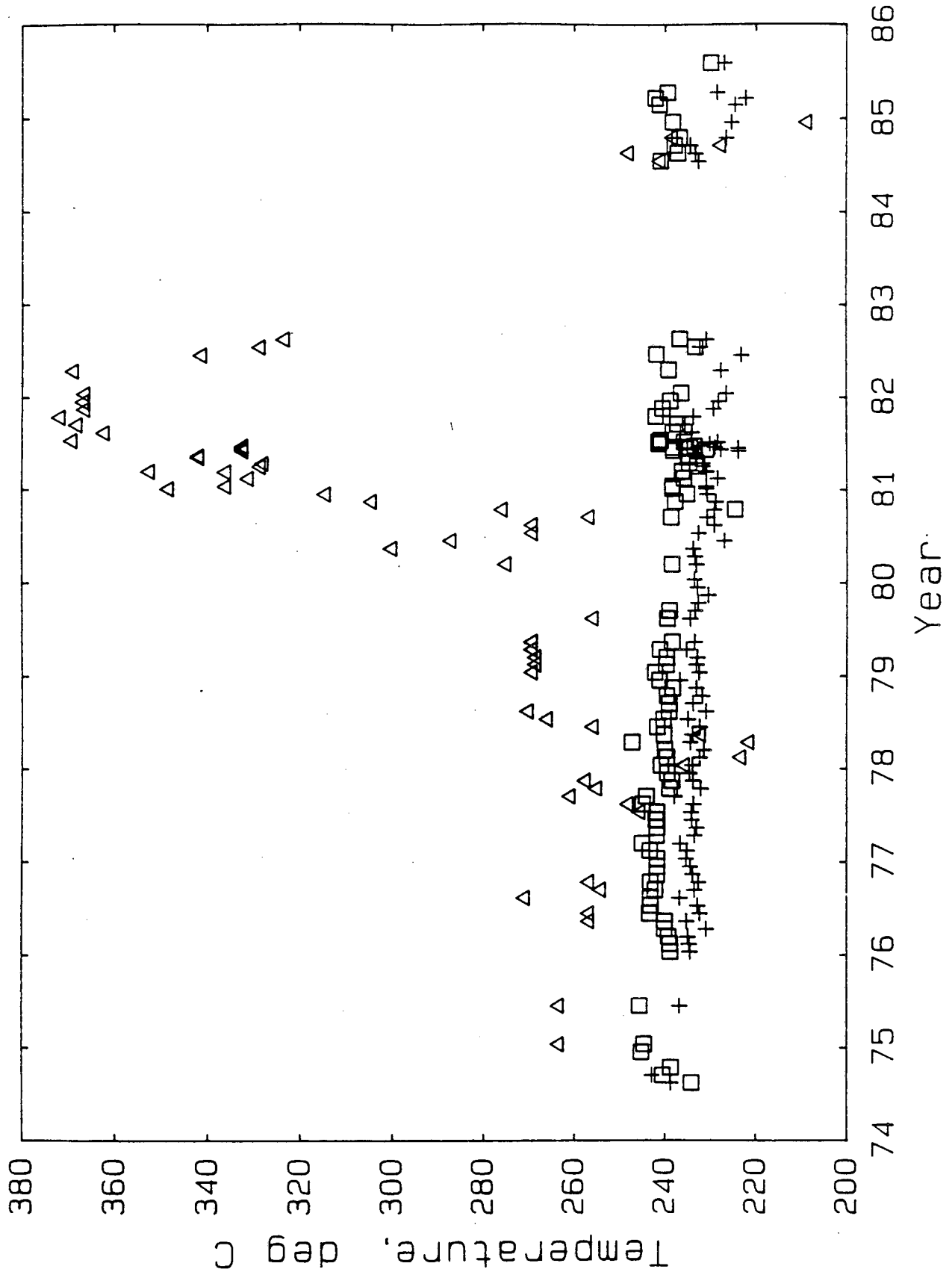
□ : Aquifer Chloride (calc. from T_{NKC})

× : Aquifer Chloride (calc. from T_E)

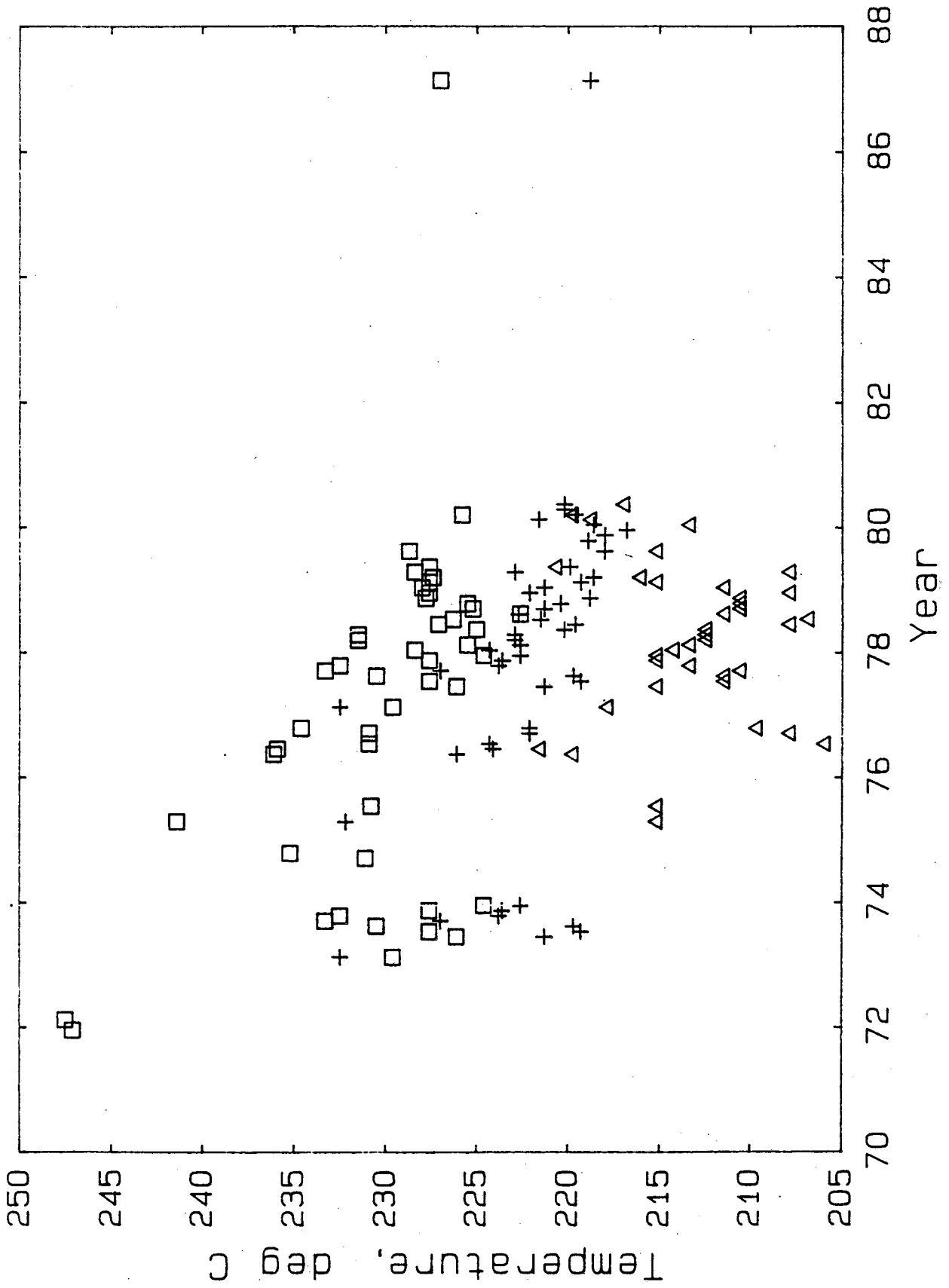
◇ : Aquifer Chloride (calc. from T_{SIL})

