

Analyses incomplete - sum of electrical valuations

does not cause out of electrical neutrality
Water balance of dump ($M = 60T$) was grossly miscalculated,
perhaps for a different reason. They did not know and guess
up, making no further attempts.

Sampling methods regarding waste pile plans were

flawed by Gardner for their testimony.

Contradicting the plans evidence of their own work.

Bad grounds for river plan was claimed to be the cause of

high concentrations in dump, and although the

pressure profiles made such variation impossible.

These deficiencies obscure the pressure and the extent

of the waste pile plan. The EPA approval for expanding

the present site was given on that basis, although it

was ordered to determine the extent of the waste pile.

However, the monitoring data, if not totally dismissed,

indicate the pressure and progression of a waste pile.

in agreement with the direction of the measured pressure profiles (which are not in question)

We request:

1. Completion of a credible Water Balance for the present regional landfill
2. Sufficient leachate analyses of samples from the midground wells as well as from the collection system to prove the completion of electrical neutrality.
3. Evaluation of the analyses of well samples (monitoring reports) and their concentration changes with time for plotting the progress of the concentration changes.
4. Review of piezometer well data and plotting of pressure profiles as they may have changed with time
5. Installation of two additional monitoring wells in the predominant downhill direction from the oldest part of the landfill, i.e. near the entrance road from N. Service Rd. to the weigh scale.

Conductivity - Background levels (uphill)

μ mhos/cm

20 000

10 000

0

1979

'80

'81

'82

'83

'84

'85

1 I

1 II

7 I

7 II

(?)

