

# Appendix B1

## ESEM/EDS Data for Test #5, Day-15 Fiberglass in Low-Flow Zones

### List of Figures

Figure B1-1. ESEM image magnified 100 times for a Test #5, Day-15 low-flow exterior fiberglass sample. (T5D15lx1.jpeg).....	B1-5
Figure B1-2. ESEM image magnified 500 times for a Test #5, Day-15 low-flow exterior fiberglass sample. (t5d15lx2.jpeg).....	B1-5
Figure B1-3. ESEM image magnified 100 times for a Test #5, Day-15 low-flow interior fiberglass sample. (t5d15li3.jpeg) .....	B1-6
Figure B1-4. ESEM image magnified 500 times for a Test #5, Day-15 low-flow interior fiberglass sample. (t5d15li4.jpeg) .....	B1-6
Figure B1-5. ESEM image magnified 500 times for a Test #5, Day-15 low-flow interior fiberglass sample. (t5d15li5.jpeg) .....	B1-7
Figure B1-6. Annotated ESEM image magnified 500 times for a Test #5, Day-15 low-flow interior fiberglass sample. (t5d15li6.jpeg).....	B1-7
Figure B1-7. EDS counting spectrum for the deposits between fibers shown in Figure B1-6. (t5d15li7.jpeg).....	B1-8

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This appendix shows the ESEM/EDS results on ICET Test #5, Day-15 low-flow zone fiberglass samples. The samples were obtained on August 10, 2005 (Day 15 for Test #5). Both exterior and interior locations of the fiberglass samples were examined. ESEM/EDS data presented here were obtained on August 25, 2005. The hydrated fiberglass samples without any coating were examined by ESEM under a low vacuum condition (i.e., 80 Pa). EDS results provide a semi-quantitative elemental analysis of the debris attached on fiberglass.

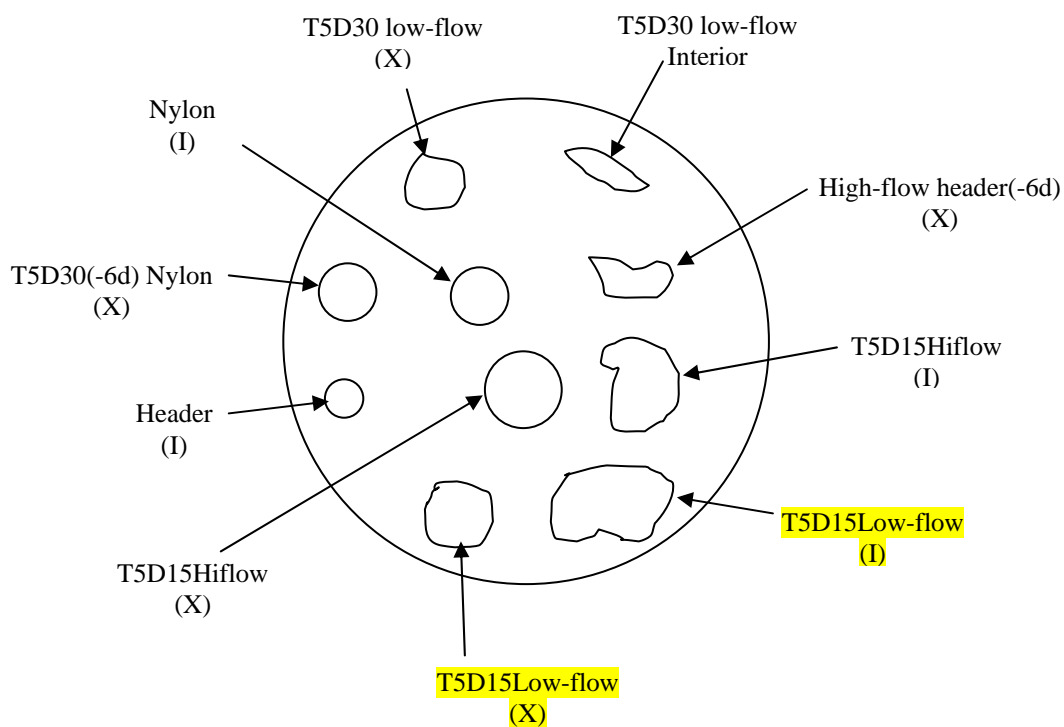
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## Transcribed Laboratory Log

Laboratory session from August 25, 2005.