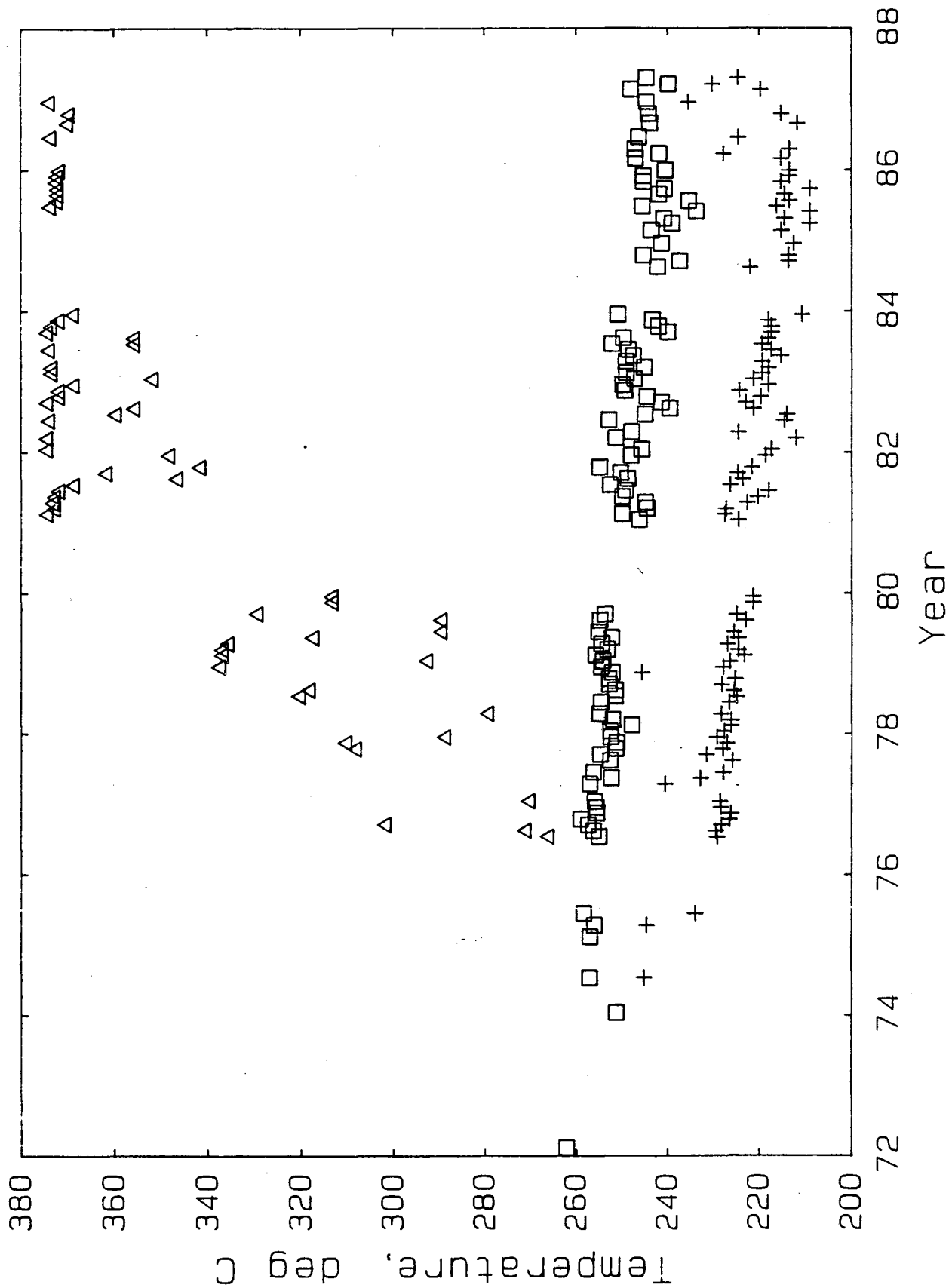


WELL AH-1

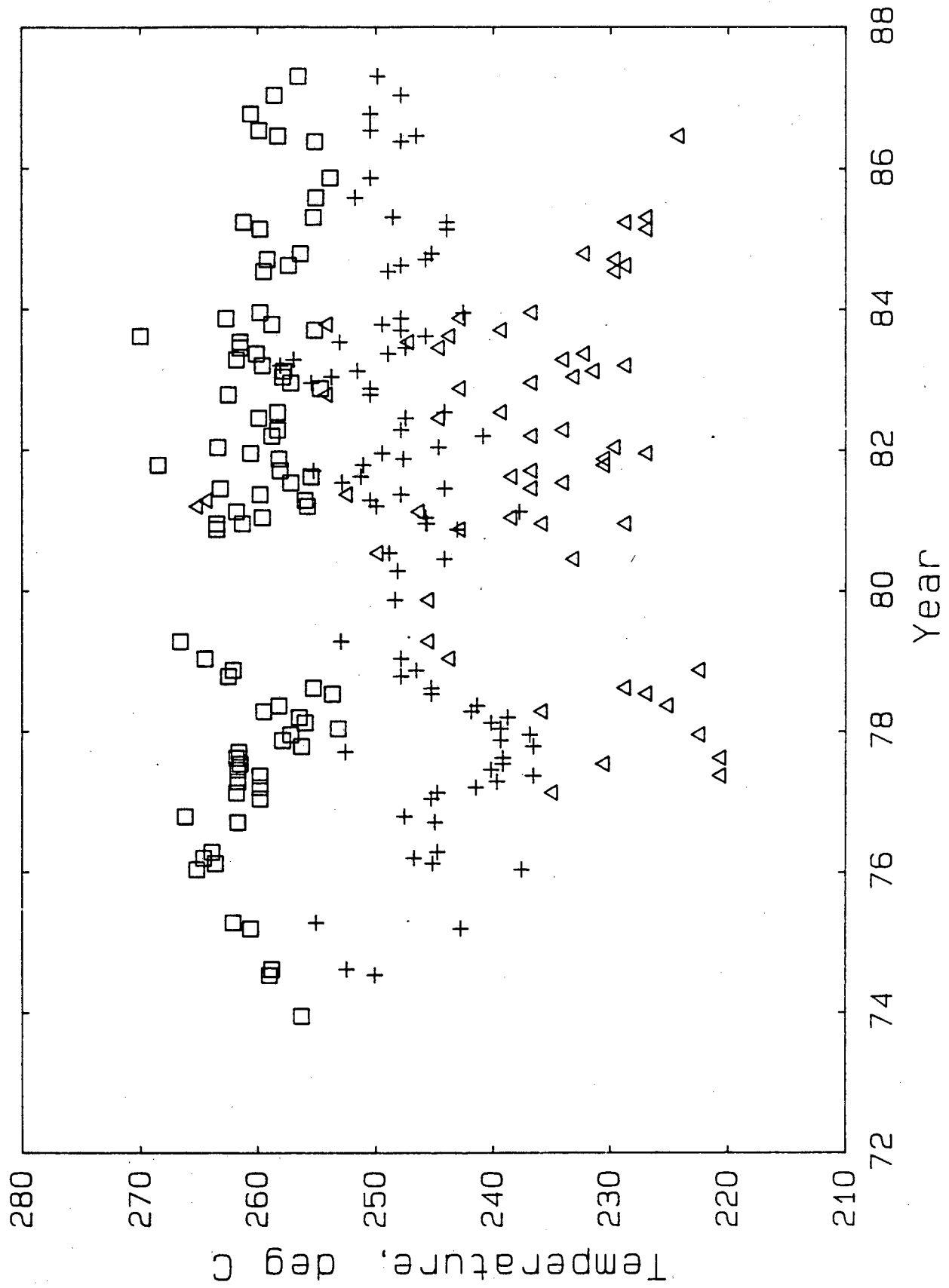


WELL AH-4

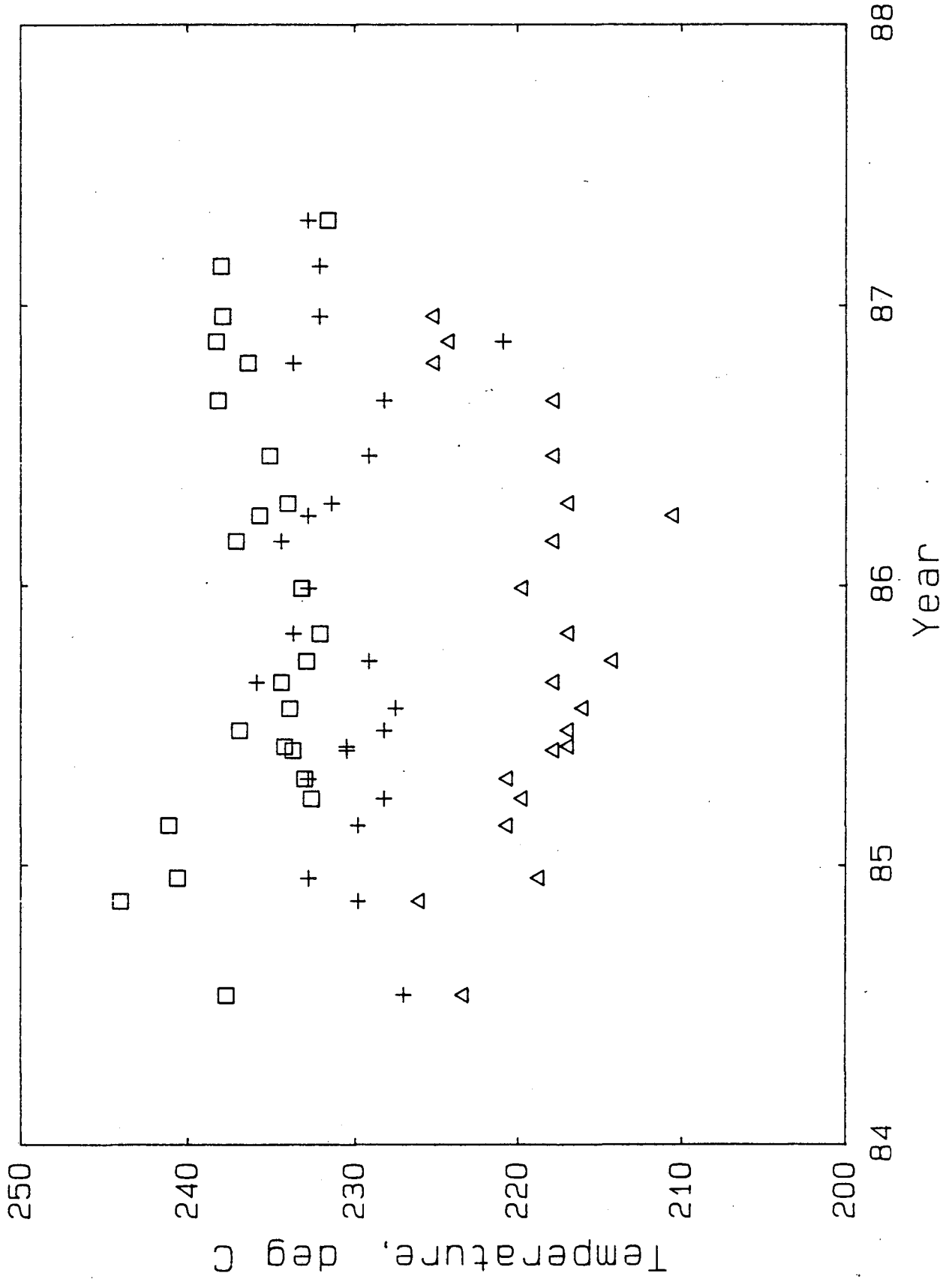




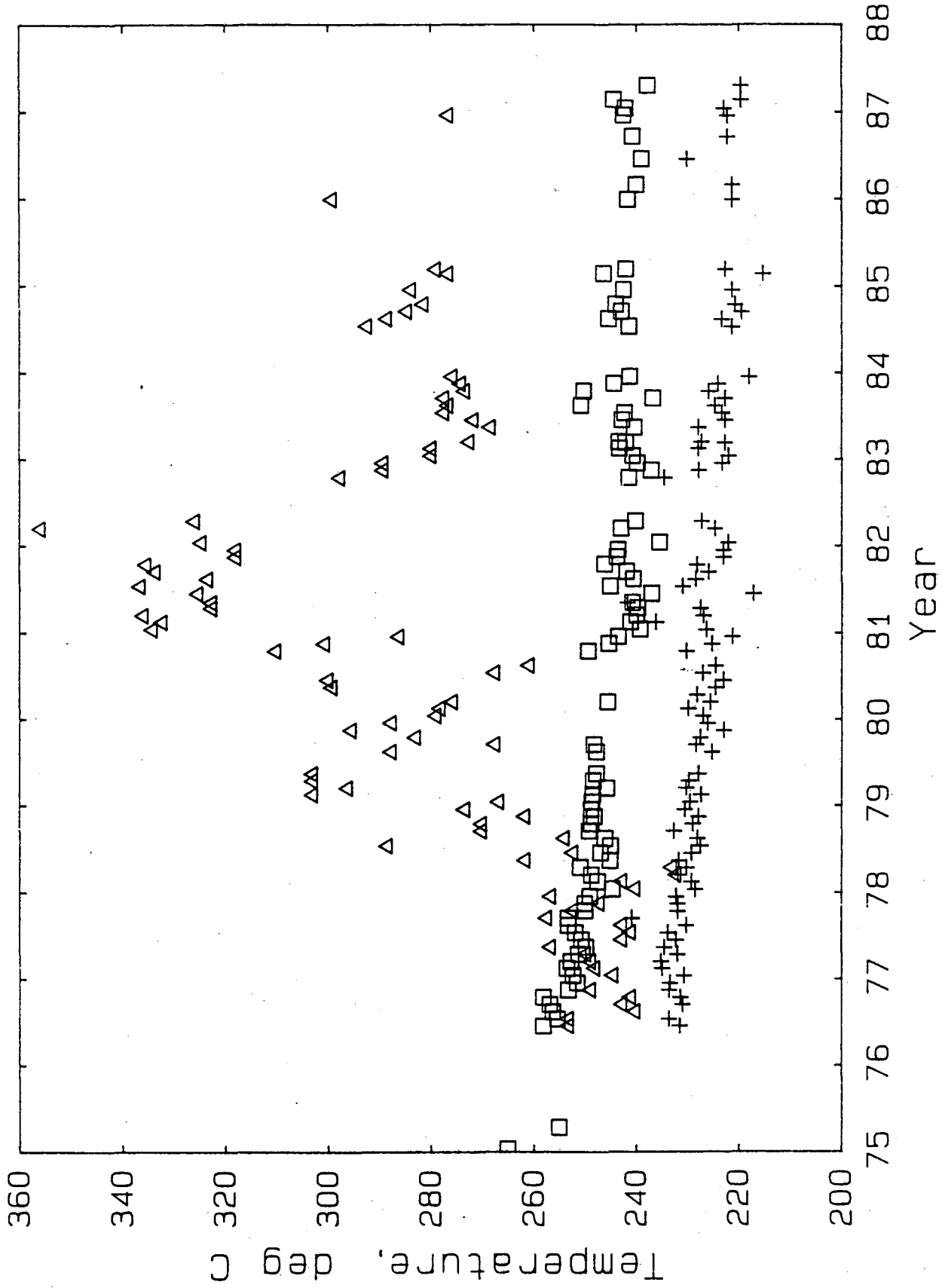
WELL AH-6



