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ORNL/TM-10362/A1

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MARTIN MARIETTA

Characterization of Solids in the  
Three Mile Island Unit 2  
Reactor Defueling Water.  
Addendum

D. O. Campbell

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ORNL/TM--10362/A1

DE88 007808

Chemical Technology Division

CHARACTERIZATION OF SOLIDS IN THE  
THREE MILE ISLAND UNIT 2 REACTOR DEFUELING WATER.

ADDENDUM

D. O. Campbell

Date Published - March 1988

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## FOREWORD

Shortly after ORNL/TM-10362 was issued, it was discovered that a series of 31 figures, originally intended for inclusion in Appendix F, "PARTICLE CHARACTERIZATION DATA FOR SAMPLE W3 (TURBIDITY = ~4 NTU): FILTRATION TEST 4," had been inadvertently omitted. These figures, which consist of scanning electron microscope (SEM) photographs and energy-dispersive X-ray fluorescence scans, provide significant information about the results obtained in the tests performed with water sample W3.

Therefore, an Addendum is being issued which includes these figures (Figs. F.17 through F.47). Details of and comments on the SEM photographs may be found on pp. 47 and 48 in ORNL/TM-10362. Results from tests using 0.8-, 0.6-, 0.4-, and 0.1- $\mu\text{m}$  filters are summarized in Figs. F.17-F.25, F.26-F.31, F.32-F.43, and F.44-F.47, respectively. For the convenience of the reader, the page numbering and figure designations in this Addendum are continued in a sequential manner from that used in Appendix F of the base document, ORNL/TM-10362.



**Appendix F. PARTICLE CHARACTERIZATION DATA FOR SAMPLE W3  
(TURBIDITY = ~4 NTU): FILTRATION TEST 4**

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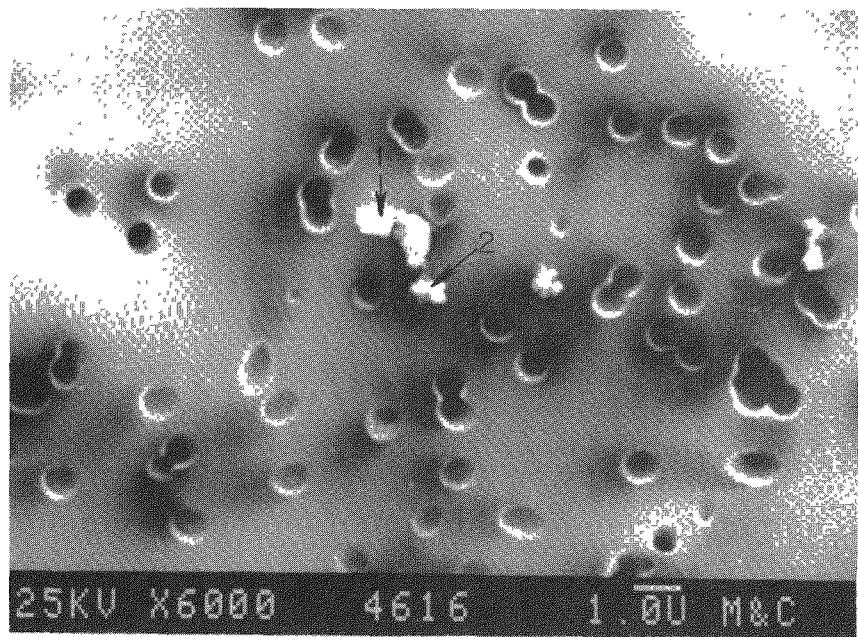


Fig. F.17. Nuclepore filter test 4 with 4-NTU water sample W3, 0.8- $\mu\text{m}$  filter.

ORNL-DWG 88-6606

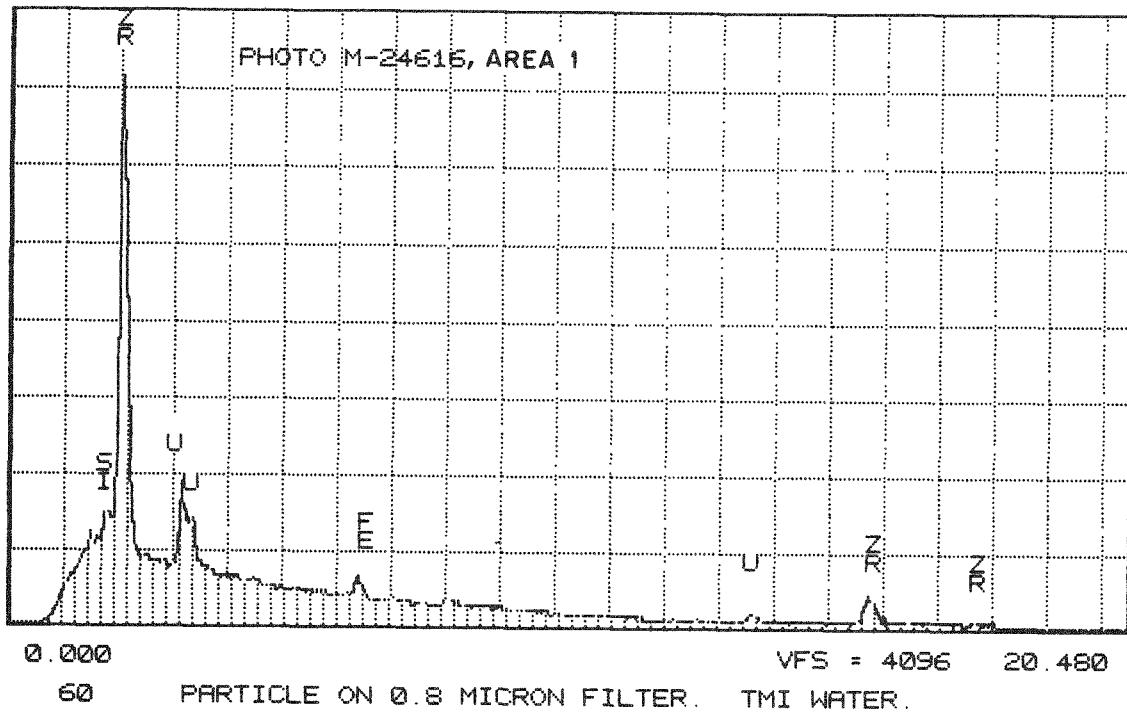


Fig. F.18. EDX of particle No. 1, 4616 (see Fig. F.17).

ORNL-DWG 88-6607

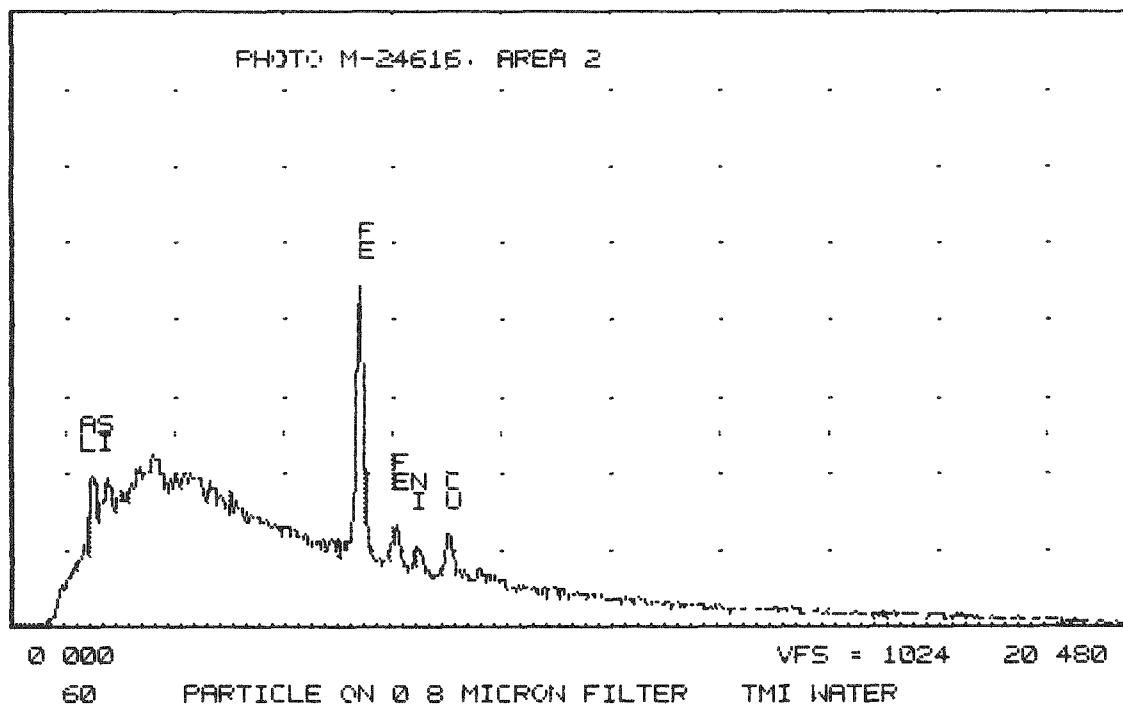


Fig. F.19. EDX of particle No. 2, 4616 (see Fig. F.17).