Test #5, Day-15 fiberglass in low-flow zones

### ESEM



### ESEM Fiberglass Low-Flow Exterior

Image: T5D15lx1 100 × ESEM image of fiberglass

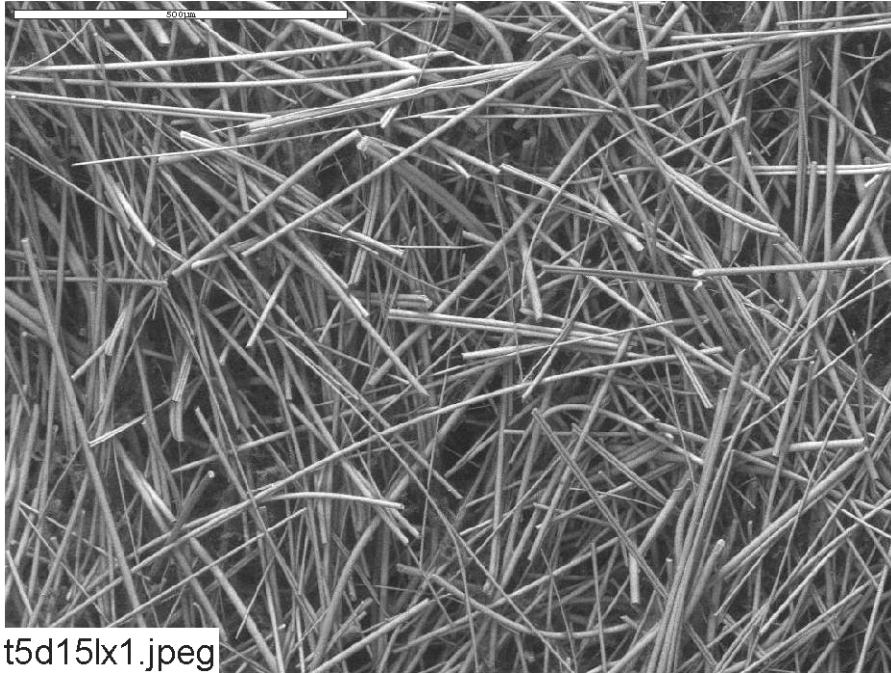
Figure B1-1

t5d15lx2 500 × ESEM image of fiberglass

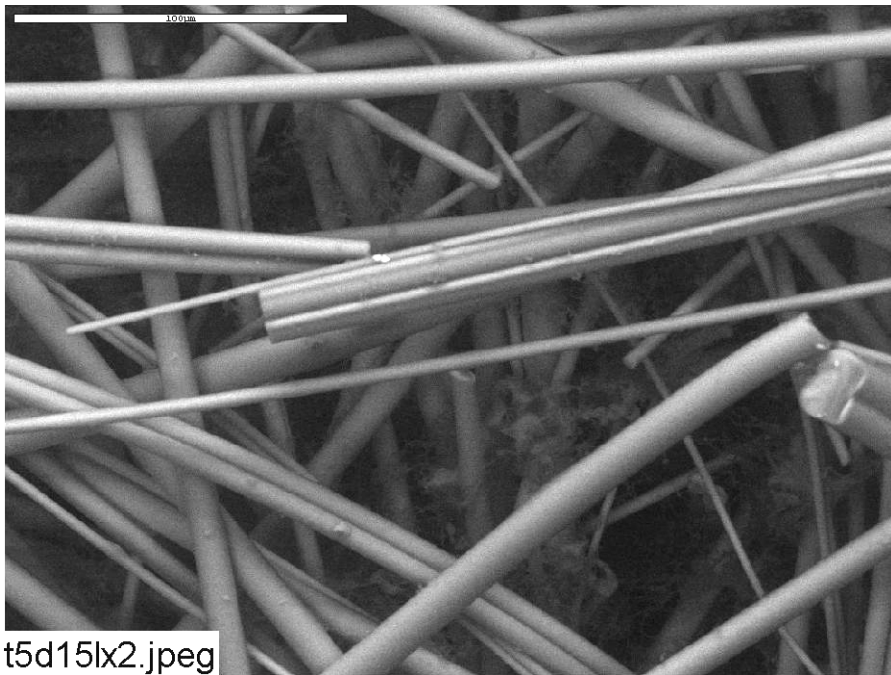
Figure B1-2

## **ESEM Fiberglass Low-Flow Interior**

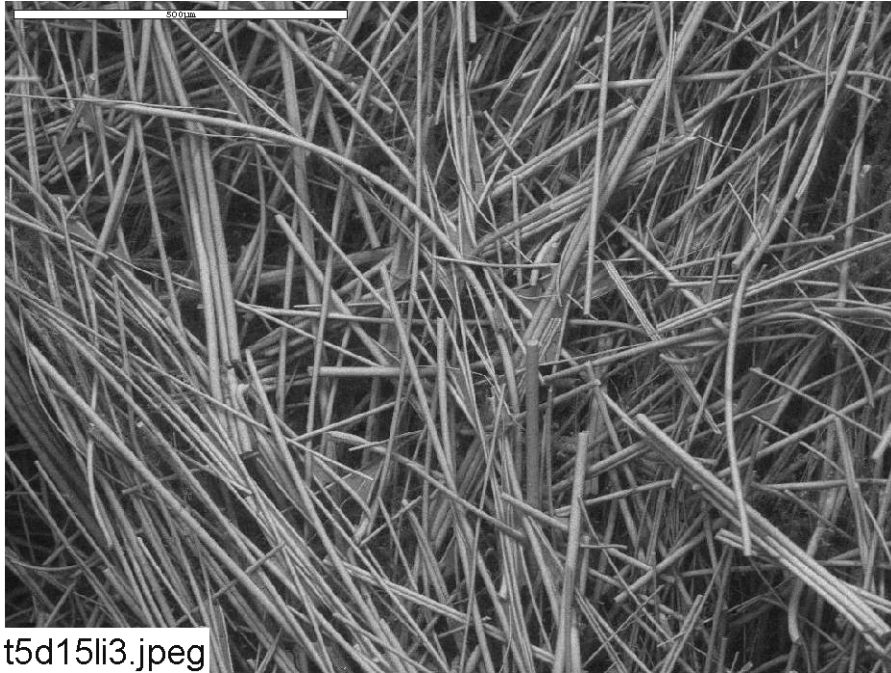
Image:	T5d15li3	100 ×	ESEM image of fiberglass	Figure B1-3
	t5d15li4	500 ×	ESEM image at higher magnification	Figure B1-4
	t5d15li5	500 ×	ESEM image	Figure B1-5
	t5d15li6	500 ×	Annotated ESEM image	Figure B1-6
EDS:	t5d15li7		EDS on deposits between fibers for t5d15li6	Figure B1-7



**Figure B1-1.** ESEM image magnified 100 times for a Test #5, Day-15 low-flow exterior fiberglass sample. (T5D15x1.jpeg)

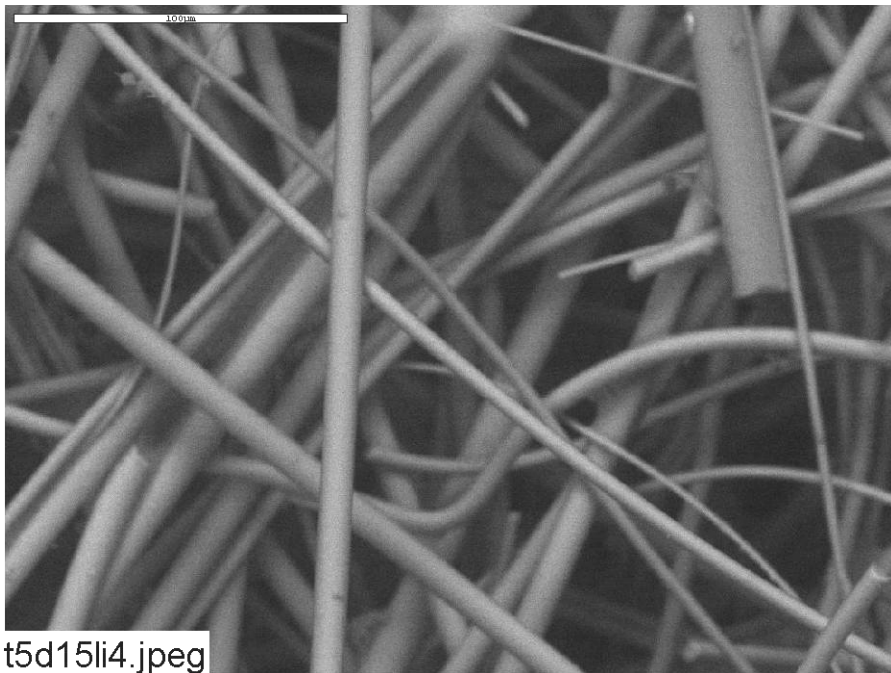


**Figure B1-2.** ESEM image magnified 500 times for a Test #5, Day-15 low-flow exterior fiberglass sample. (t5d15x2.jpeg)