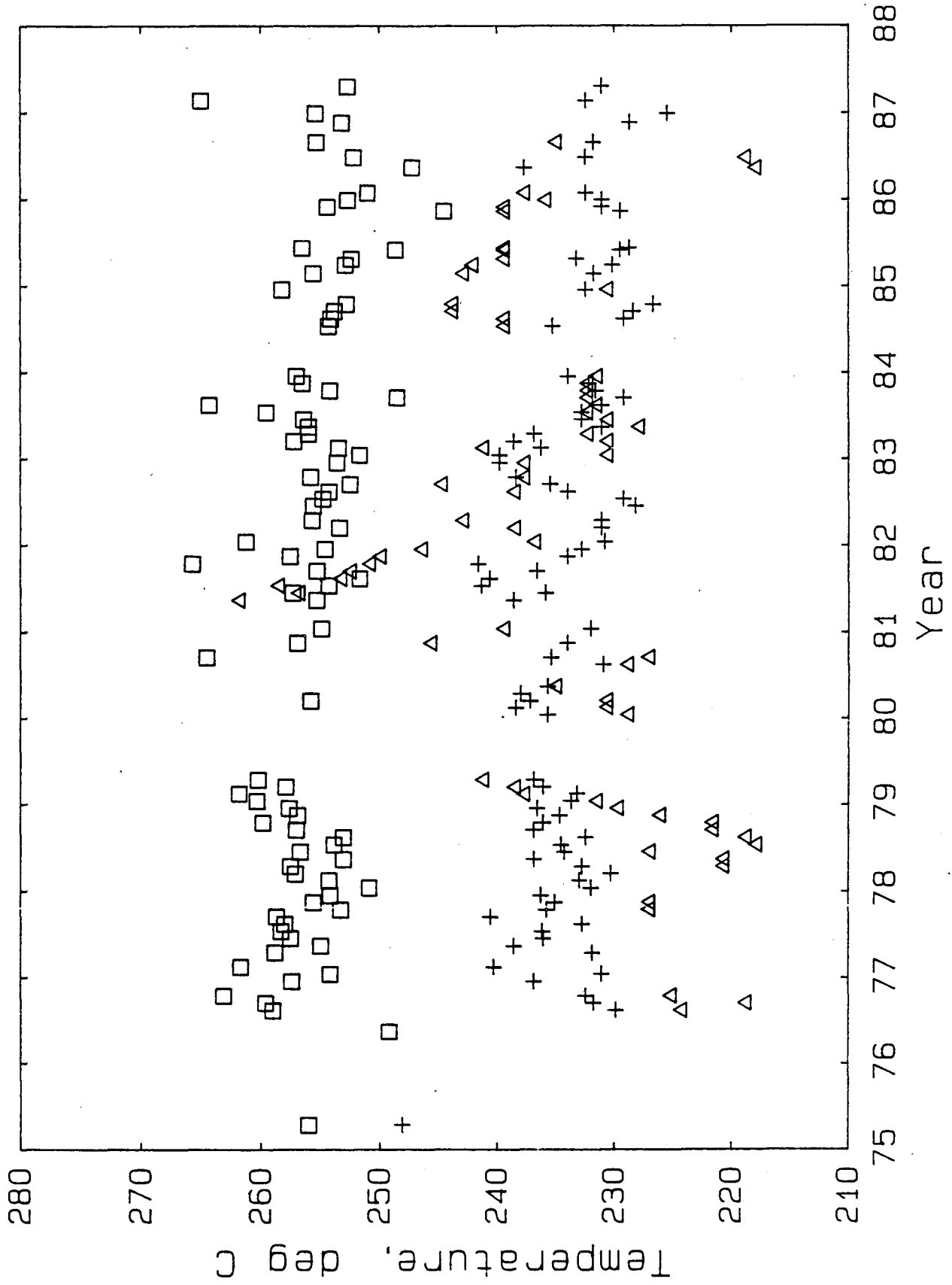
WELL AH-7



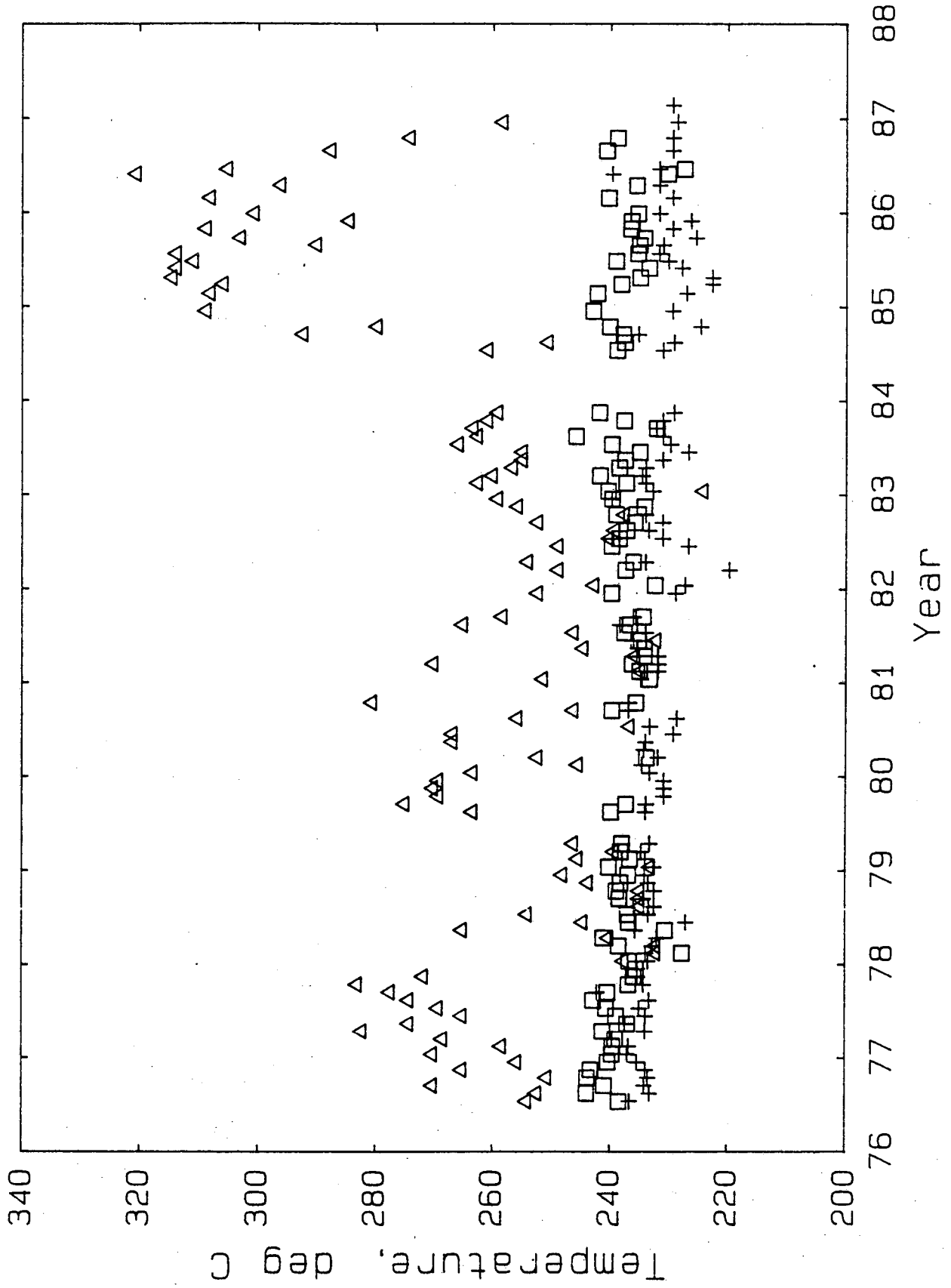
WELL AH-19

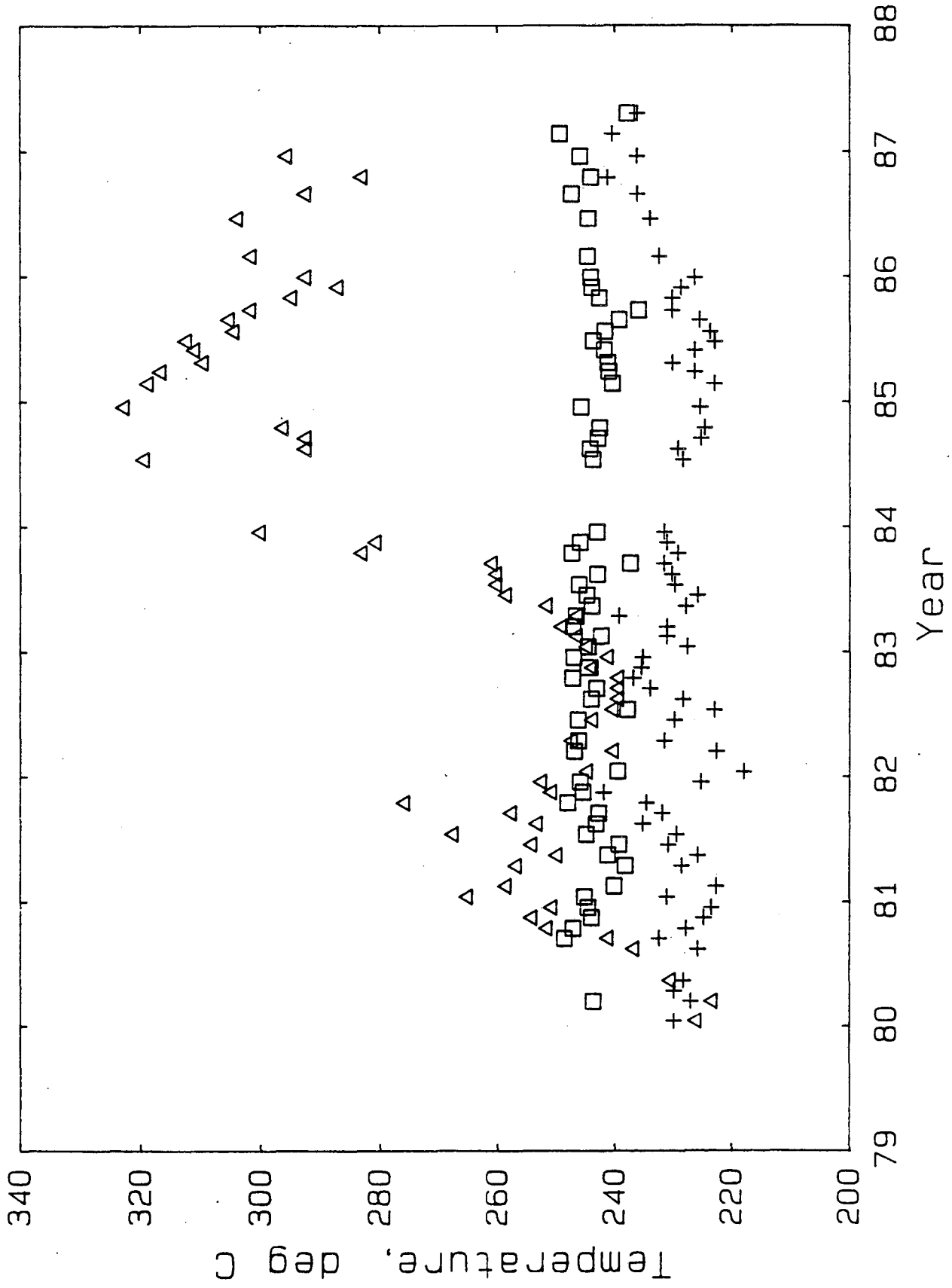


WELL AH-20

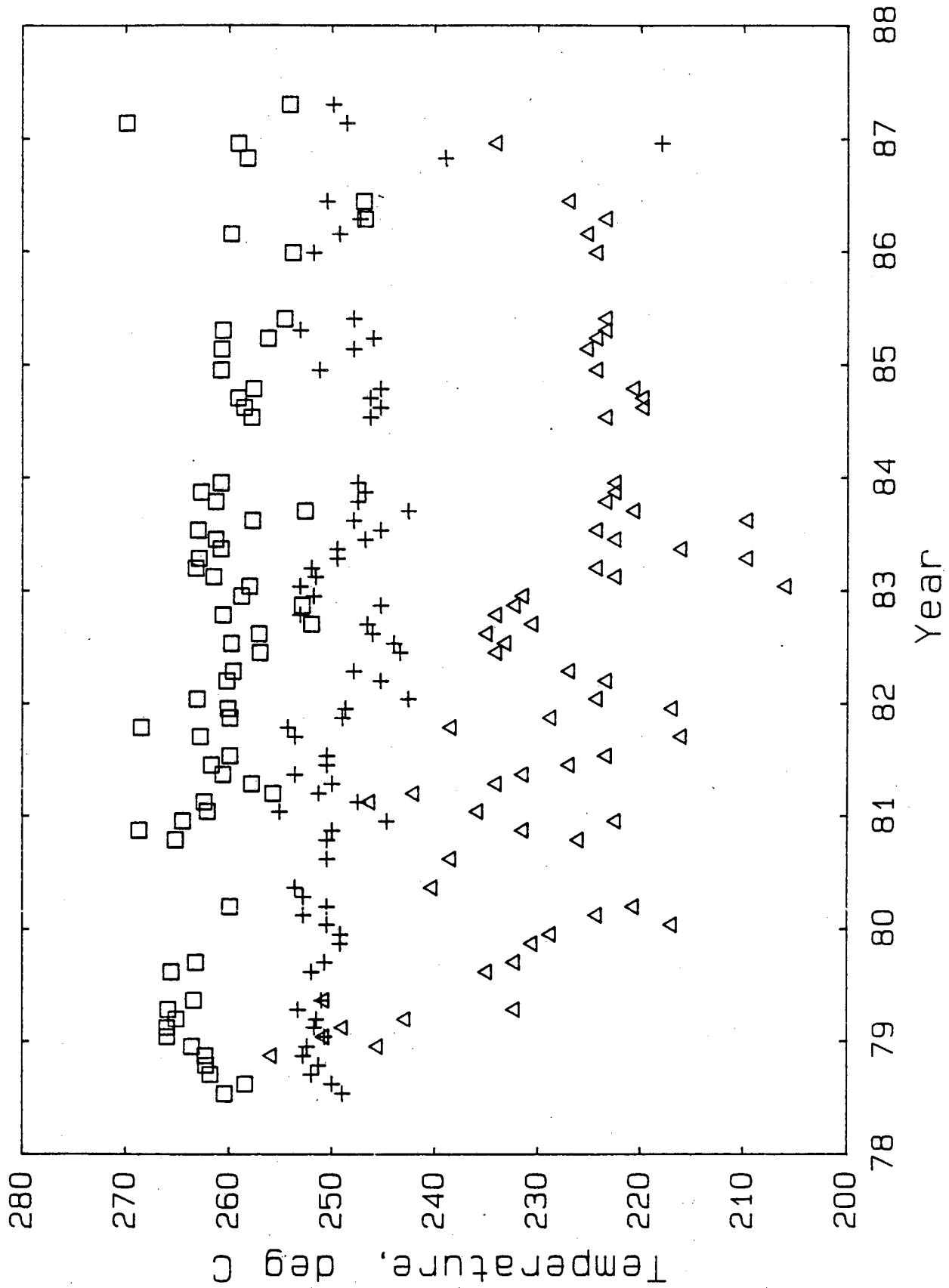


WELL AH-21