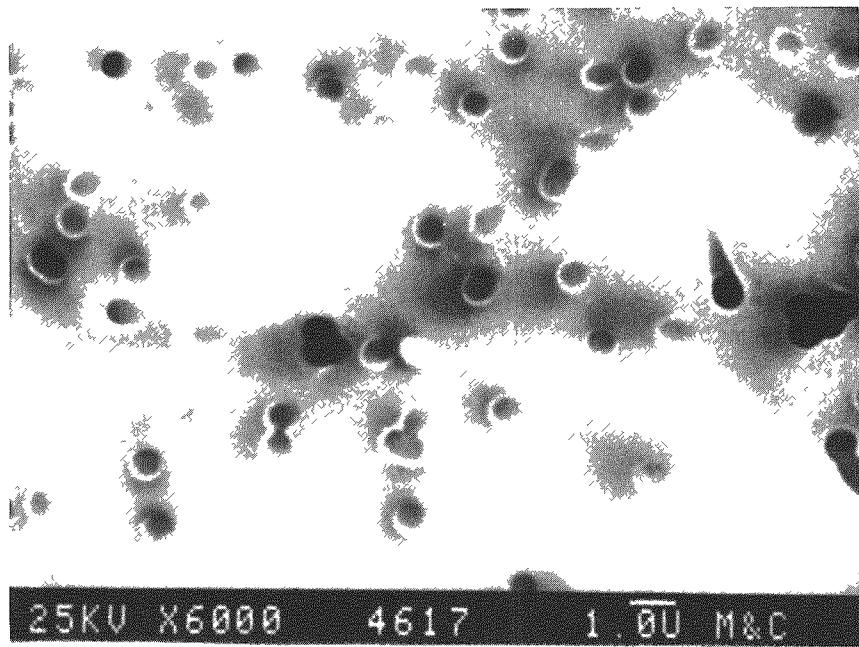


Fig. F.20. Nuclepore filter test 4 with 4-NTU water sample W3, 0.8- $\mu\text{m}$  filter.

ORNL-DWG 88-6608

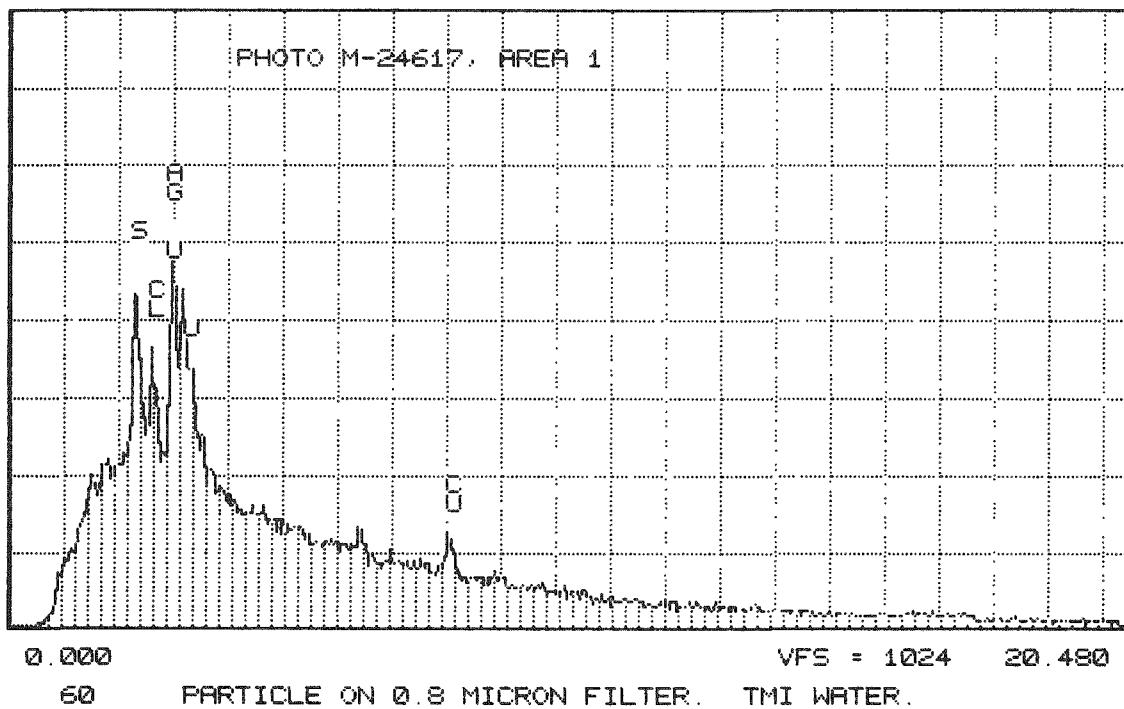


Fig. F.21. EDX of particle near center, 4617 (see Fig. F.20).

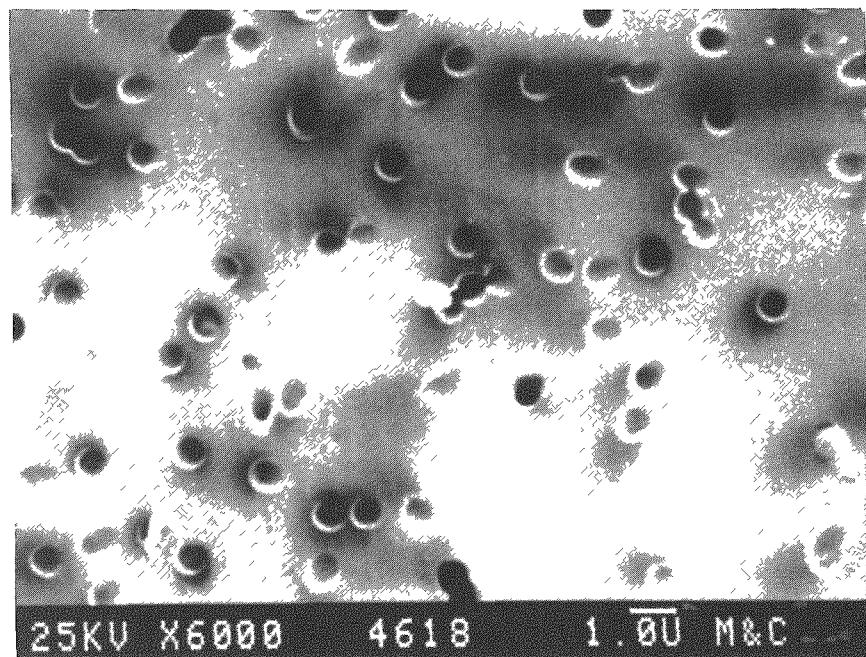


Fig. F.22. Nuclepore filter test 4 with 4-NTU water sample W3, 0.8- $\mu\text{m}$  filter.

ORNL-DWG 88-6609

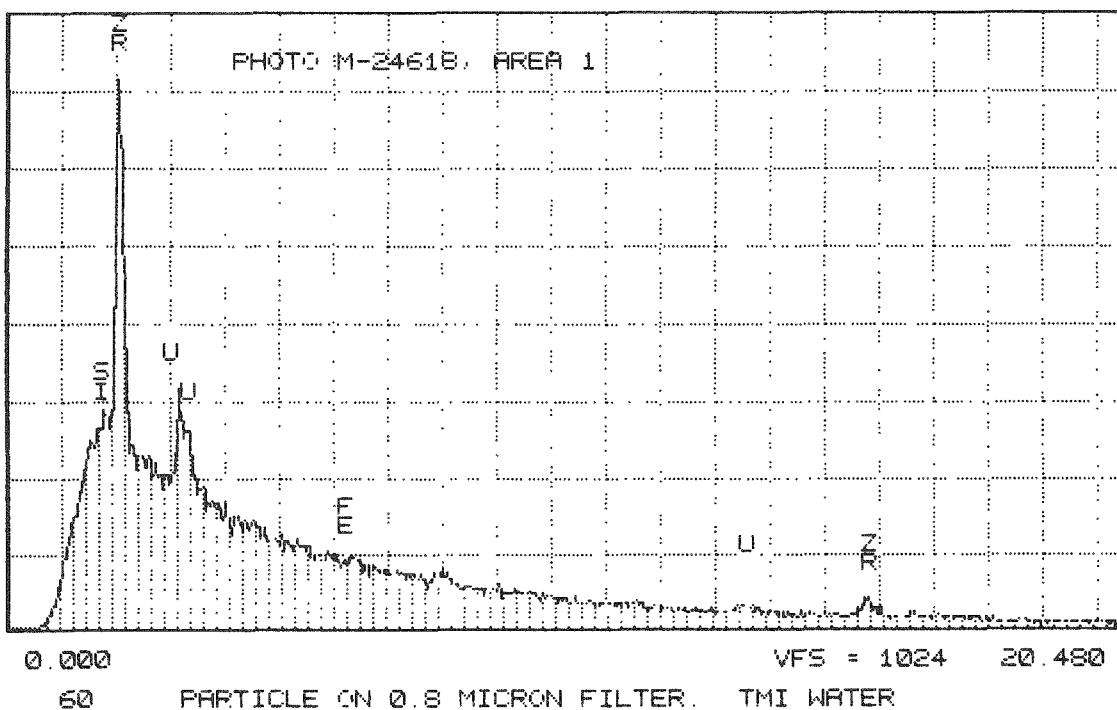


Fig. F.23. EDX of particle near center, 4618 (see Fig. F.22).