t5d15li3.jpeg

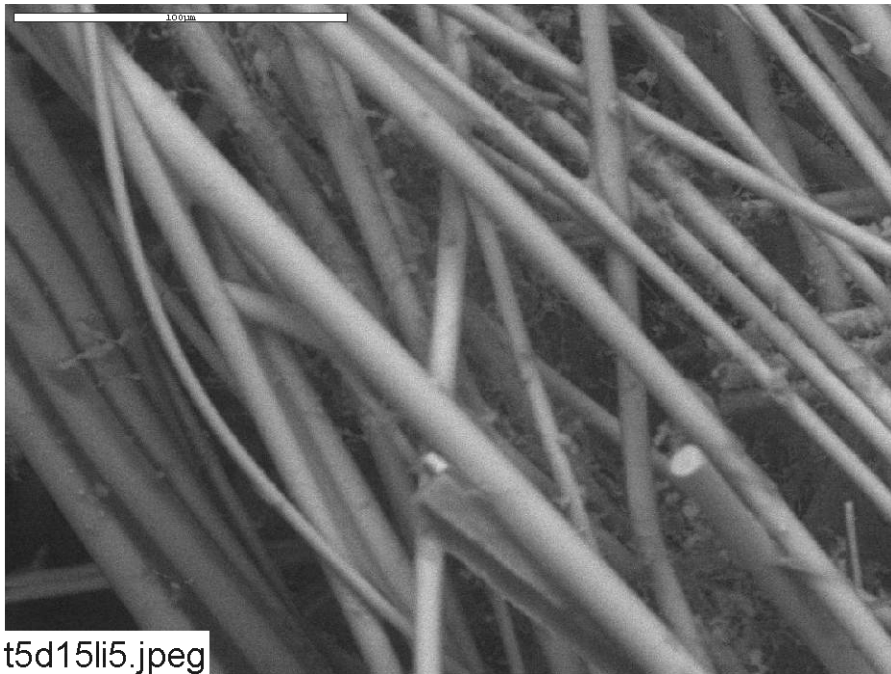
**Figure B1-3.** ESEM image magnified 100 times for a Test #5, Day-15 low-flow interior fiberglass sample. (t5d15li3.jpeg)



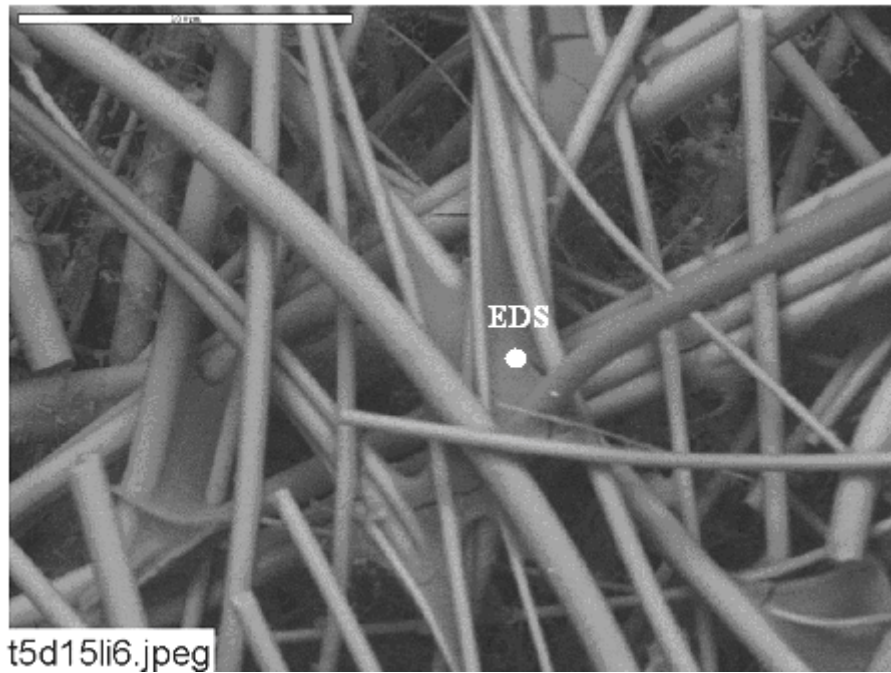
t5d15li4.jpeg

**Figure B1-4.** ESEM image magnified 500 times for a Test #5, Day-15 low-flow interior fiberglass sample. (t5d15li4.jpeg)





**Figure B1-5.** ESEM image magnified 500 times for a Test #5, Day-15 low-flow interior fiberglass sample. (t5d15li5.jpeg)



**Figure B1-6.** Annotated ESEM image magnified 500 times for a Test #5, Day-15 low-flow interior fiberglass sample. (t5d15li6.jpeg)

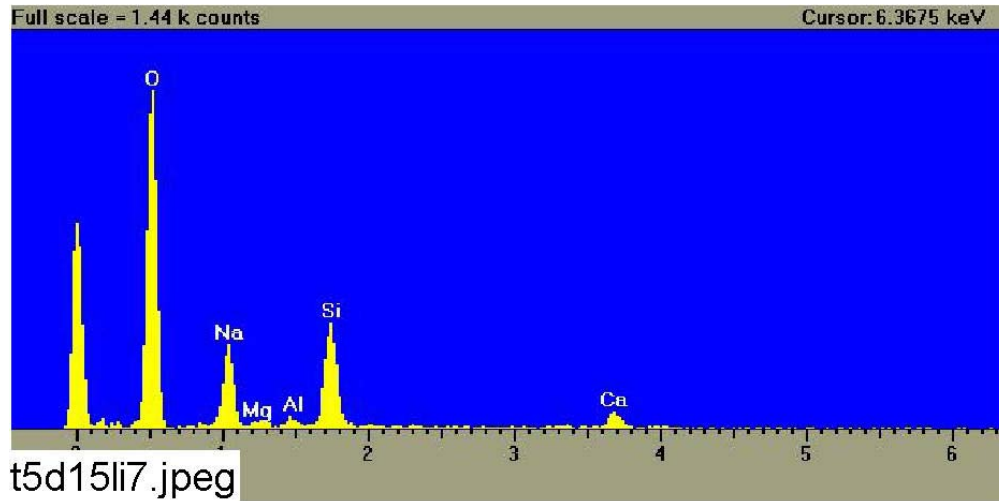


Figure B1-7. EDS counting spectrum for the deposits between fibers shown in Figure B1-6. (t5d15li7.jpeg)

## Appendix B2

### ESEM Data for Test #5, Day-15 Fiberglass in High-Flow Zones

#### List of Figures

- Figure B2-1. ESEM image magnified 100 times for a Test #5, Day-15 high-flow exterior fiberglass sample. (T5D15HX1.jpeg) ..... B2-5
- Figure B2-2. ESEM image magnified 500 times for a Test #5, Day-15 high-flow exterior fiberglass sample. (t5d15hx2.jpeg) ..... B2-5
- Figure B2-3. ESEM image magnified 100 times for a Test #5, Day-15 high-flow interior fiberglass sample. (T5D15HI3.jpeg) ..... B2-6
- Figure B2-4. ESEM image magnified 500 times for a Test #5, Day-15 high-flow interior fiberglass sample. (t5d15hi4.jpeg)..... B2-6

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This appendix lists the ESEM/EDS results on ICET Test #5, Day-15 high-flow zone fiberglass samples. The samples were obtained on August 10, 2005 (Day 15 for Test #5). Both exterior and interior locations of the fiberglass samples were examined. ESEM/EDS data presented here were obtained on August 25, 2005. The hydrated fiberglass samples without any coating were examined by ESEM under a low-vacuum condition (i.e., 80 Pa).