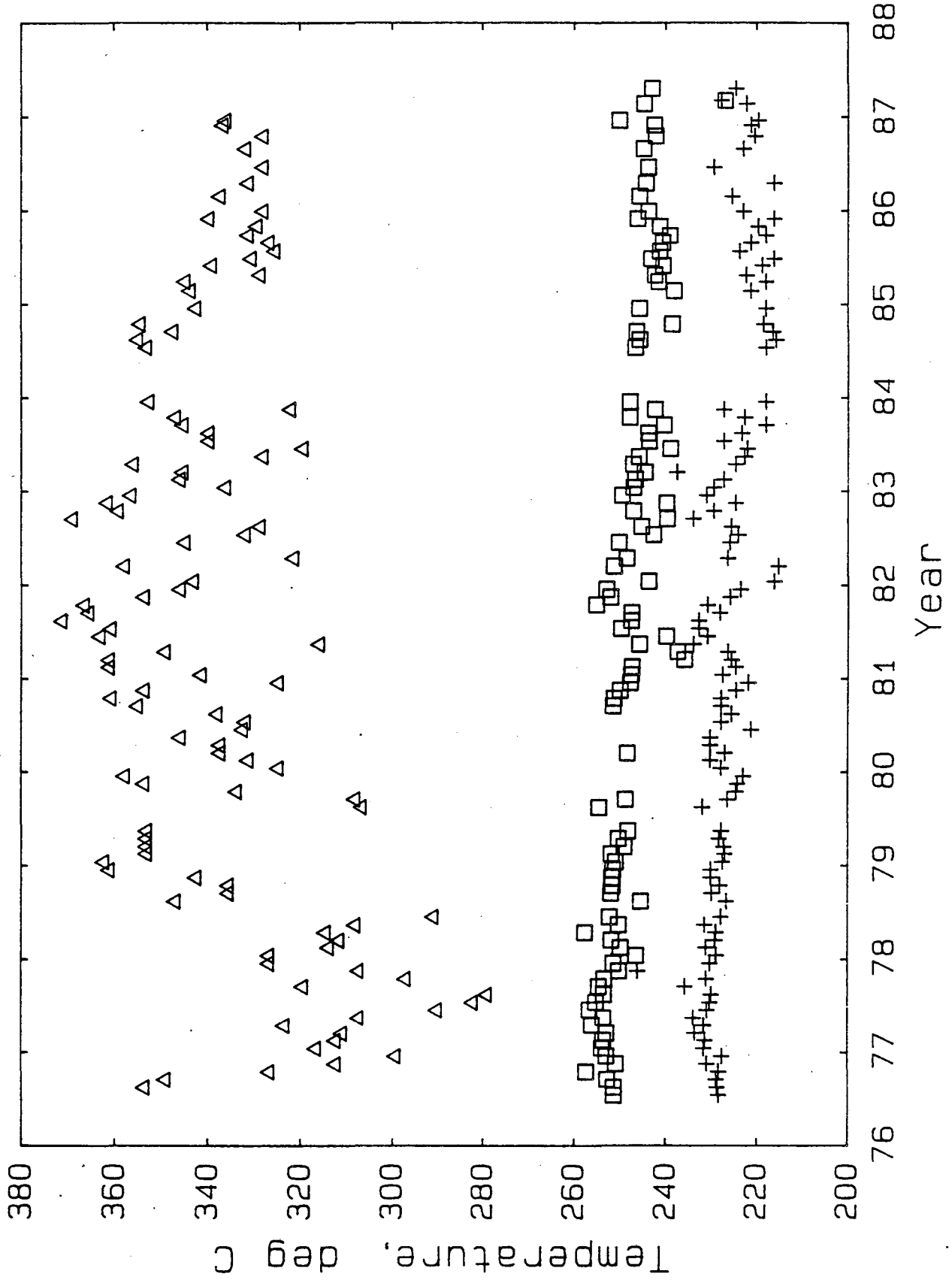


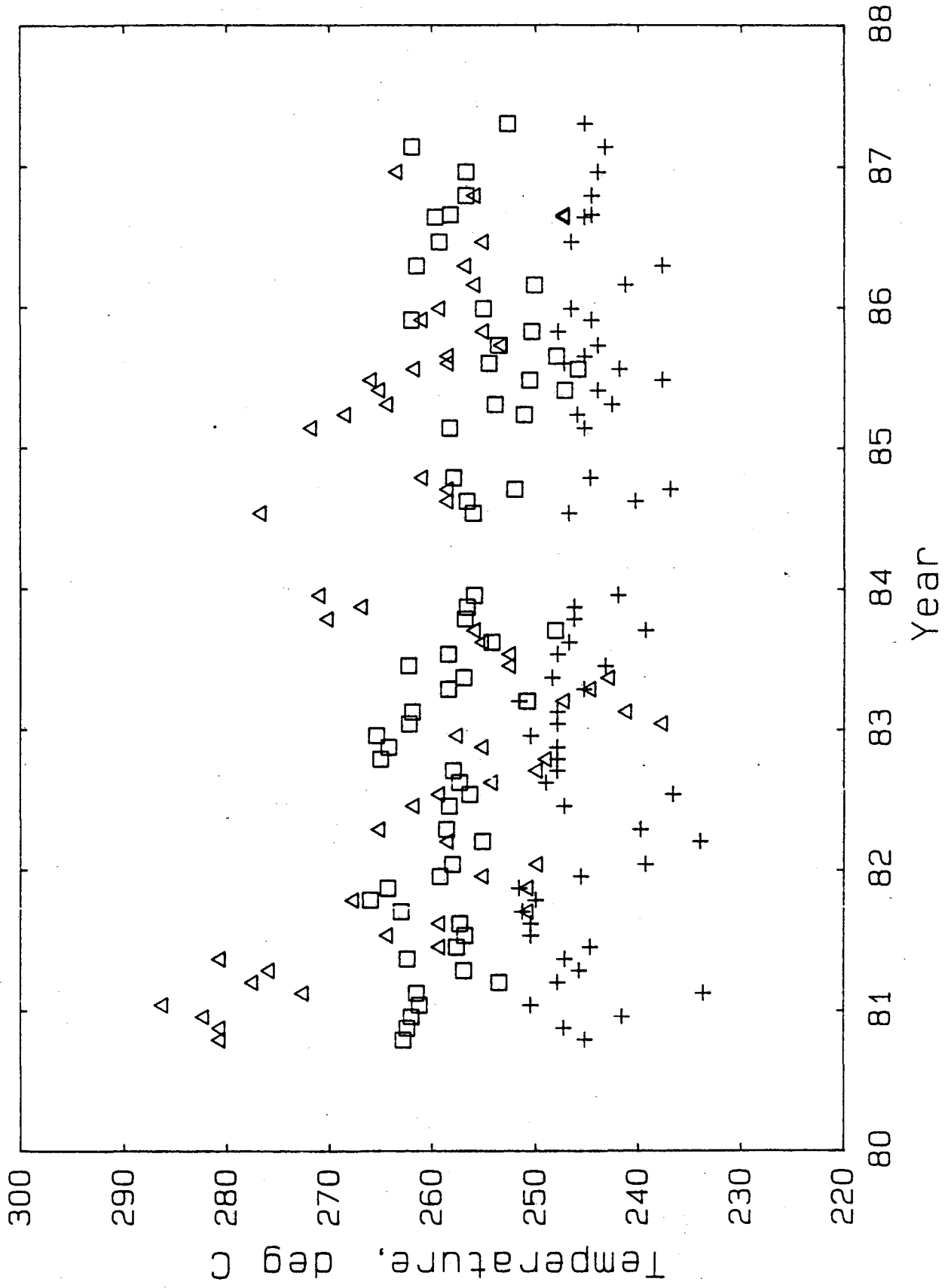


WELL AH-23

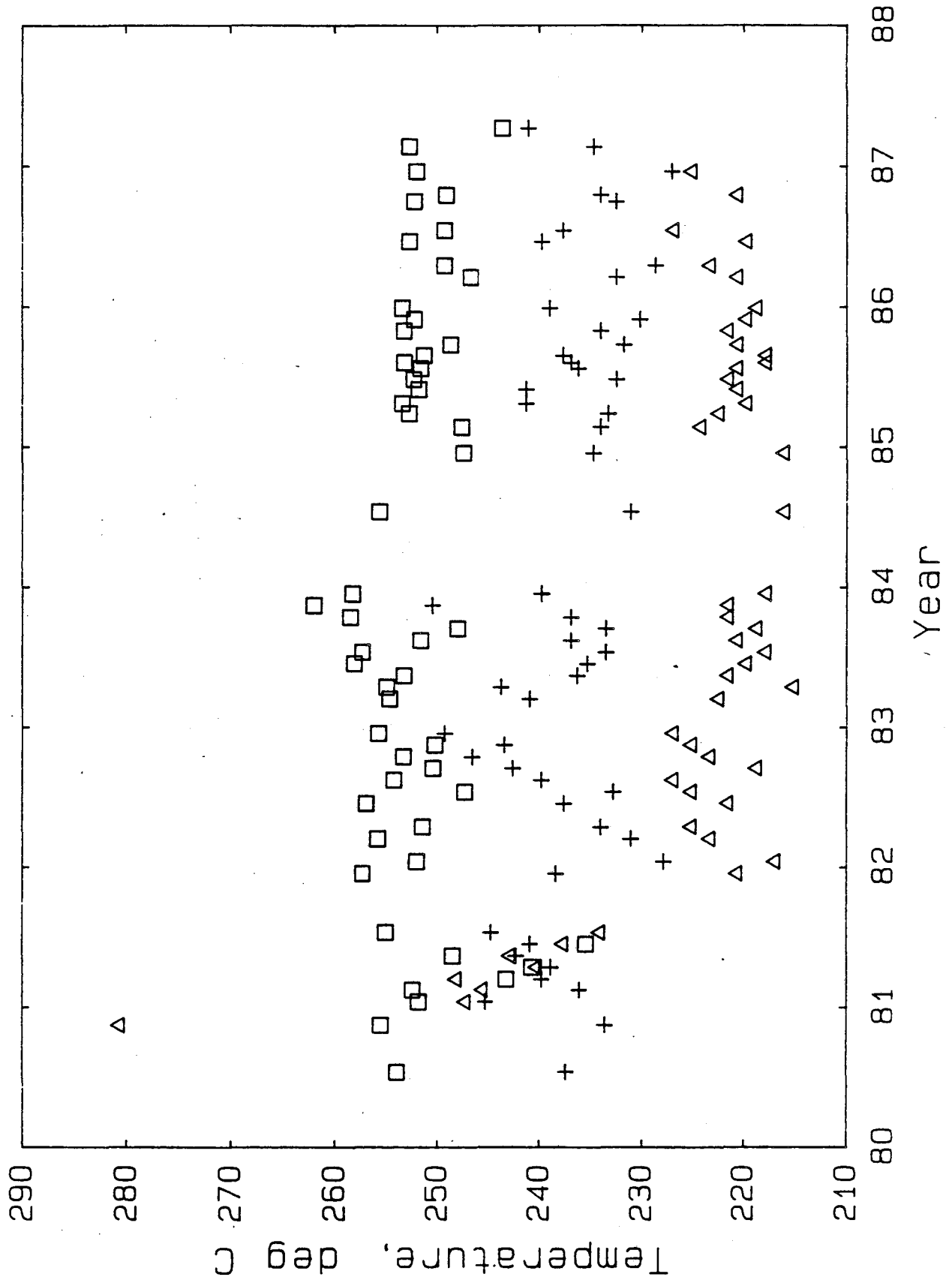


WELL AH-24

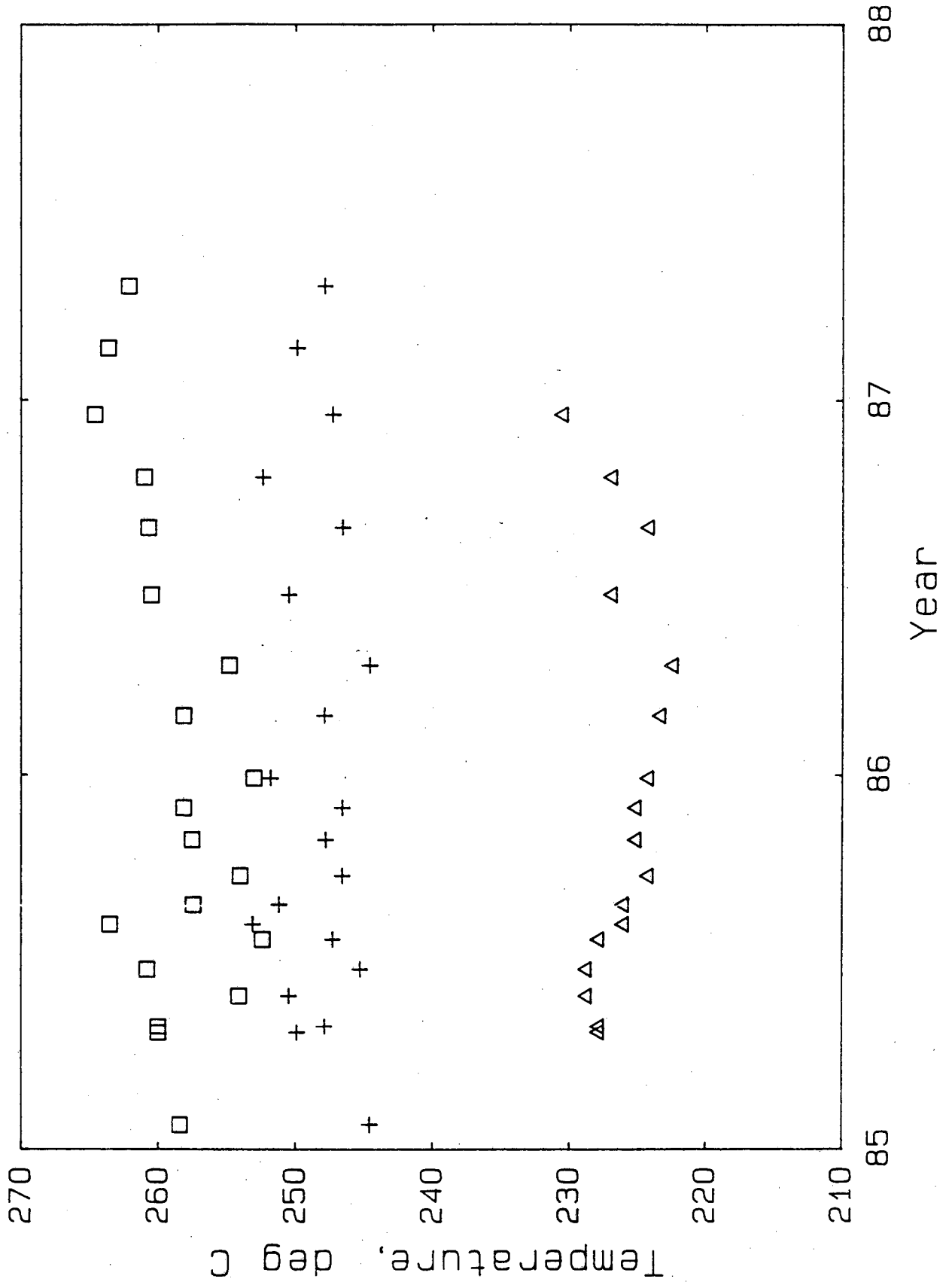




