

Appendix C2

ESEM/EDS Data for Test #4, Day-30 Fiberglass Inserted in Nylon Mesh in a Low-Flow Zone

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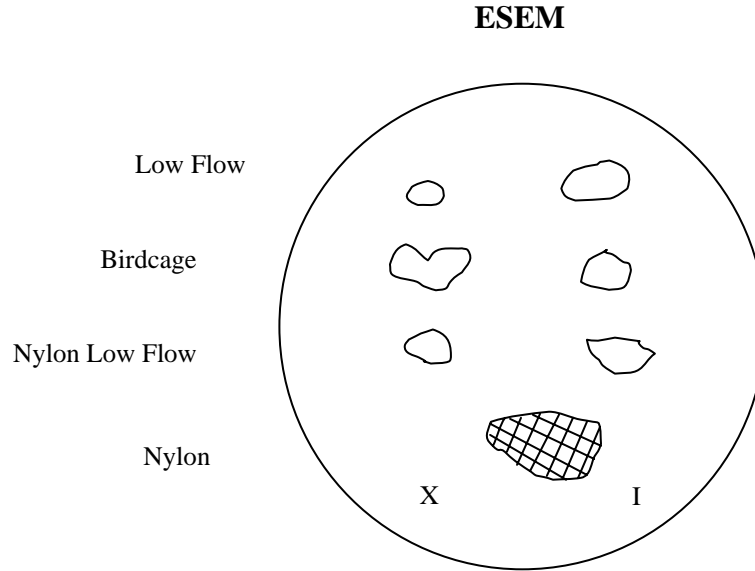
This appendix presents the ESEM results on fiberglass samples inserted in a nylon mesh submerged in a low-flow zone in the tank. The purpose of using a nylon mesh is to determine if the mesh material (i.e., stainless steel or nylon) affects the deposits on fiberglass samples. The fiberglass samples were extracted on the date Test #4 was shut down (June 23, 2005). Both exterior and interior locations of the fiberglass samples were examined. ESEM was employed to analyze the wet fiberglass samples without any coating under a low-vacuum condition (i.e., 80 Pa) to minimize the modification of the fiberglass samples through a drying process. The results of Test #4, Day-30 low-flow fiberglass samples in a nylon mesh were obtained on June 24, 2005.

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Transcribed Laboratory Log

Laboratory session from June 24, 2005.

Test #4, Day-30 Low-Flow Fiberglass Inserted in Nylon Mesh



Nylon Mesh in Low-Flow Area after 30 Days (inserted on Day 4)

Image: t4d30nl1	100 ×	ESEM image	Figure C2-1
t4d30nl4	500 ×	ESEM annotated image	Figure C2-2
EDS: t4d30nl3		EDS on spot on mesh, t4d30nl4	Figure C2-3
Image: t4d30nl5	1000 ×	ESEM high magnification	Figure C2-4

Exterior Low-Flow Fiberglass in Nylon Mesh

Image: t4NLEx01	100 ×	ESEM image	Figure C2-5
t4nlex03	100 ×	ESEM image higher magnification	Figure C2-6
t4nlex02	500 ×	ESEM image	Figure C2-7

Interior Low-Flow Fiberglass in Nylon Mesh

Image: t4nlIn04	100 ×	ESEM image	Figure C2-8
t4nlIn06	100 ×	ESEM image	Figure C2-9
t4nlIn05	500 ×	ESEM image higher magnification	Figure C2-10

