

## GAGE (GLOBAL ATMOSPHERIC GASES EXPERIMENT)

P. Fraser (CSIRO)

STATIONS : MACE HEAD, IRELAND  
CAPE MEARES, OREGON  
RAGGED POINT, BARBADOS  
CAPE MATATULA, SAMOA  
CAPE GRIM, TASMANIA

PERIOD : 1984 - 1990

FUNDING : NASA, NOAA, CGBAPS, CSIRO

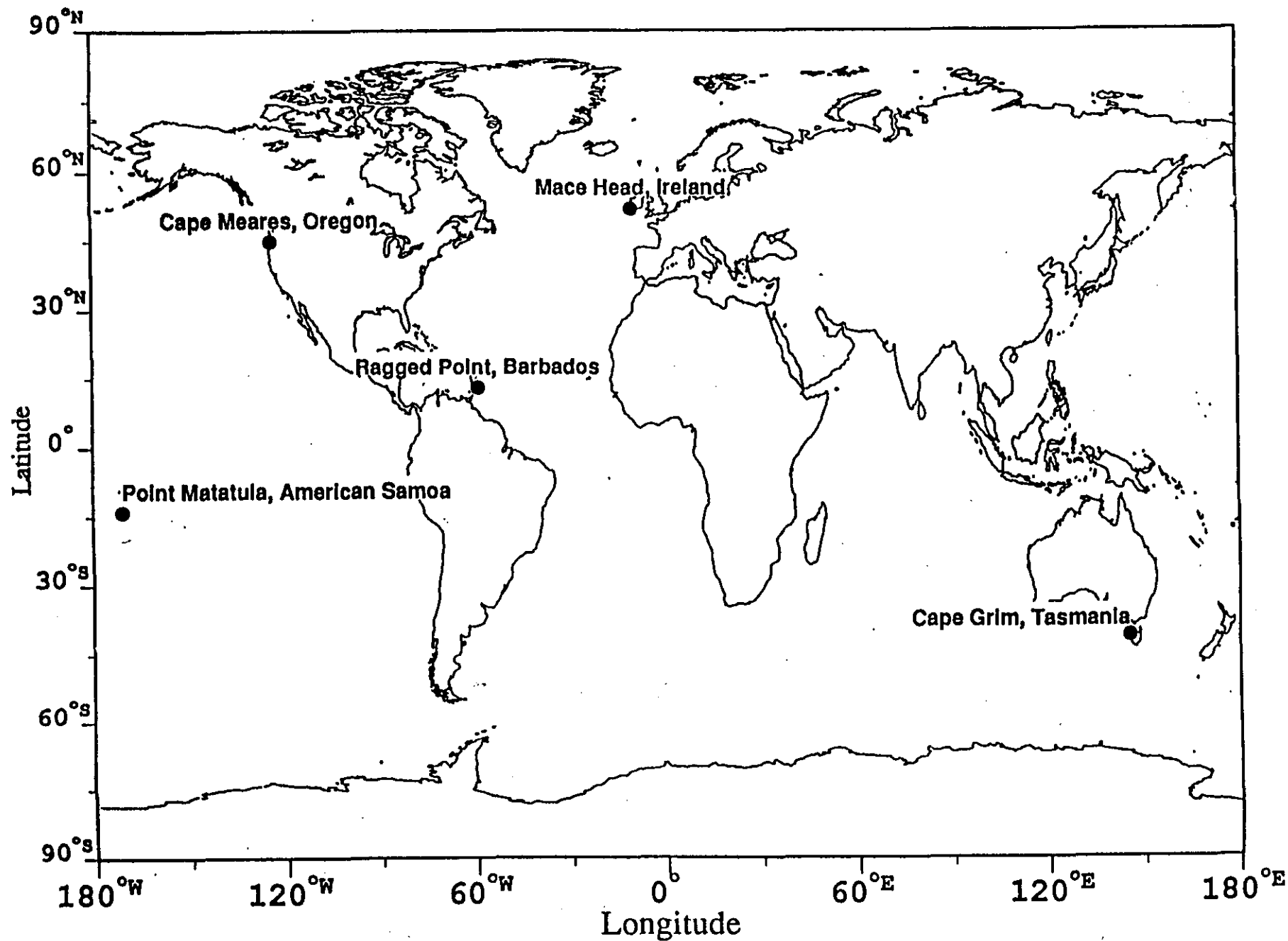
## ALE (ATMOSPHERIC LIFETIME EXPERIMENT)

