FARO MAIN PIT POND
COMPILATION OF WATER CHEMISTRY PROFILES
1994 TO MARCH 2000

E. Denholm, May 2000

Water chemistry information at depth in the Faro Main pit has been collected since 1994, to the author's knowledge. Information was collected by DIAND Water Resources personnel (Gerry Whittley, Wayne Kettley and Jean Beckerton) in 1994, 1996, 1998, and 1999. Information was collected by Anvil Range Mining Corp. (Interim Receivership) personnel (Eric Denholm) in January and March 2000.

All of the information was compiled into the attached graphs in order to encourage a better understanding of the chemical stratification in the pit, the stability of the stratification and the depth to the thermo/chemocline.

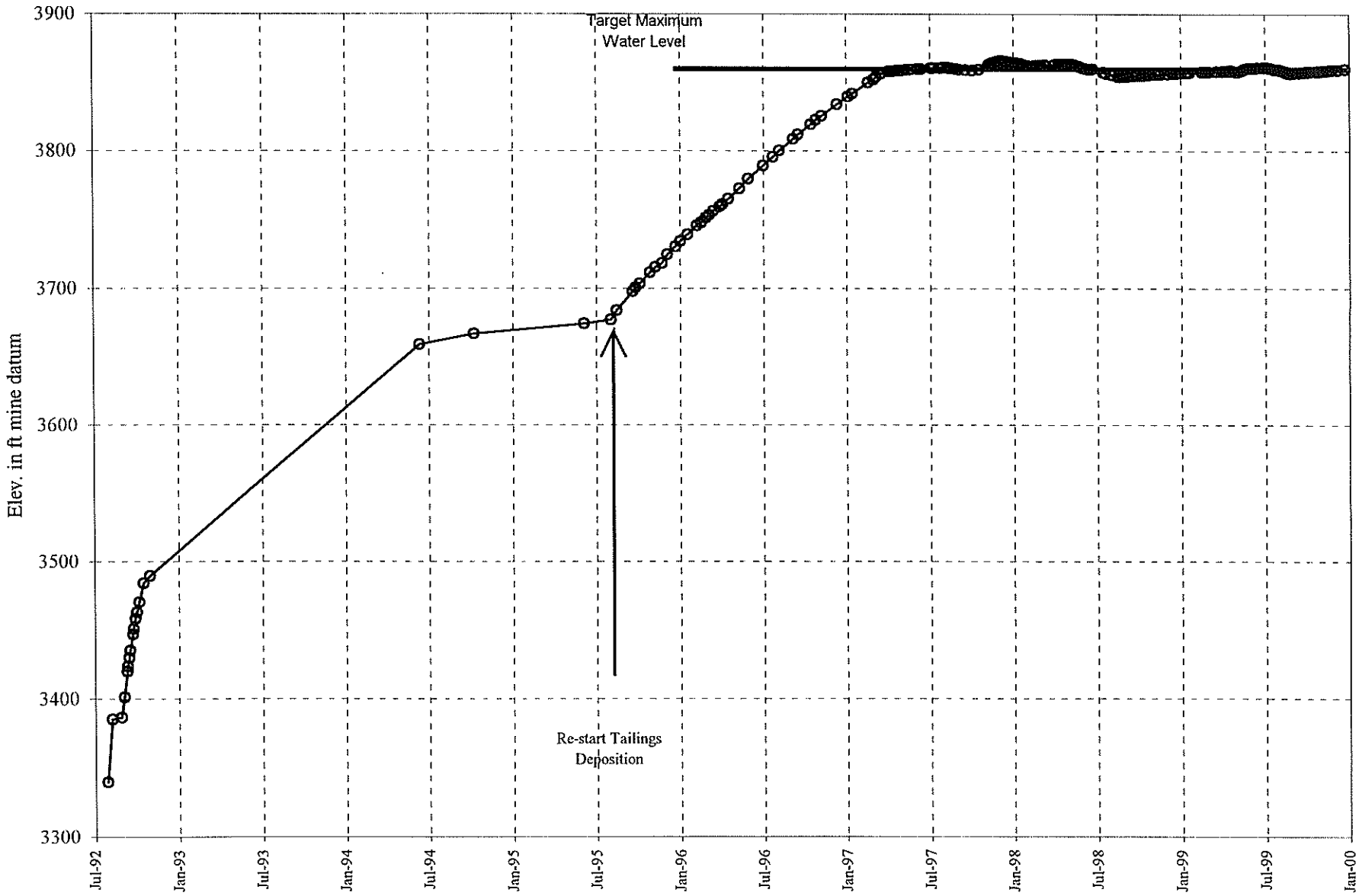
No interpretation of the information is presented here. However, this compilation of information may assist with a future interpretation of water chemistry in the pit. The depth of water in the pit in 1994 and 1996 was less than for later dates because the in-pit water elevation did not reach the acceptable maximum range until 1997. A graph of pit water elevations since 1992 is attached for reference.

A Cole-Parmer depth probe is owned by Anvil Range Mining Corp. which can be used for monitoring of pH, dissolved oxygen, conductivity and temperature at depths up to 30 metres on a regular basis.

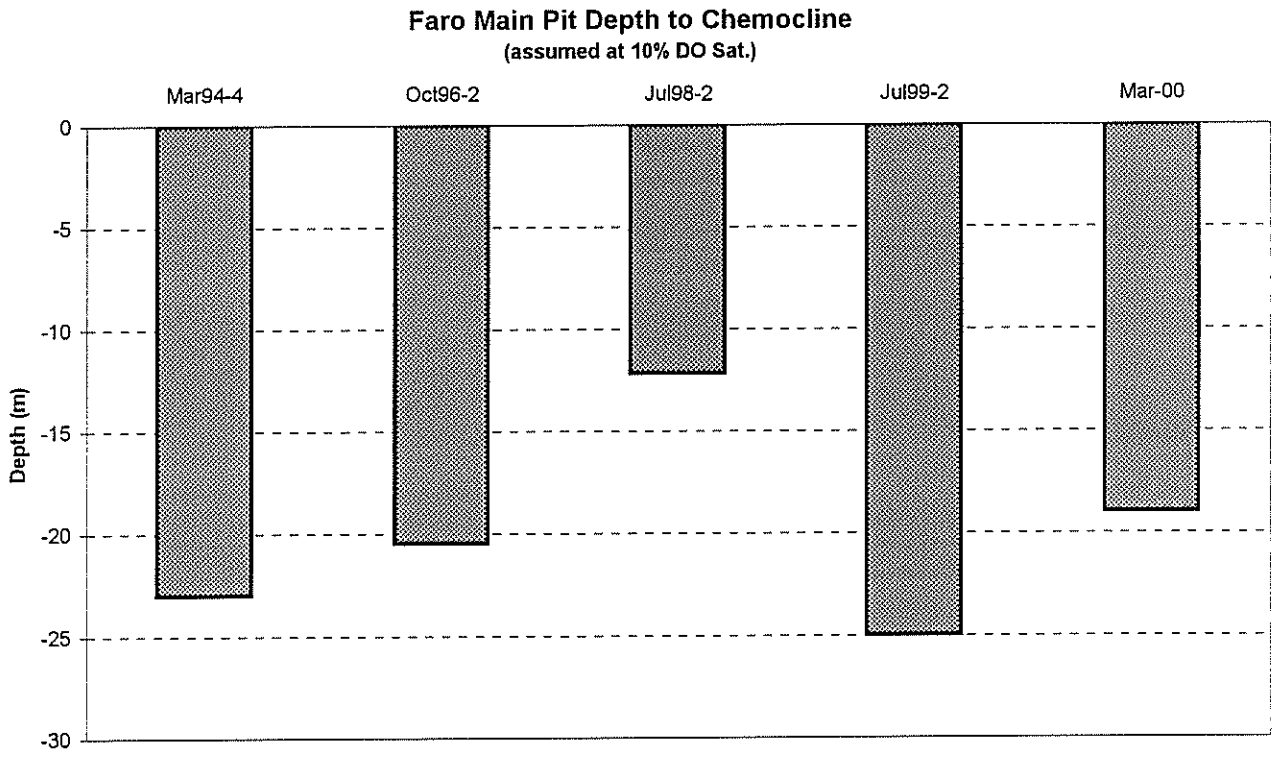
Only one representative sampling location per sampling date is shown on the attached graphs in order to keep the graphs readable. On dates where more than one location in the pit was sampled, the results were very similar. The following graphs are attached:

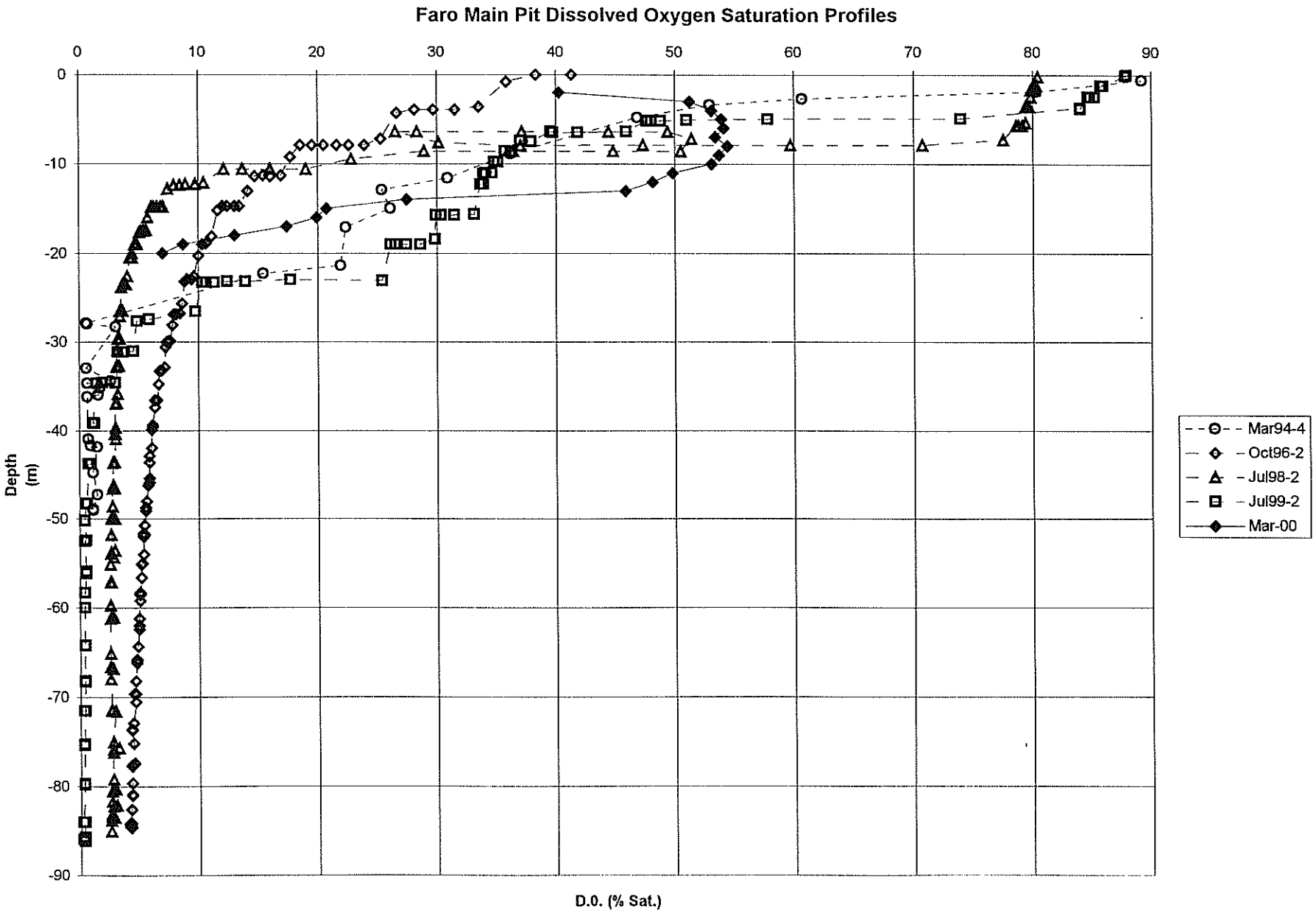
- in-pit water elevations since 1992
- depth to thermo/chemocline as defined as 10% dissolved oxygen saturation
- dissolved oxygen to full depth and to 30 metres depth
- temperature to full depth and to 30 metres depth
- pH to full depth and to 30 metres depth
- conductivity to full depth and to 30 metres depth
- redox to full depth and to 30 metres depth
- sulphate to full depth
- total zinc to full depth
- total iron to full depth
- total calcium to full depth
- total magnesium to full depth
- total dissolved solids to full depth

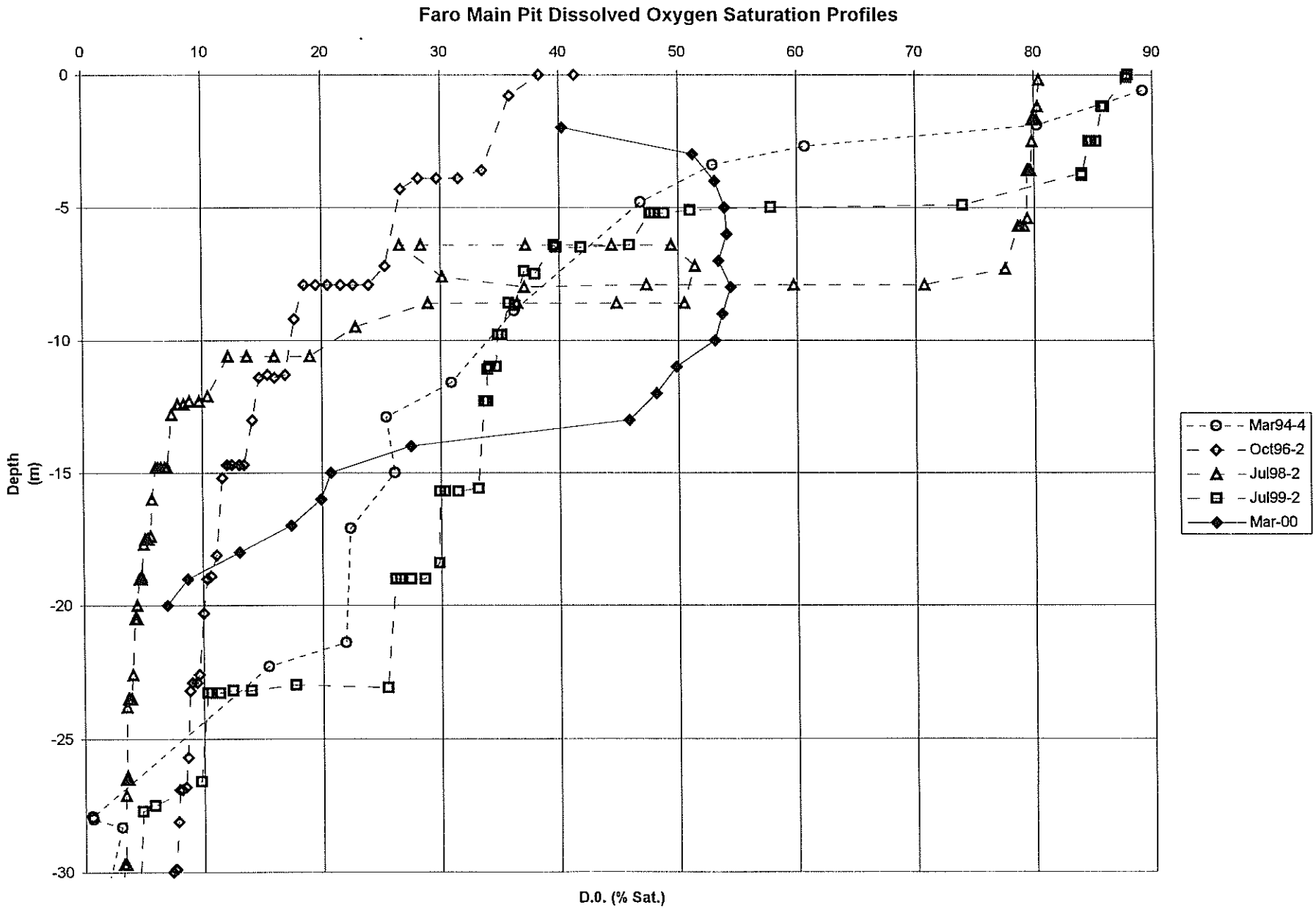
Faro Main Pit Filling Curve - Complete to May 2000