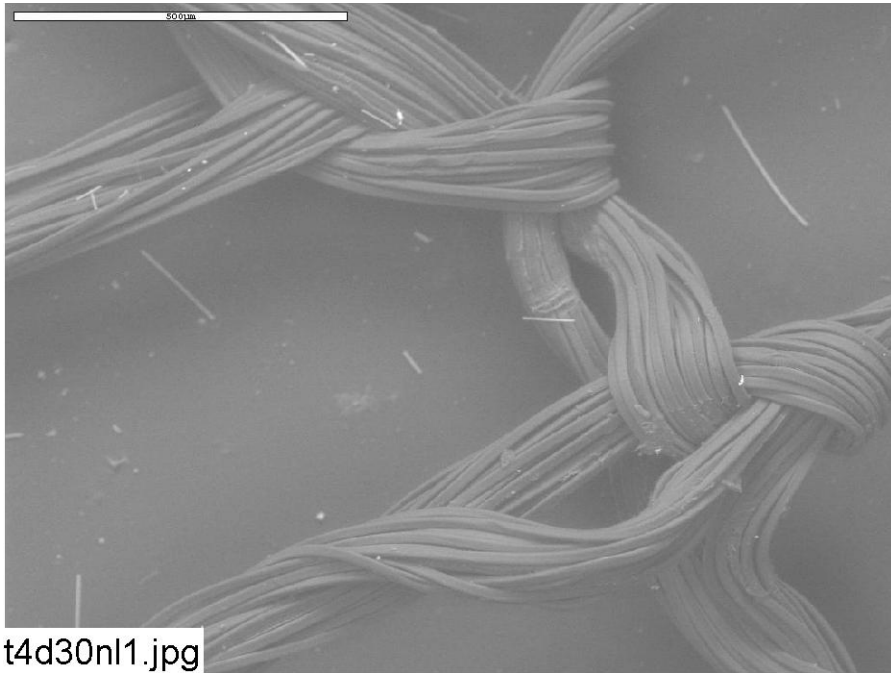


Figure C2-1. Environmental SEM image magnified 100 times for a Test #4, Day-30 nylon mesh submerged in low-flow area (inserted on Day 4). (t4d30nl1.jpg)

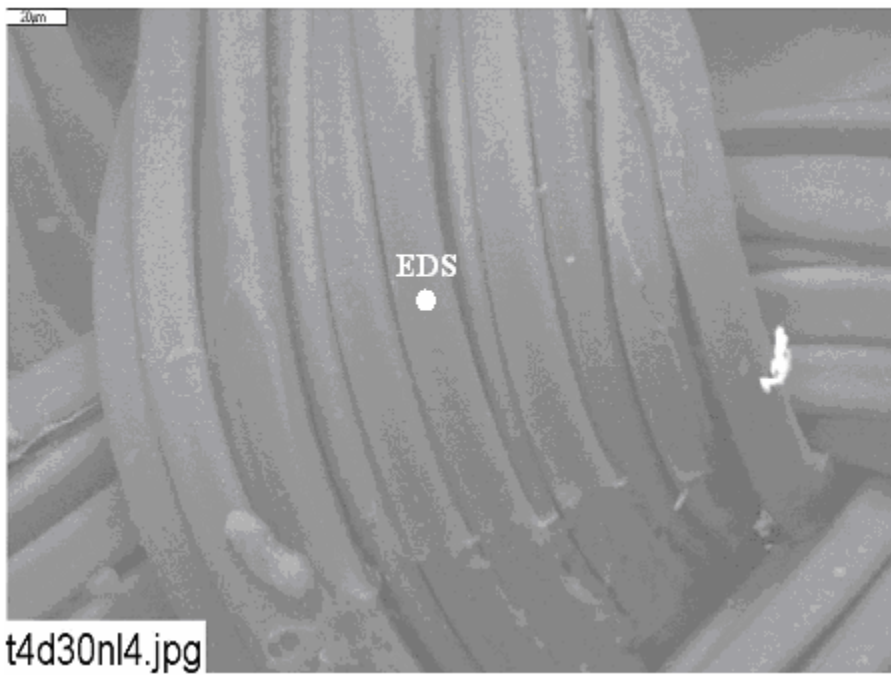


Figure C2-2. Annotated environmental SEM image magnified 500 times for a Test #4, Day-30 nylon mesh submerged in low-flow area (inserted on Day 4). The EDS spot is shown in the picture. (t4d30nl4.jpg)

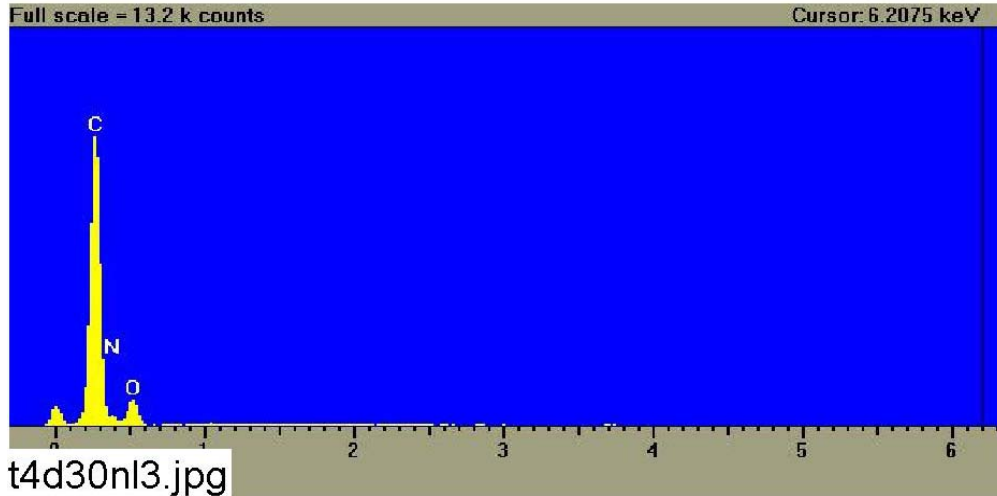


Figure C2-3. EDS counting spectrum for the spot of nylon mesh shown in Figure C2-2. (t4d30nl3.jpg)