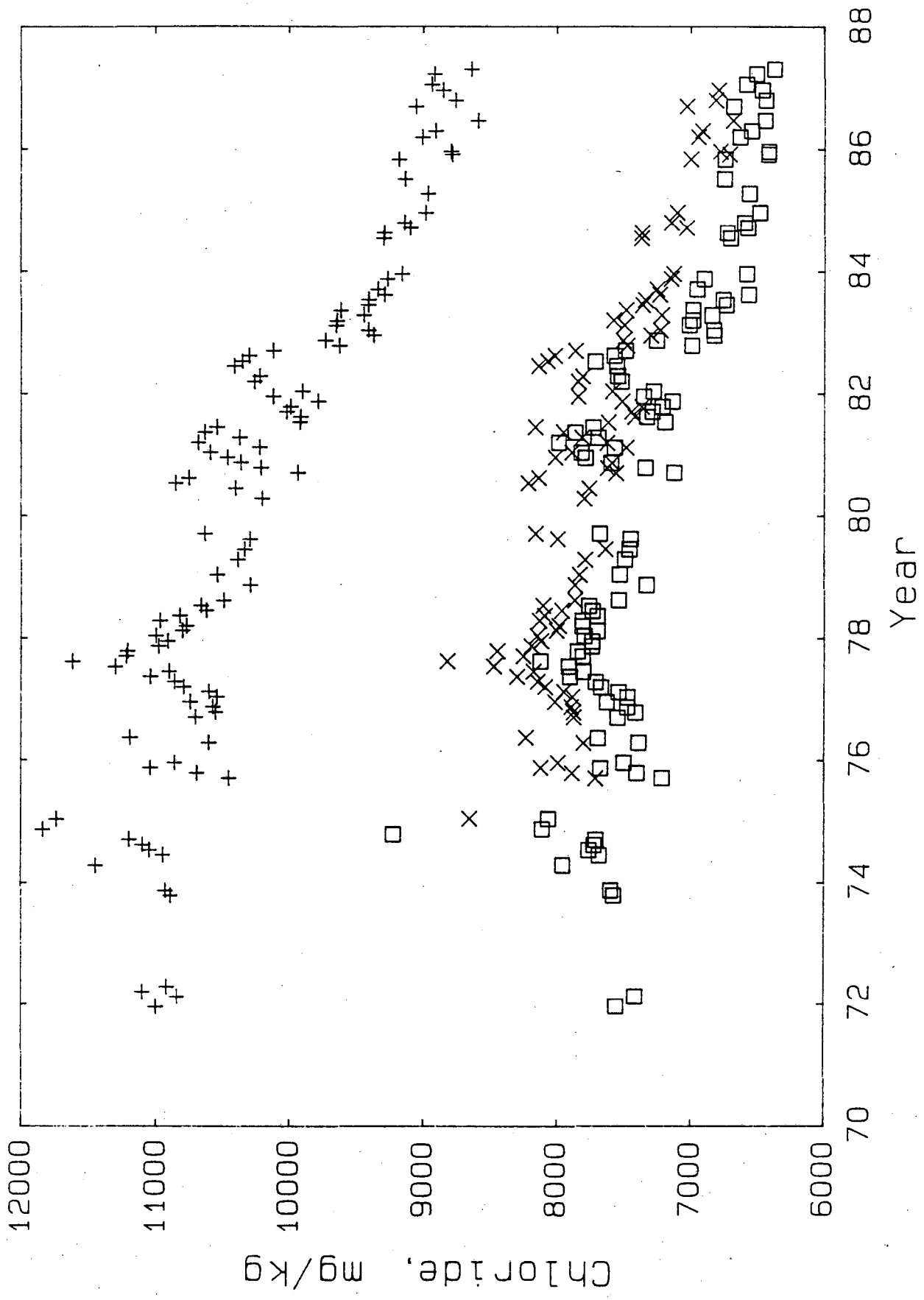
WELL AH-27



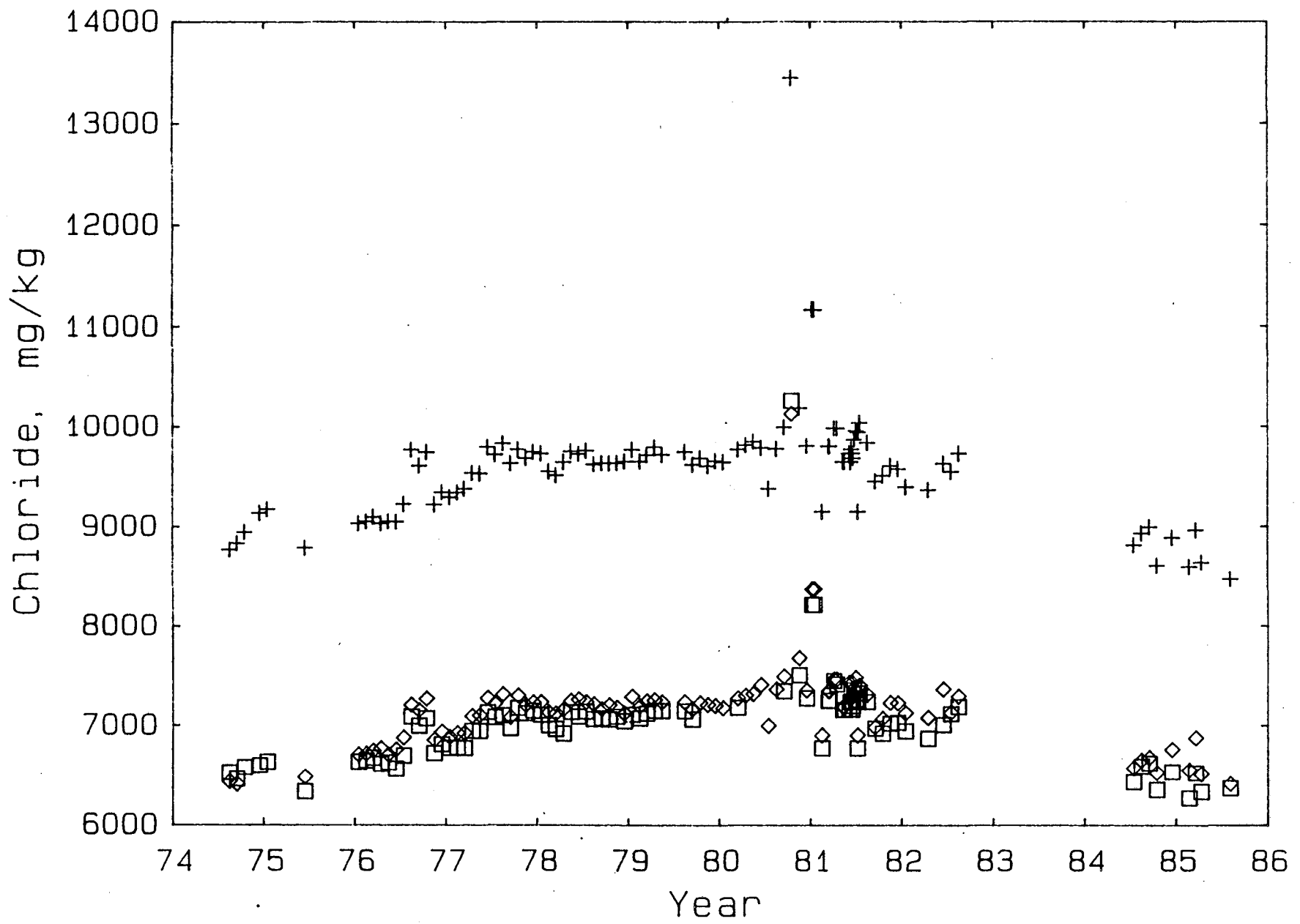
WELL AH-28

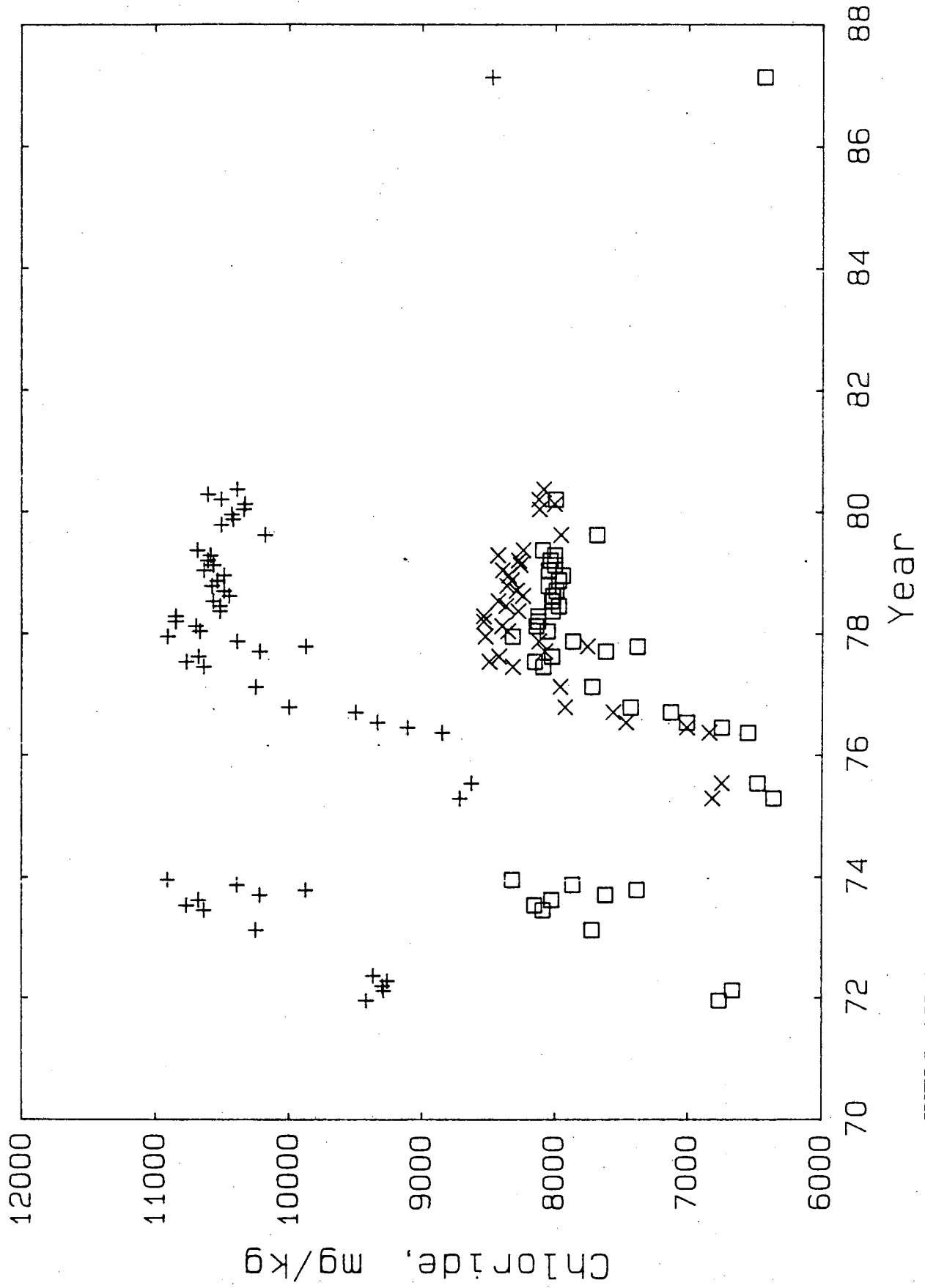


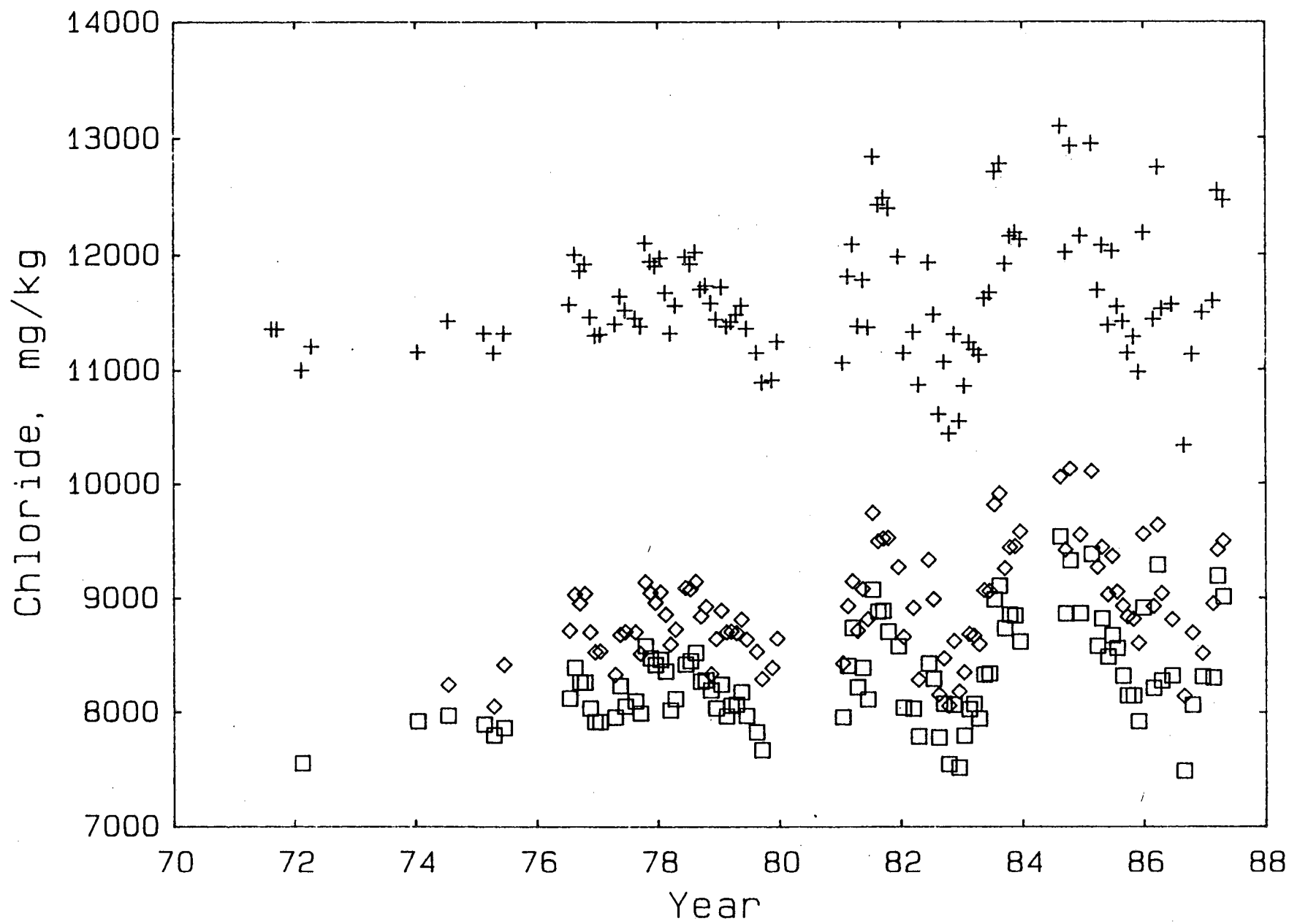
WELL AH-31