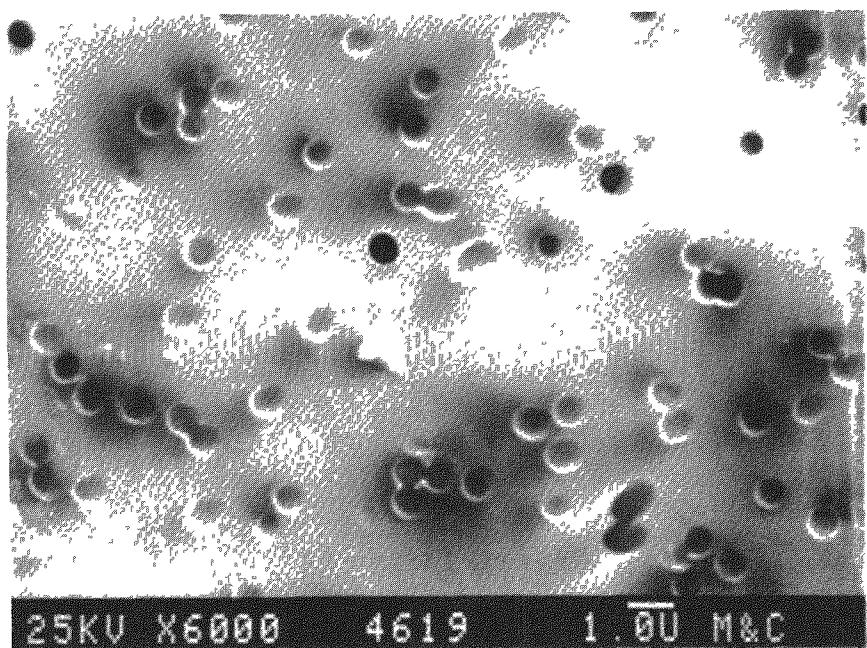


Fig. F.24. Nuclepore filter test 4 with 4-NTU water sample W3, 0.8- $\mu\text{m}$  filter.

ORNL-DWG 88-6610

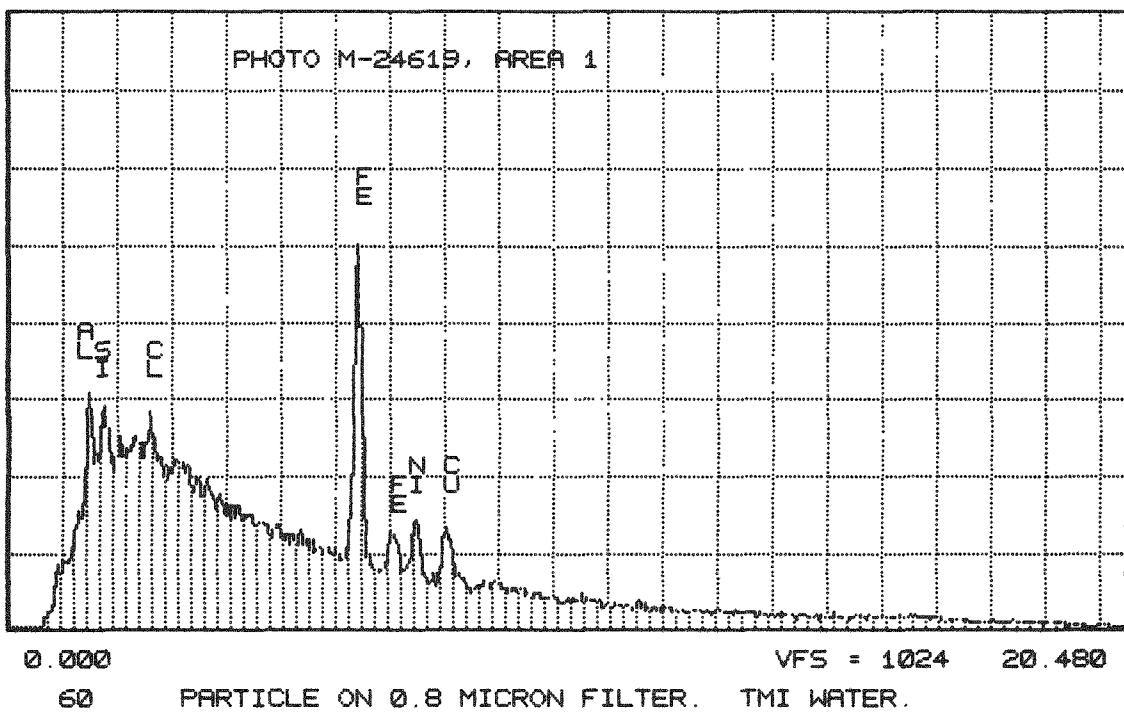


Fig. F.25. EDX of particle near center, 4619 (see Fig. F.24).

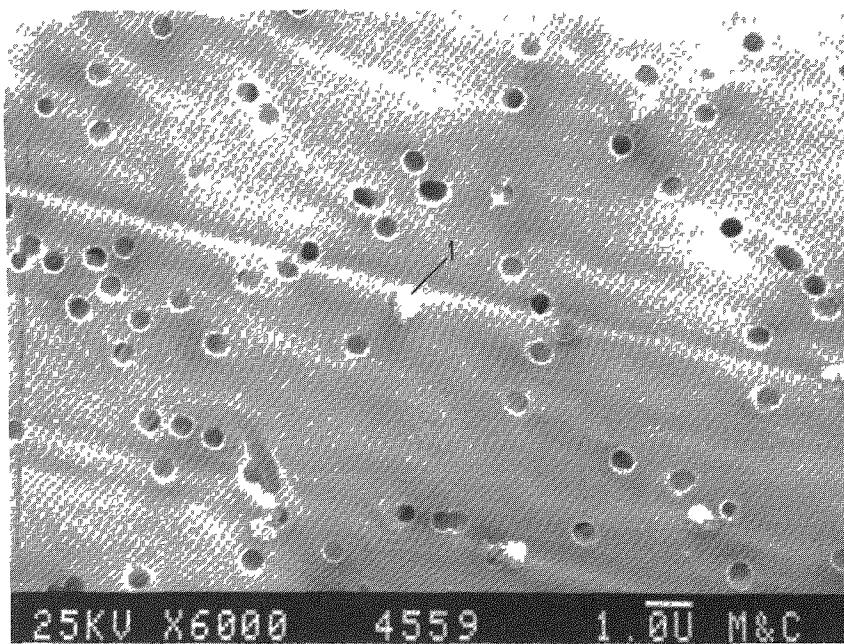


Fig. F.26. Nuclepore filter test 4 with 4-NTU water sample W3, 0.6- $\mu$ m filter.

ORNL-DWG 88-6611

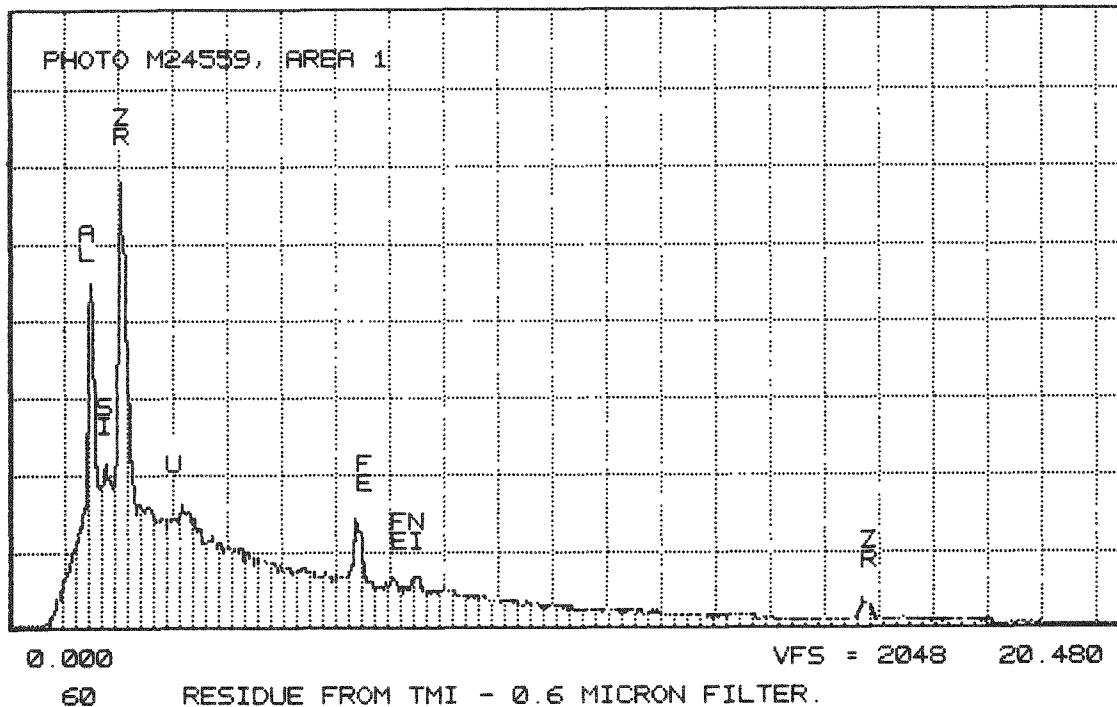


Fig. F.27. EDX of particle No. 1, 4559 (see Fig. F.26).