21 I

22 I

21 II

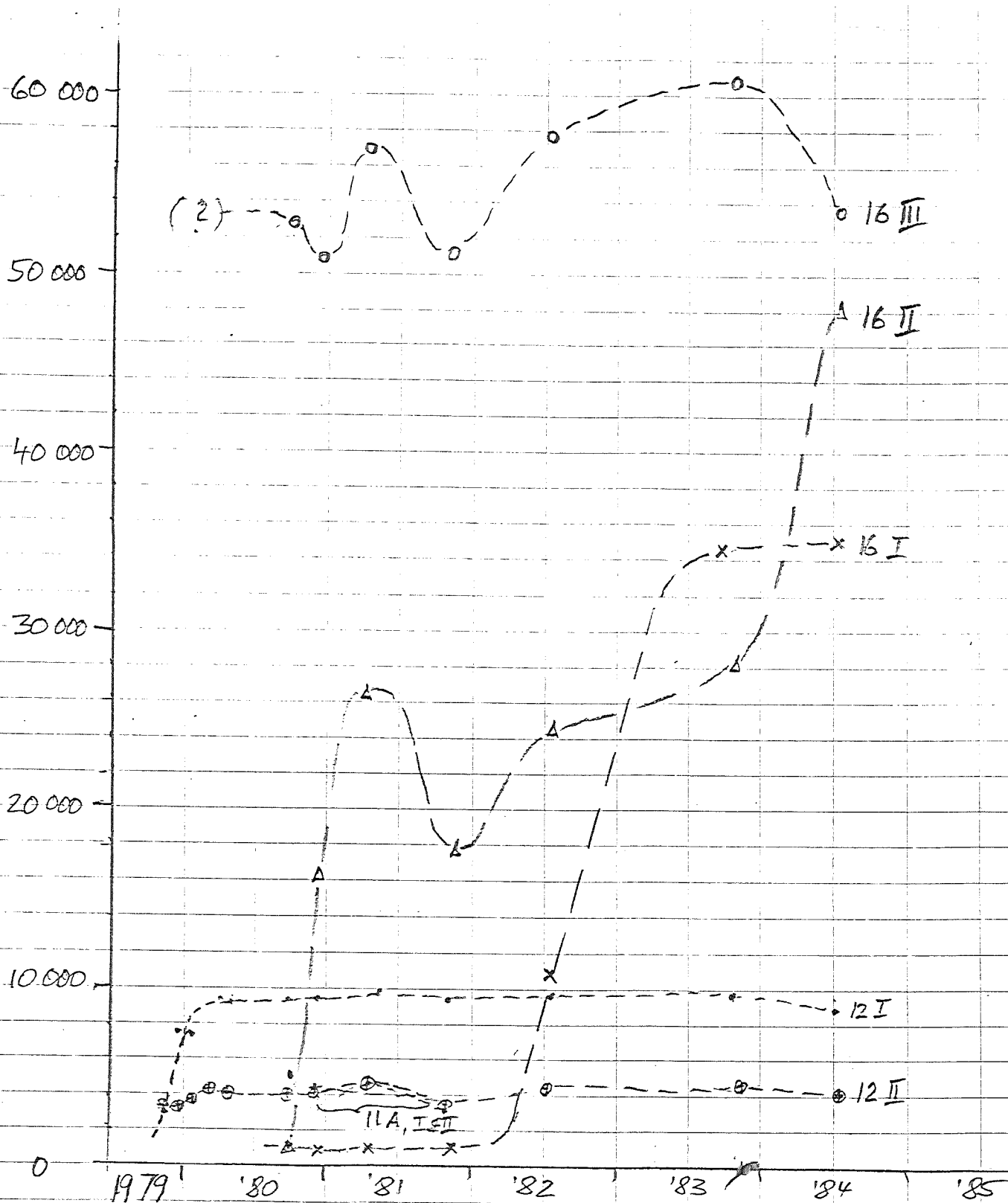
22 II

21 III

1 III

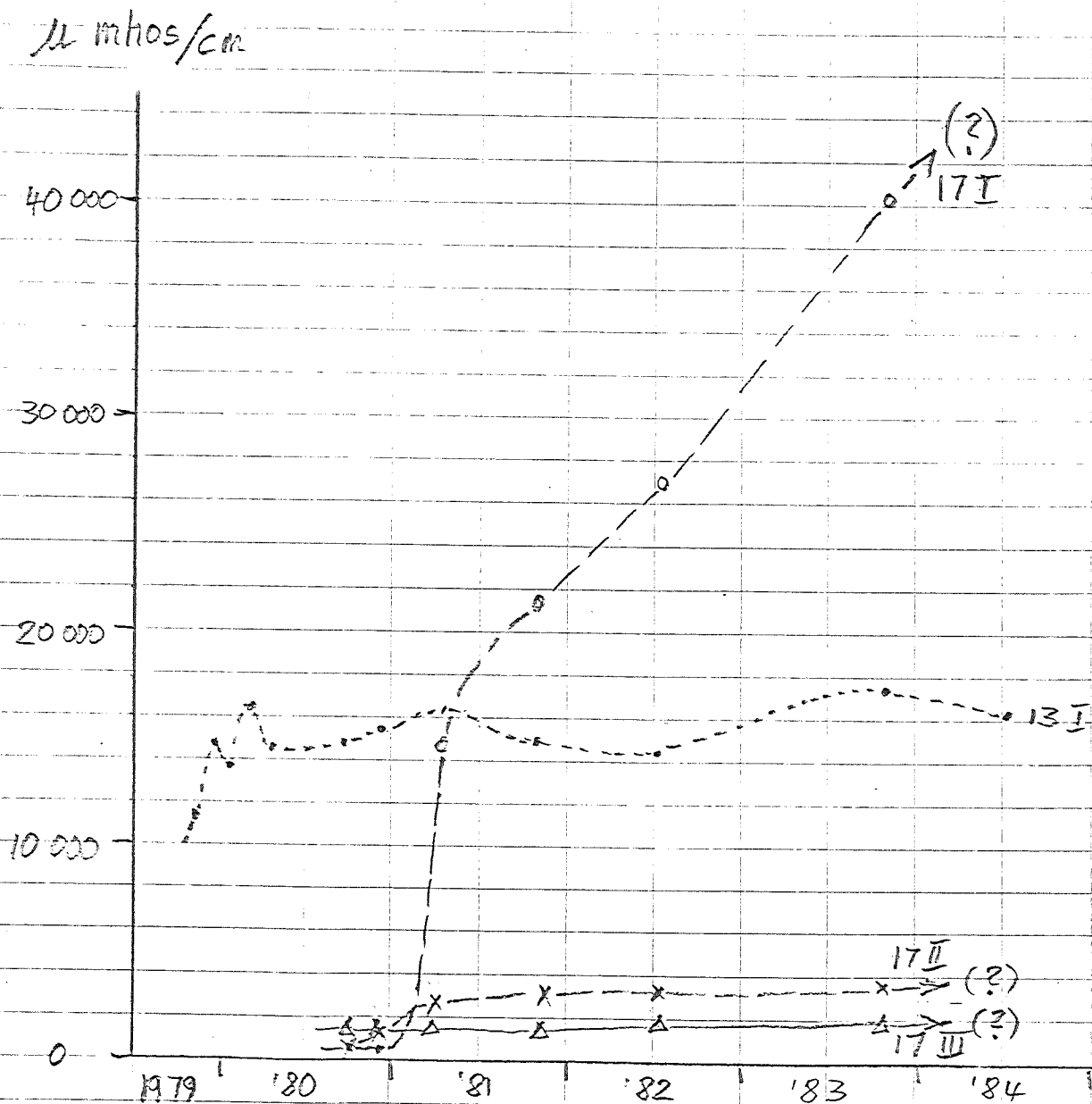
22 III

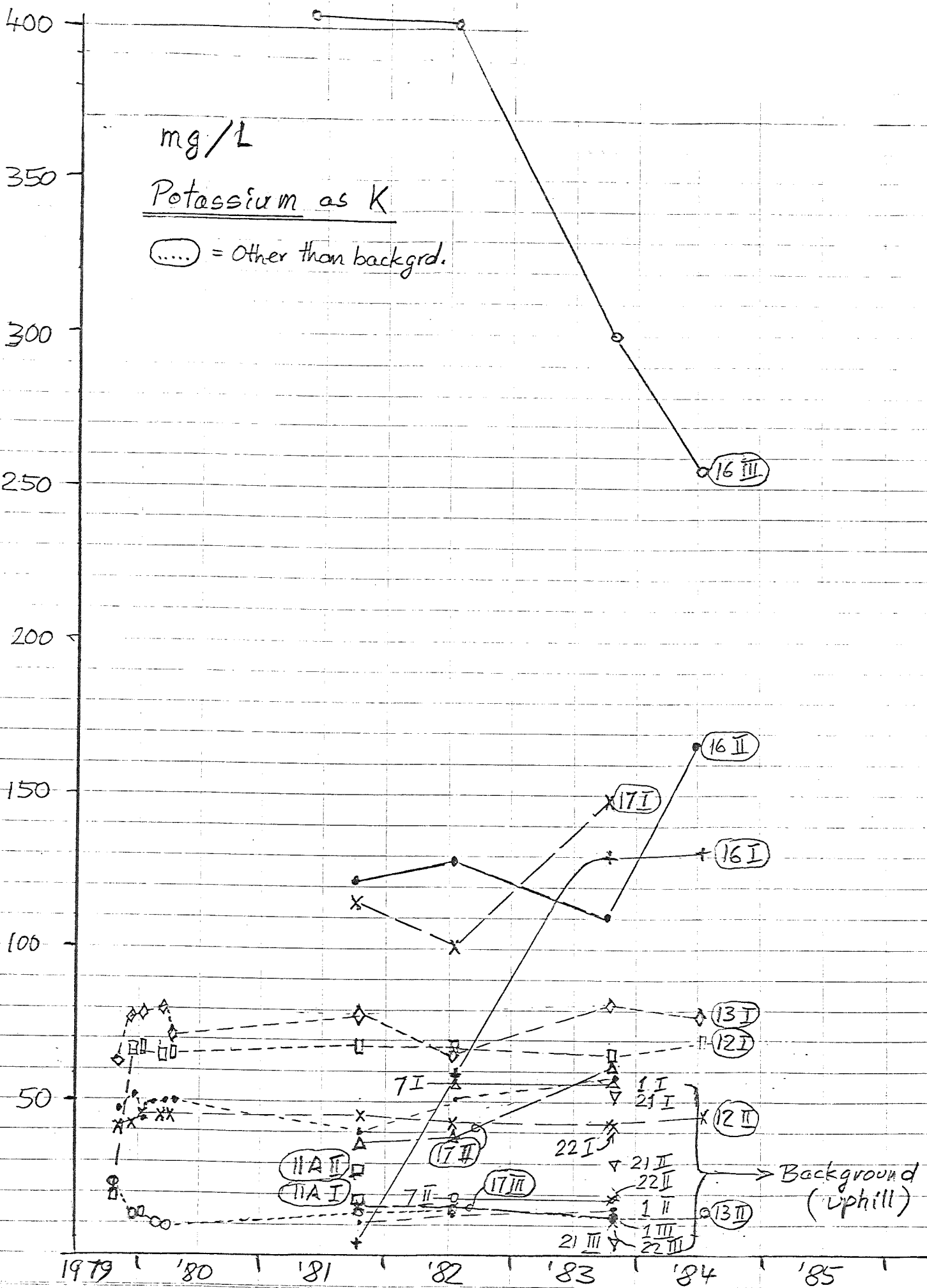