P. Fraser (CSIRO)

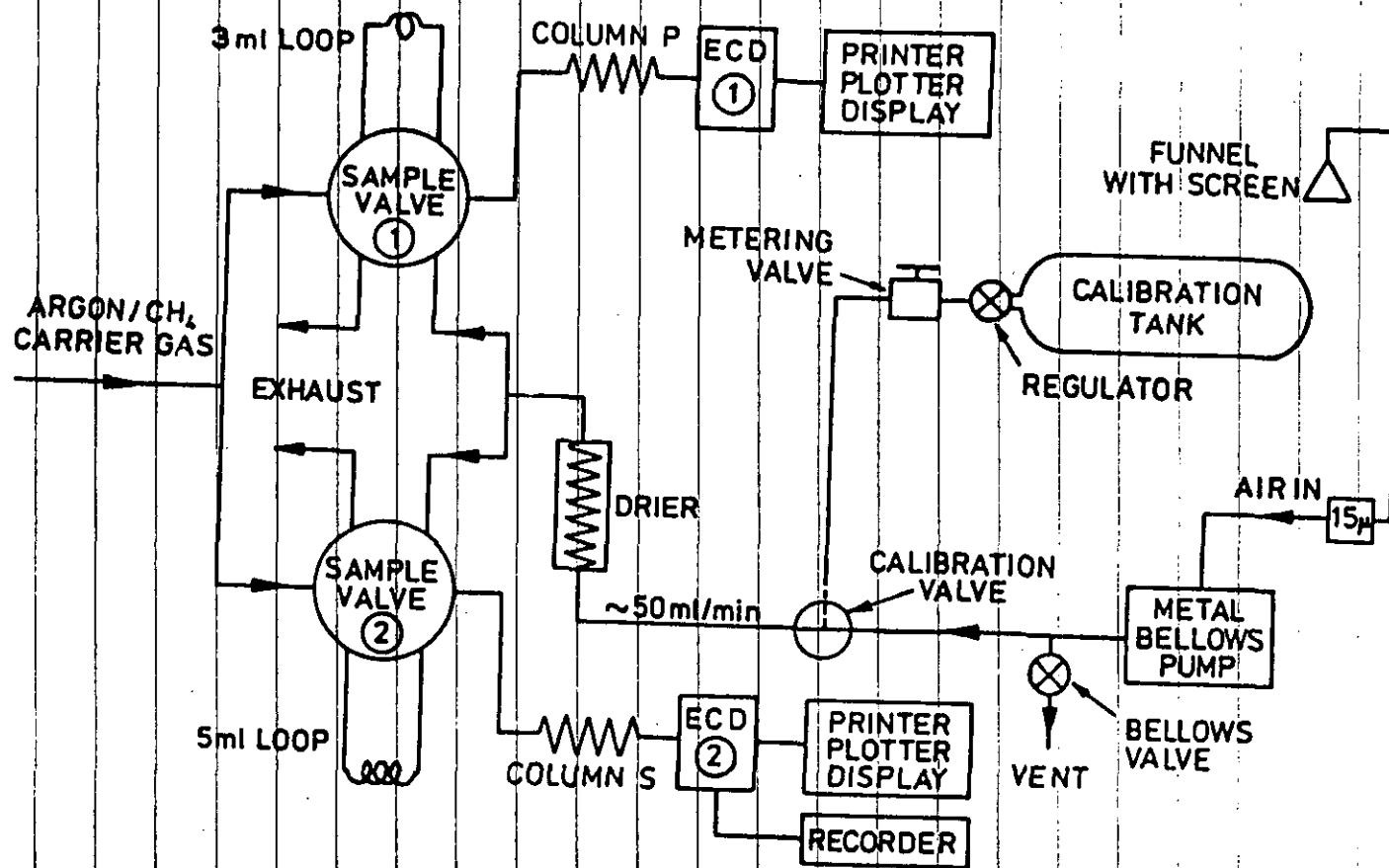
STATIONS :  
ADRIGOLE, IRELAND  
CAPE MEARES, OREGON  
RAGGED POINT, BARBADOS  
CAPE MATATULA, SAMOA  
CAPE GRIM, TASMANIA

PERIOD : 1978 — 1984

FUNDING : CMA , CGBAPS, CSIRO



Locations of current GAGE stations.