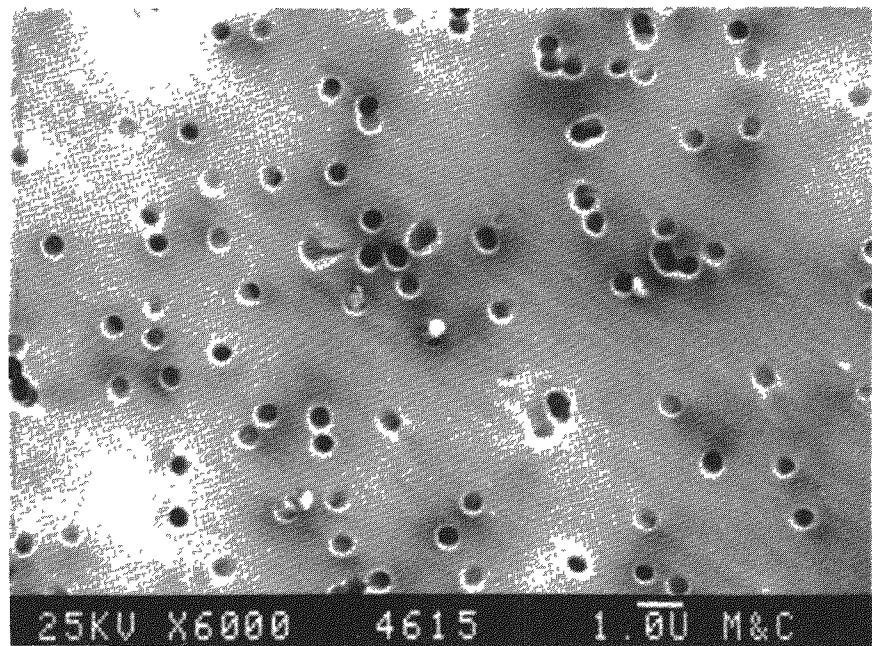


Fig. F.28. Nuclepore filter test 4 with 4-NTU water sample W3, 0.6- $\mu\text{m}$  filter.

ORNL-DWG 88-6612

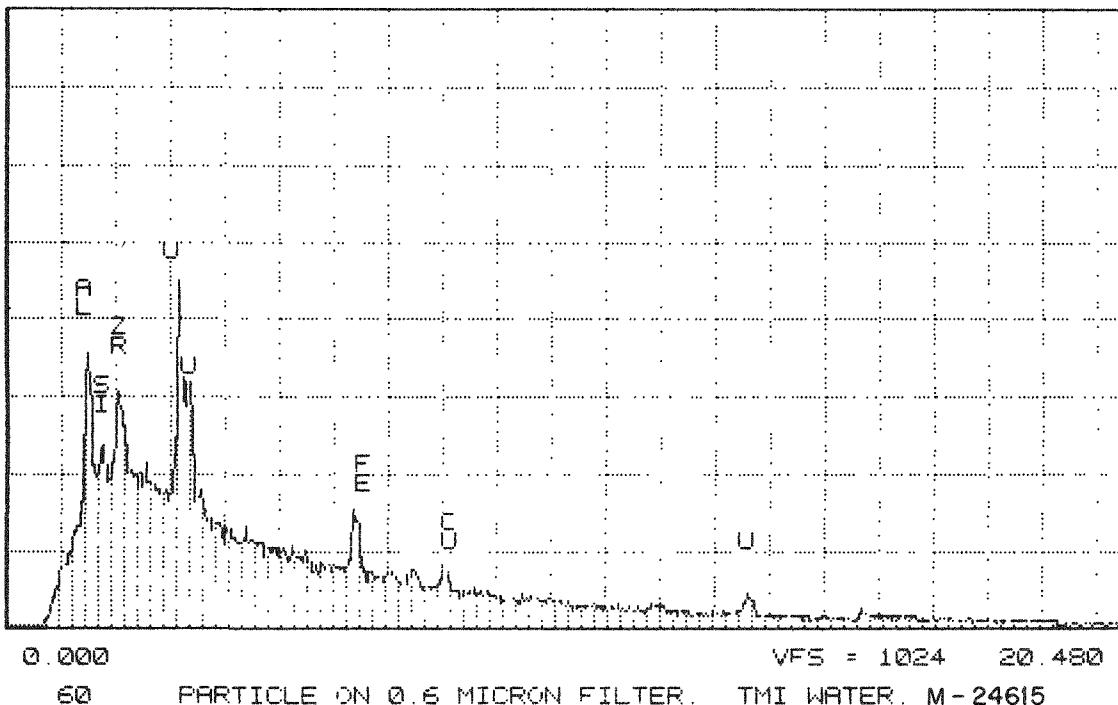
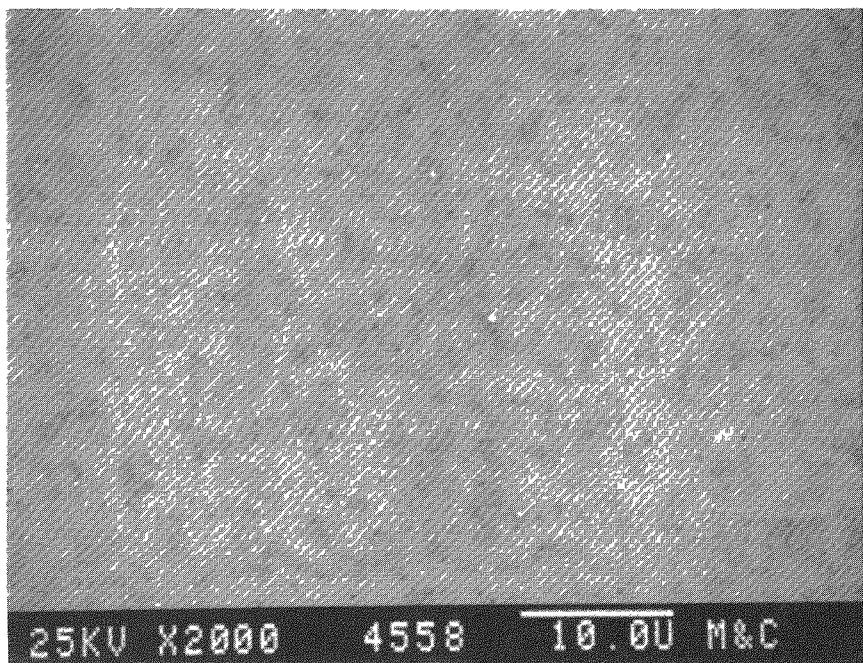
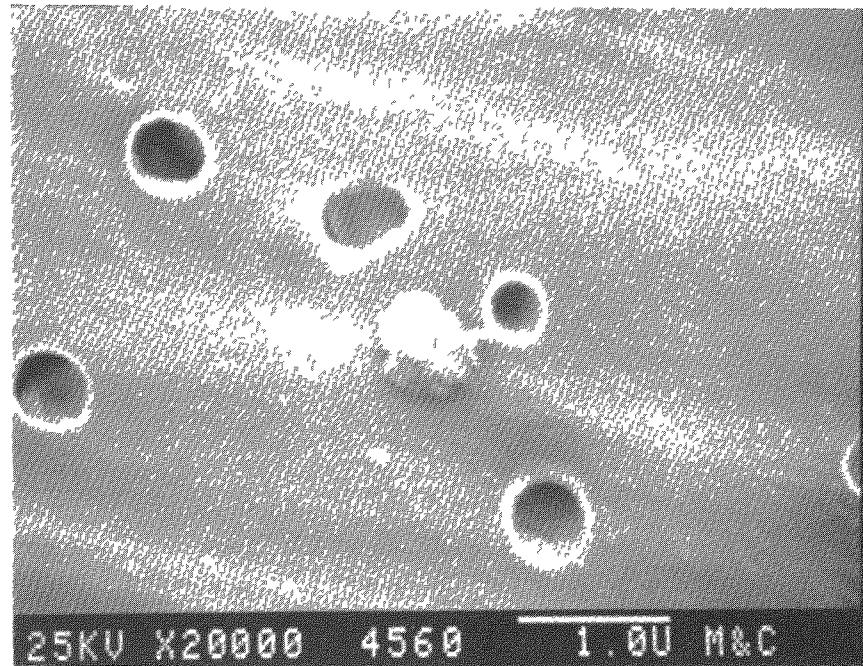


Fig. F.29. EDX of bright particle near center, 4615 (see Fig. F.28).



25KV X2000 4558 10.0U M&C

Fig. F.30. Nuclepore filter test 4 with 4-NTU water sample W3,  
0.6- $\mu$ m filter.



25KV X20000 4560 1.0U M&C

Fig. F.31. Nuclepore filter test 4 with 4-NTU water sample W3,  
0.6- $\mu$ m filter.