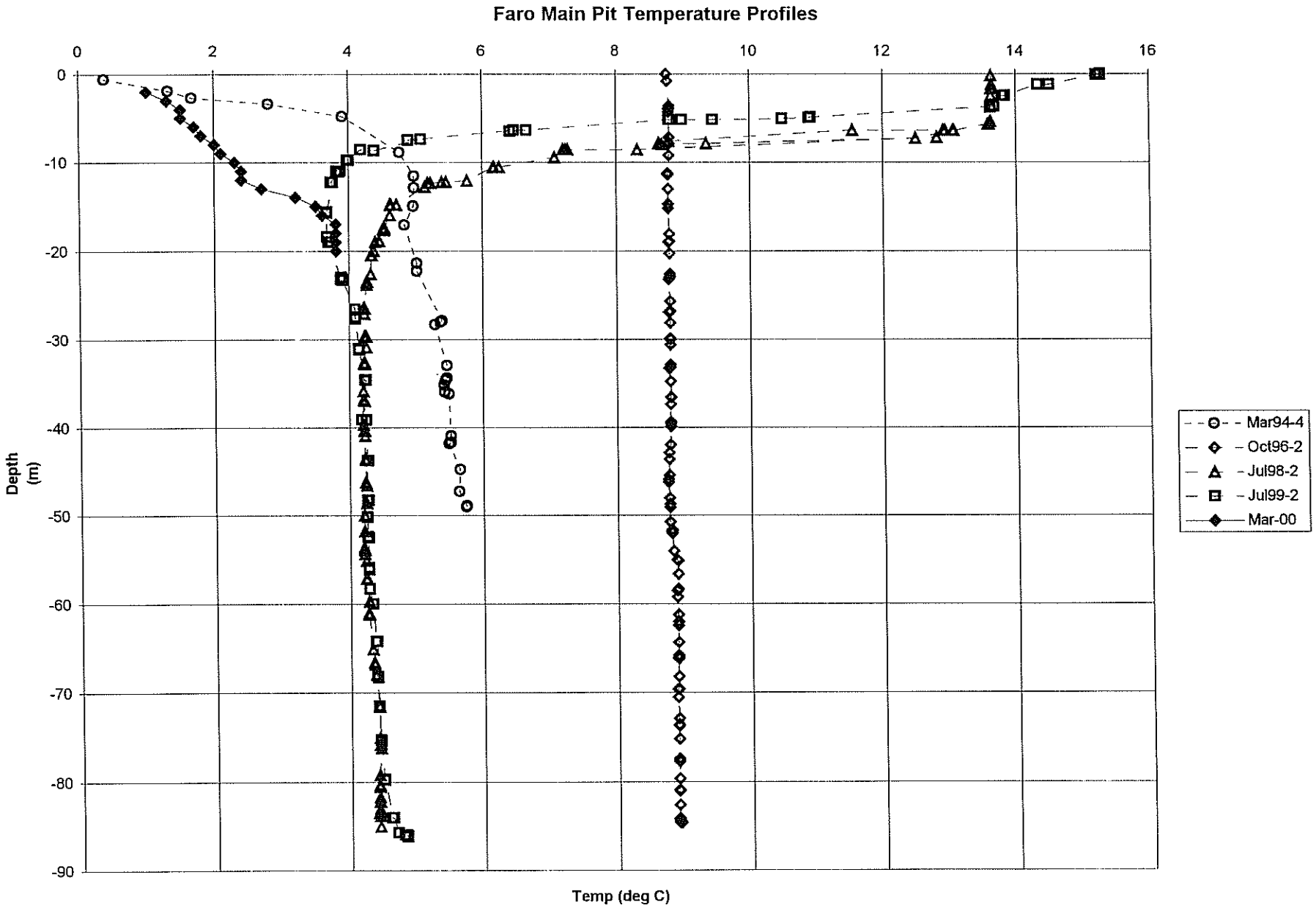


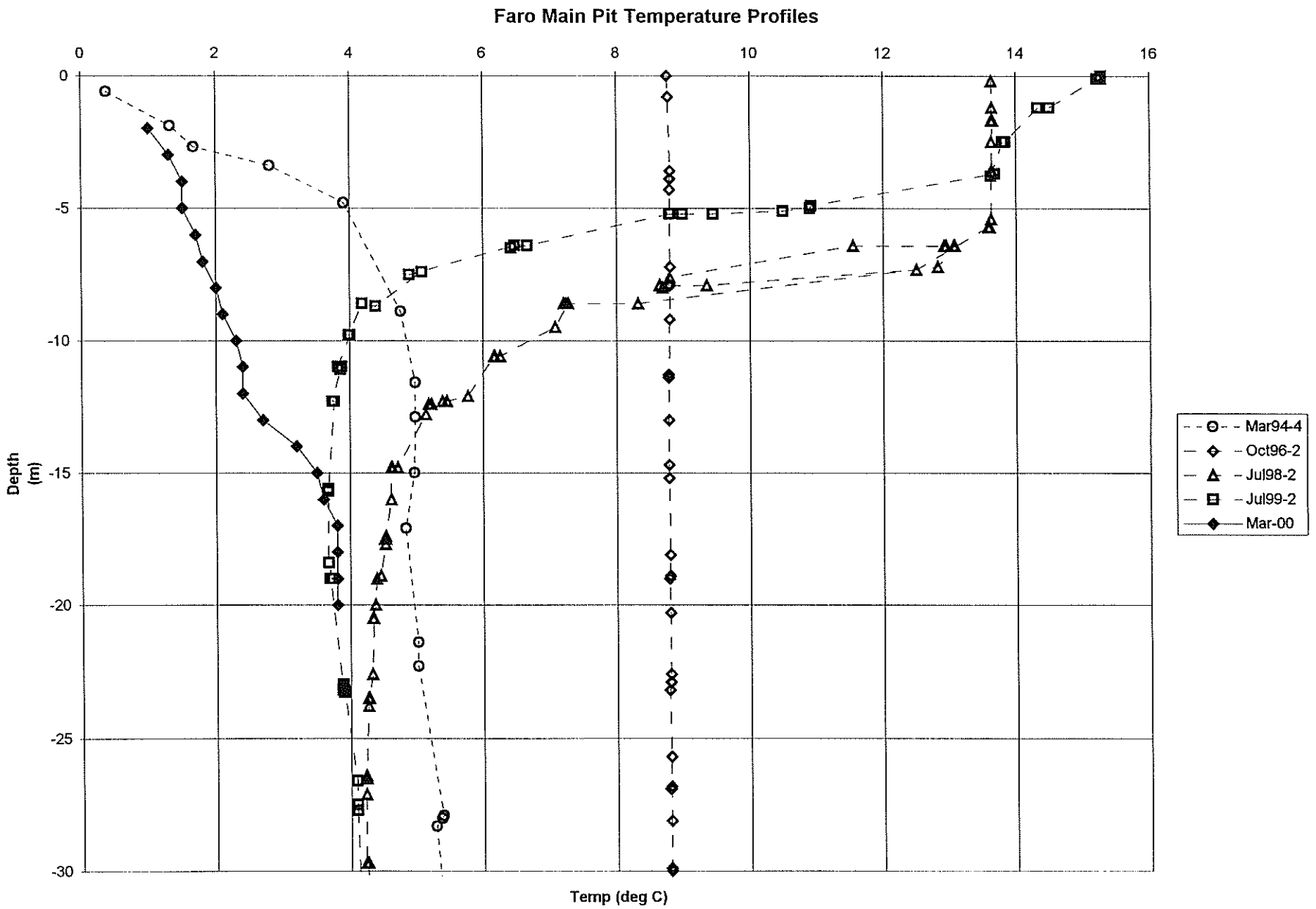
UTM = Mine datum - 109.6 ft
Overflow to Zone II pit @ 3909.6 ft mine datum

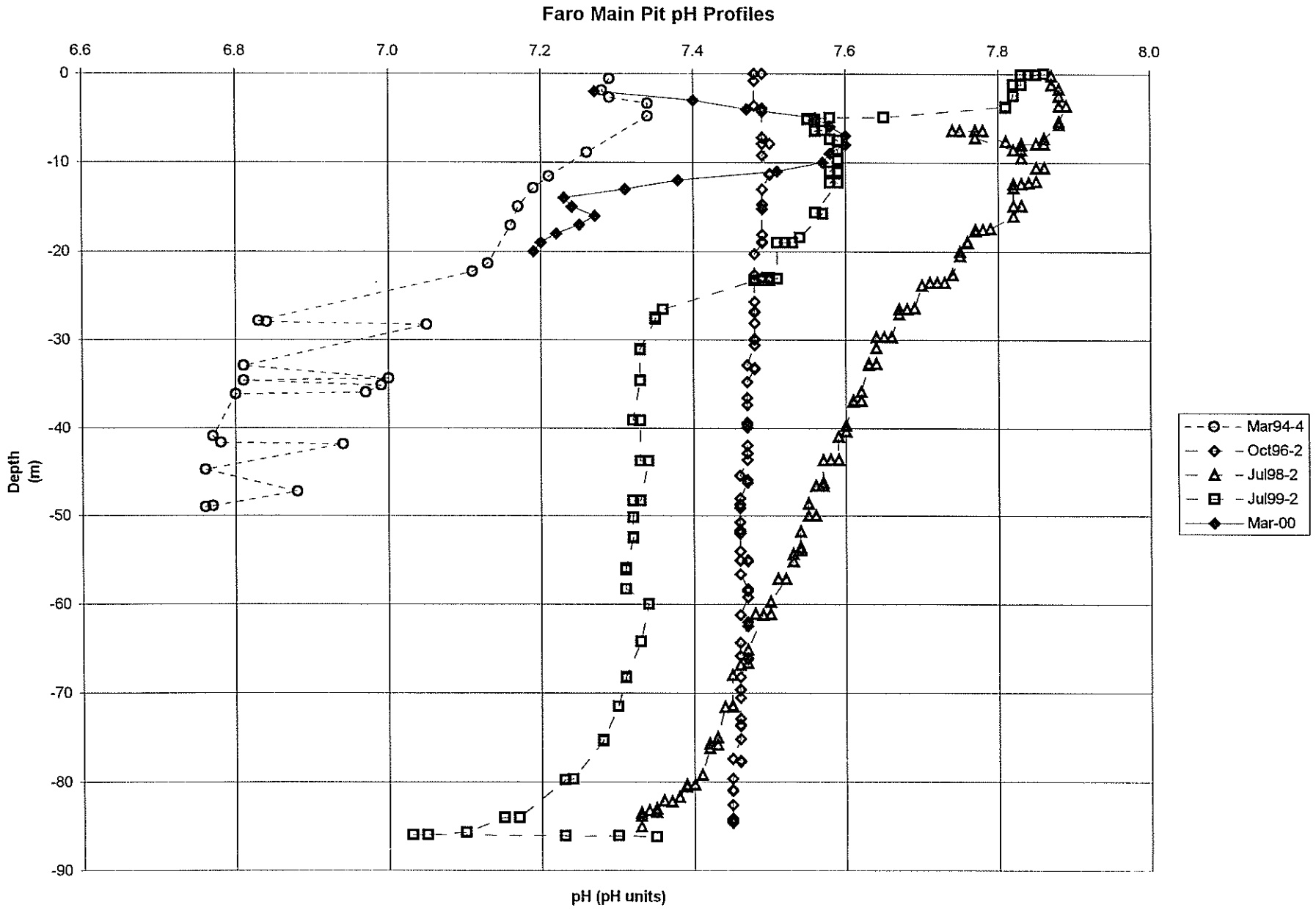

Faro Main Pit Depth to Chemocline
(assumed at 10% DO Sat.)
Mar94-4
Oct96-2
Jul98-2
Jul99-2
Mar-00
Depth (m)
0
-5
-10
-15
-20
-25
-30