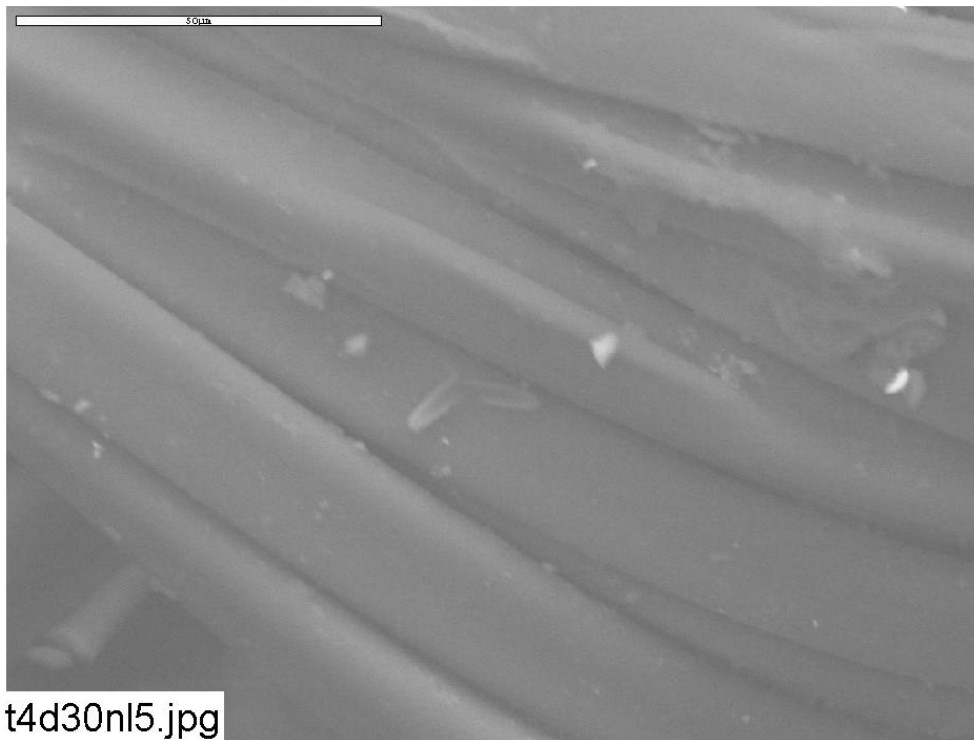


Figure C2-4. Environmental SEM image magnified 1000 times for a Test #4, Day-30 nylon mesh submerged in low-flow area (inserted on Day 4). (t4d30nl5.jpg)

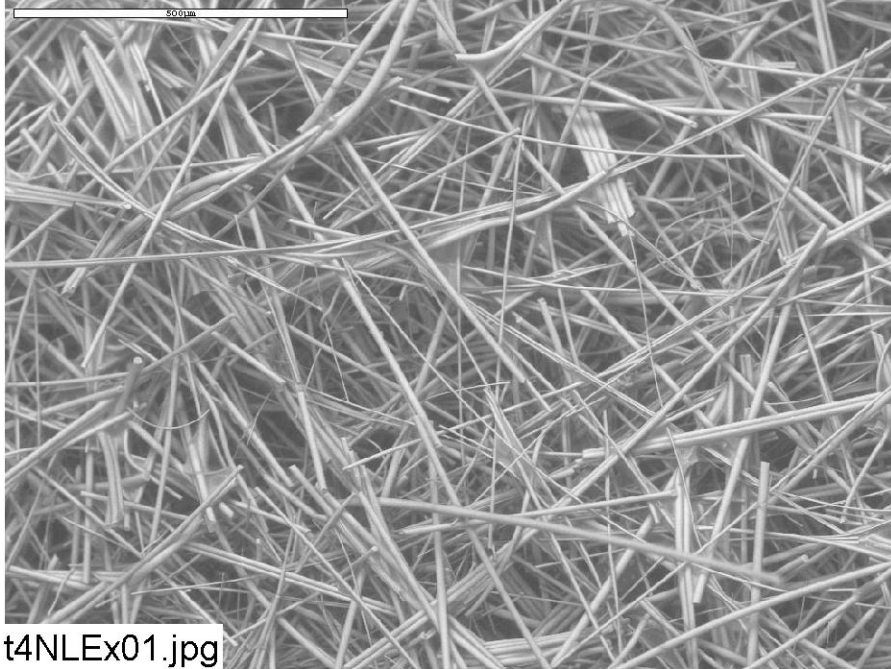


Figure C2-5. Environmental SEM image magnified 100 times for a Test #4, Day-30 exterior low-flow fiberglass sample contained in a nylon mesh (inserted on Day 4). (t4NLEx01.jpg)