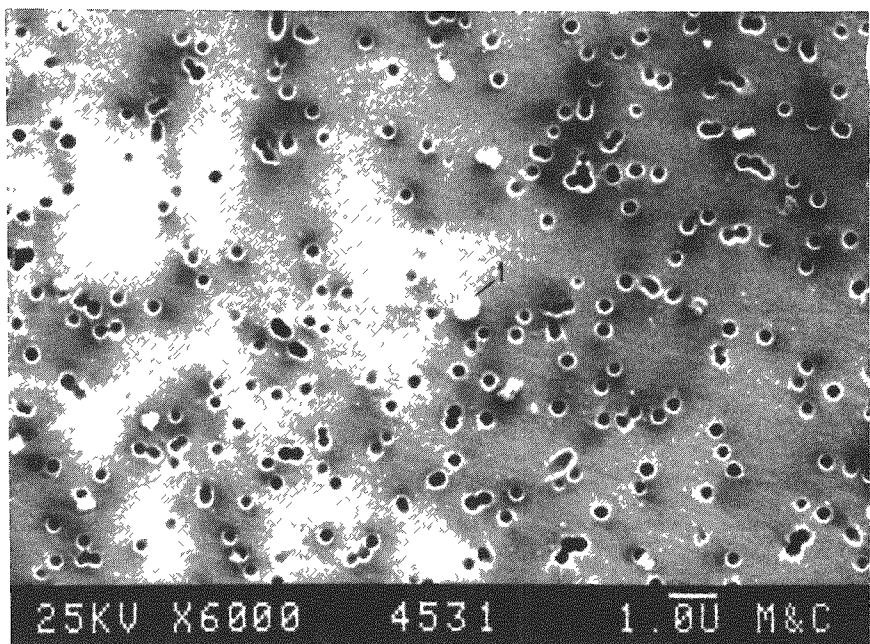


Fig. F.32. Nuclepore filter test 4 with 4-NTU water sample W3, 0.4- $\mu$ m filter.

ORNL-DWG 88-6613

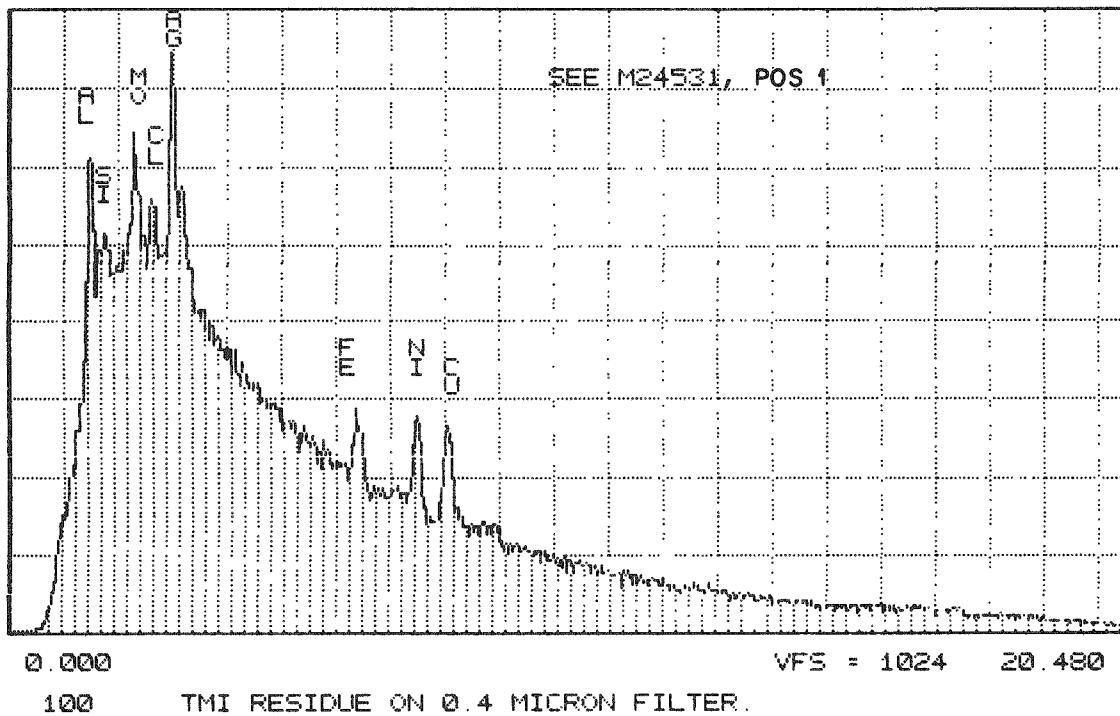


Fig. F.33. EDX of particle No. 1, 4531 (see Fig. F.32).

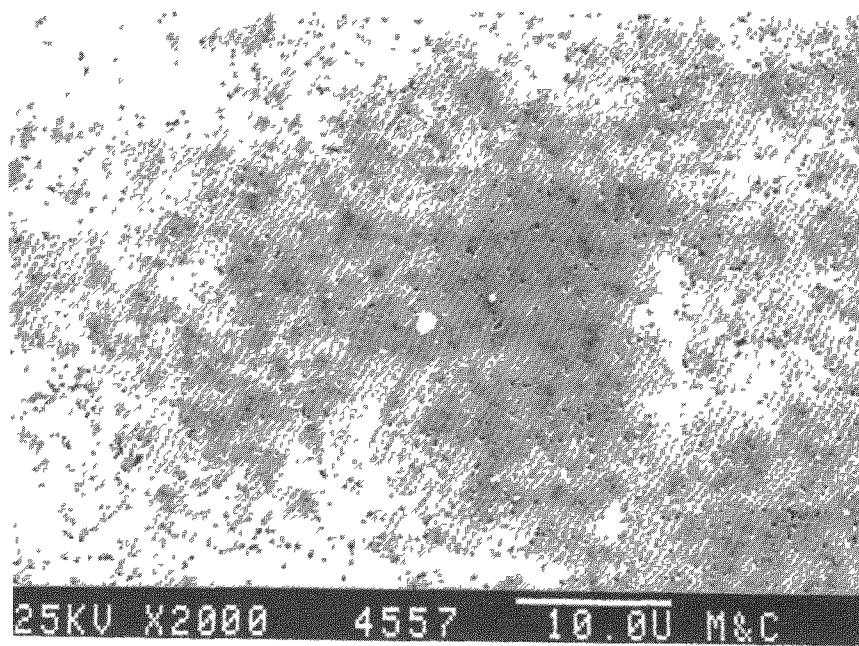


Fig. F.34. Nuclepore filter test 4 with 4-NTU water sample W3,  
0.4- $\mu$ m filter.

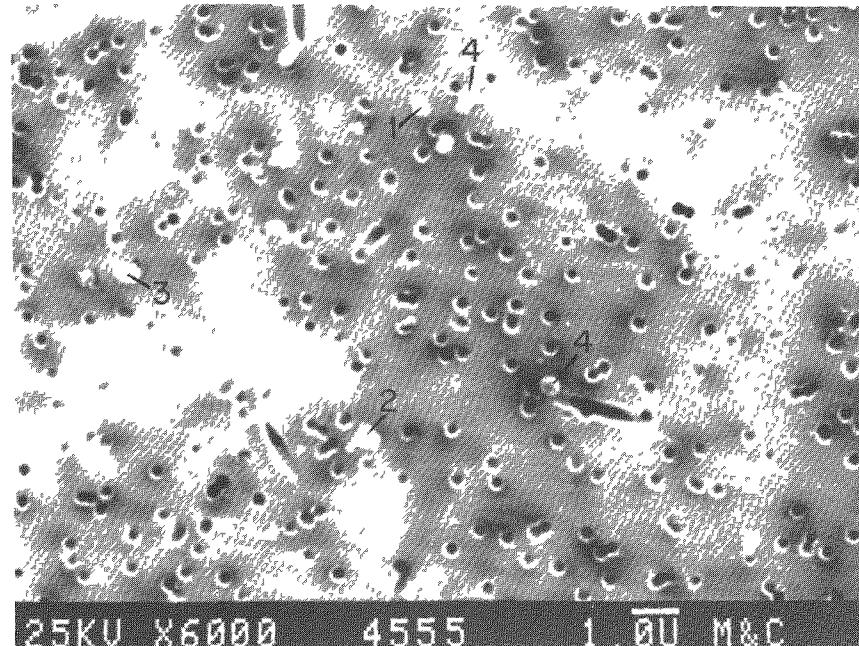
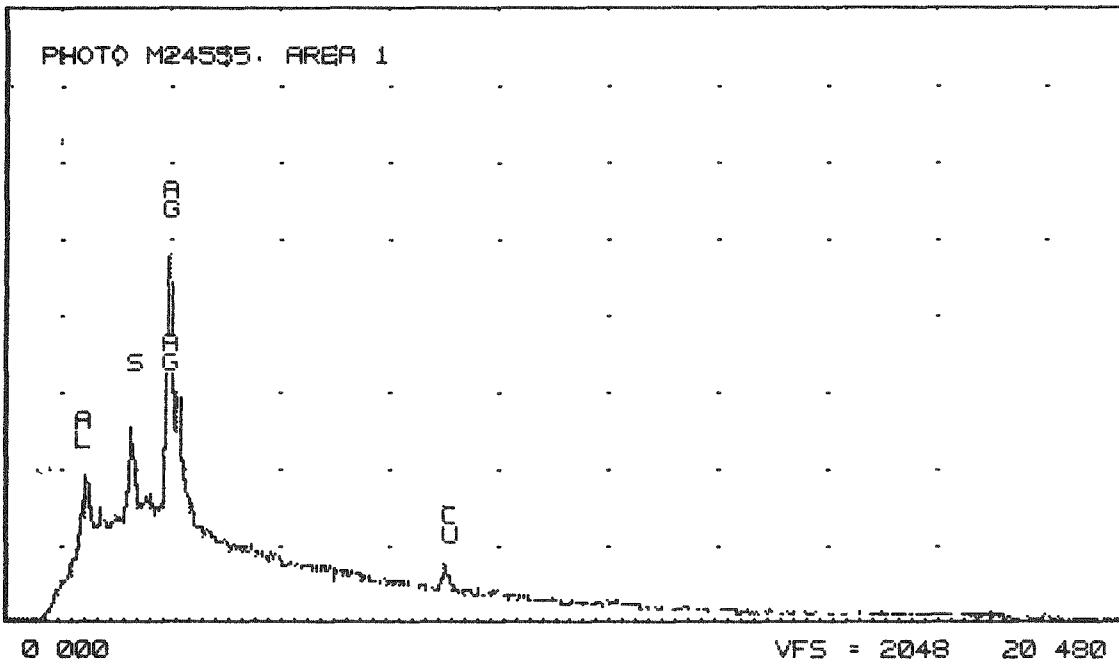
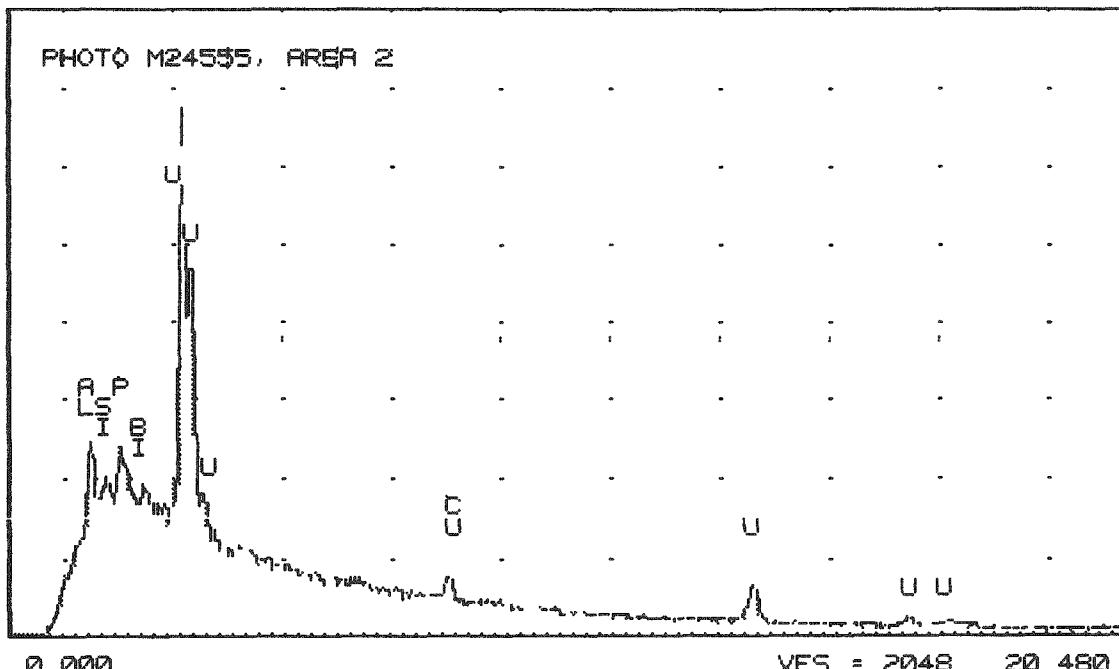