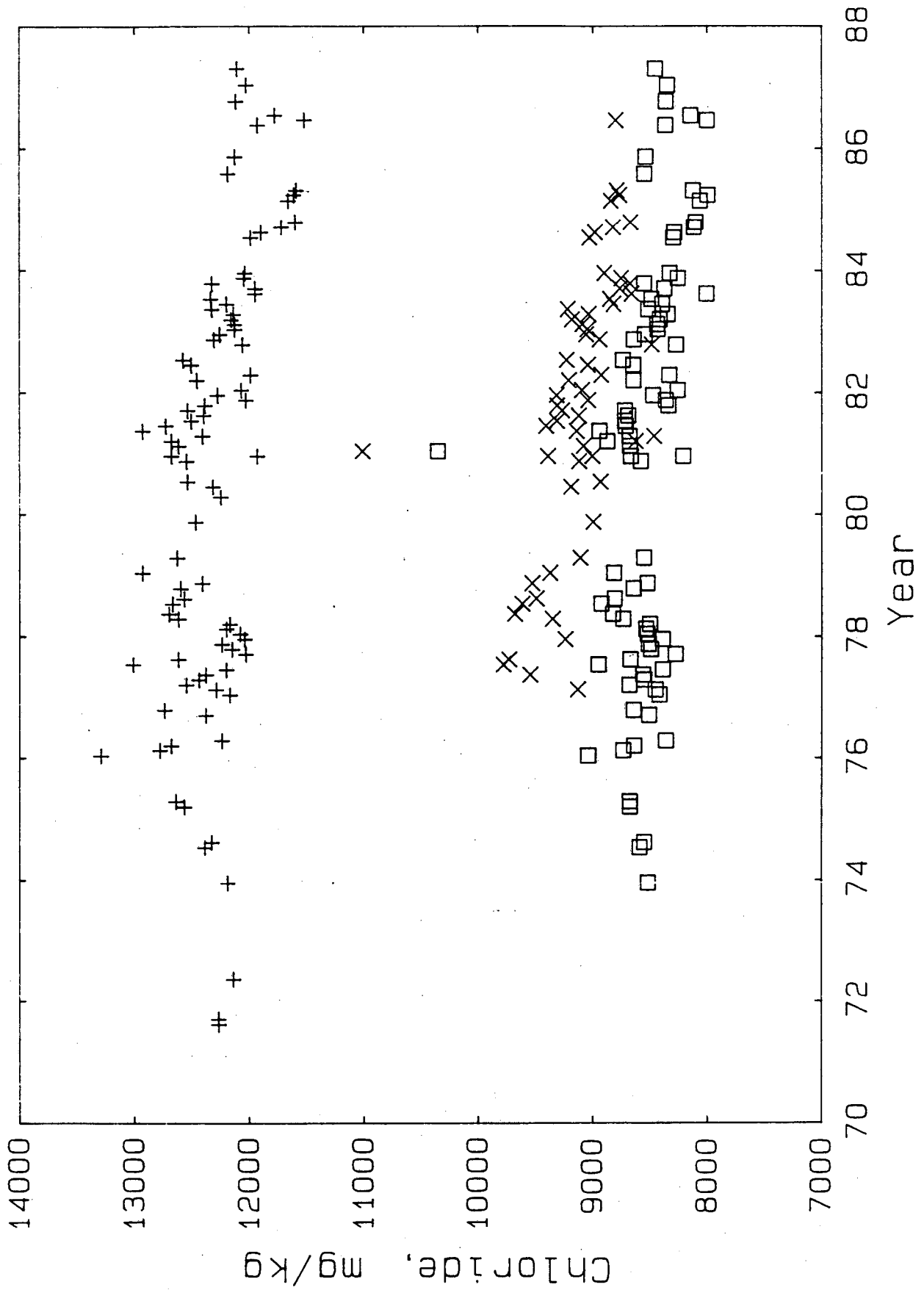


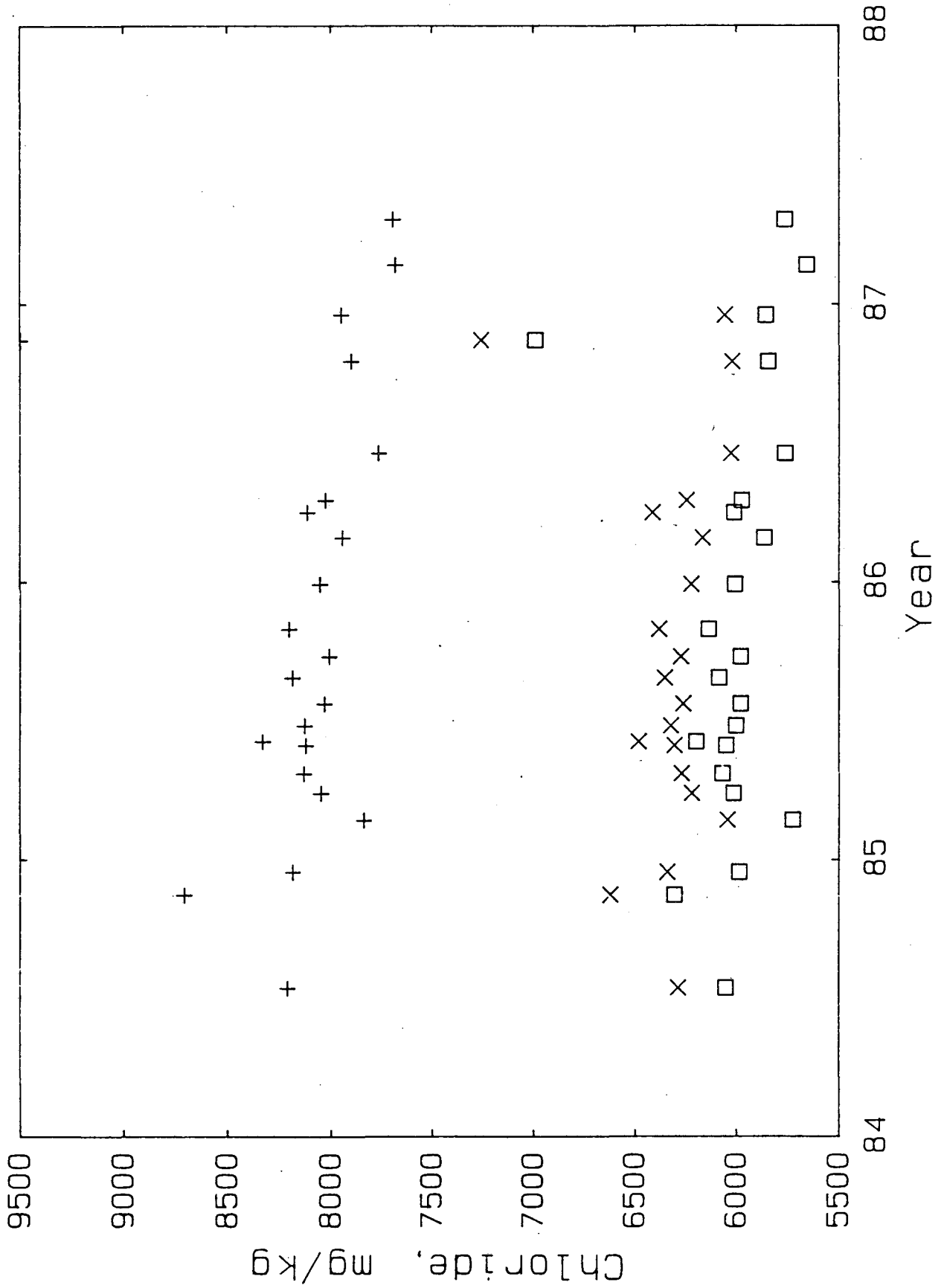
WELL AH-1



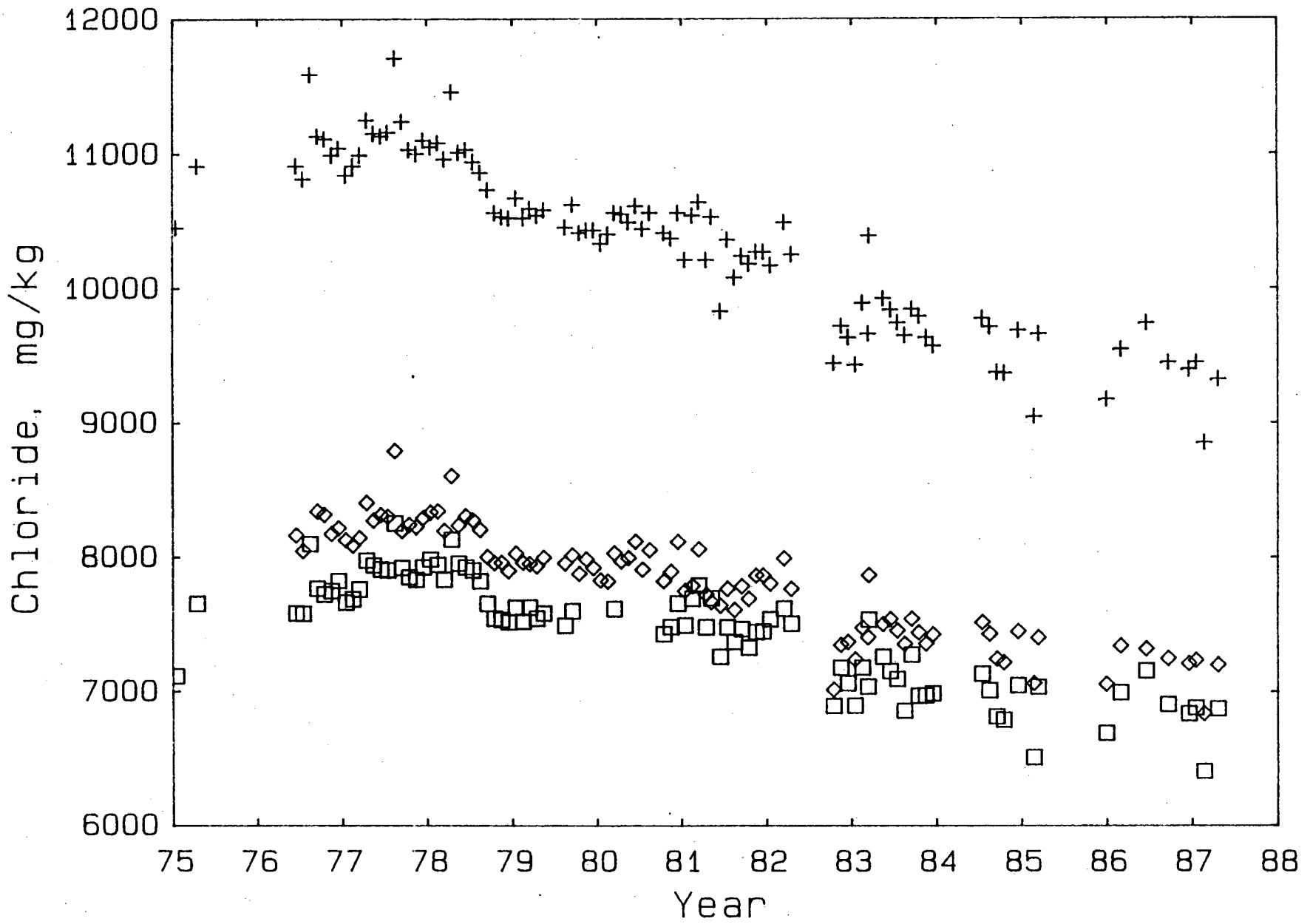




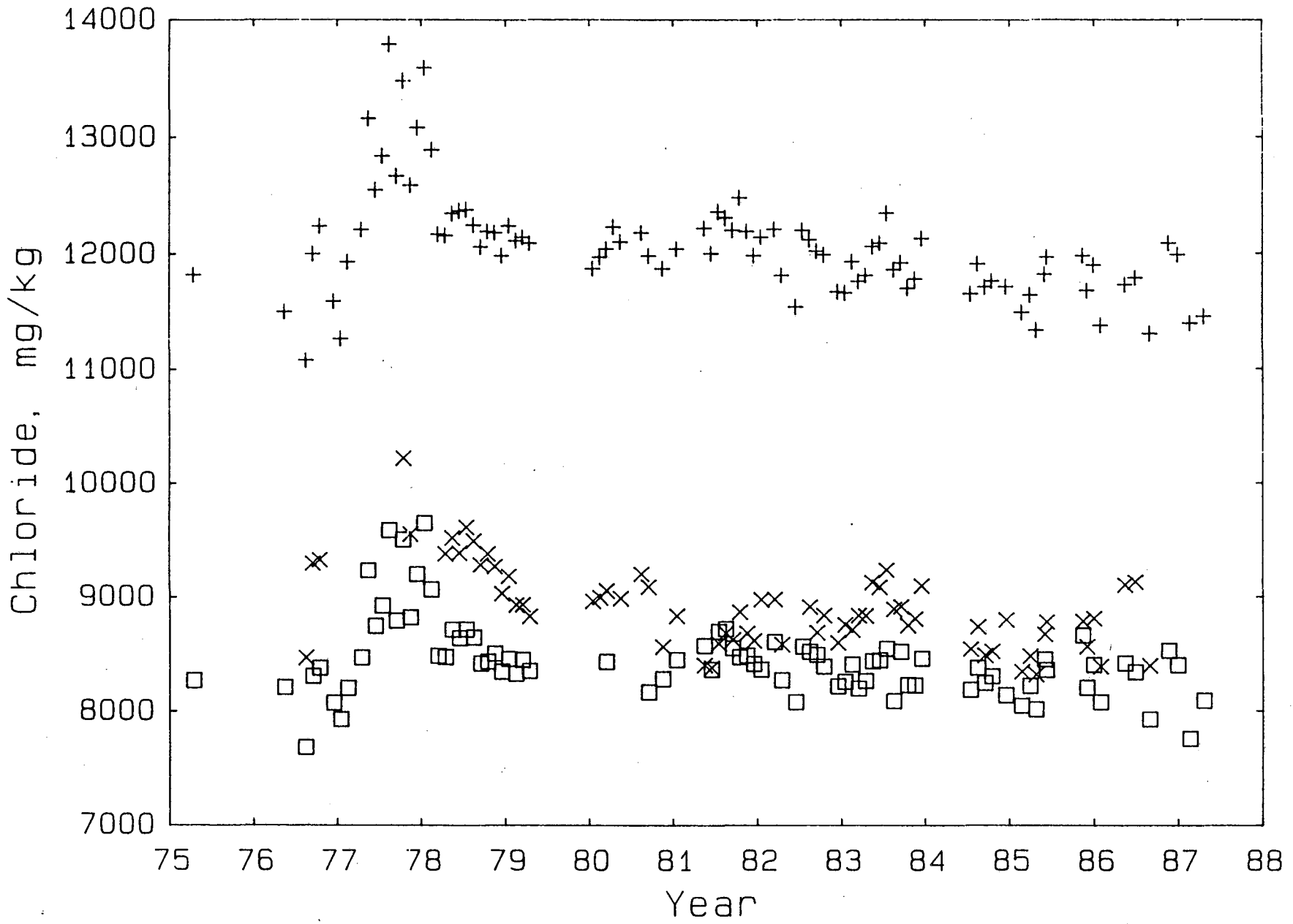




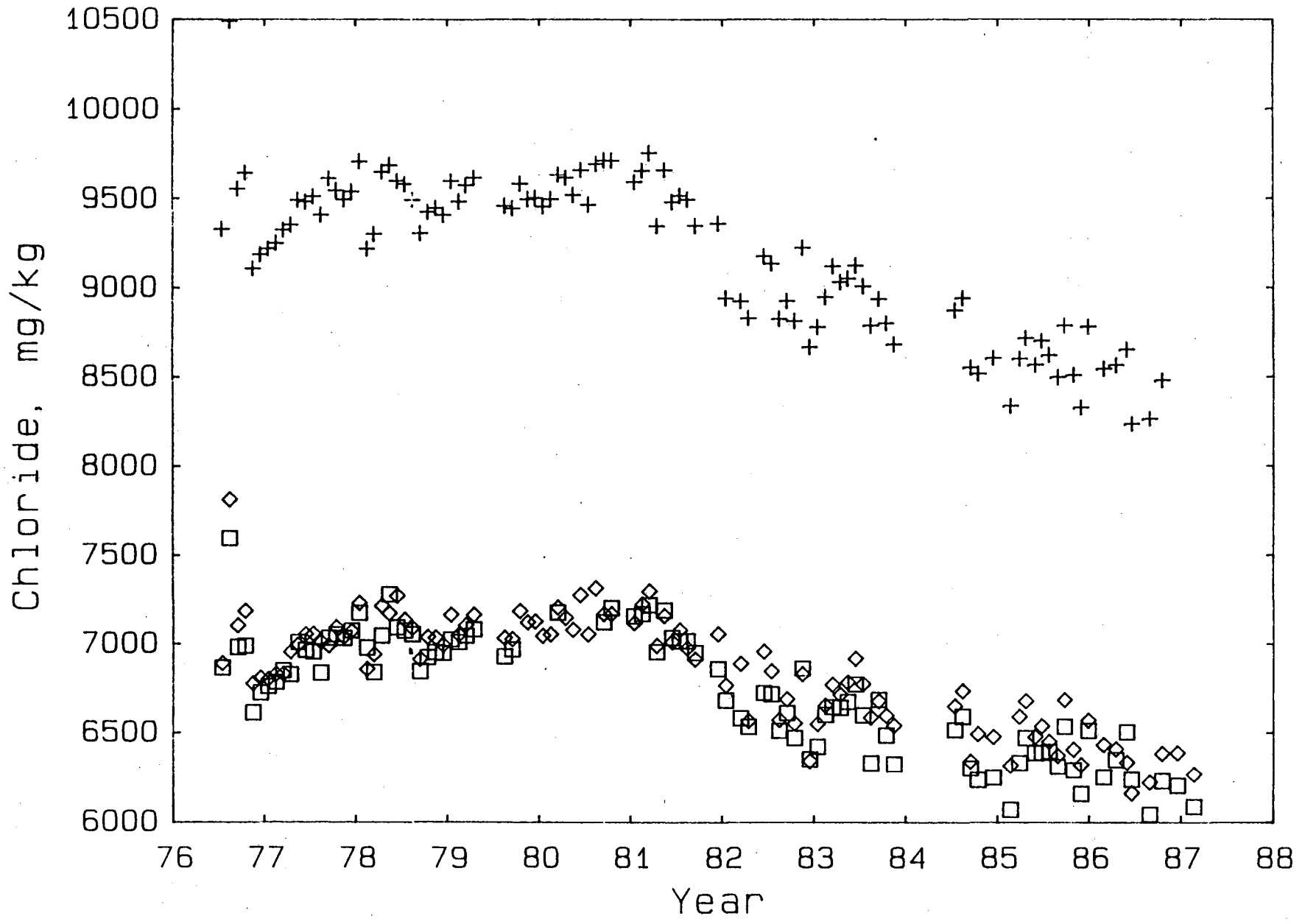