ALE : HP 5840 GC

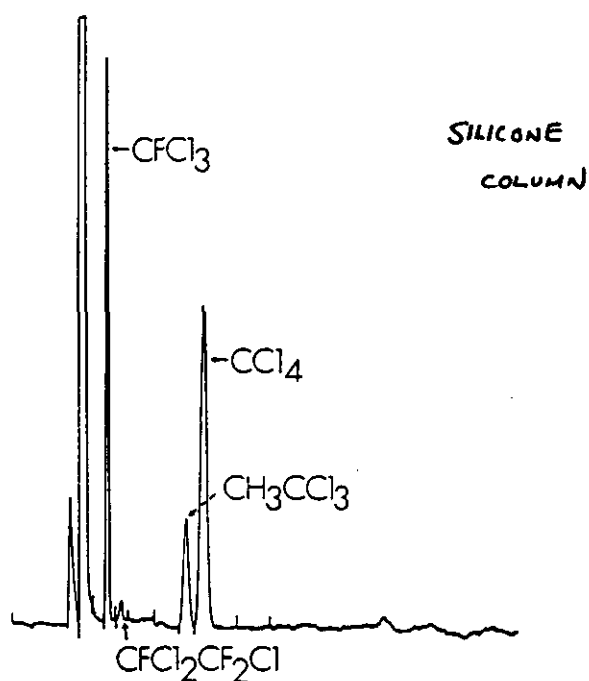


Fig. 5. Analysis of 5 ml of ambient air at the Barbados station on the "S" channel. The 1.8 m by 6.4 mm column is isothermal ( $50^\circ\text{C}$ ) and packed with 10% SP2100 silicone on 100-120 mesh Supelcoport.