Conductivity
 $\mu\text{ mhos/cm}$



(cont'd: 13 and 17)

Conductivity, cont.'d

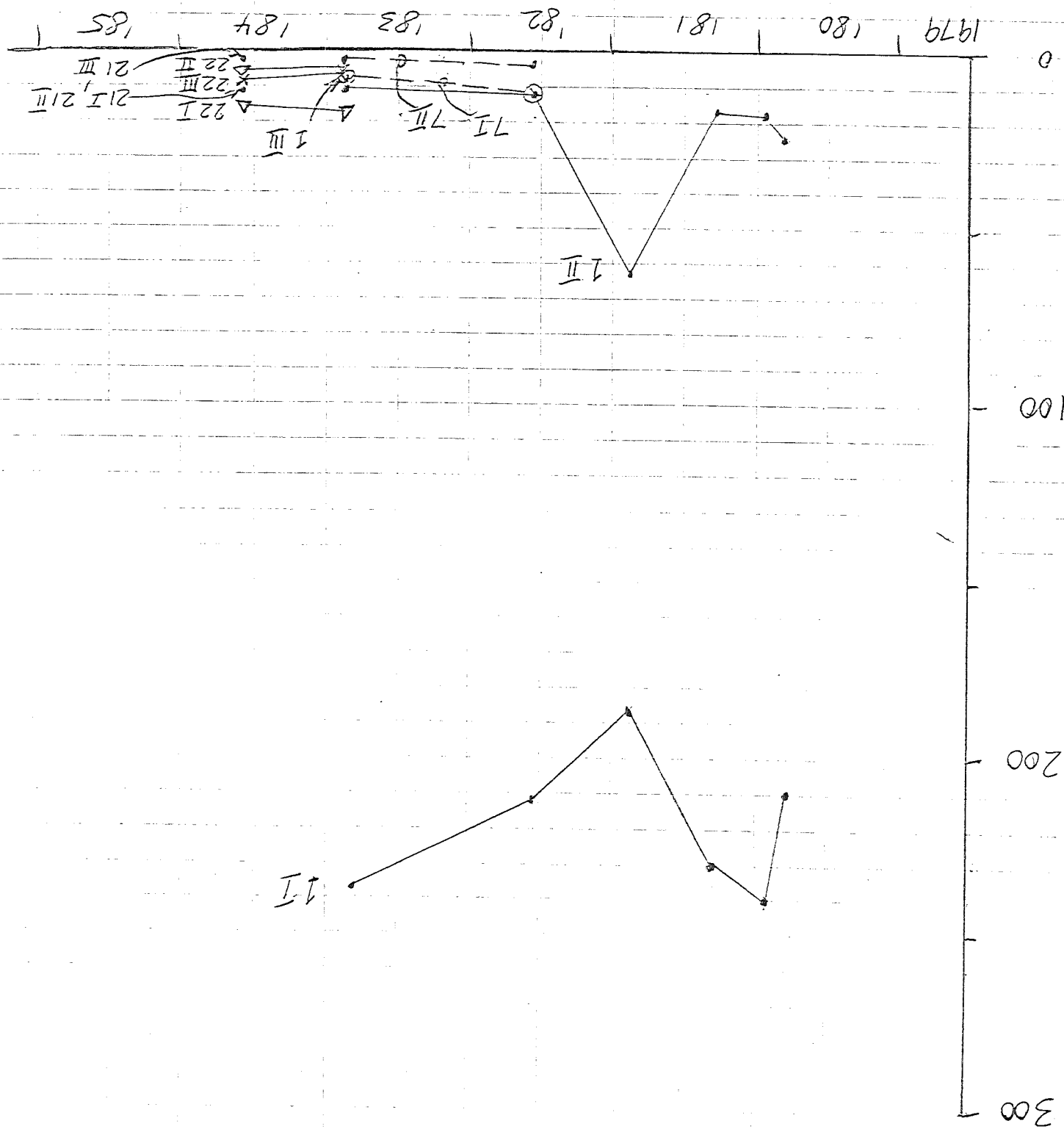




Chloride (Cl)

ppm

Appl' boreholes ("background")