Fig. F.35. Nuclepore filter test 4 with 4-NTU water sample W3,  
0.4- $\mu$ m filter.



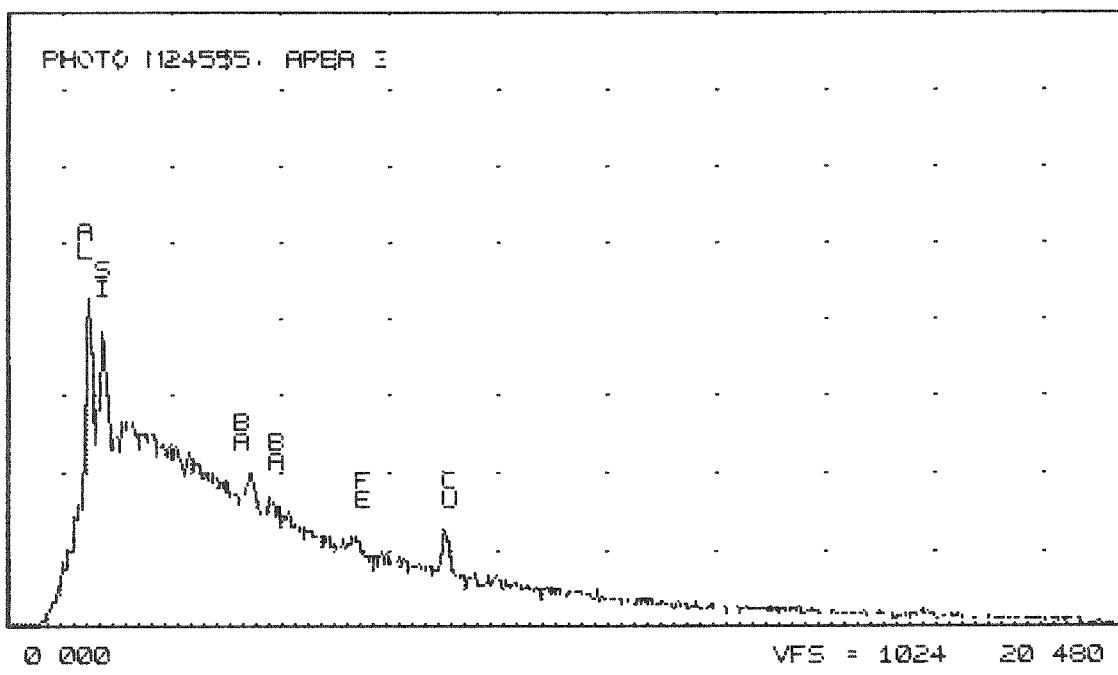
60 RESIDUE FROM TMI - 0 4 MICRON FILTER

Fig. F.36. EDX of particle No. 1, 4555 (see Fig. F.35).



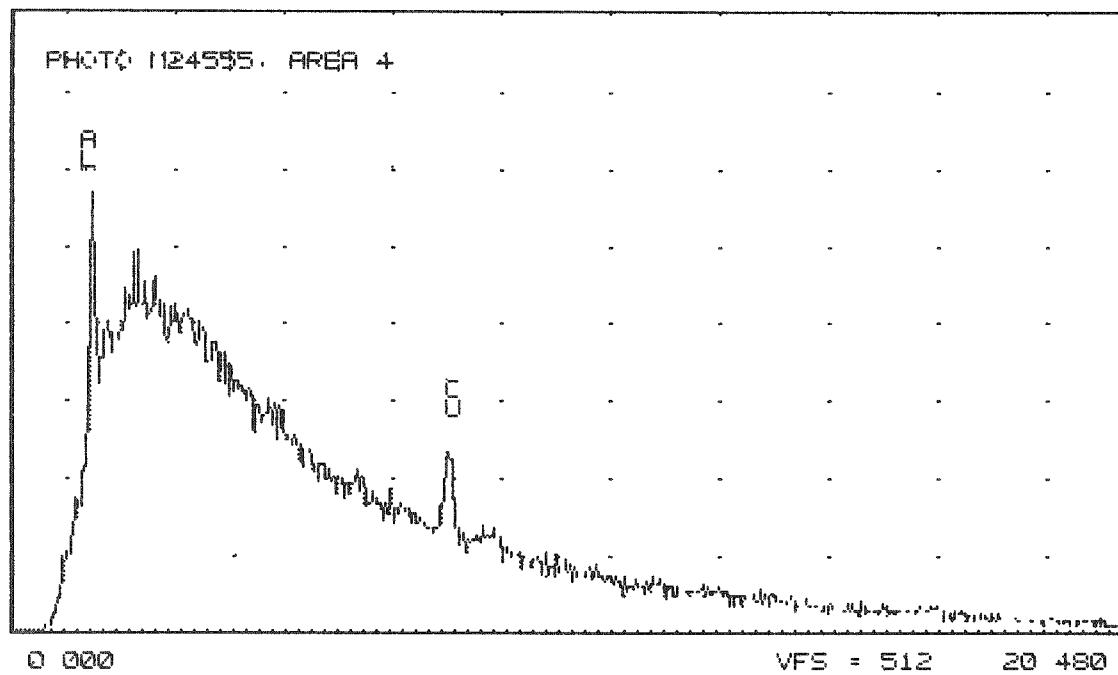
60 RESIDUE FROM TMI - 0 4 MICRON FILTER

Fig. F.37. EDX of particle No. 2, 4555 (see Fig. F.35).



60 RESIDUE FROM TMI - 0.4 MICRON FILTER

Fig. F.38. EDX of particle No. 3, 4555 (see Fig. F.35).



60 RESIDUE FROM TMI - 0.4 MICRON FILTER

Fig. F.39. EDX of particle No. 4, 4555 (see Fig. F.35).