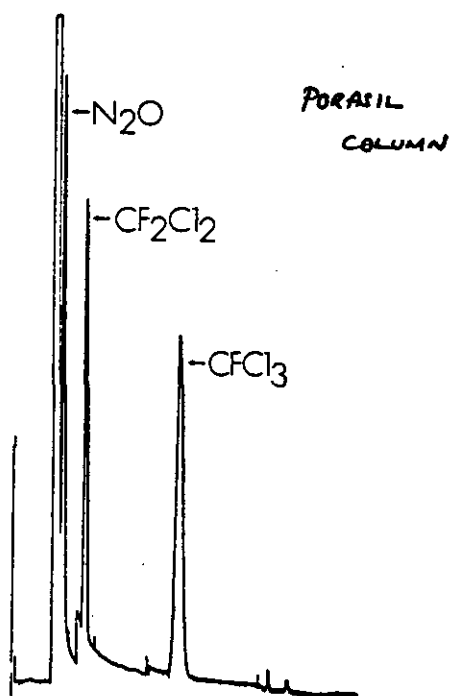
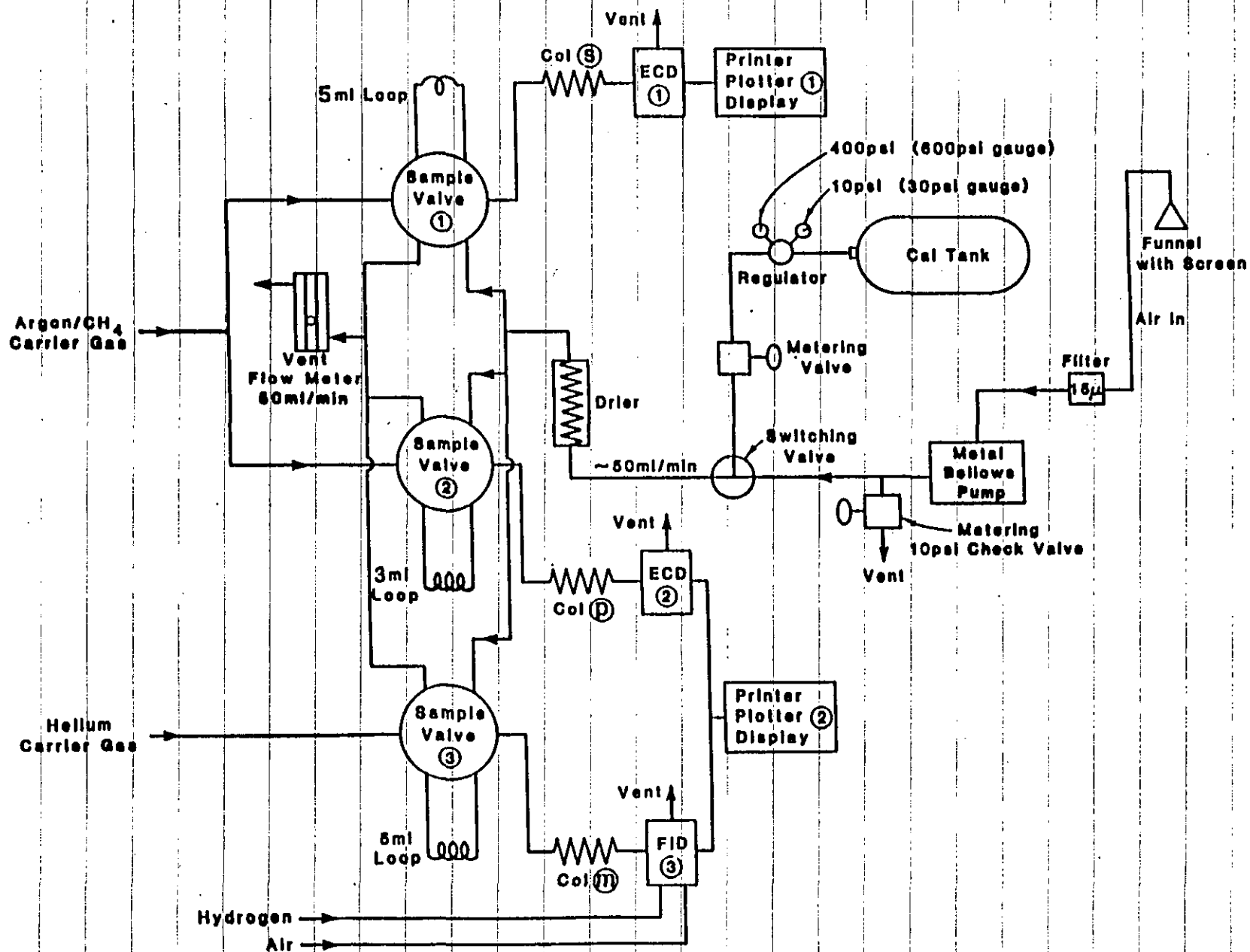