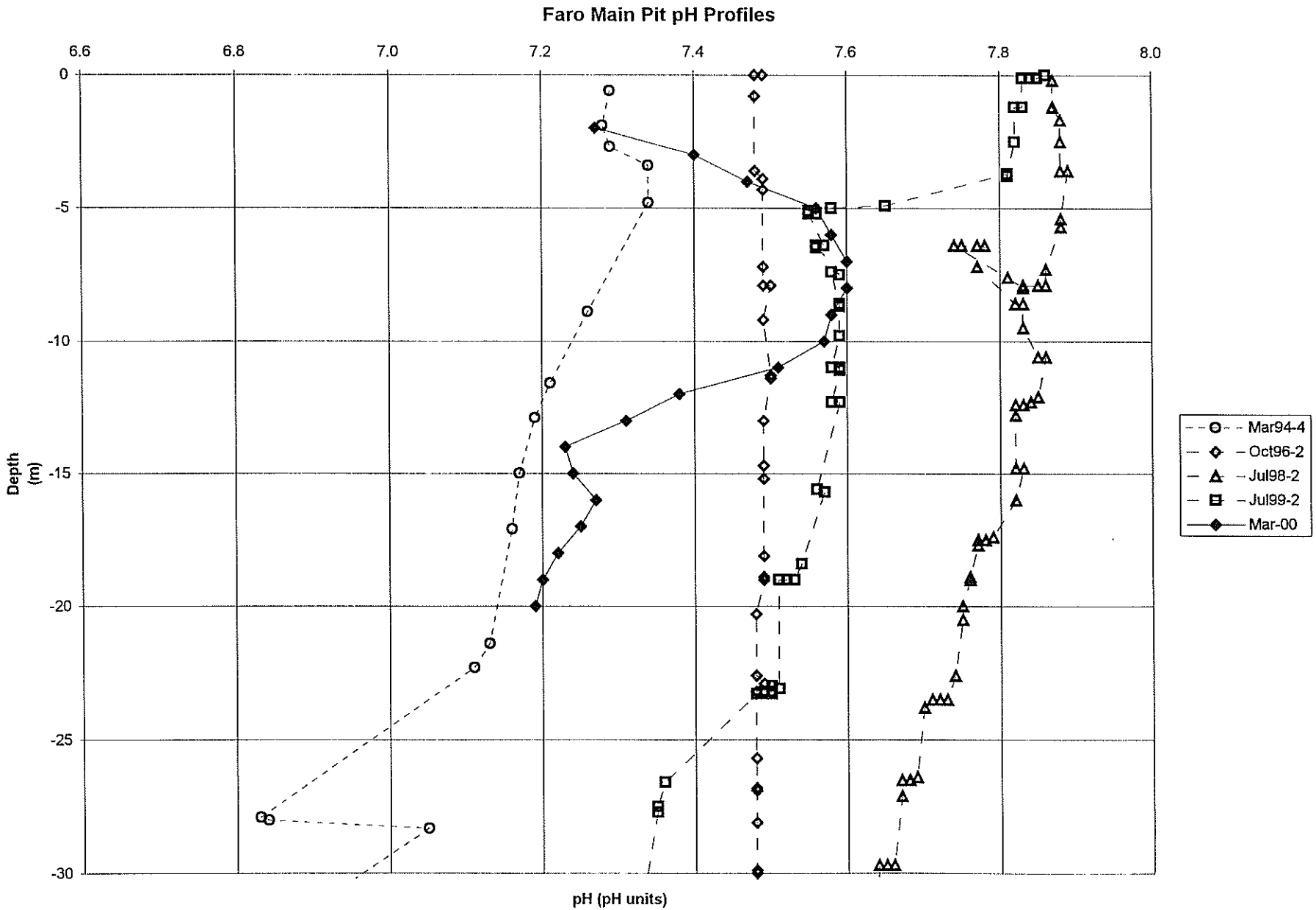

Faro Main Pit Dissolved Oxygen Saturation Profiles
0
10
20
30
40
50
60
70
80
90
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Depth (m)
D.O. (% Sat.)
Mar94-4
Oct96-2
Jul98-2
Jul99-2
Mar-00

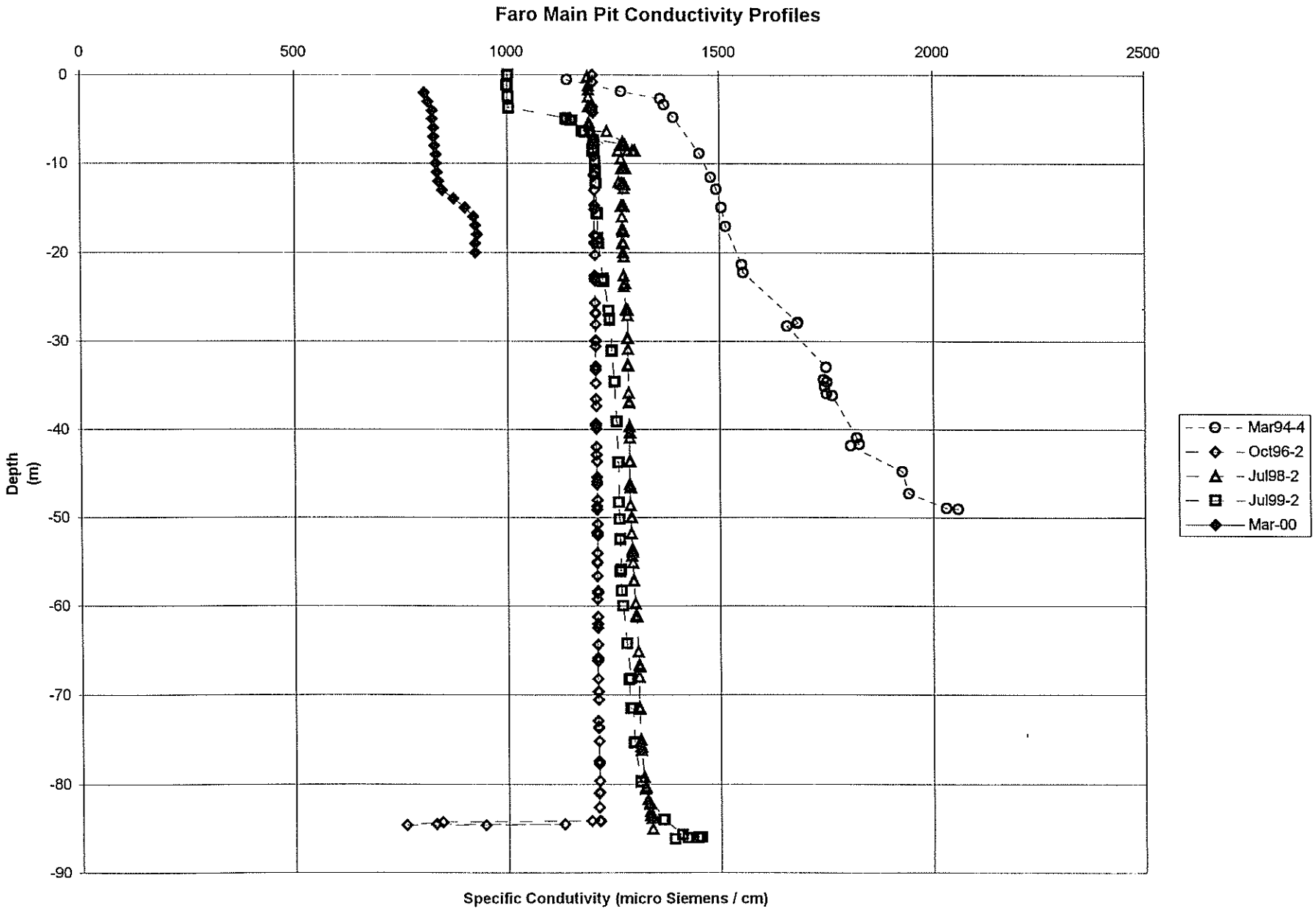

Faro Main Pit Dissolved Oxygen Saturation Profiles
0
10
20
30
40
50
60
70
80
90
0
-5
-10
-15
-20
-25
-30
Depth (m)
D.O. (% Sat.)
Mar94-4
Oct96-2
Jul98-2
Jul99-2
Mar-00