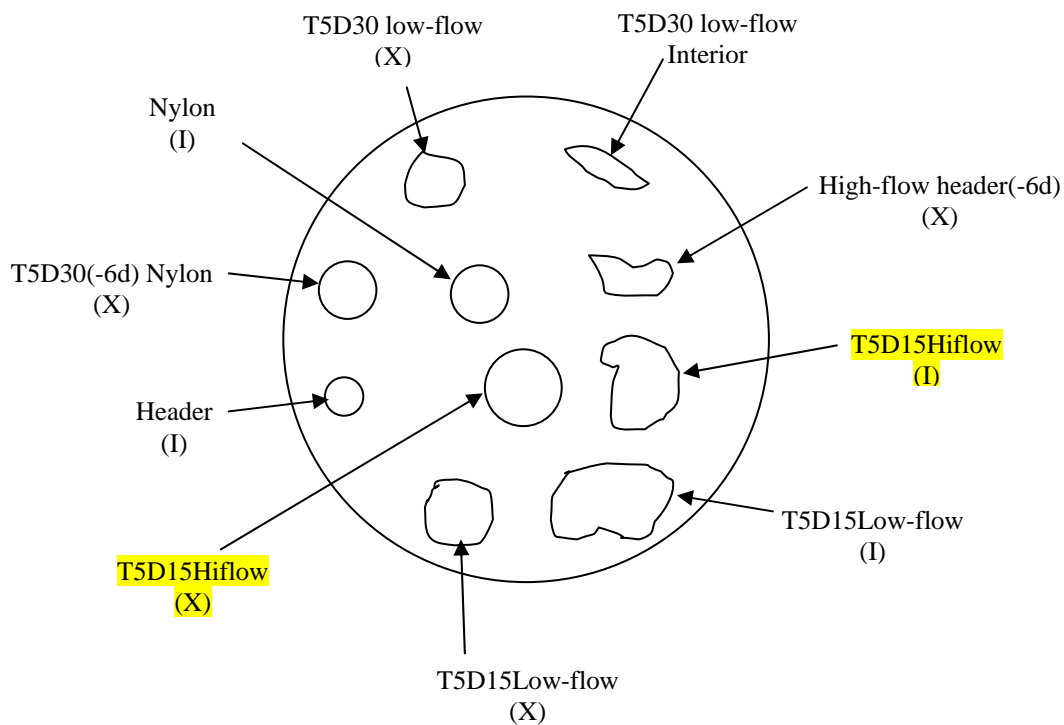
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## Transcribed Laboratory Log

Laboratory session from August 25, 2005.

Test #5, Day-15 fiberglass in high-flow zones

### ESEM



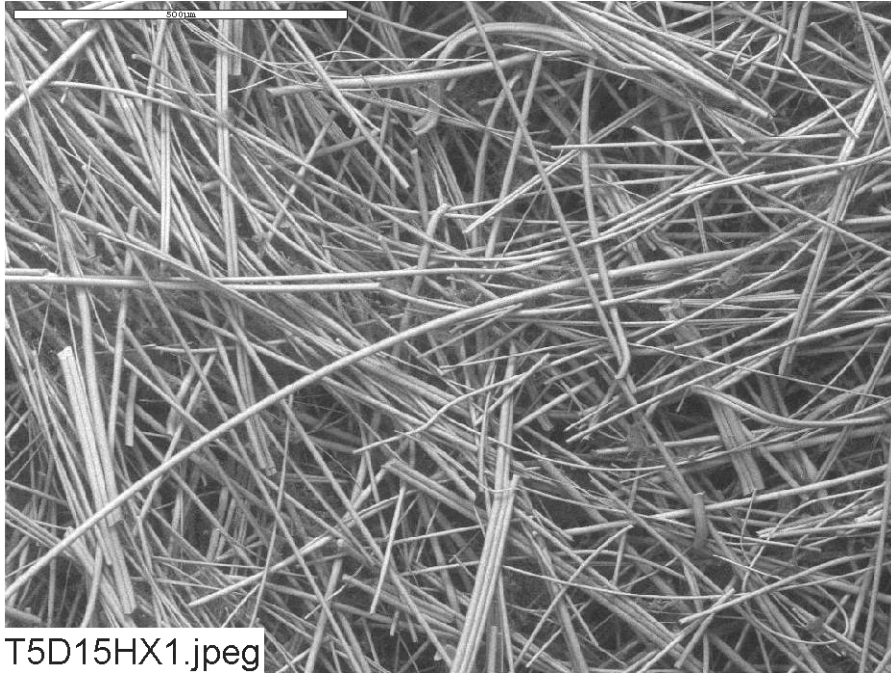
### ESEM Fiberglass High-Flow Exterior

Image: T5D15HX1	100 ×	ESEM image	Figure B2-1
t5d15hx2	500 ×	ESEM image at higher magnification	Figure B2-2

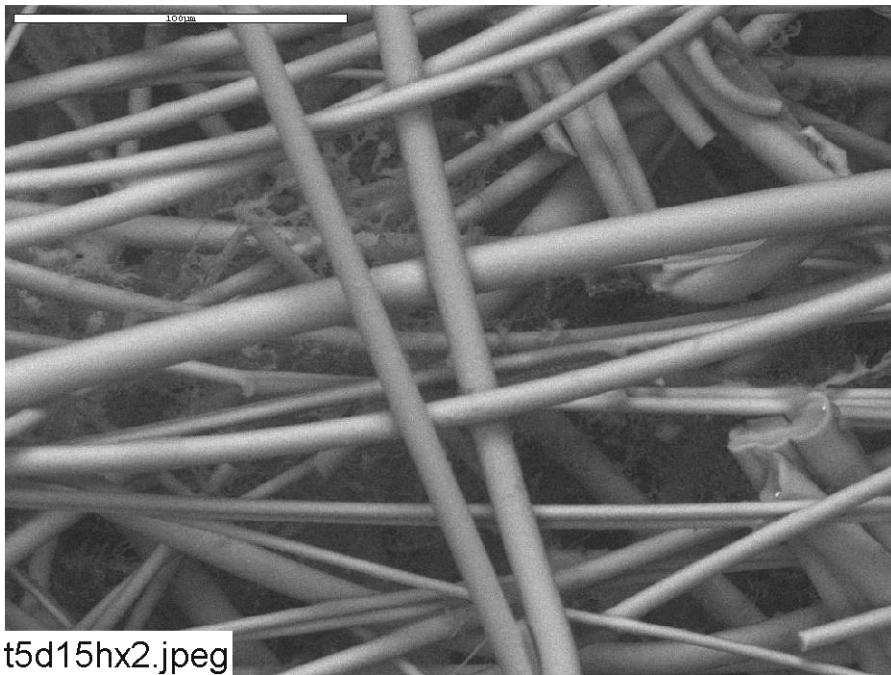
## **ESEM Fiberglass High-Flow Interior**

Image:	T5D15HI3	100 ×	ESEM image	Figure B2-3
	t5d15hi4	500 ×	ESEM image at higher magnification	Figure B2-4