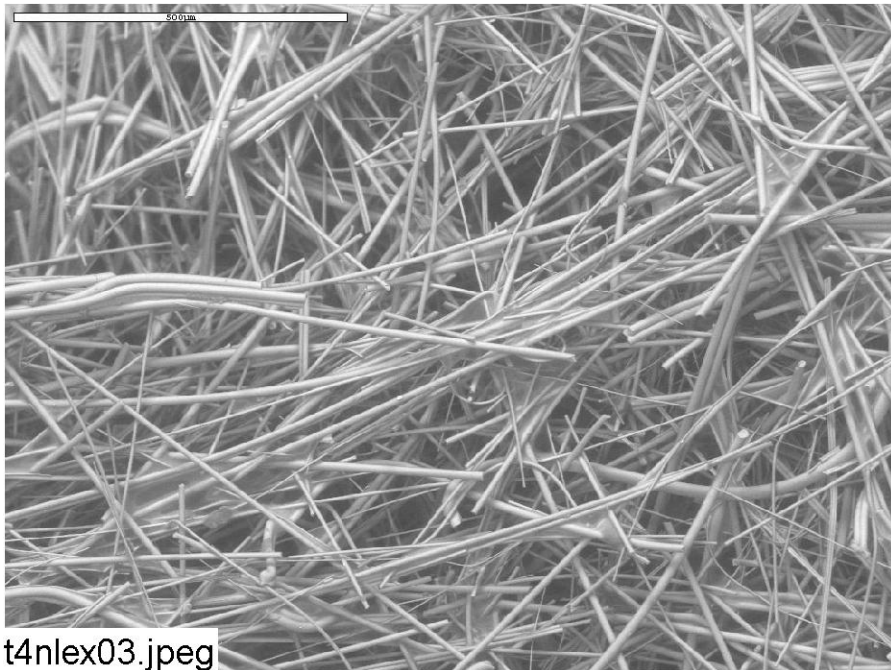


Figure C2-6. Environmental SEM image magnified 100 times for a Test #4, Day-30 exterior low-flow fiberglass sample contained in a nylon mesh (inserted on Day 4). (t4nlex03.jpeg)

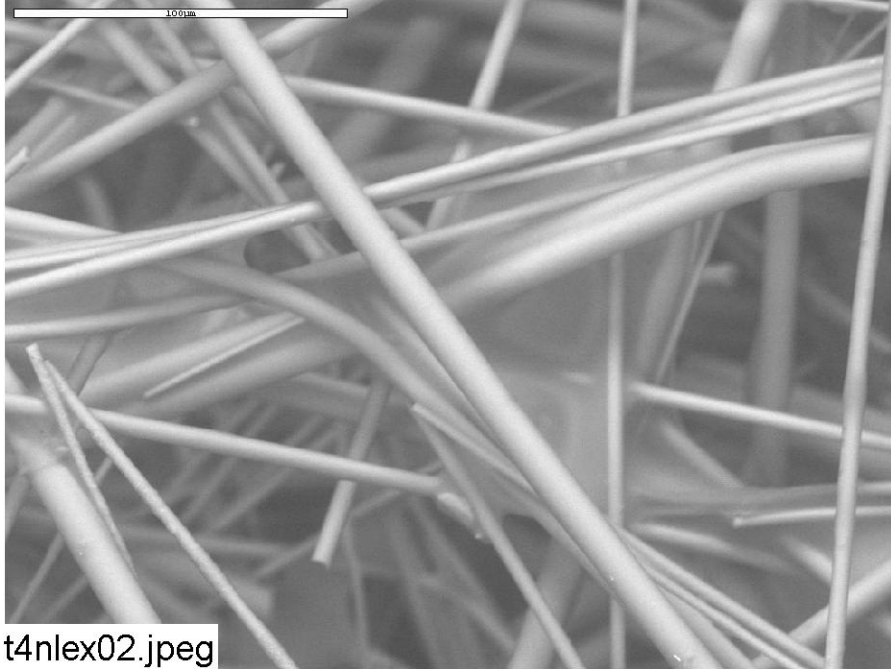


Figure C2-7. Environmental SEM image magnified 500 times for a Test #4, Day-30 exterior low-flow fiberglass sample contained in a nylon mesh (inserted on Day 4). (t4nlex02.jpeg)