Chloride (Cl)
ppm

6000

5000

4000

3000

2000

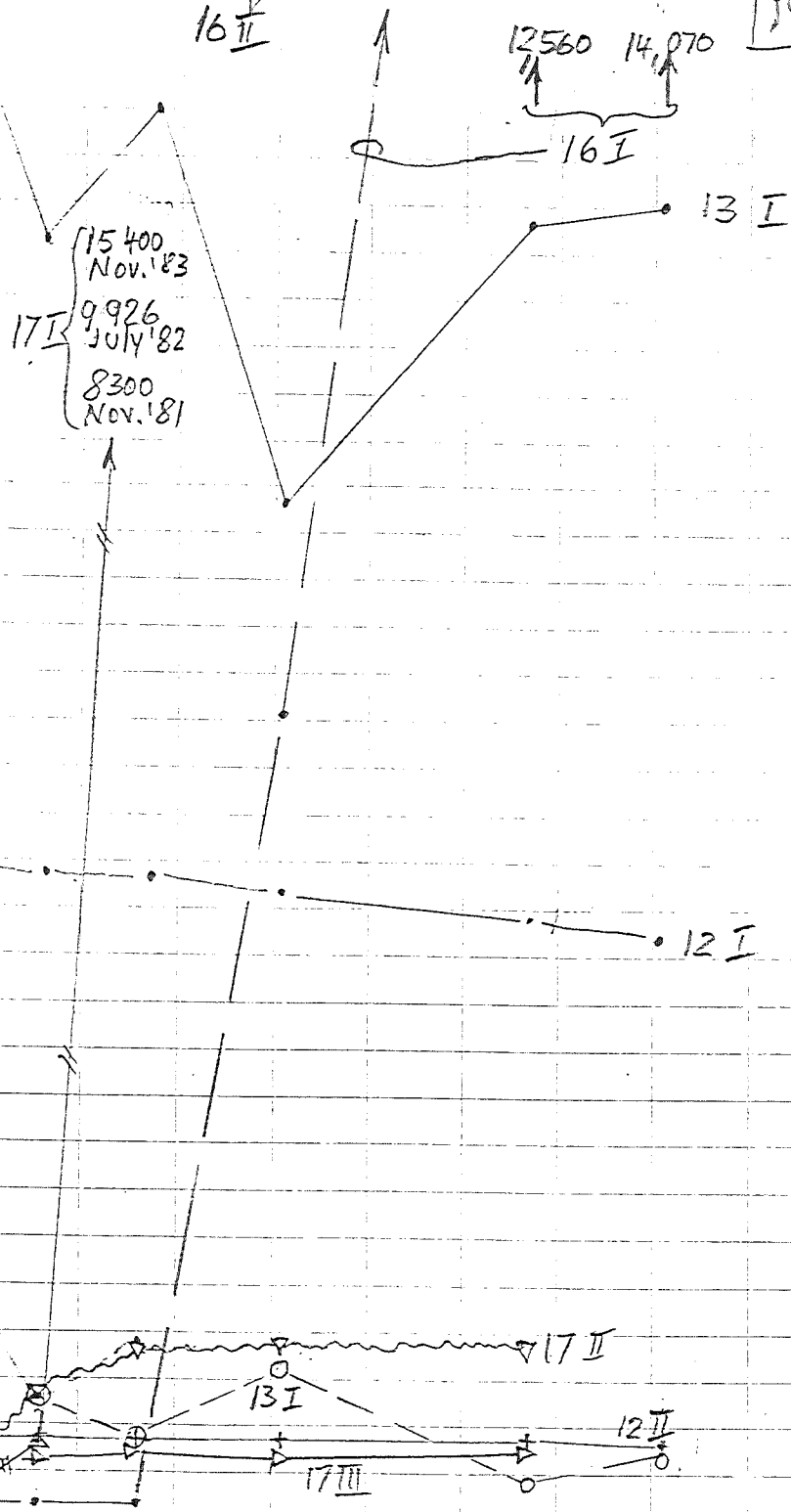
1000

See
uphill
range

1979 180 181 182 183 '84 '85

9,240
9,080
9,804 21,010
12,560 14,070

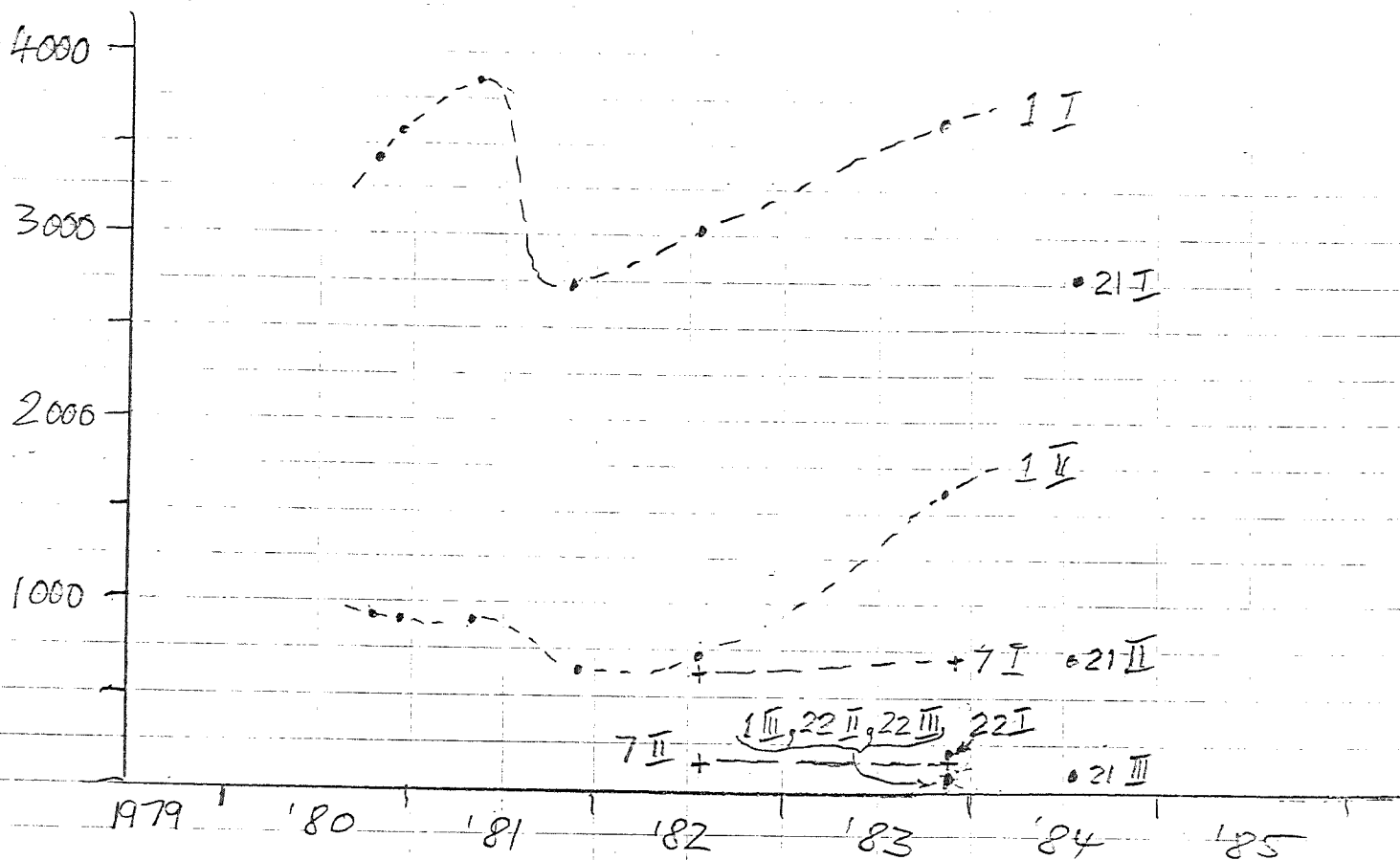
Also: 16 III
23,374 to 27,240
for Oct. '80 - July '84