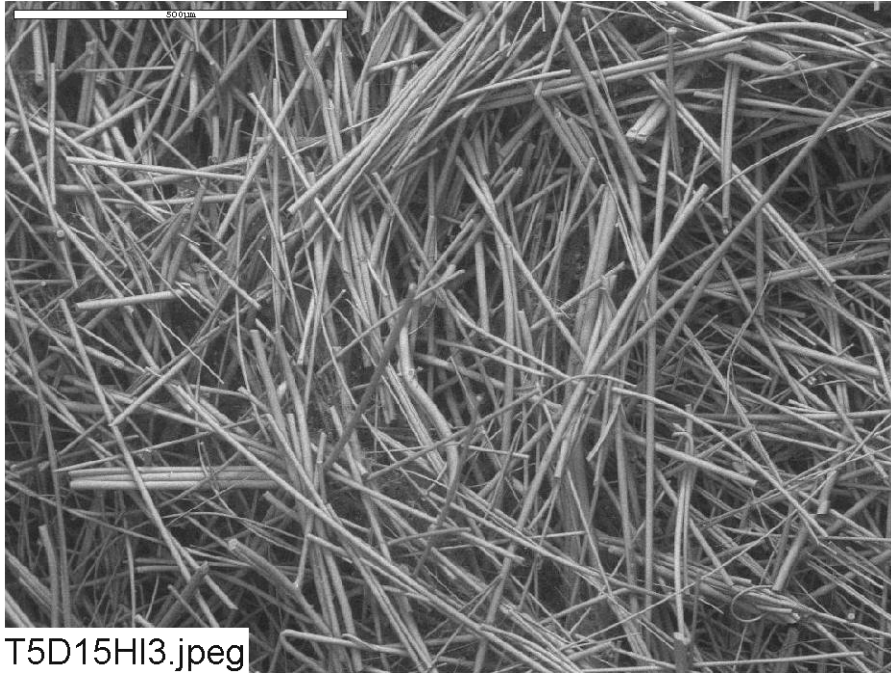




**Figure B2-1.** ESEM image magnified 100 times for a Test #5, Day-15 high-flow exterior fiberglass sample. (T5D15HX1.jpeg)

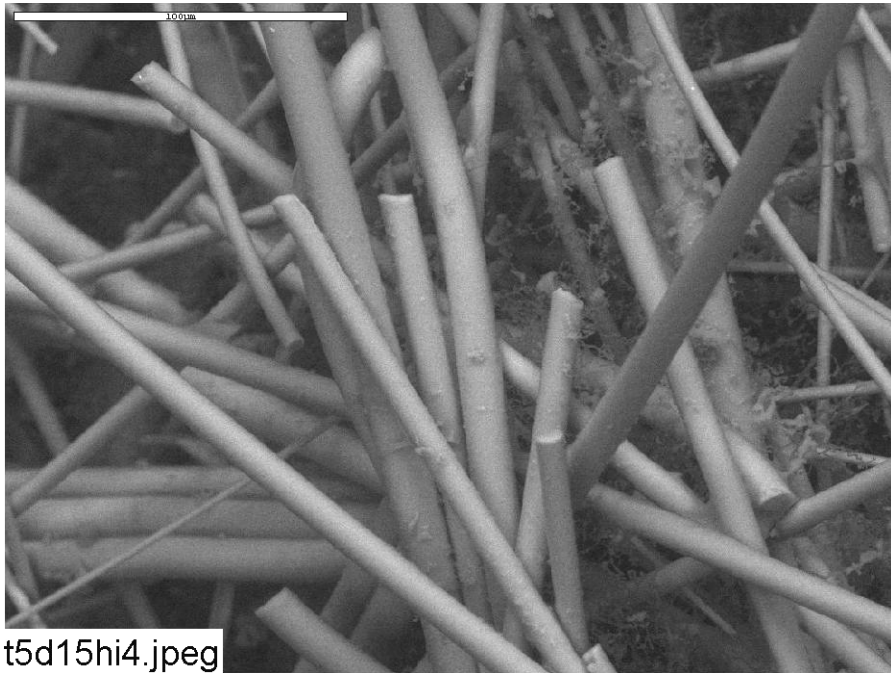


**Figure B2-2.** ESEM image magnified 500 times for a Test #5, Day-15 high-flow exterior fiberglass sample. (t5d15hx2.jpeg)



T5D15HI3.jpeg

**Figure B2-3.** ESEM image magnified 100 times for a Test #5, Day-15 high-flow interior fiberglass sample. (T5D15HI3.jpeg)



t5d15hi4.jpeg

**Figure B2-4.** ESEM image magnified 500 times for a Test #5, Day-15 high-flow interior fiberglass sample. (t5d15hi4.jpeg)

# Appendix C1

## ESEM Data for Test #5, Day-30 Fiberglass in Low-Flow Zones

### List of Figures

Figure C1-1. ESEM image magnified 100 times for a Test #5, Day-30 low-flow exterior fiberglass sample. (t5d30lx3.jpeg).....	C1-5
Figure C1-2. ESEM image magnified 500 times for a Test #5, Day-30 low-flow exterior fiberglass sample. (t5d30lx4.jpeg).....	C1-5
Figure C1-3. ESEM image magnified 500 times for a Test #5, Day-30 low-flow exterior fiberglass sample. (t5d30lx5.jpeg).....	C1-6
Figure C1-4. ESEM image magnified 100 times for a Test #5, Day-30 low-flow interior fiberglass sample. (t5d30li6.jpeg) .....	C1-6
Figure C1-5. ESEM image magnified 500 times for a Test #5, Day-30 low-flow interior fiberglass sample. (t5d30li7.jpeg) .....	C1-7

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In this appendix, the fiberglass samples were extracted from the test tank on August 25, 2005, the date Test #5 was shut down. Both exterior and interior locations of the fiberglass samples were examined. SEM was used to analyze the hydrated fiberglass samples under a low-vacuum condition (i.e., 80 Pa), and without any coating. This examination approach minimizes the modification of the fiberglass samples that can occur if samples are dried. The results of Test #5, Day-30 low-flow fiberglass samples were obtained on August 25, 2005. EDS results provide a semi-quantitative elemental analysis of the debris attached on fiberglass.

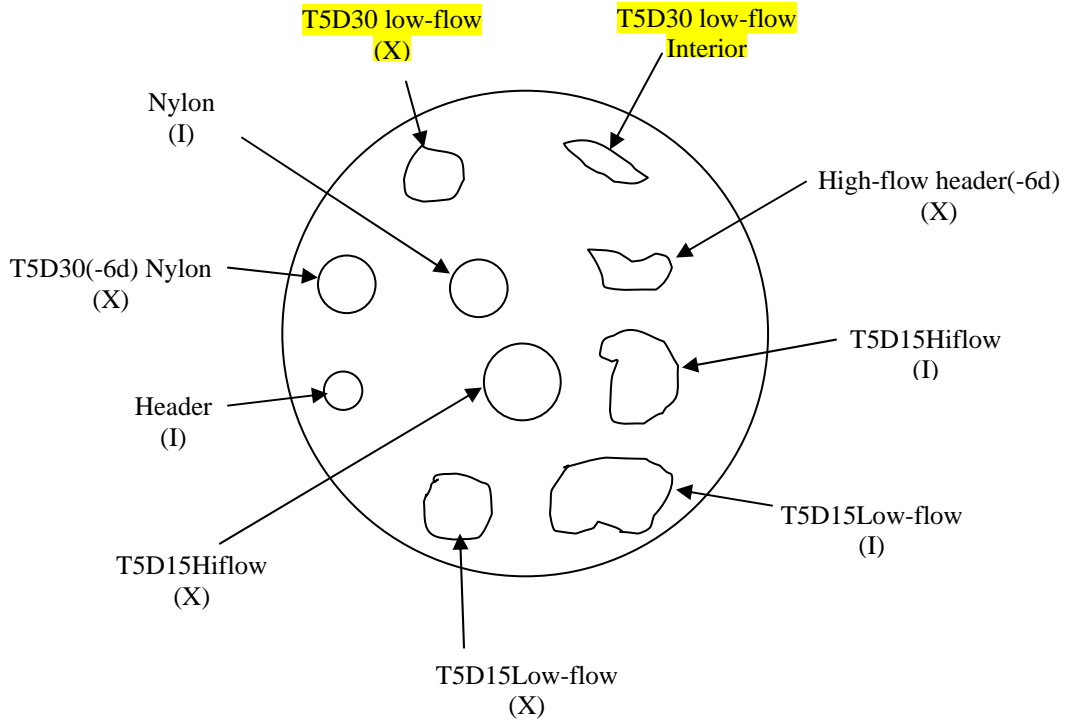
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# Transcribed Laboratory Log

Laboratory session from August 25, 2005.