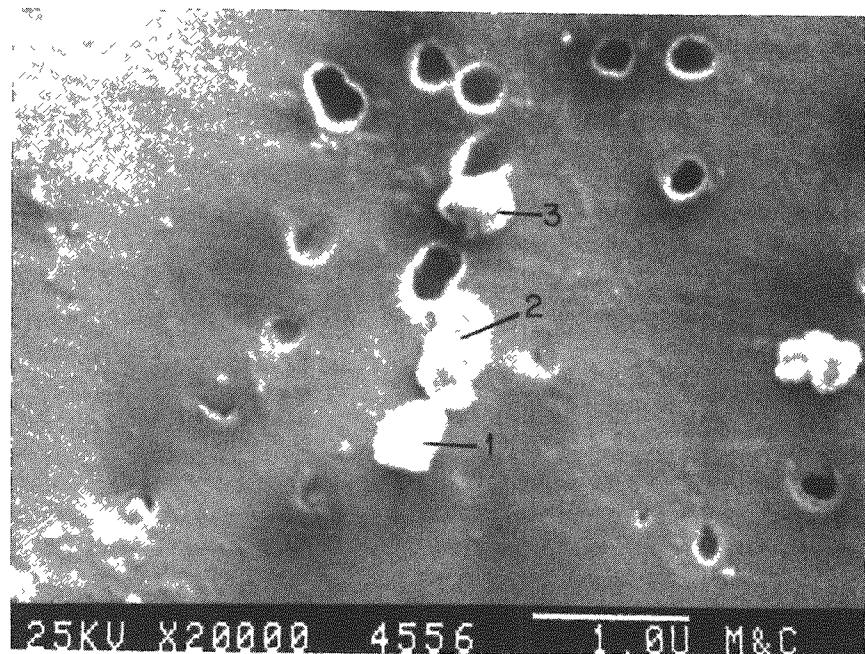


Fig. F.40. Nuclepore filter test 4 with 4-NTU water sample W3, 0.4- $\mu$ m filter.

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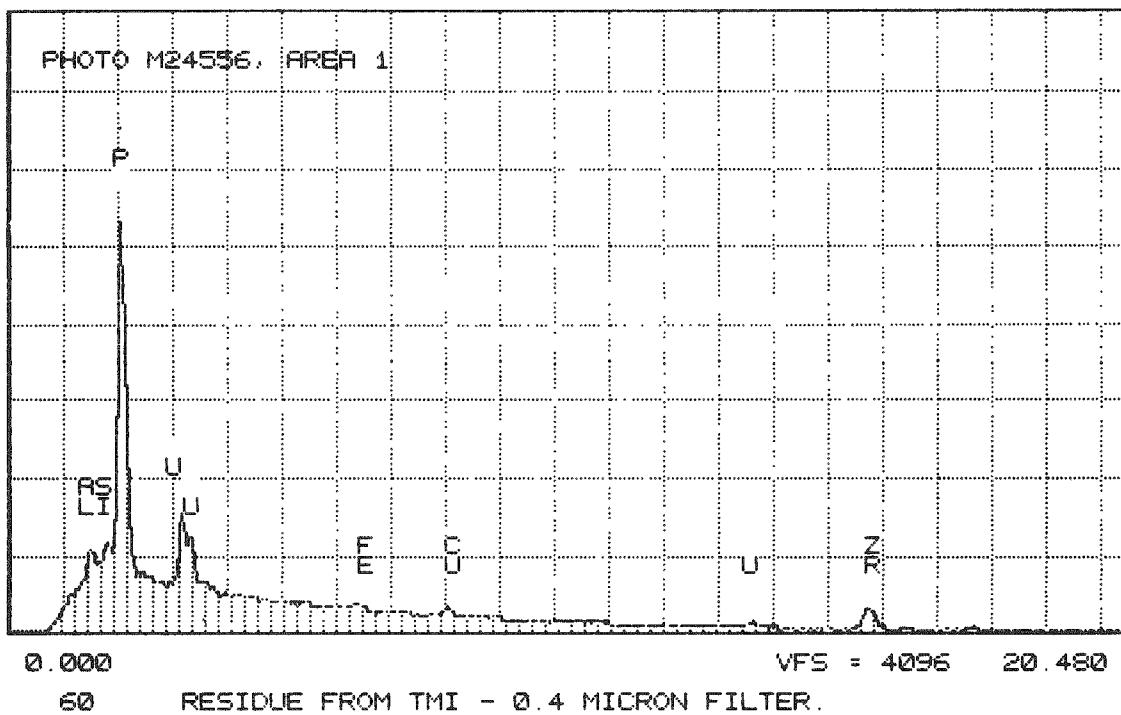
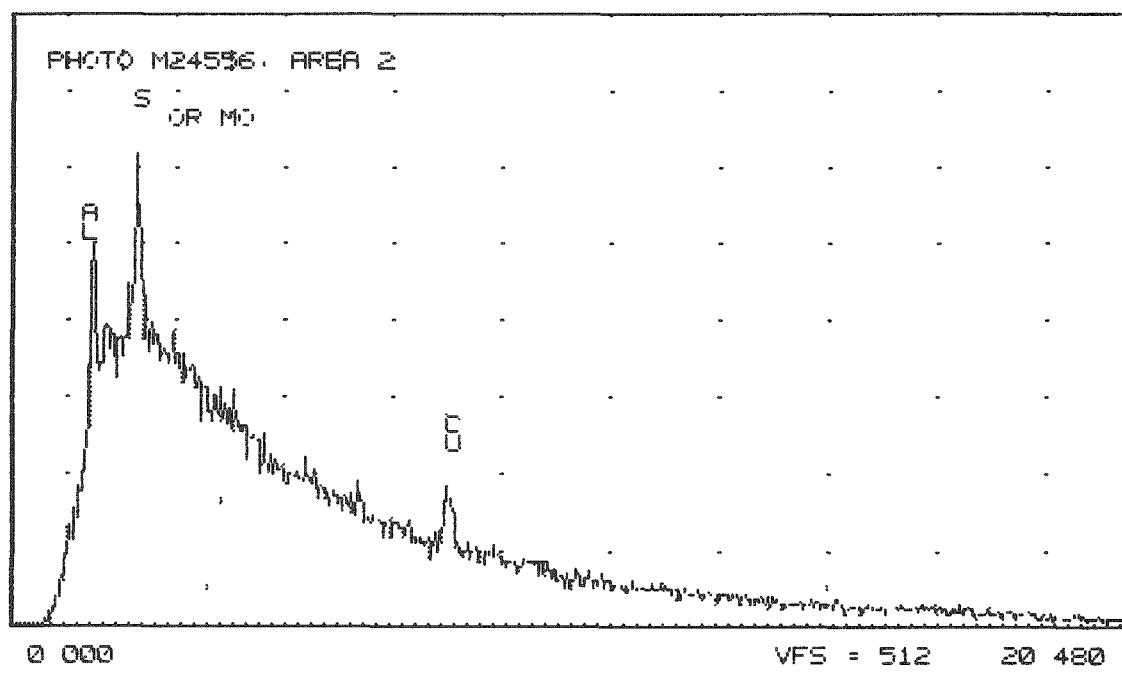
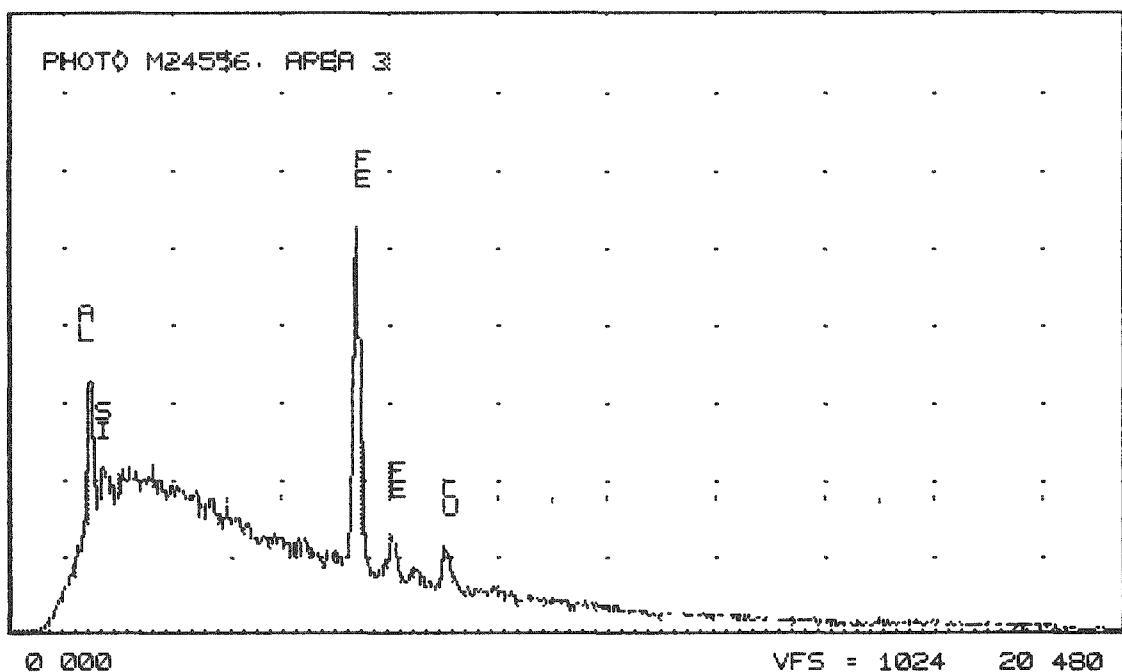


Fig. F.41. EDX of particle No. 1, 4556 (see Fig. F.40).



0 000 VFS = 512 20 480  
60 RESIDUE FROM TMI - 0.4 MICRON FILTER

Fig. F.42. EDX of particle No. 2, 4556 (see Fig. F.40).



0 000 VFS = 1024 20 480  
60 RESIDUE FROM TMI - 0.4 MICRON FILTER

Fig. F.43. EDX of particle No. 3, 4556 (see Fig. F.40).