WELL AH-19



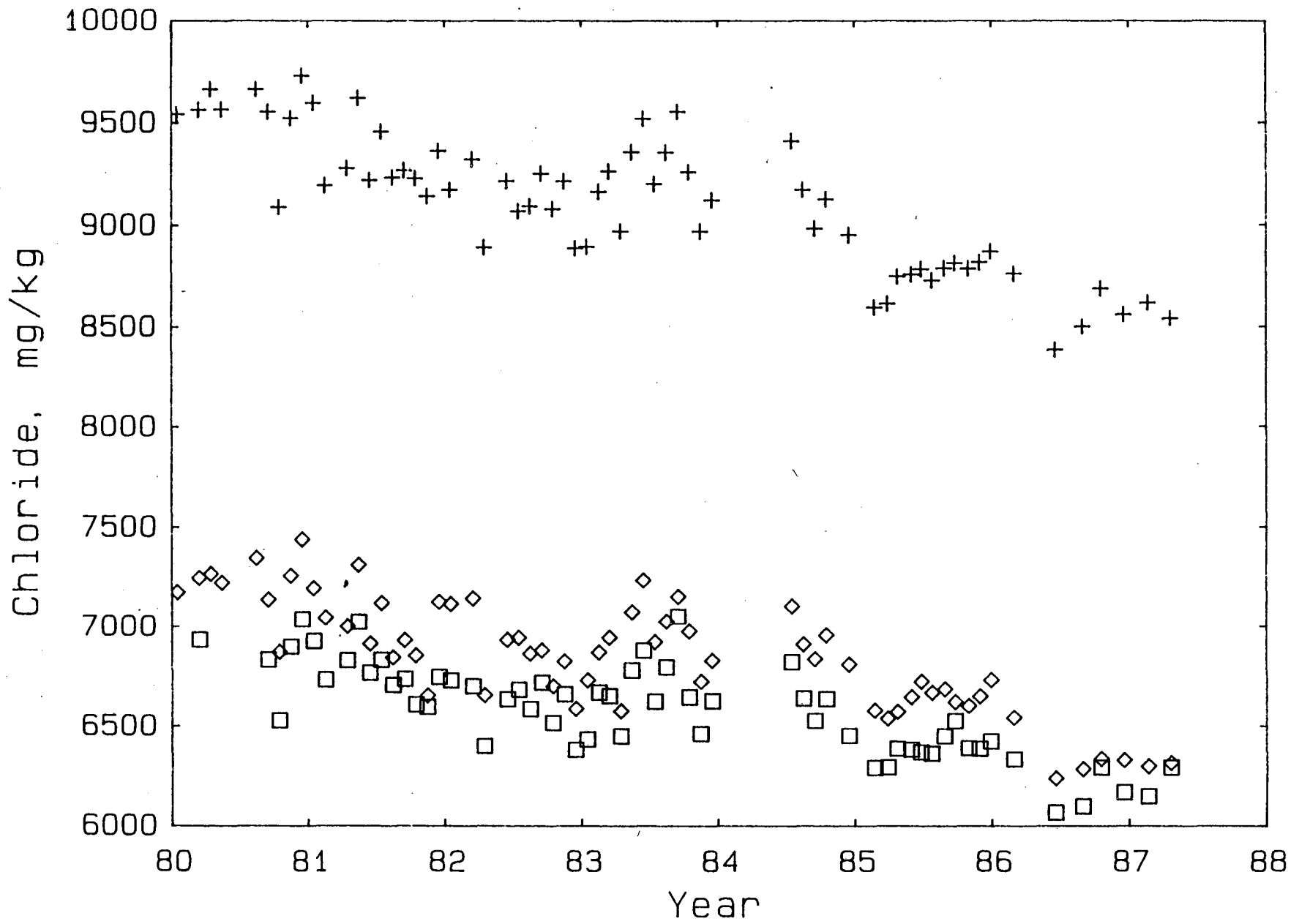
WELL AH-20



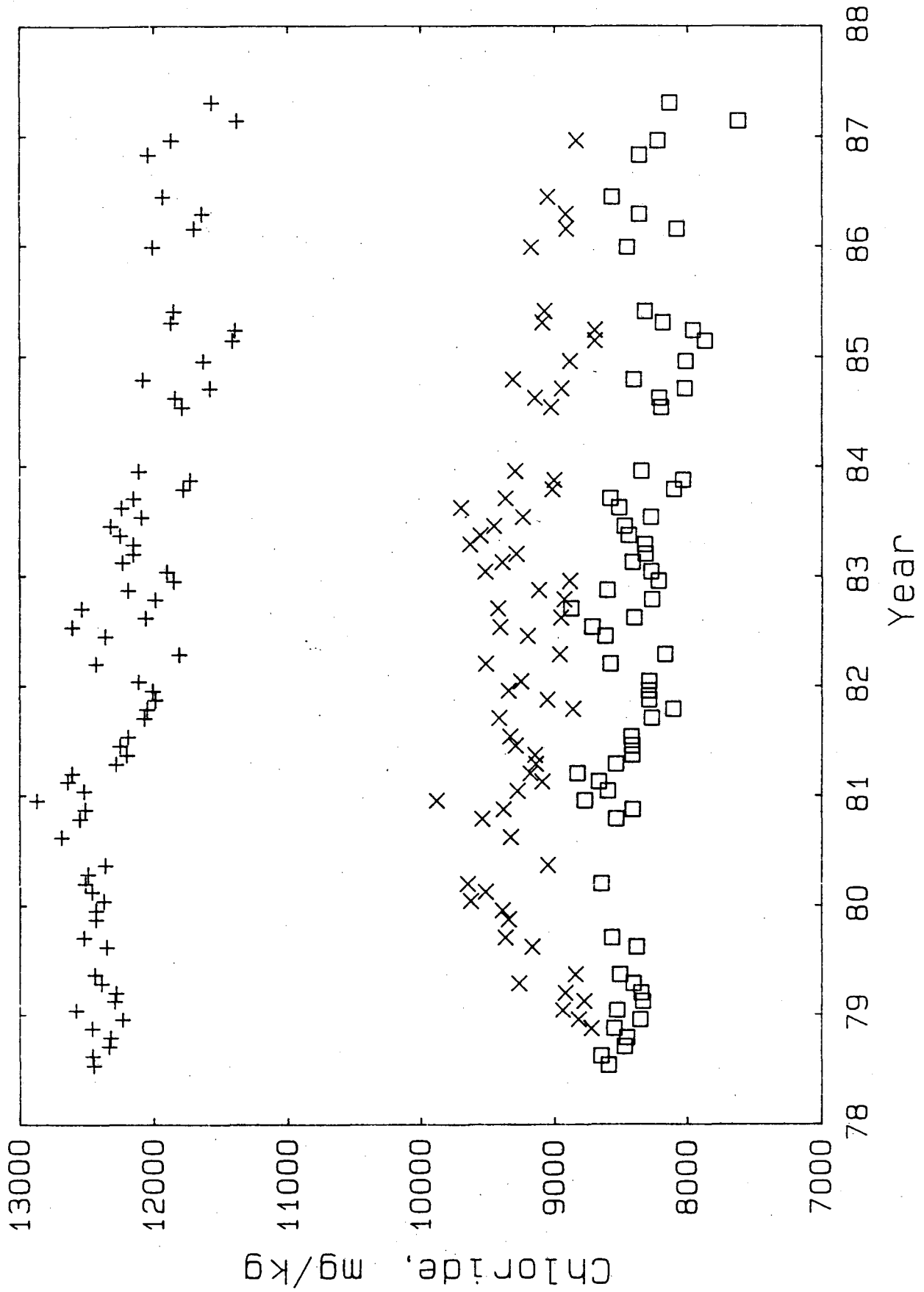
WELL AH-21

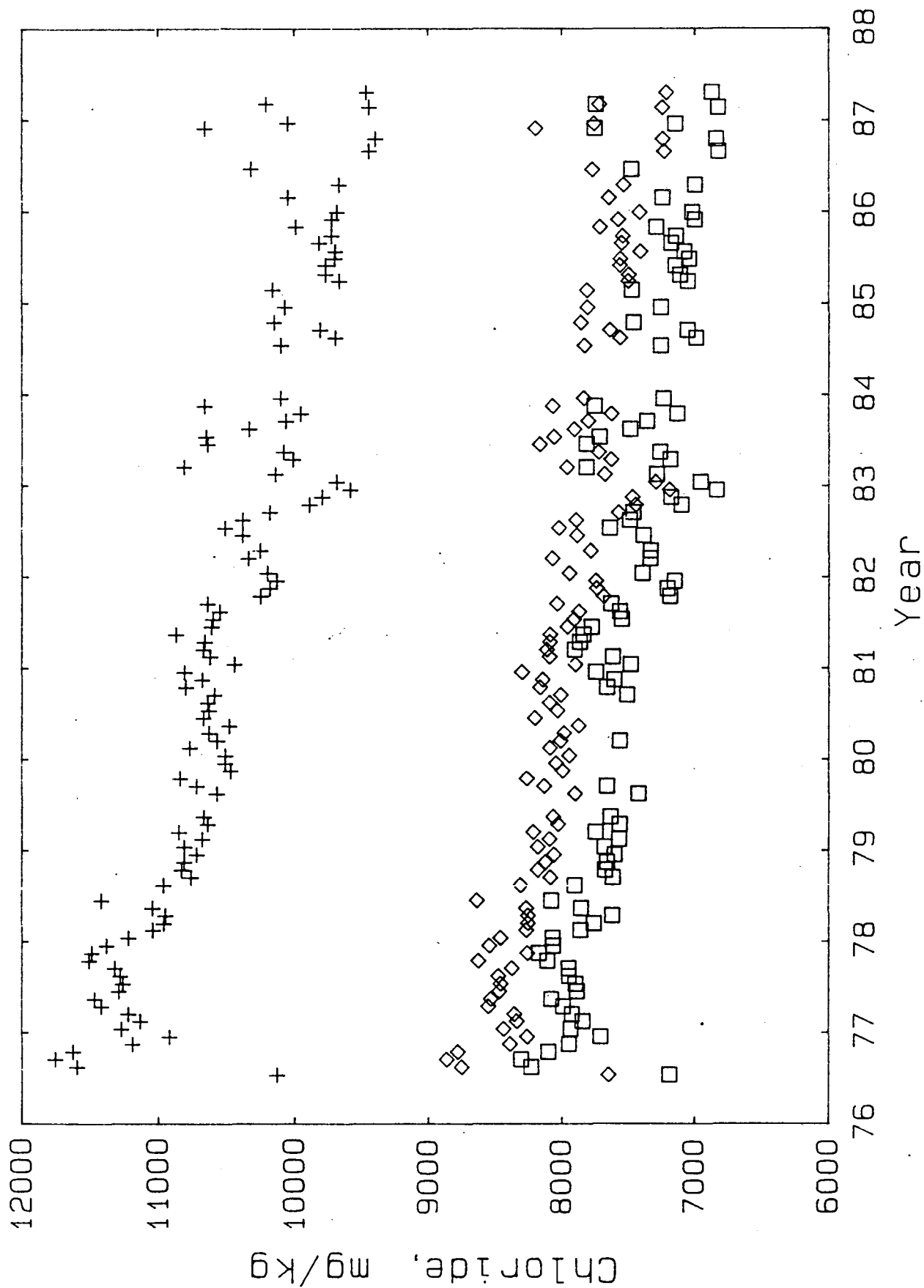


WELL AH-22

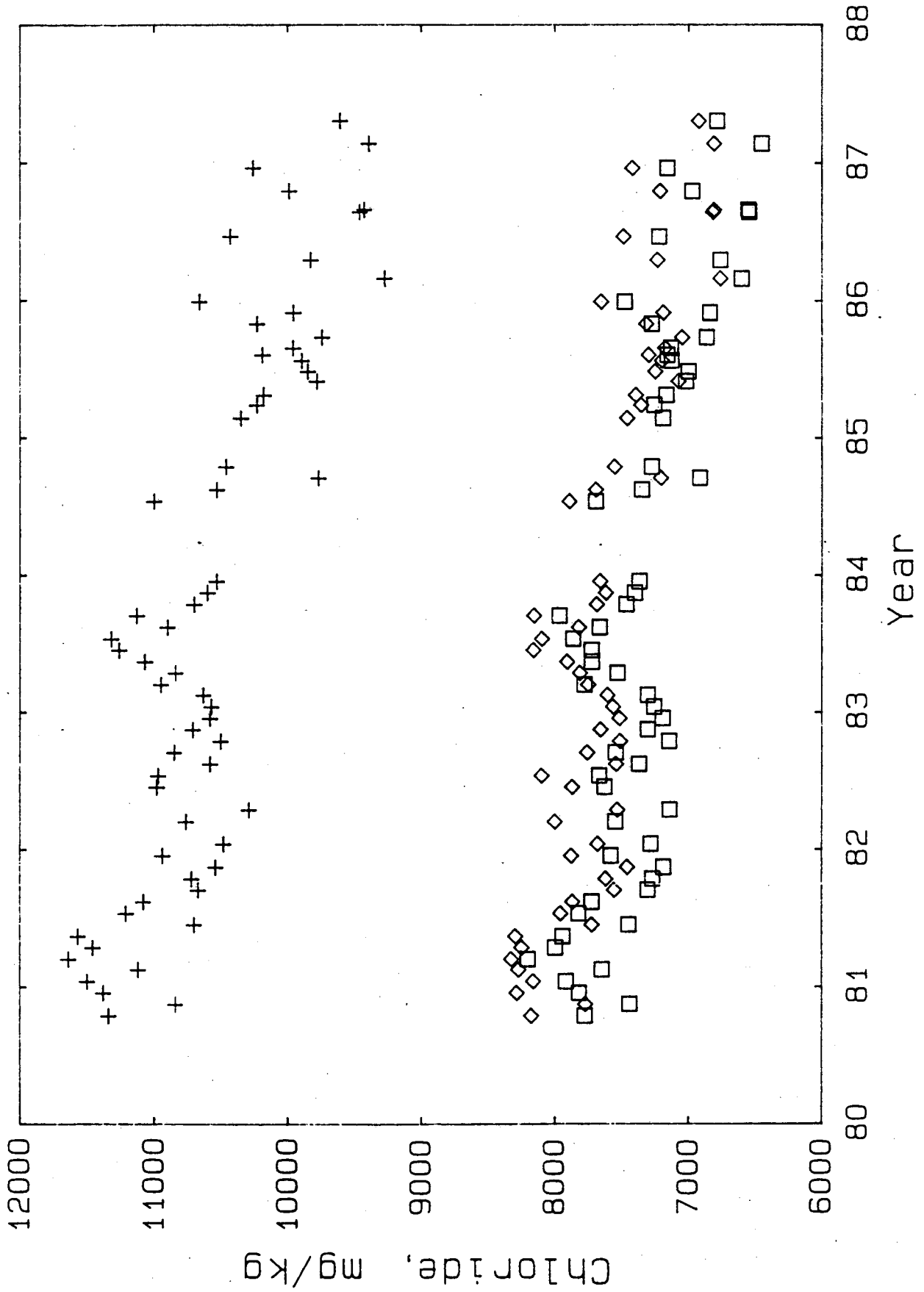