Test #5, Day-30 Low-Flow Fiberglass

## ESEM



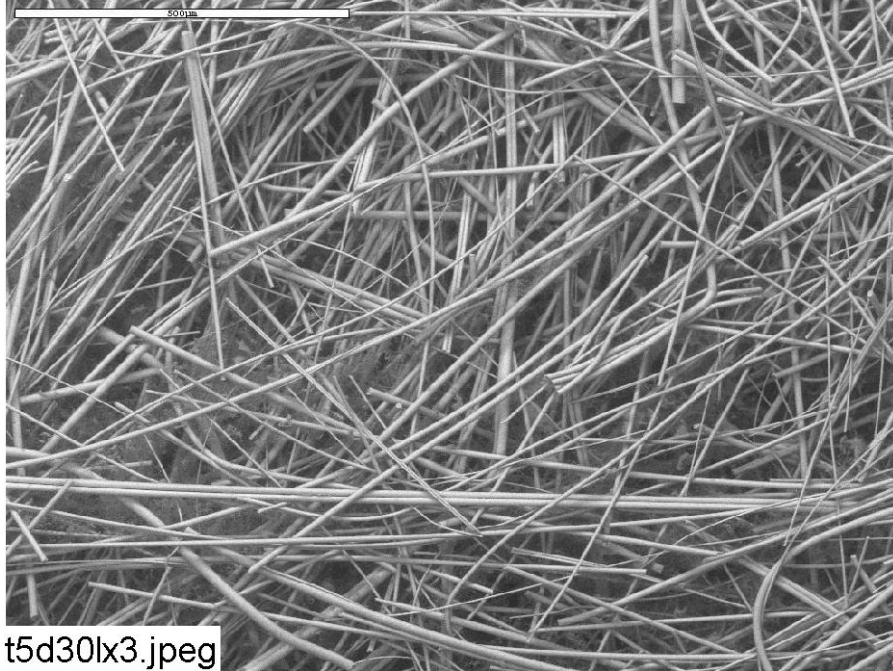
### ESEM Low-Flow Exterior

Image: t5d30lx3	100 ×	ESEM image	Figure C1-1
t5d30lx4	500 ×	ESEM image higher magnification	Figure C1-2
t5d30lx5	500 ×	ESEM image	Figure C1-3

## **ESEM Low-Flow Interior**

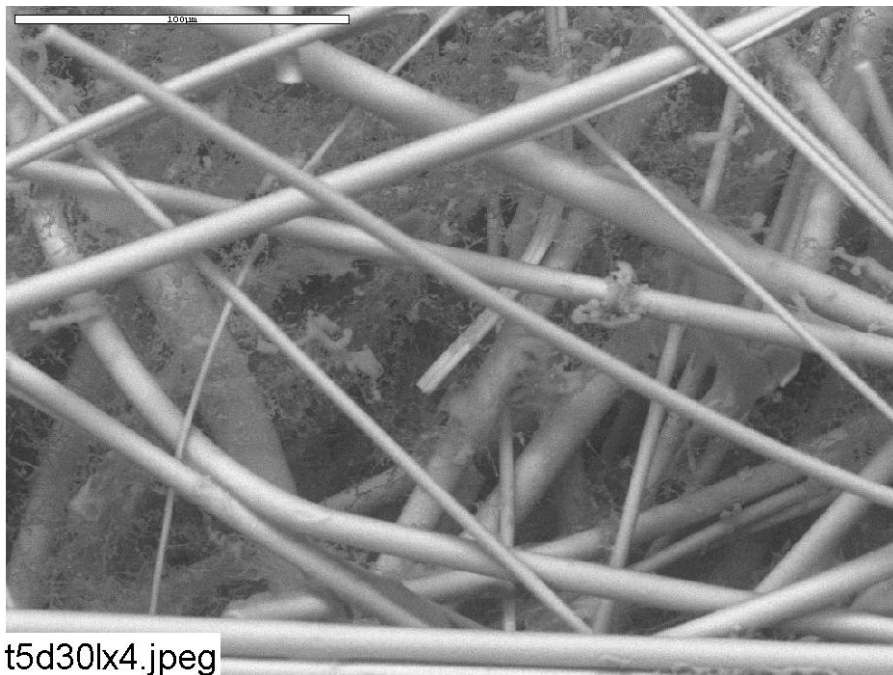
Image: t5d30li6	100 ×	ESEM image of fiberglass	Figure C1-4
t5d30li7	500 ×	ESEM image higher magnification	Figure C1-5





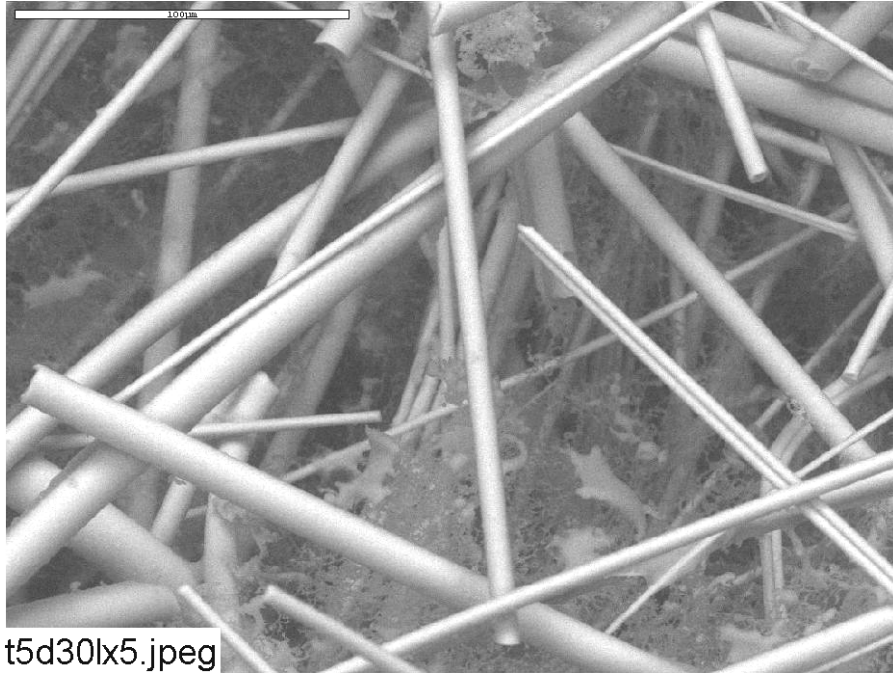
t5d30lx3.jpeg

**Figure C1-1.** ESEM image magnified 100 times for a Test #5, Day-30 low-flow exterior fiberglass sample. (t5d30lx3.jpeg)