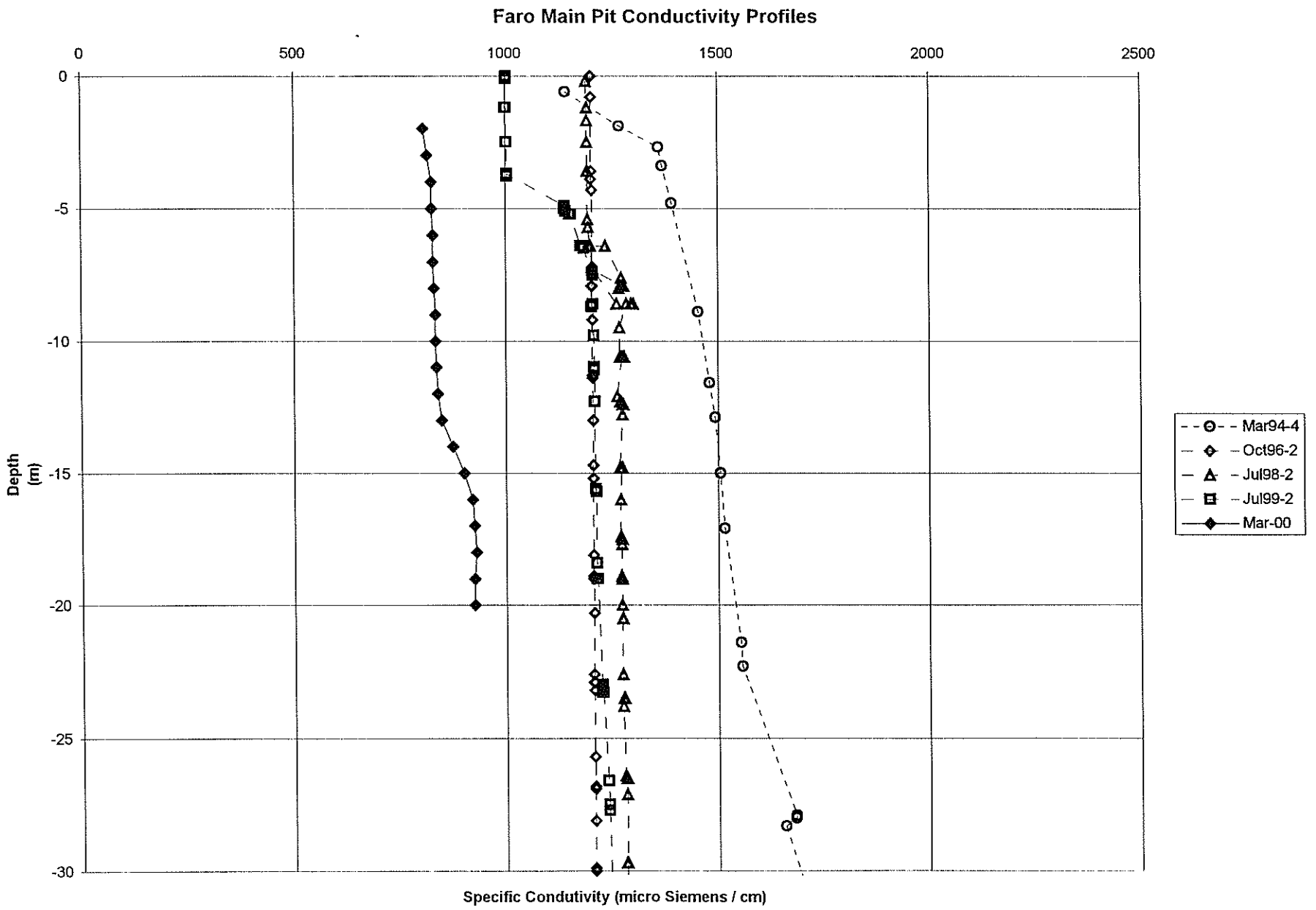

Faro Main Pit Temperature Profiles
0
2
4
6
8
10
12
14
16
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Depth (m)
Temp (deg C)
Mar94-4
Oct96-2
Jul98-2
Jul99-2
Mar-00

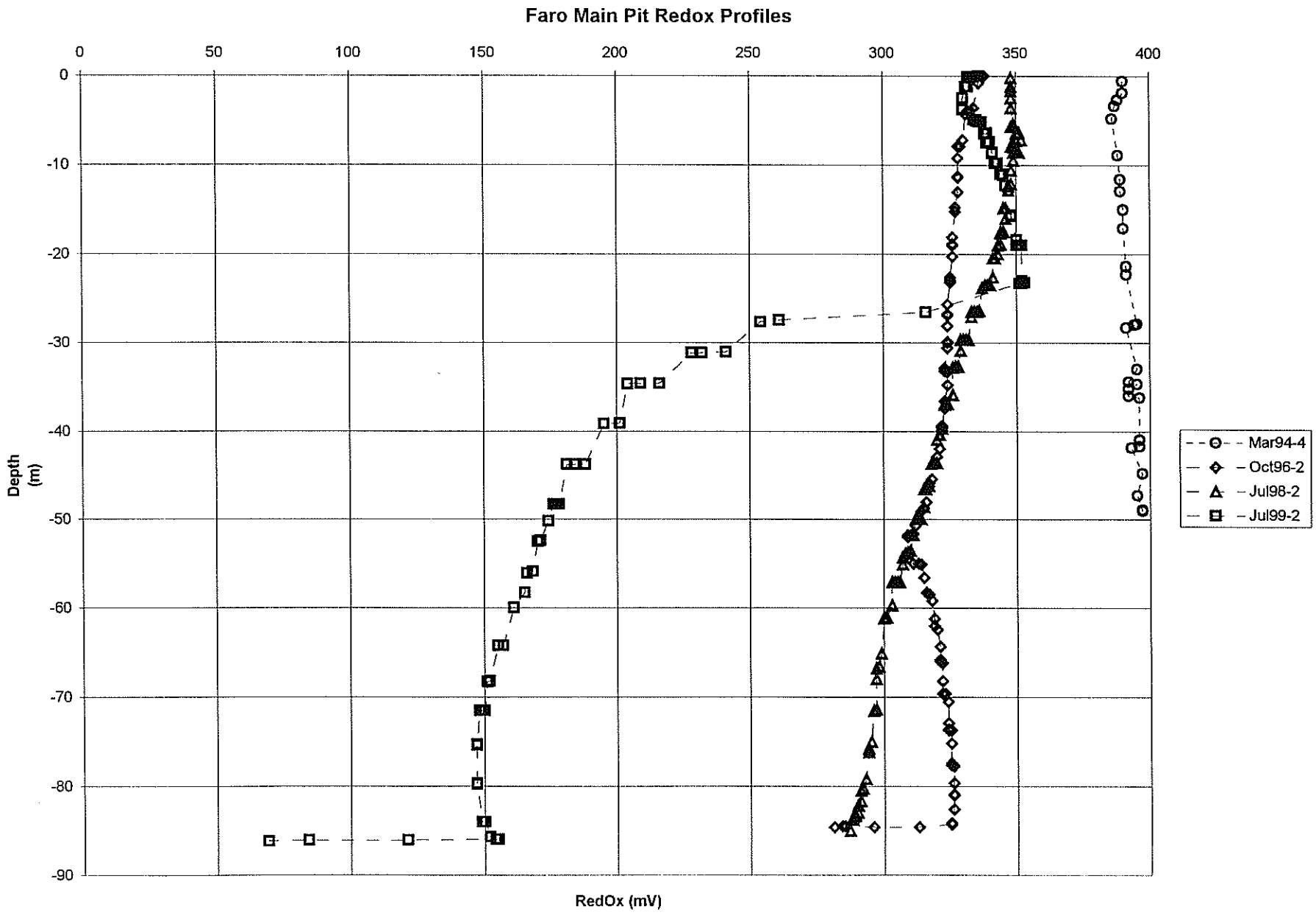

Faro Main Pit Temperature Profiles
0
2
4
6
8
10
12
14
16
0
-5
-10
-15
-20
-25
-30
Depth (m)
Temp (deg C)
Mar94-4
Oct96-2
Jul98-2
Jul99-2
Mar-00