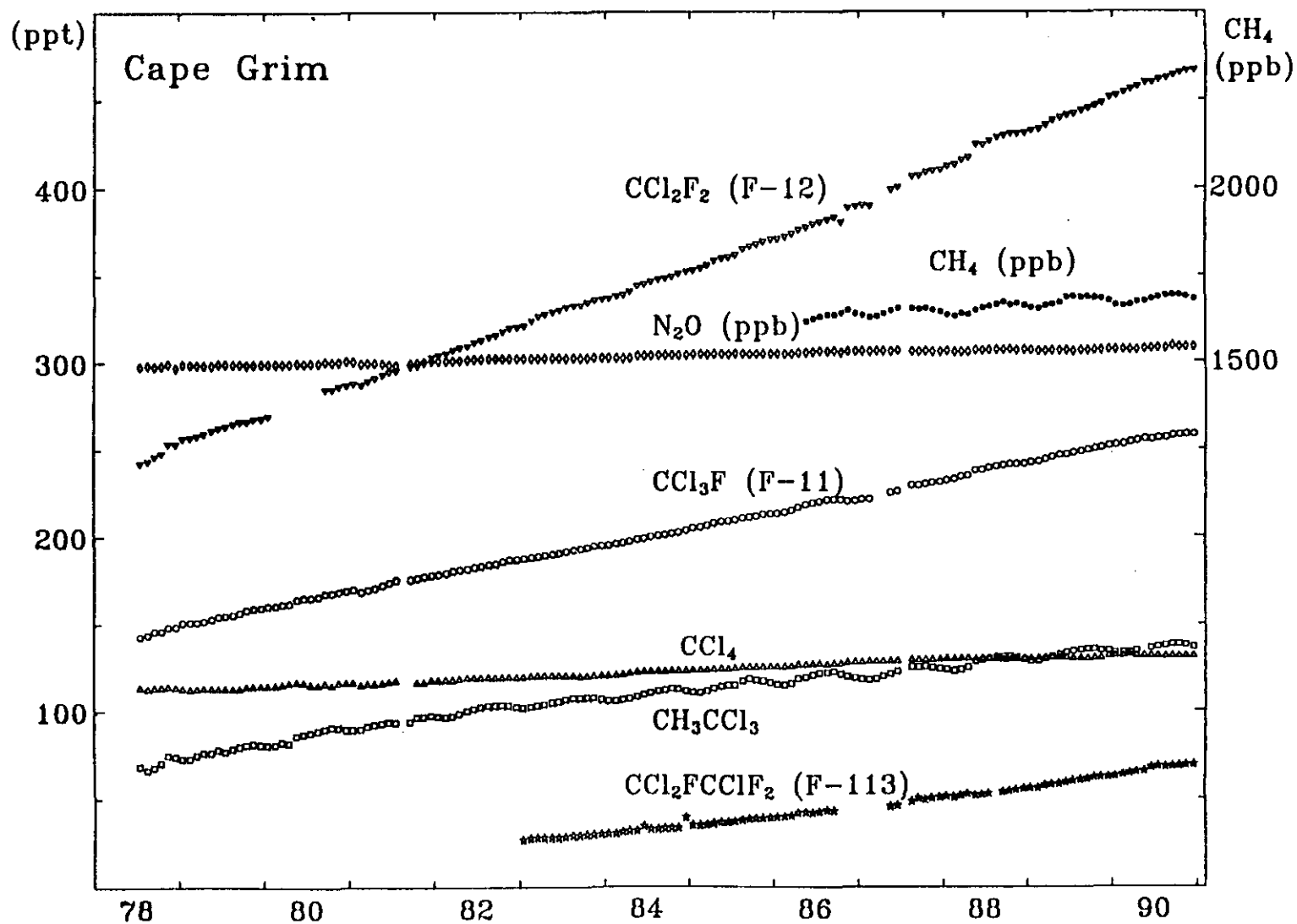
Fig. 4. Analysis of 3 ml of ambient air at the Samoan station on the "P" channel. The 1.8 m by 6.4 mm column utilized is isothermal ( $50^\circ\text{C}$ ) and packed with Porasil D (80-100 mesh).



Air sampling and calibration flow system currently used in GAGE.

GAGE: HP589C

# Growth of Halocarbons, Nitrous Oxide and Methane



# MAJOR PAPERS

## BRAZZOS DATA AT CAPE GRIM

ATMOS. ENVIRON. , 12 , 839 (1978)

NATURE , 302 , 692 (1983)

BASELINE 83-84 , 17 (1985)

## ALE - GAGE (INCLUDING CAPE GRIM DATA)

INSTRUMENTATION, CALIBRATION : JGR, 88 , 8353 (1983)

JGR, 88 , 8369 (1983)

$\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$  : JGR, 88 , 8379 (1983)

lifetimes, emissions JGR, 88 , 8401 (1983)

JGR, 91 , 10797 (1986)

JGR, (1992) to be submitted

$\text{CH}_3\text{CCl}_3$  : JGR, 88 , 8415 (1983)

lifetimes, emissions, OH SCIENCE, 238 , 945 (1987)

JGR, (1992) in press.