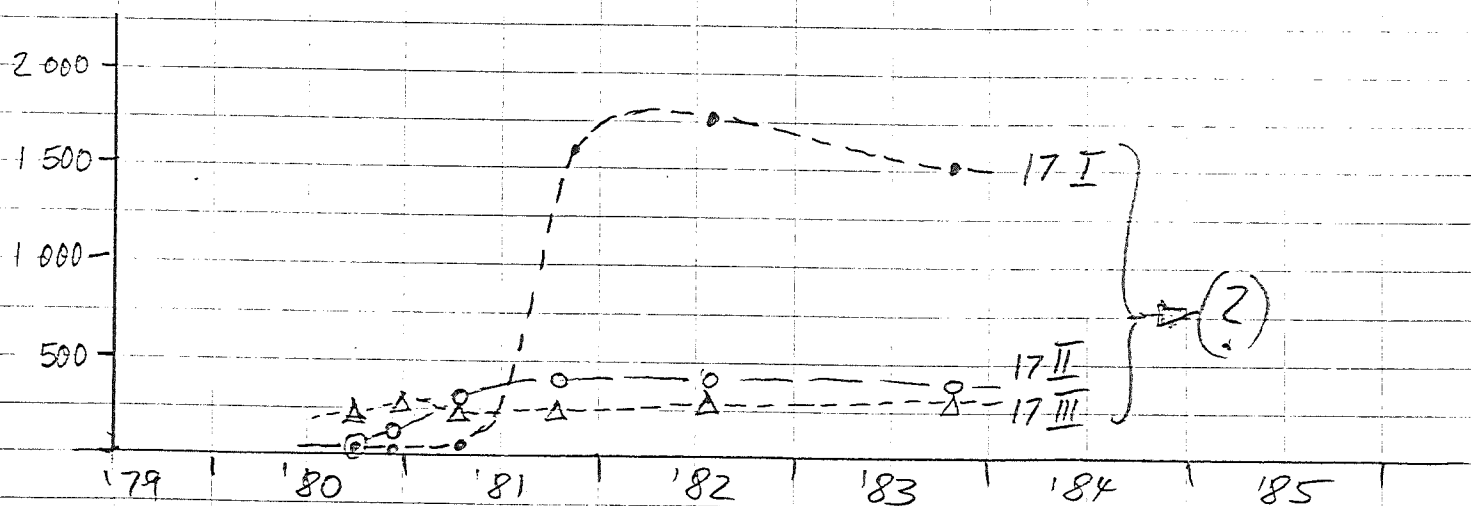
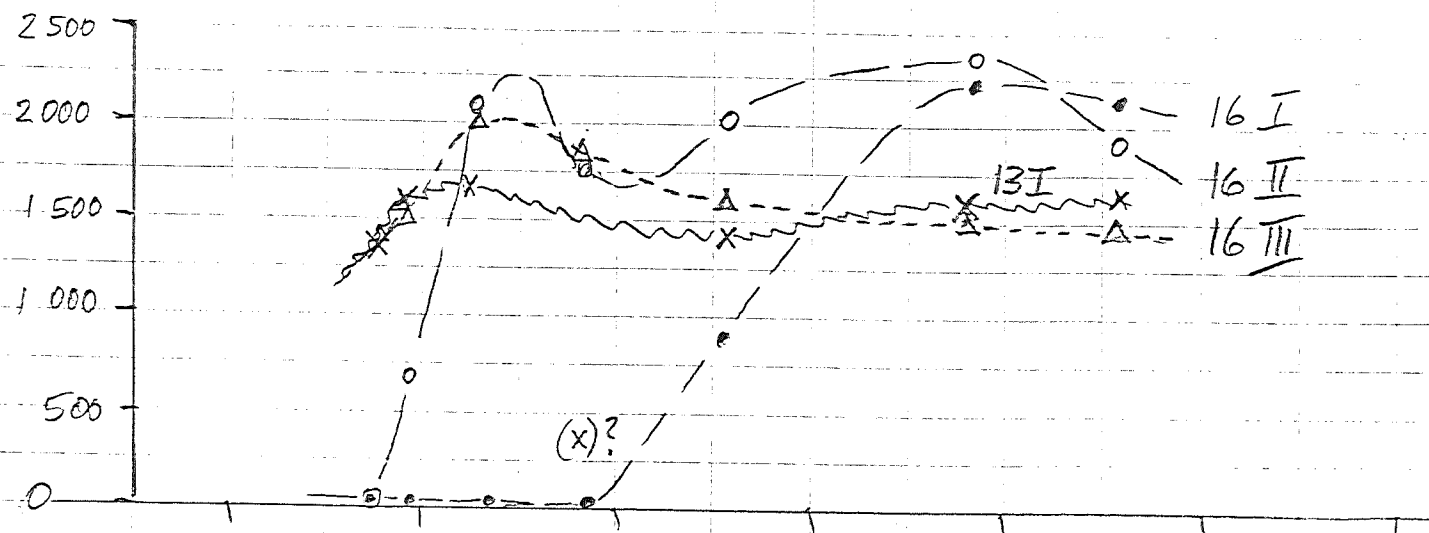
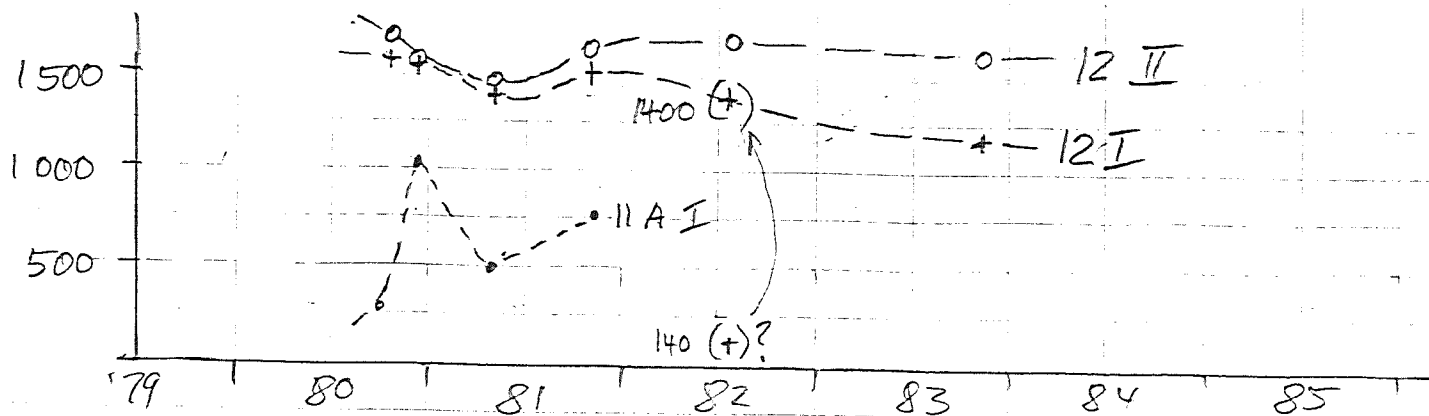
300