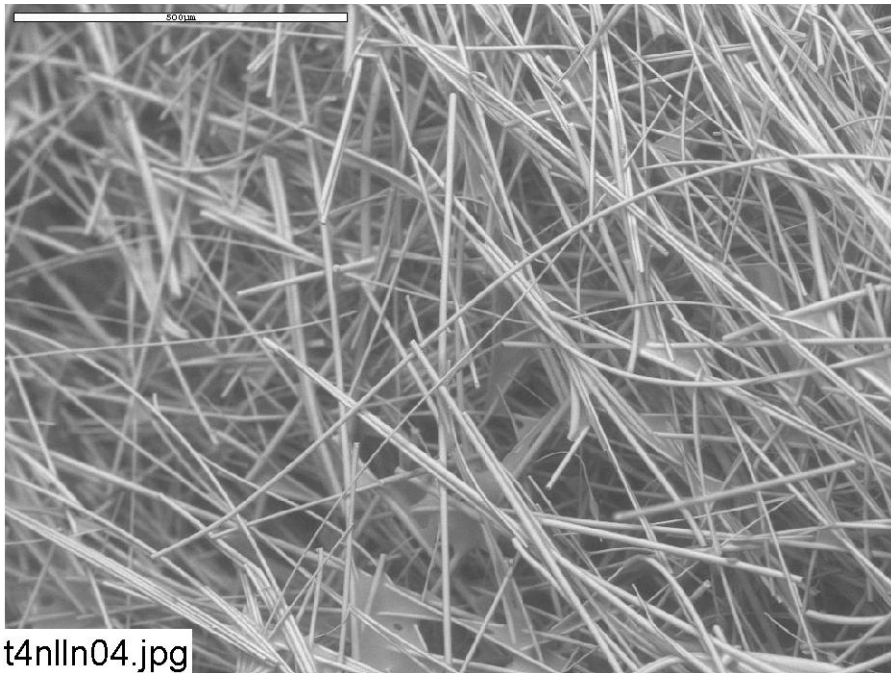


Figure C2-8. Environmental SEM image magnified 100 times for a Test #4, Day-30 interior low-flow fiberglass sample contained in a nylon mesh (inserted on Day 4). (t4nlln04.jpg)

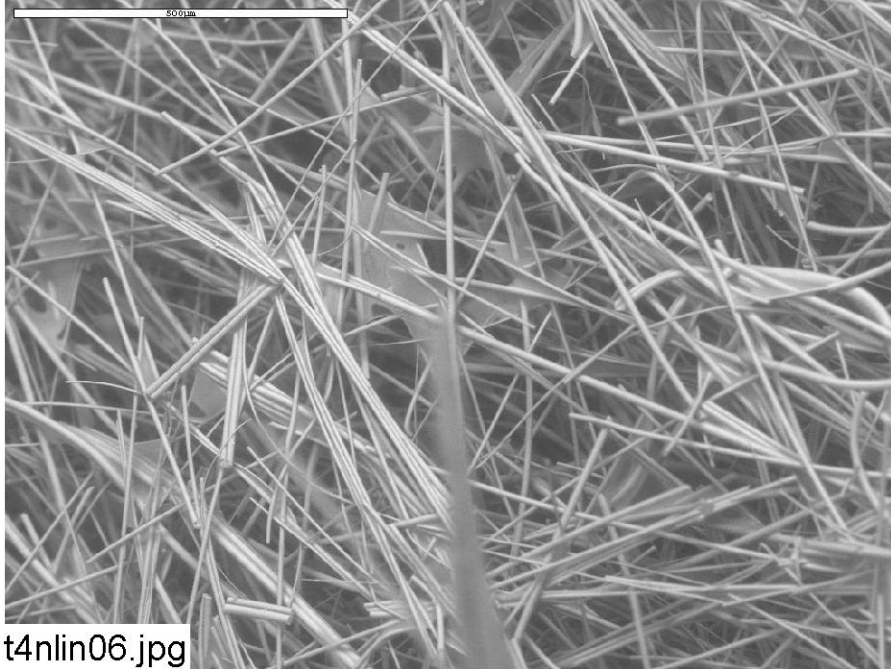


Figure C2-9. Environmental SEM image magnified 100 times for a Test #4, Day-30 interior low-flow fiberglass sample contained in a nylon mesh (inserted on Day 4). (t4nlin06.jpg)