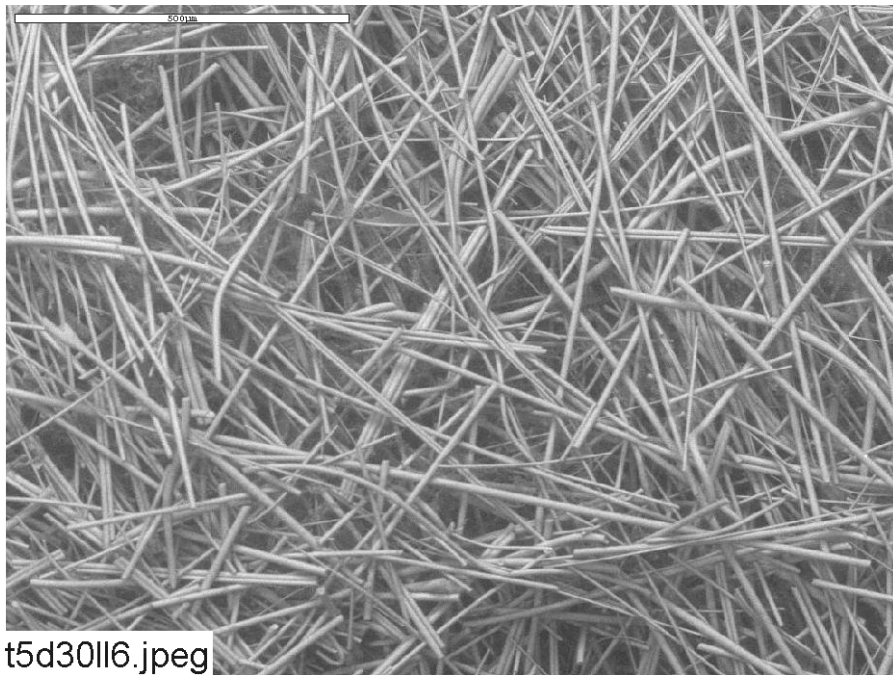


t5d30lx4.jpeg

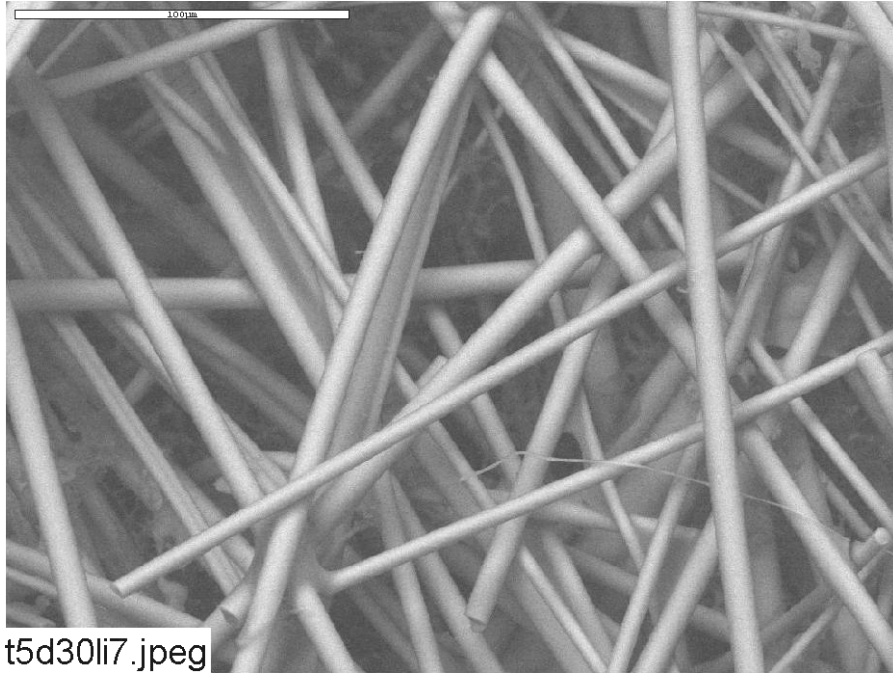
**Figure C1-2.** ESEM image magnified 500 times for a Test #5, Day-30 low-flow exterior fiberglass sample. (t5d30lx4.jpeg)



**Figure C1-3. ESEM image magnified 500 times for a Test #5, Day-30 low-flow exterior fiberglass sample. (t5d30lx5.jpeg)**



**Figure C1-4. ESEM image magnified 100 times for a Test #5, Day-30 low-flow interior fiberglass sample. (t5d30ll6.jpeg)**



**Figure C1-5. ESEM image magnified 500 times for a Test #5, Day-30 low-flow interior fiberglass sample. (t5d30li7.jpeg)**

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## Appendix C2

### ESEM/EDS Data for Test #5, Day-30 Fiberglass Samples in a Big Envelope in Low-Flow Zones

#### List of Figures

- Figure C2-1. ESEM image magnified 100 times for a Test #5, Day-30 low-flow exterior fiberglass sample in a big envelope. (T5enpx01.jpeg) ..... C2-5
- Figure C2-2. ESEM image magnified 500 times for a Test #5, Day-30 low-flow exterior fiberglass sample in a big envelope. (t5enpx02.jpeg)..... C2-5
- Figure C2-3. EDS counting spectrum for the particulate deposits between the fibers shown in Figure C2-2. (t5enpx03.jpeg) ..... C2-6
- Figure C2-4. ESEM image magnified 100 times for a Test #5, Day-30 low-flow interior fiberglass sample in a big envelope. (T5enpi04.jpeg) ..... C2-6
- Figure C2-5. ESEM image magnified 500 times for a Test #5, Day-30 low-flow interior fiberglass sample in a big envelope. (T5enpi05.jpeg) ..... C2-7

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In this appendix, the fiberglass samples submerged in a big envelope in a low-flow zone of the test tank were extracted on the date Test #5 was shut down (August 25, 2005). Both exterior and interior locations of the fiberglass samples were examined. ESEM was used to analyze the hydrated fiberglass samples under a low-vacuum condition (i.e., 80 Pa) and without any coating. This examination approach minimizes the modification of the fiberglass samples that can occur if samples are dried. The results of Test #5, Day-30 low-flow fiberglass samples in a big envelope were obtained on August 26, 2005. EDS results provide a semi-quantitative elemental analysis of the debris attached on fiberglass.