Sulphates (SO_4) ppm

Background

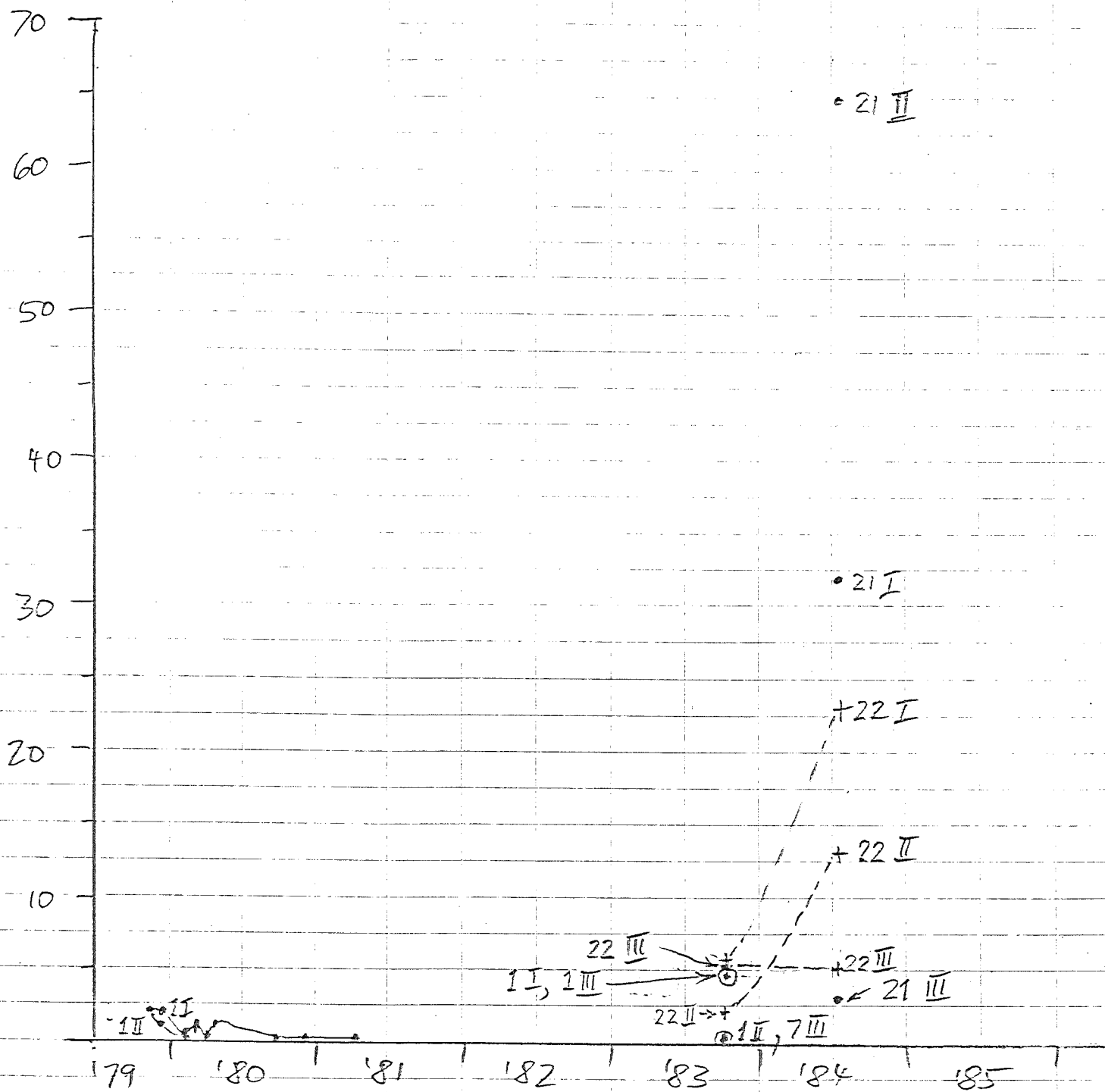


Sulphates (SO_4) ppm