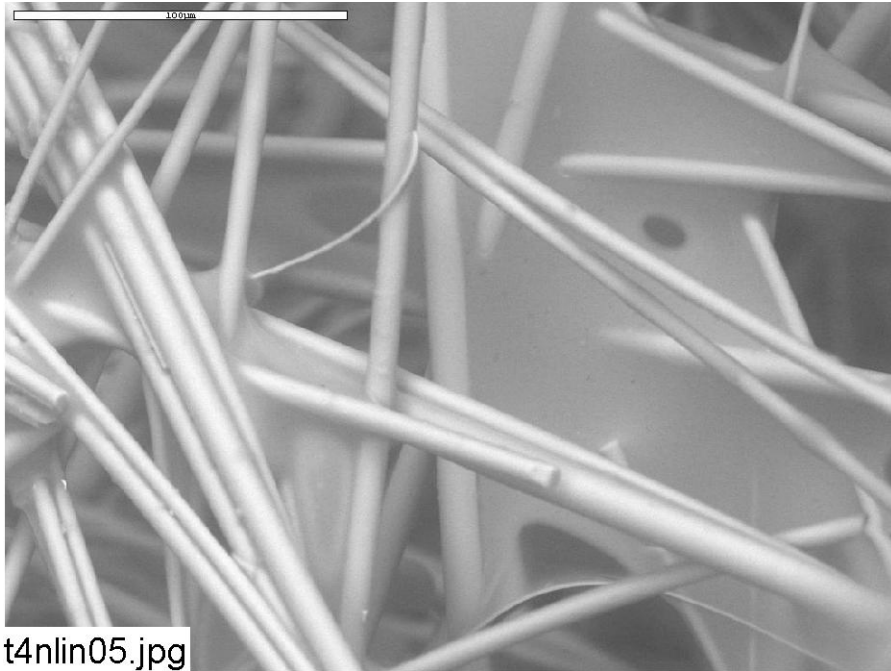


Figure C2-10. Environmental SEM image magnified 500 times for a Test #4, Day-30 interior low-flow fiberglass sample contained in a nylon mesh (inserted on Day 4). (t4nlin05.jpg)

Appendix C3

ESEM Data for Test #4, Day-30 Low-Flow Fiberglass Samples in a Big Envelope

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In this appendix, the fiberglass samples were extracted on June 23, 2005, the date Test #4 was shut down. Both exterior and interior locations of the fiberglass samples were examined. ESEM was employed to analyze the hydrated fiberglass samples without any coating under a low-vacuum condition (i.e., 80 Pa) to minimize the modification of the fiberglass samples through a drying process. The results of Test #4, Day-30 low-flow fiberglass samples in a big envelope were obtained on June 30, 2005. EDS results provide a semi-quantitative elemental analysis of the debris attached on fiberglass.

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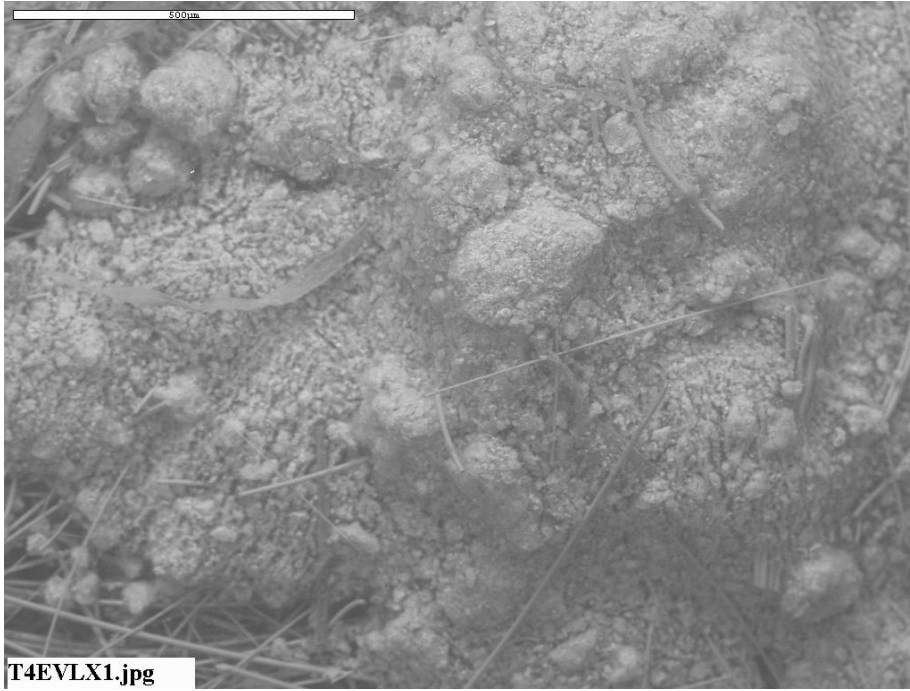


Figure C3-1. Environmental SEM image magnified 100 times for a Test #4, Day-30 exterior low-flow fiberglass sample in a big envelope. (T4EVLX1.jpg)



Figure C3-2. Environmental SEM image magnified 100 times for a Test #4, Day-30 exterior low-flow fiberglass sample in a big envelope. (t4evlx3.jpg)