$\text{CCl}_4$  : JGR, 88 , 8427 (1983)

emissions

J. ATMOS. ENVIRON. , 7 , 35 (1988)

$\text{N}_2\text{O}$  : JGR, 95 , 18369 (1990)

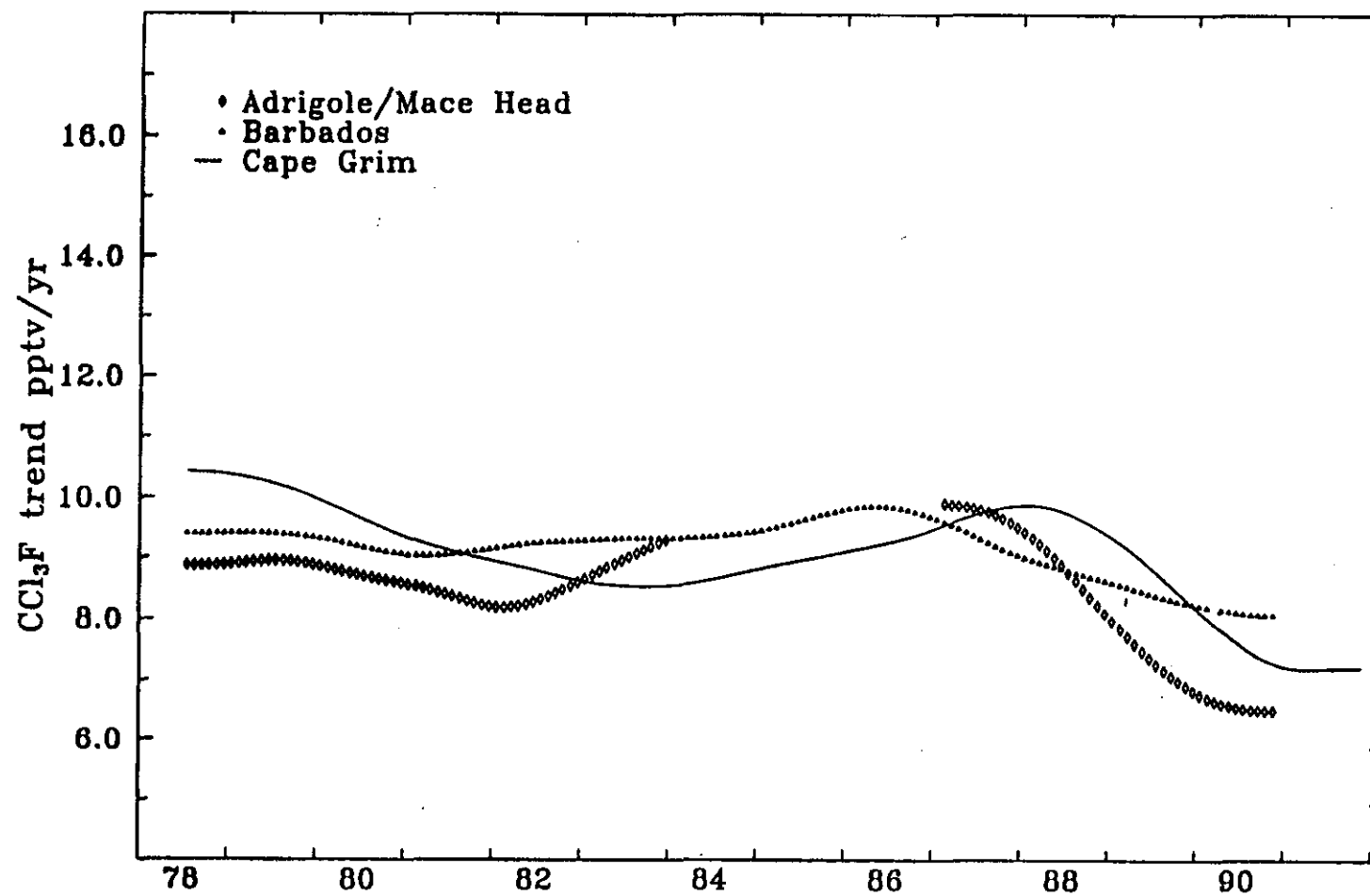
$\text{CCl}_2\text{FCClF}_2$  : JGR, (1992) to be submitted

$\text{CH}_4$

?



6 months.



6 months.