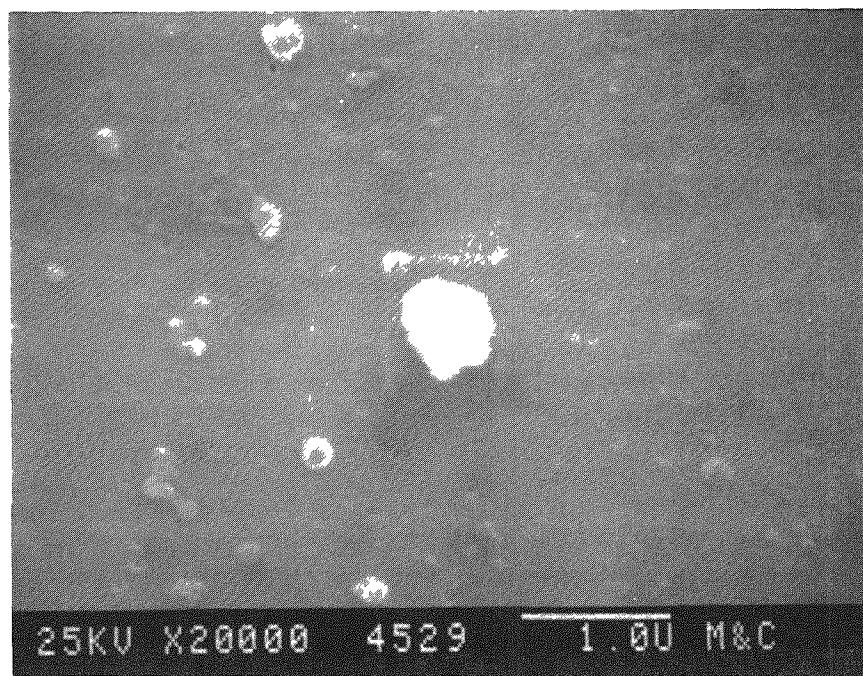


Fig. F.44. Nuclepore filter test 4 with 4-NTU water sample W3,  
0.1- $\mu$ m filter.

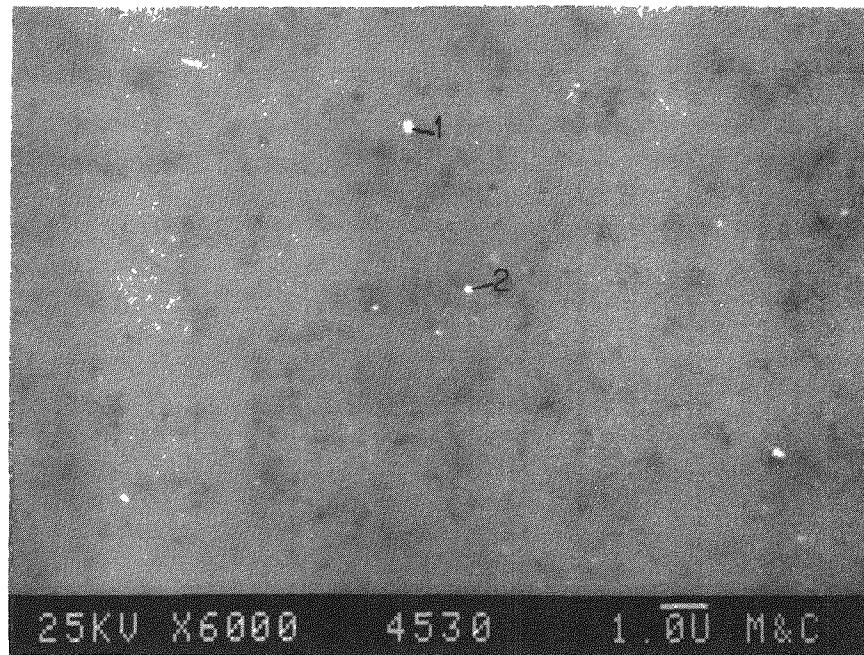


Fig. F.45. Nuclepore filter test 4 with 4-NTU water sample W3,  
0.1- $\mu$ m filter.

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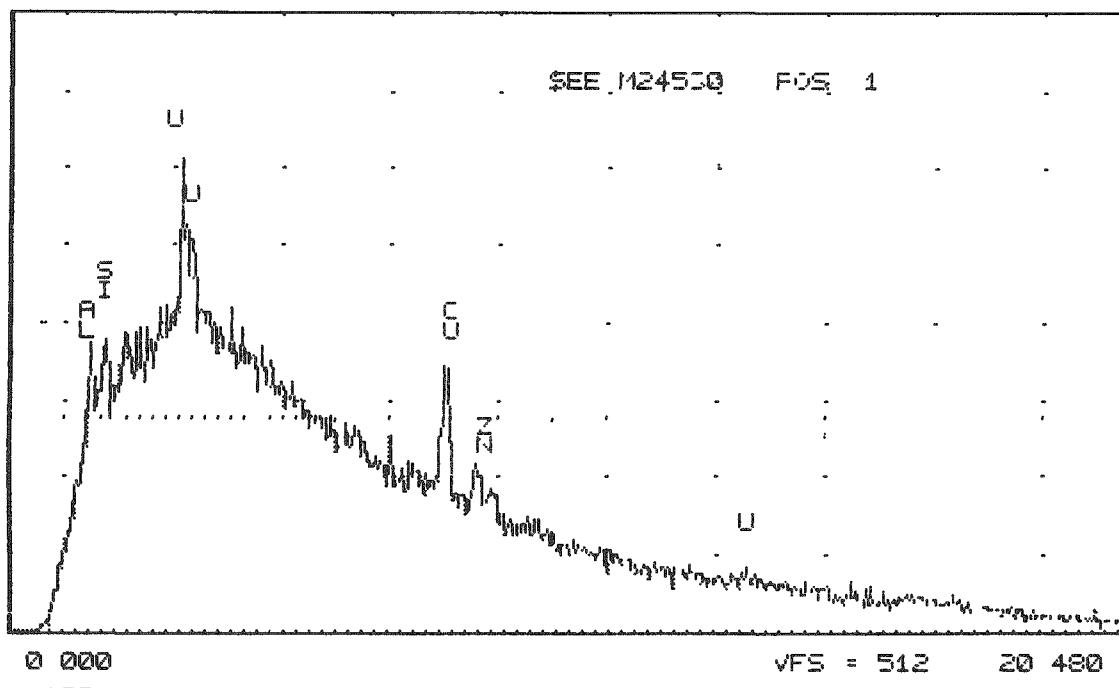


Fig. F.46. EDX of particle No. 1, 4530 (see Fig. F.45).

ORNL-DWG 88-6622

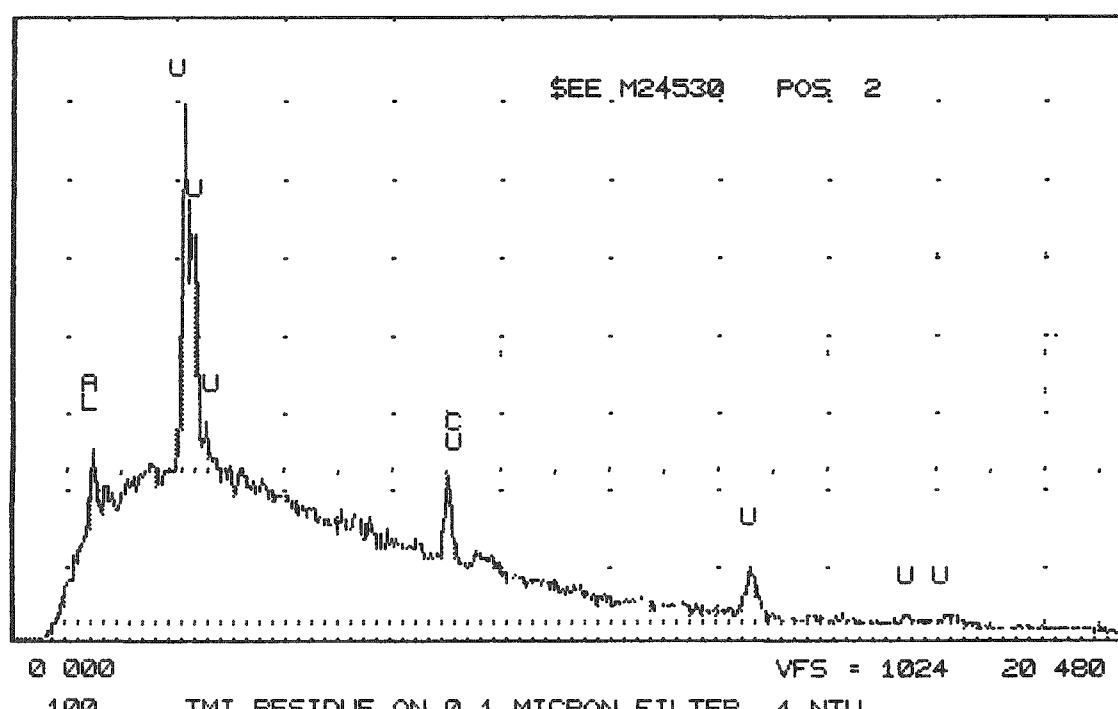


Fig. F.47. EDX of particle No. 2, 4530 (see Fig. F.45).

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