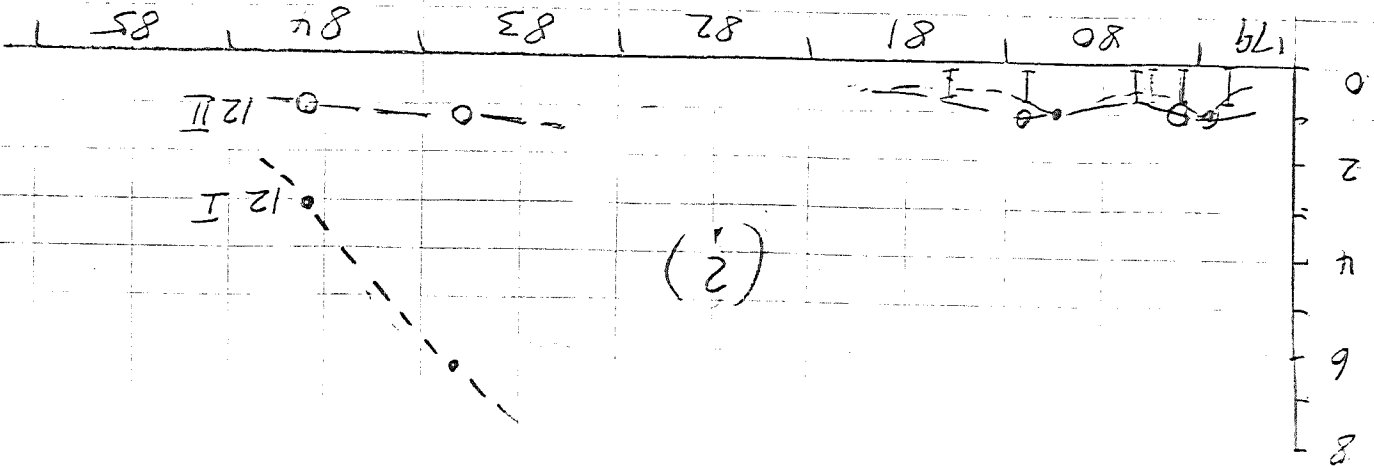
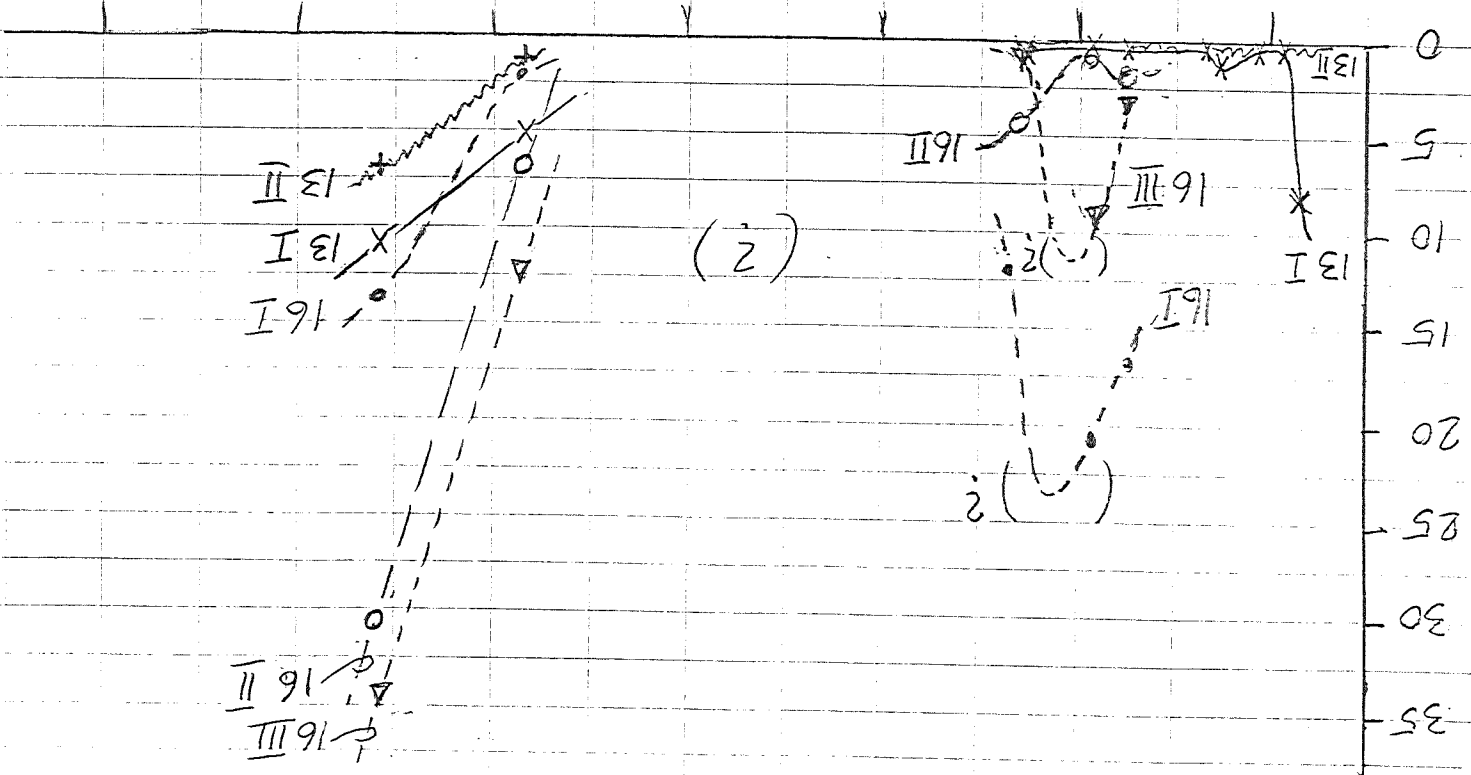
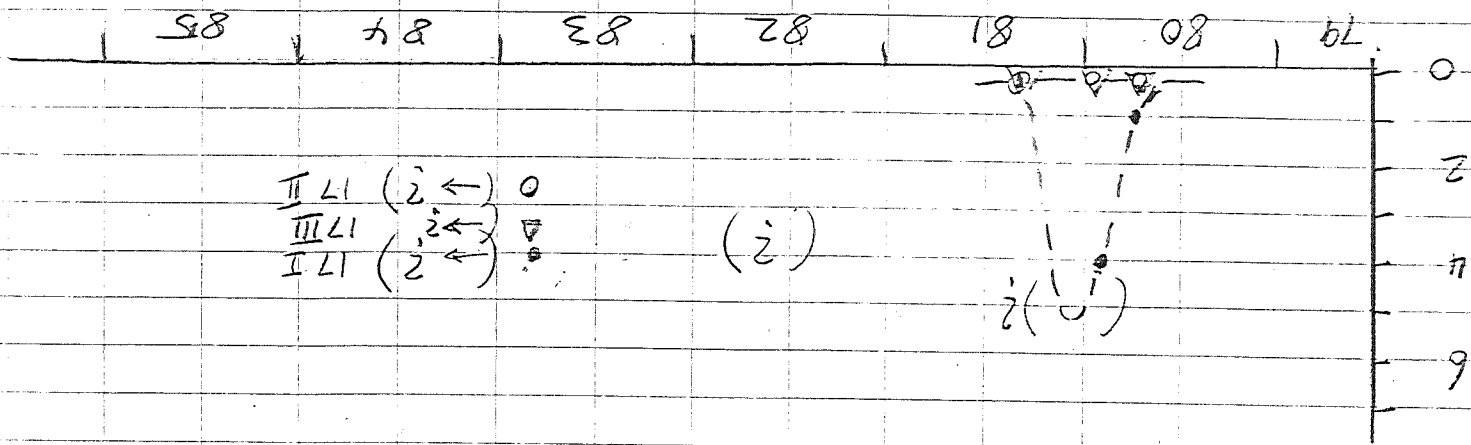