WELL AH-23

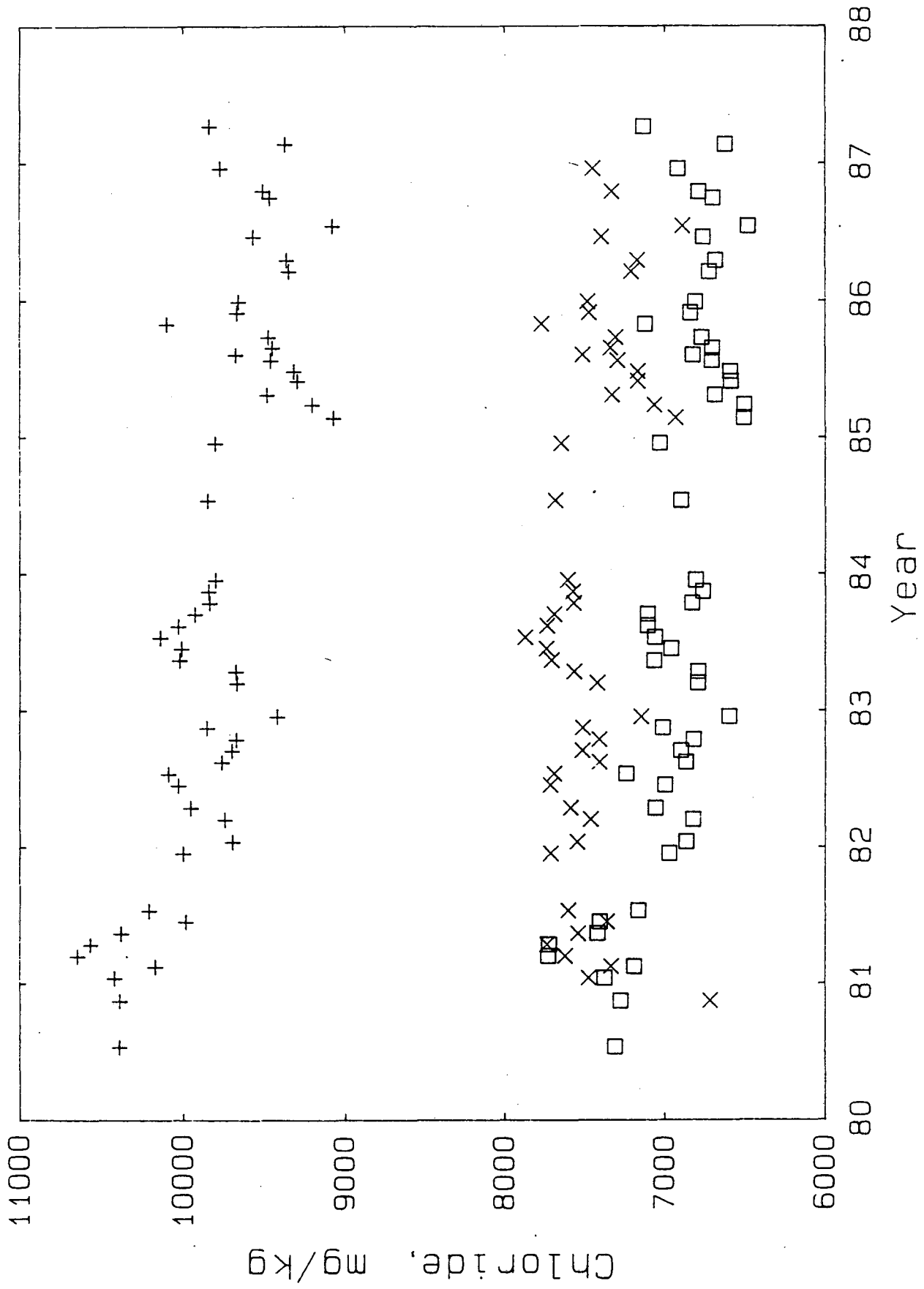


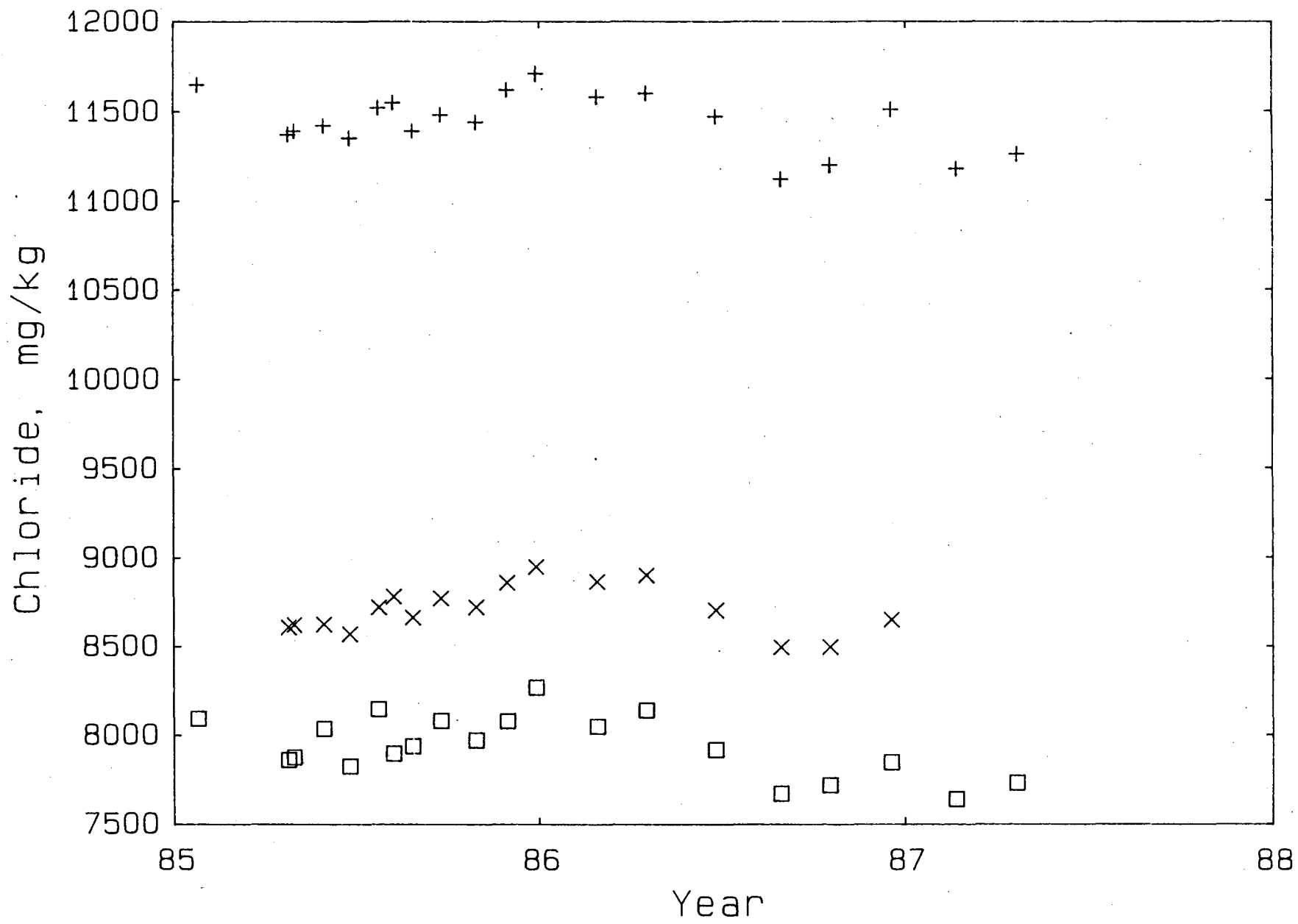


WELL AH-26



WELL AH-27





WELL AH-31

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