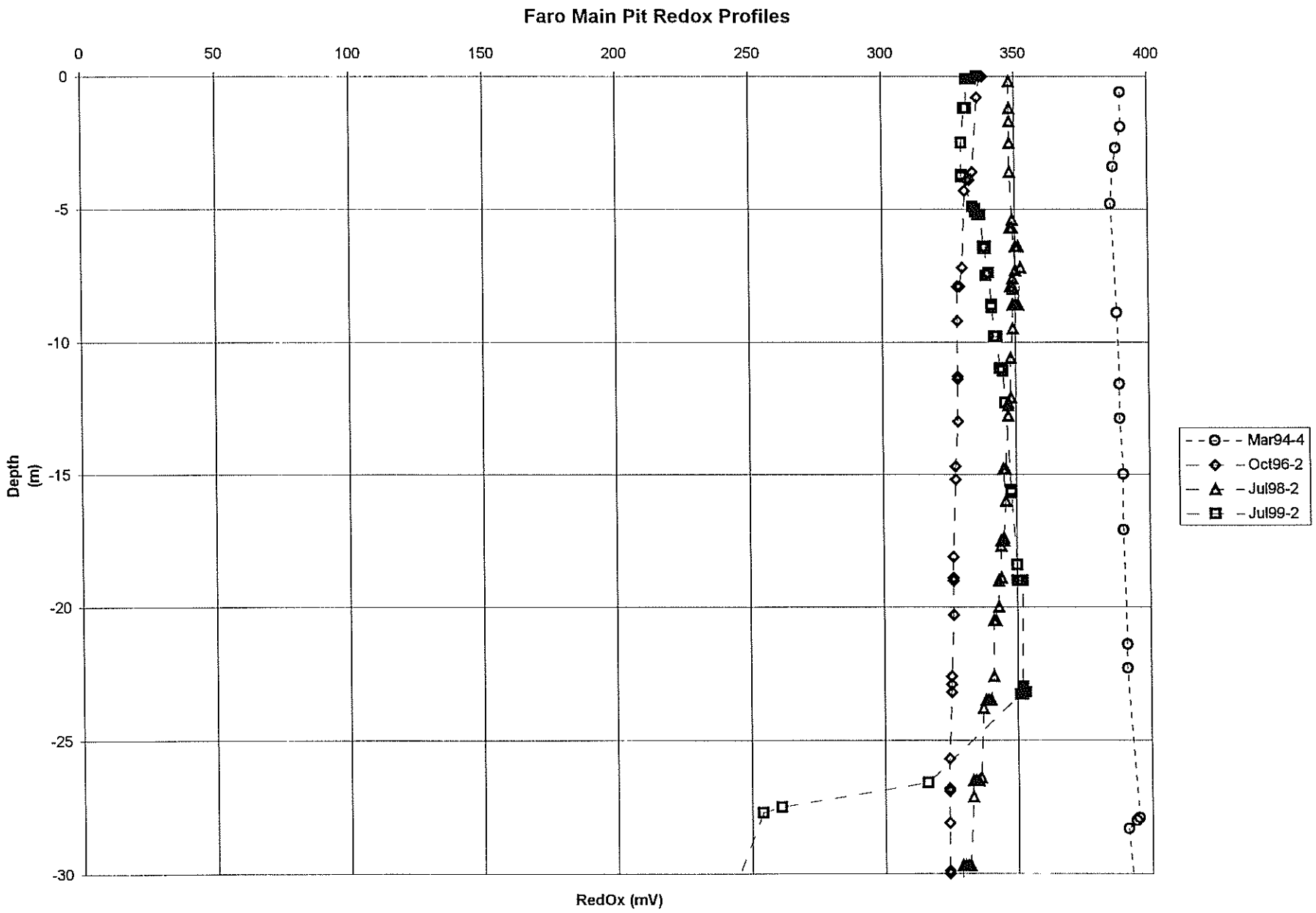

Faro Main Pit pH Profiles
6.6
6.8
7.0
7.2
7.4
7.6
7.8
8.0
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Depth (m)
pH (pH units)
Mar94-4
Oct96-2
Jul98-2
Jul99-2
Mar-00


Faro Main Pit pH Profiles
6.6
6.8
7.0
7.2
7.4
7.6
7.8
8.0
0
-5
-10
-15
-20
-25
-30
Depth (m)
pH (pH units)
Mar94-4
Oct96-2
Jul98-2
Jul99-2
Mar-00

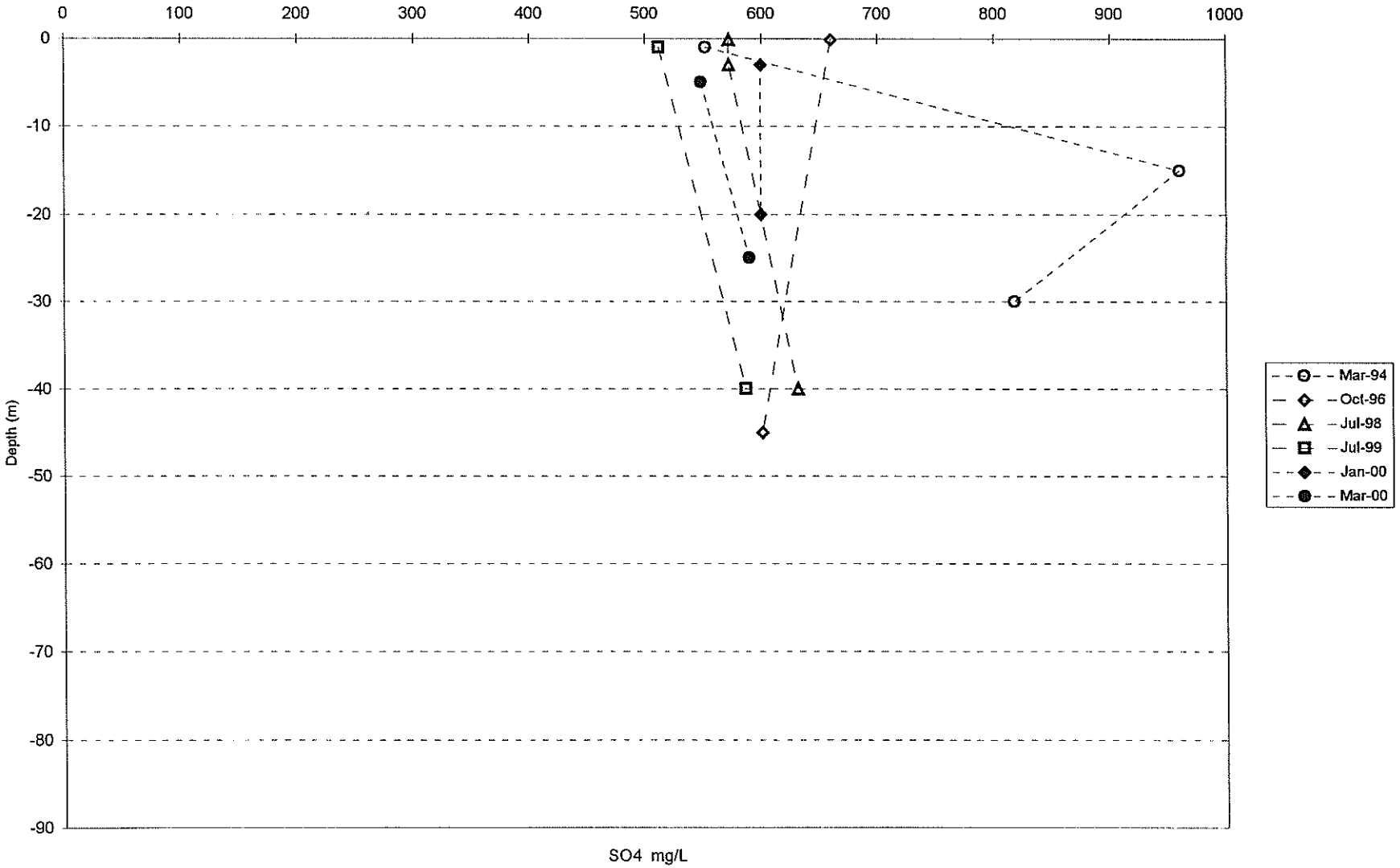

Faro Main Pit Conductivity Profiles
0
500
1000
1500
2000
2500
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Depth (m)
Specific Condutivity (micro Siemens / cm)
Mar94-4
Oct96-2
Jul98-2
Jul99-2
Mar-00