Phenols ($\mu\text{g/L}$ or ppb)

Uphill boreholes ("background")



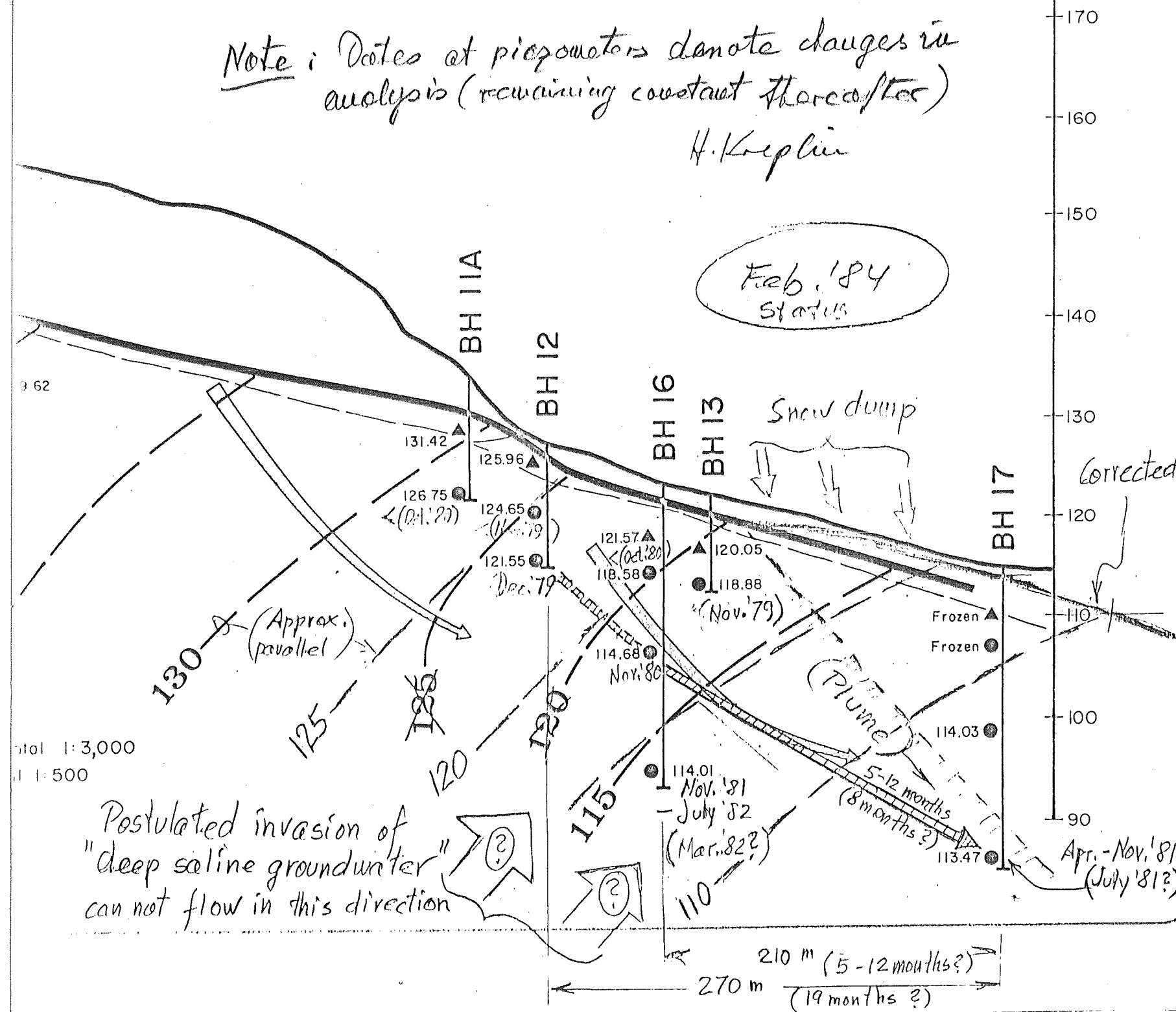
Phenols $\mu\text{g/L} (\approx \text{ppb})$



Note: Dates at piezometers denote changes in analysis (remaining constant thereafter)

H. Kreplin

Feb. '84
Status



-150 INFERRED PIEZOMETRIC GROUND WATER CONTOUR (masl)

PROBABLE GROUND WATER FLOW PATH

STRATIGRAPHIC CHANGE

NOTE: 1) Flow Net based on Water Level Data Feb. 3, 1984

2) Flow Net is a representation of the actual system and is shown on an exaggerated scale

GROUND WATER
FLOW
CROSS SECTION B-B'

0-17

Hydrogeological Study
Halton Region
BURLINGTON
LANDFILL SITE
Continued Use

1984
EPA hearing

Project 83-55



Ontario
Ministry of the
Environment