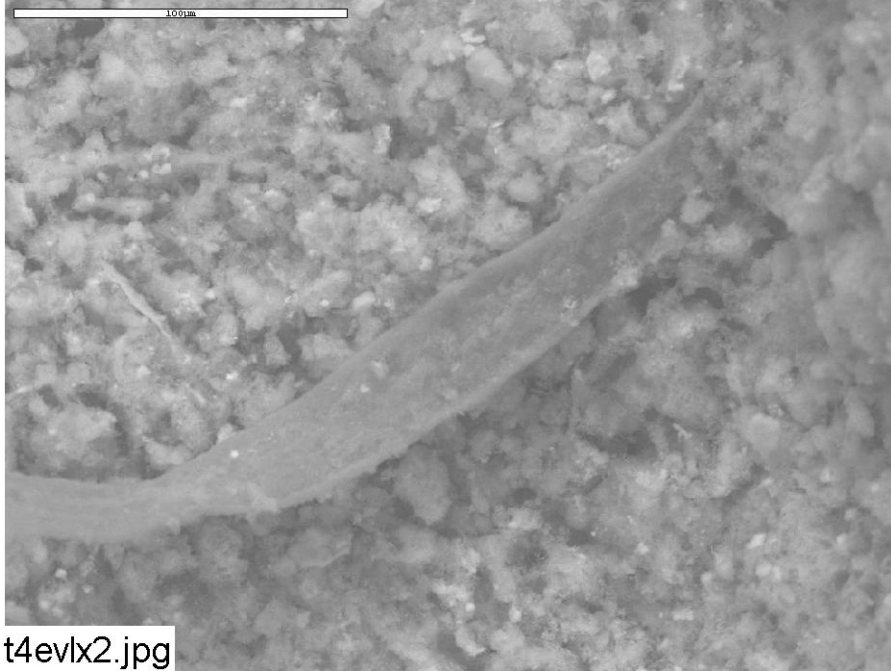


Figure C3-3. Environmental SEM image magnified 500 times for a Test #4, Day-30 exterior low-flow fiberglass sample in a big envelope. (t4evlx2.jpg)

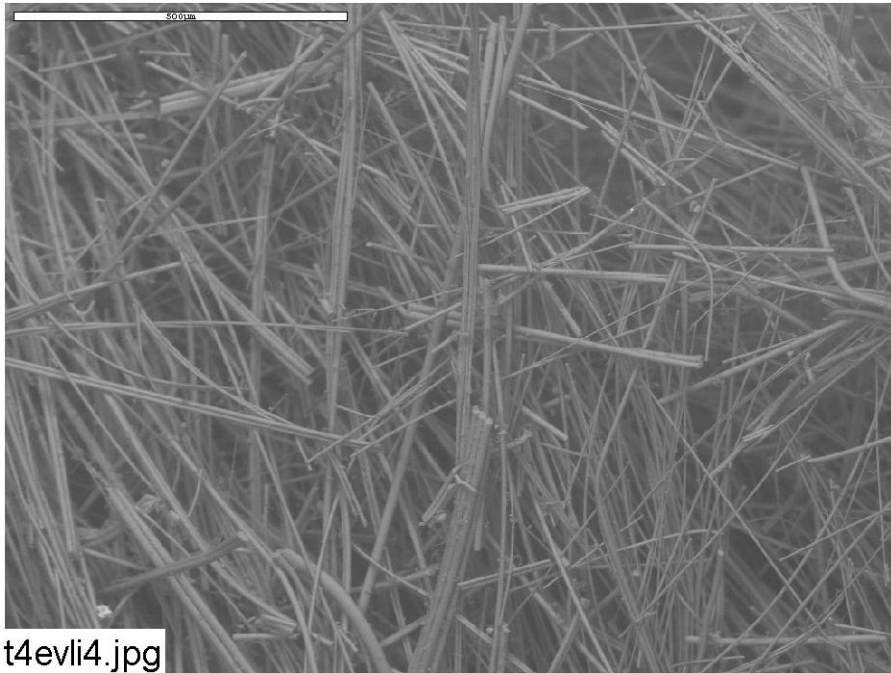


Figure C3-4. Environmental SEM image magnified 100 times for a Test #4, Day-30 interior low-flow fiberglass sample in a big envelope. (t4evli4.jpg)

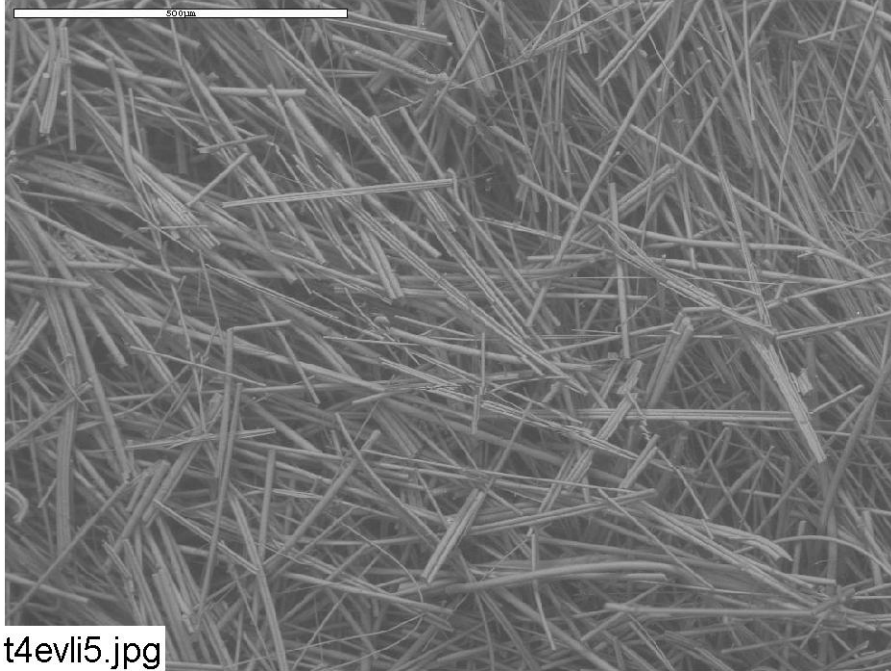


Figure C3-5. Environmental SEM image magnified 100 times for a Test #4, Day-30 interior low-flow fiberglass sample in a big envelope. (t4evli5.jpg)