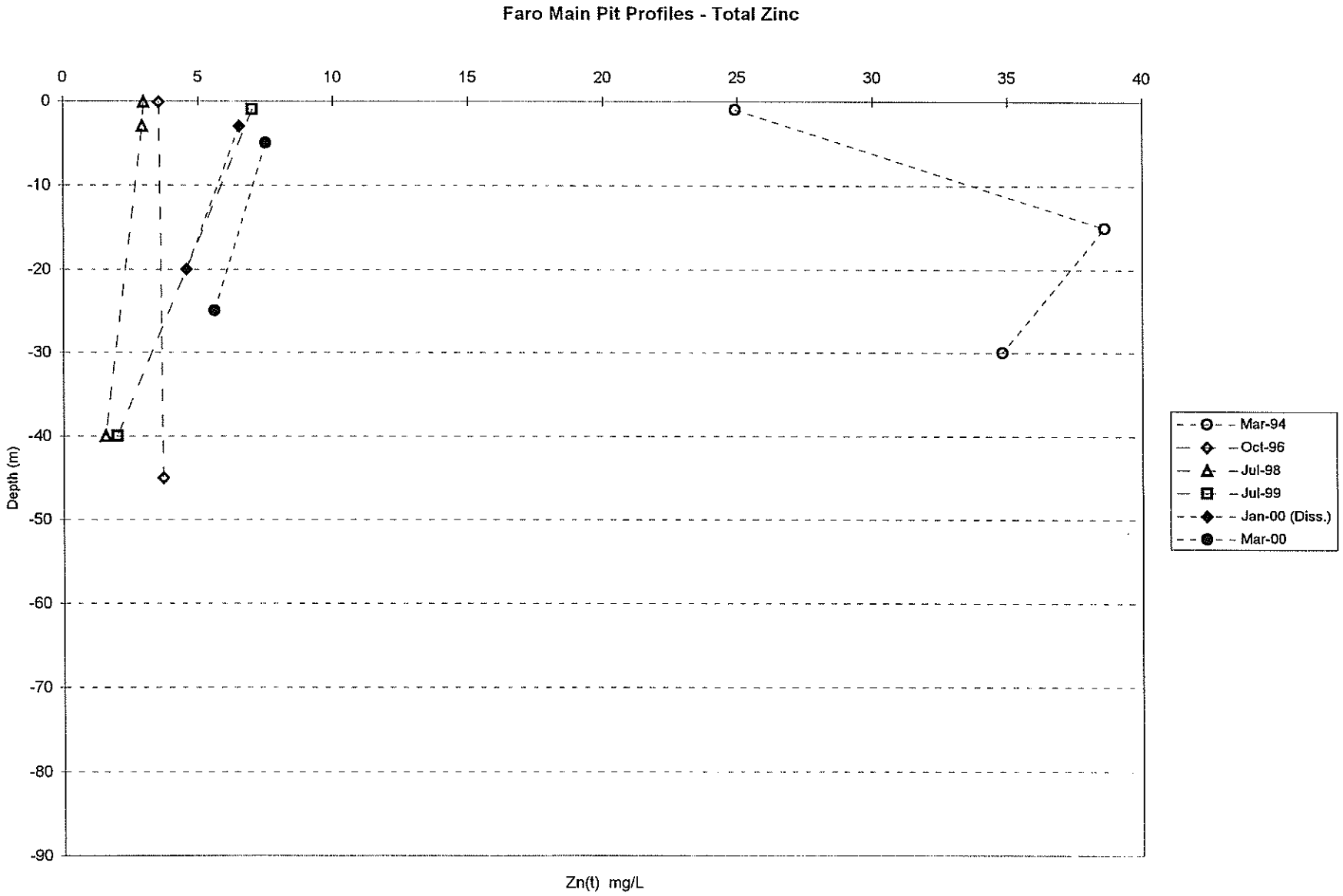

Faro Main Pit Conductivity Profiles
0
500
1000
1500
2000
2500
0
-5
-10
-15
-20
-25
-30
Depth (m)
Specific Condutivity (micro Siemens / cm)
Mar94-4
Oct96-2
Jul98-2
Jul99-2
Mar-00


Faro Main Pit Redox Profiles
0
50
100
150
200
250
300
350
400
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Depth (m)
RedOx (mV)
Mar94-4
Oct96-2
Jul98-2
Jul99-2

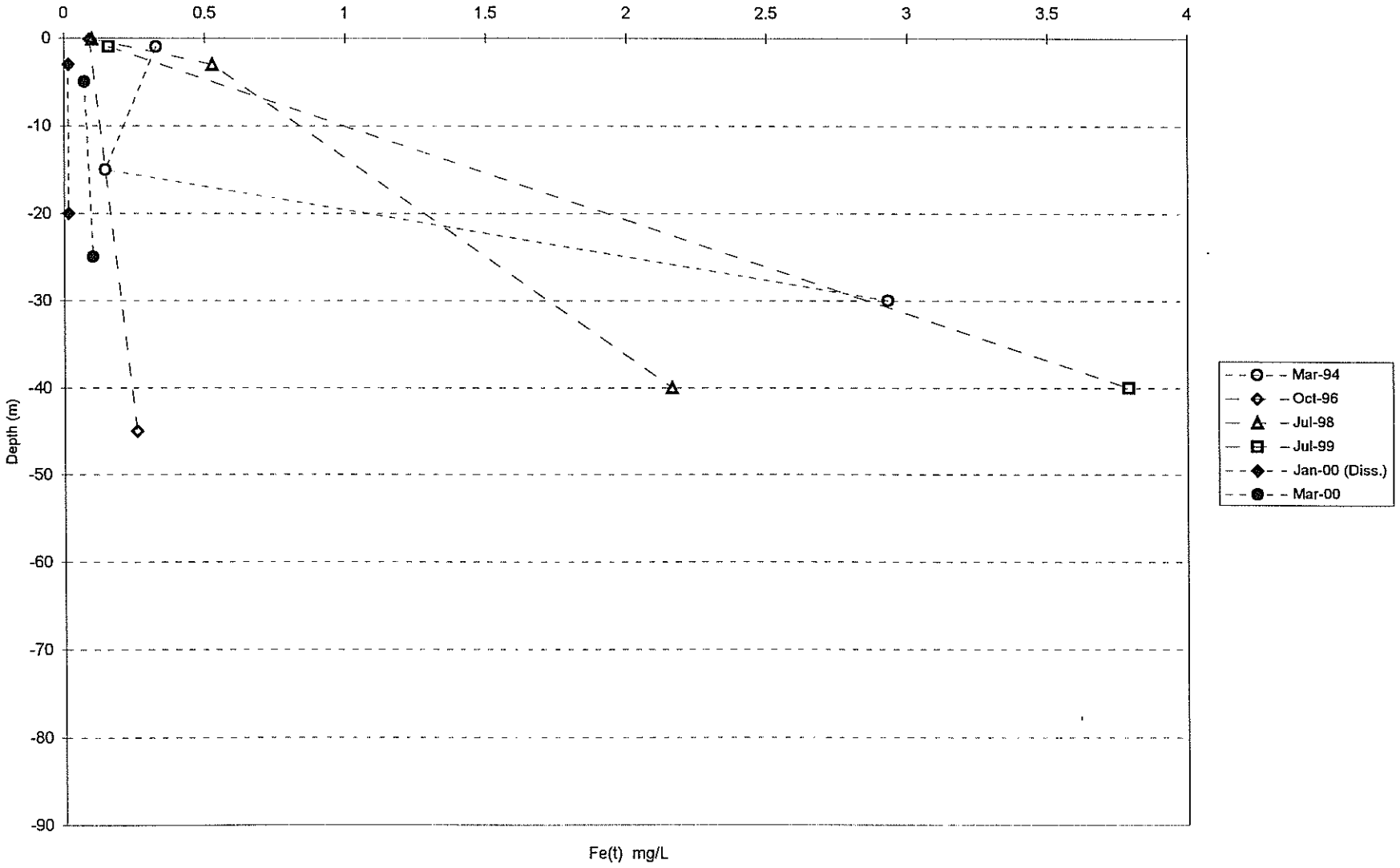

Faro Main Pit Redox Profiles
0
50
100
150
200
250
300
350
400
0
-5
-10
-15
-20
-25
-30
Depth (m)
RedOx (mV)
Mar94-4
Oct96-2
Jul98-2
Jul99-2

Faro Main Pit Profiles - Sulphate

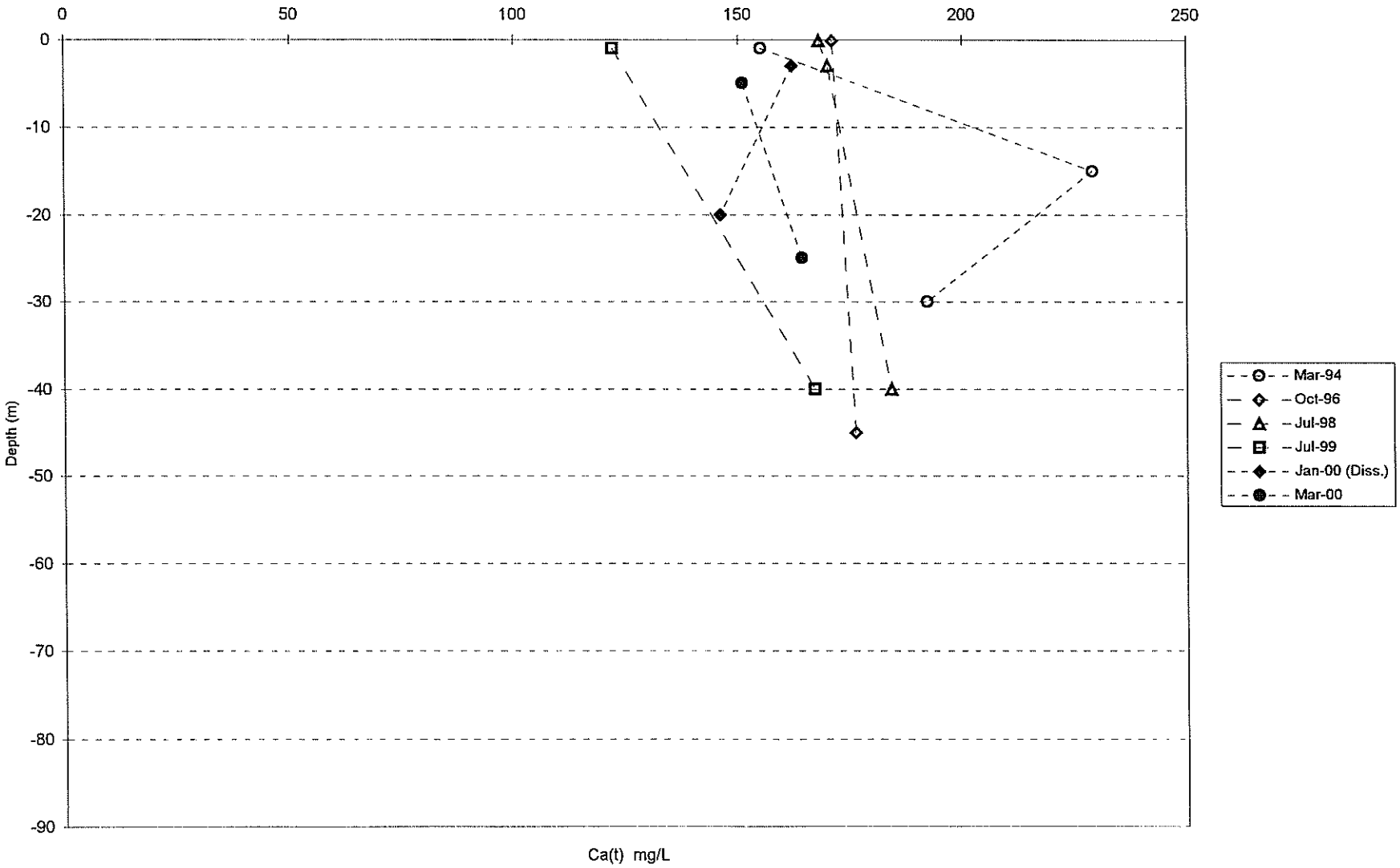



Faro Main Pit Profiles - Total Zinc
0
5
10
15
20
25
30
35
40
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Depth (m)
Zn(t) mg/L
Mar-94
Oct-96
Jul-98
Jul-99
Jan-00 (Diss.)
Mar-00

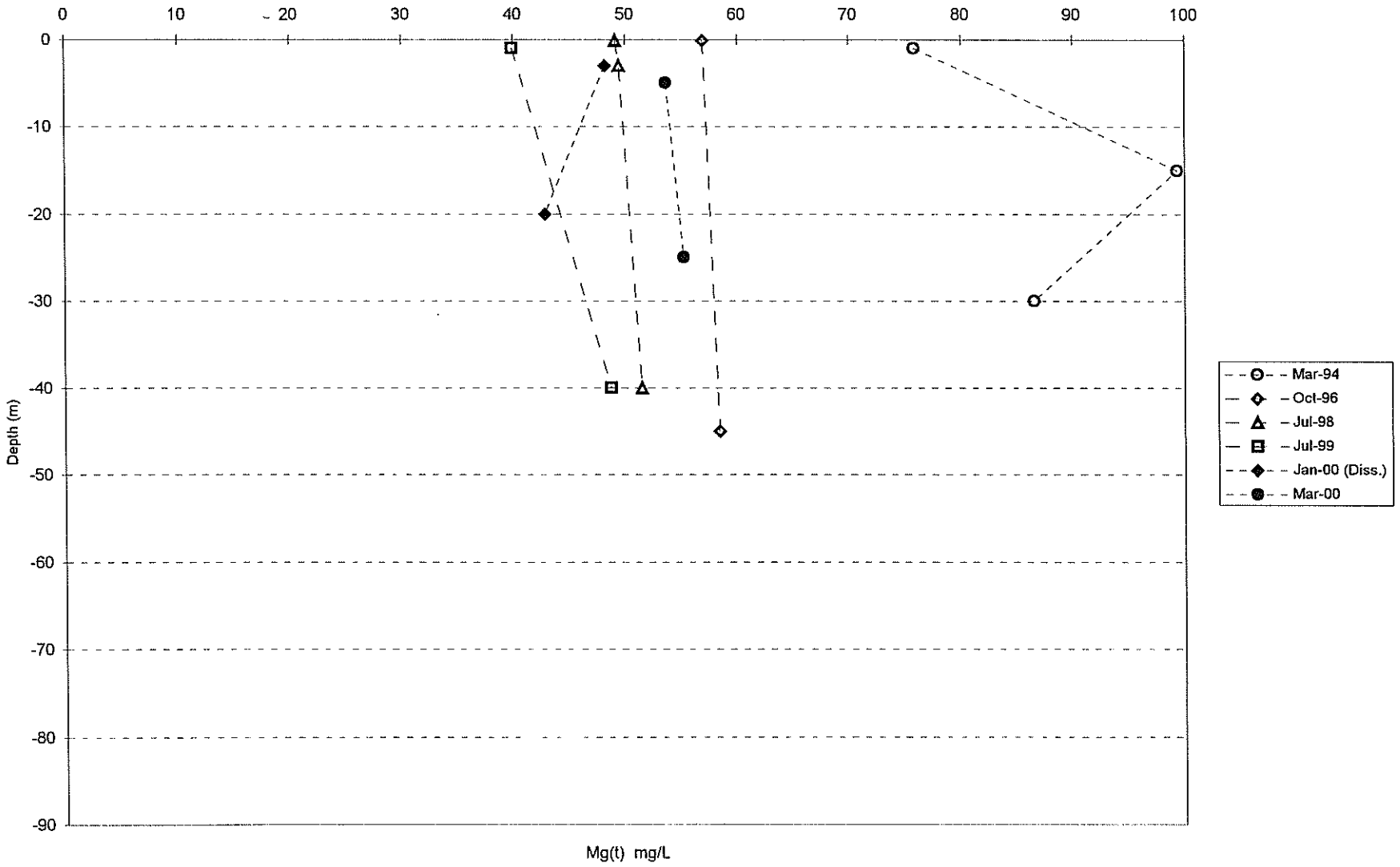
Faro Main Pit Profiles - Total Iron



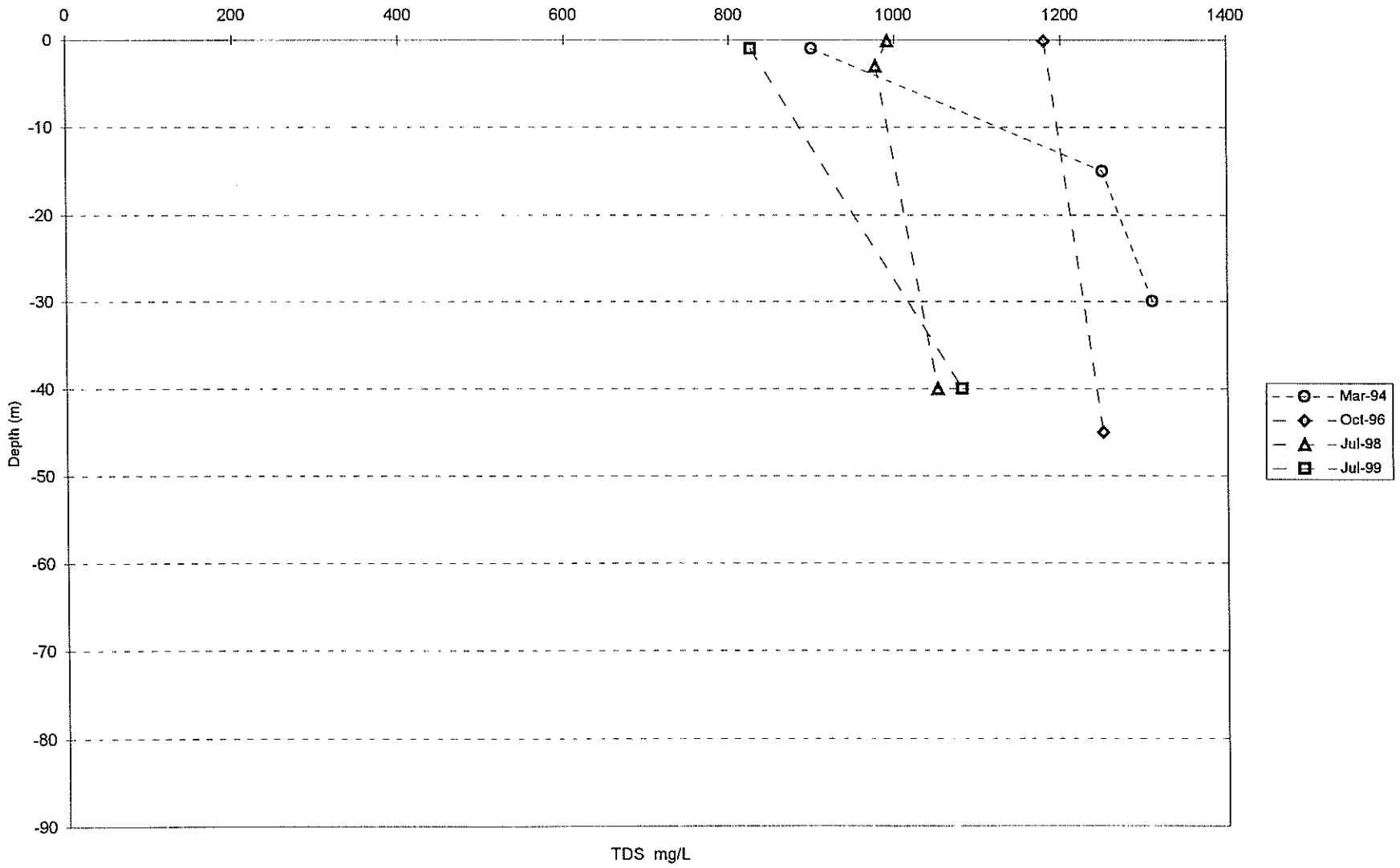
Faro Main Pit Profiles - Total Calcium



Faro Main Pit Profiles - Total Magnesium



Faro Main Pit Profiles - Total Dissolved Solids



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July 26, 2000

Mr. Doug Sedgwick, Director, Environmental Services
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Suite 1400, BCE Place
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Toronto, ON M5J 2V1

Doug:

Enclosed are three documents that summarize some research projects that I was working on while employed by Anvil Range Mining Corp. in Faro.

Although these projects are not completed, I believe that the information will be useful in the future and, therefore, I am distributing the information to you and to the others copied below.

The project summaries are:

1. Faro Main Pit Pond, Compilation of Water Chemistry Profiles, 1994 to March 2000,
2. Rose Creek Mass Balance for Sulphate and Total Zinc at Locations X2 and X14, and
3. Faro and Vangorda Plateau Groundwater Monitoring Sections.

I would, of course, be happy to discuss these documents at your convenience.

Sincerely,

Eric Denholm
Senior Environmental/Geological Engineering

c.c: Mr. David Sherstone
Mr. Wes Treleaven
Mr. Dana Haggar