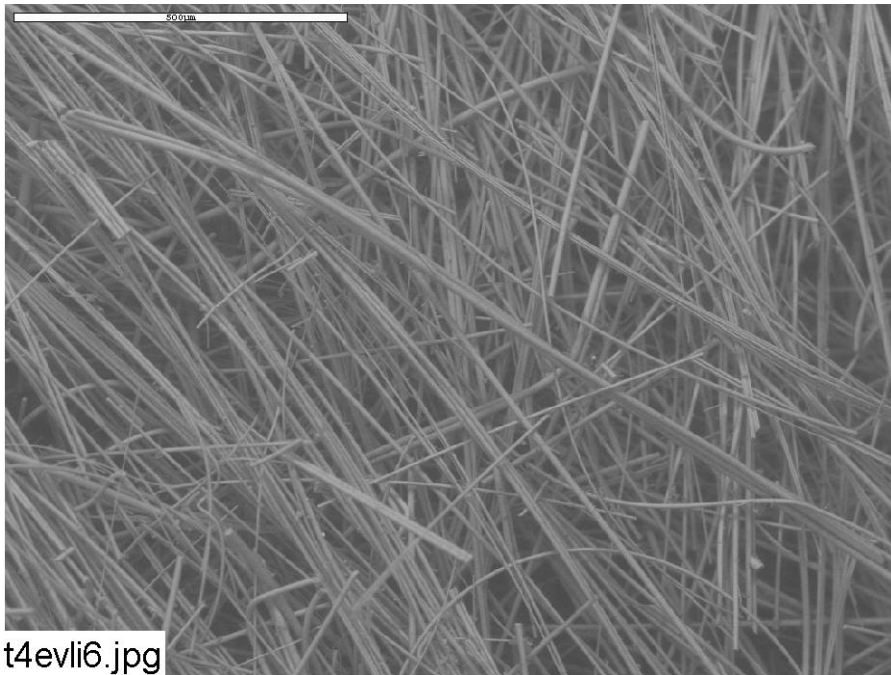


Figure C3-6. Environmental SEM image magnified 100 times for a Test #4, Day-30 interior low-flow fiberglass sample in a big envelope. (t4evli6.jpg)

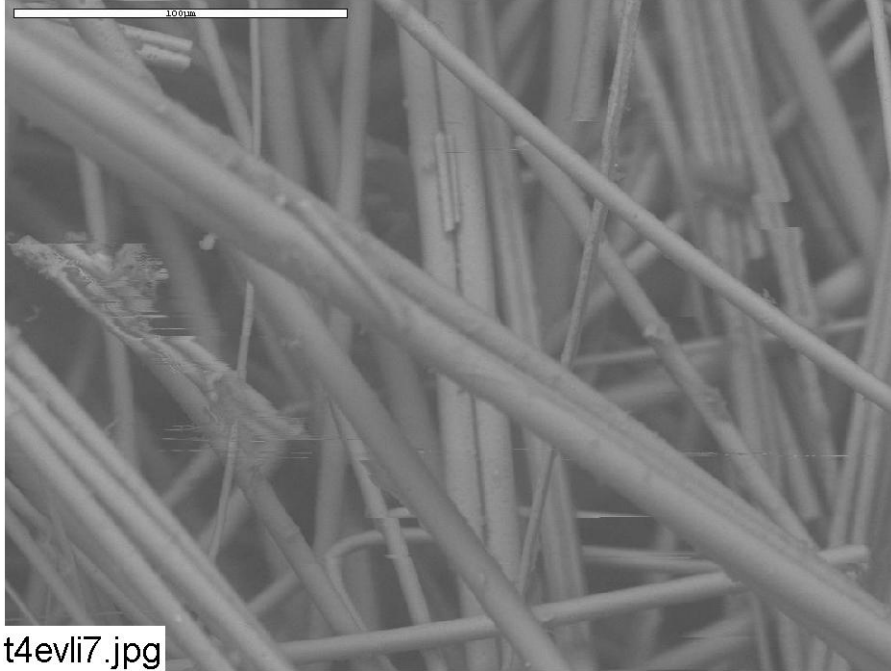


Figure C3-7. Environmental SEM image magnified 500 times for a Test #4, Day-30 interior low-flow fiberglass sample in a big envelope. (t4evli7.jpg)