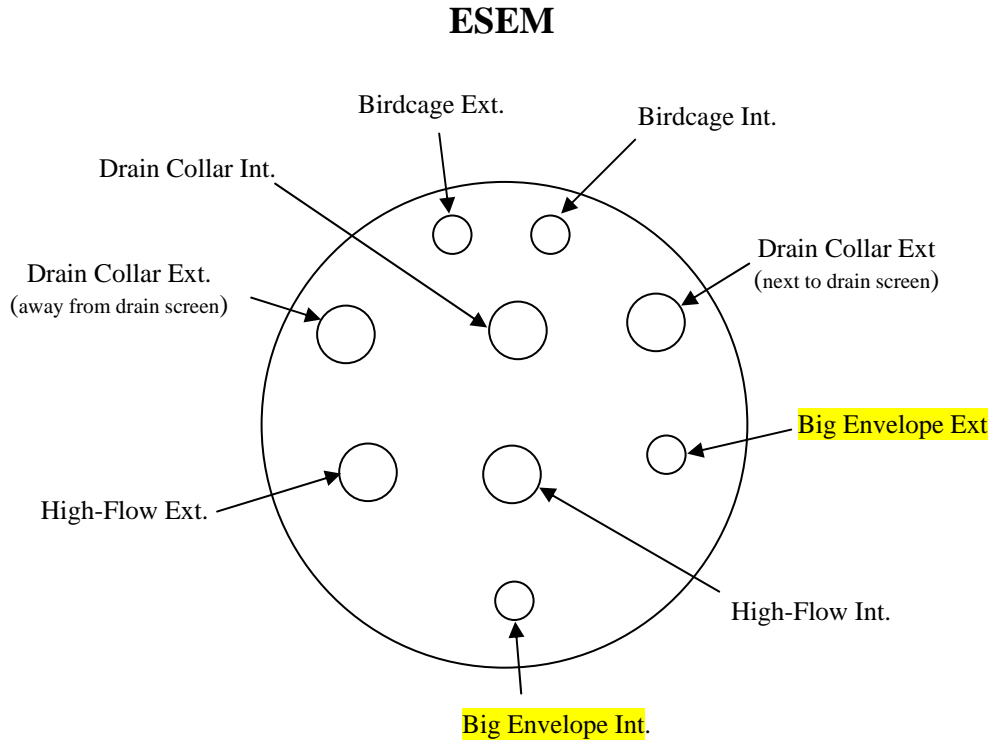
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# Transcribed Laboratory Log

Laboratory session from August 26, 2005.

Test #5, Day-30 Low-Flow Fiberglass Samples in a Big Envelope

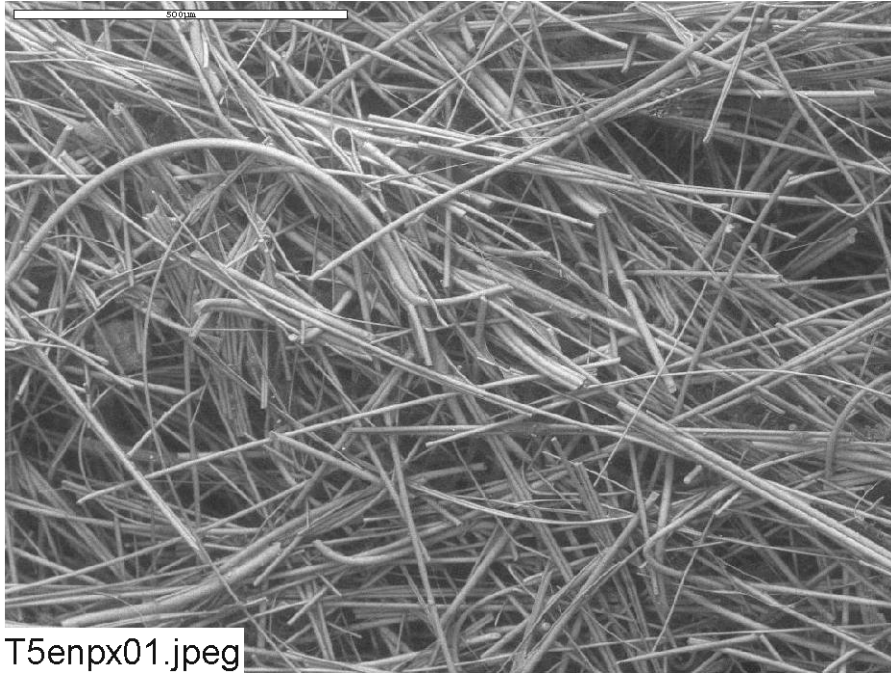


## Big Envelope Exterior, Low Flow

Image:	T5enpx01	100 ×	ESEM image	Figure C2-1
	t5enpx02	500 ×	ESEM image higher magnification	Figure C2-2
EDS:	t5enpx03		EDS on particle in image t5enpx02	Figure C2-3

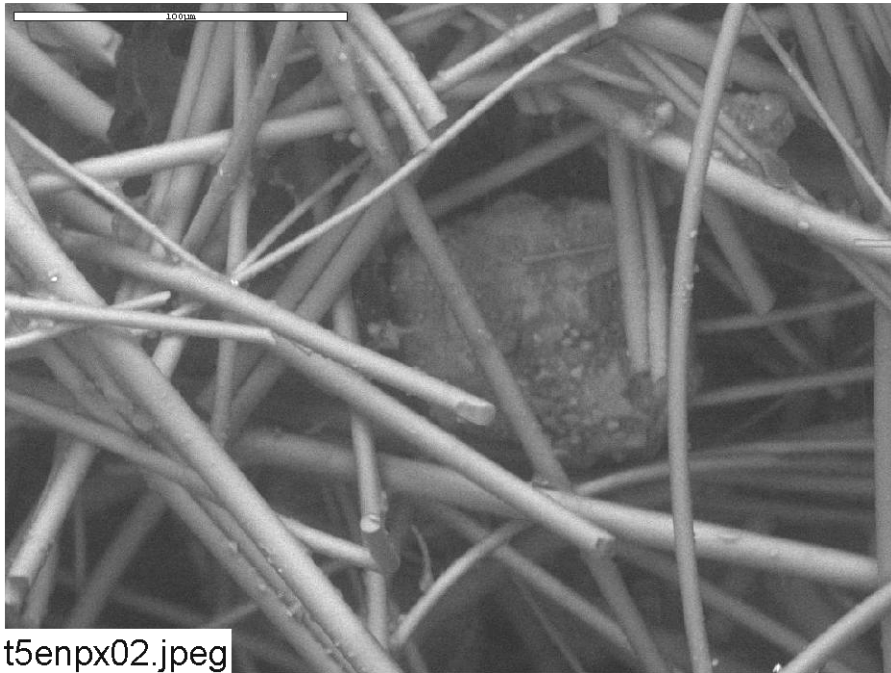
**Big Envelope Interior, Low Flow**

Image: T5empi04	100 ×	ESEM image	Figure C2-4
T5empi05	500 ×	ESEM image higher magnification	Figure C2-5



T5enpx01.jpeg

**Figure C2-1.** ESEM image magnified 100 times for a Test #5, Day-30 low-flow exterior fiberglass sample in a big envelope. (T5enpx01.jpeg)



t5enpx02.jpeg

**Figure C2-2.** ESEM image magnified 500 times for a Test #5, Day-30 low-flow exterior fiberglass sample in a big envelope. (t5enpx02.jpeg)

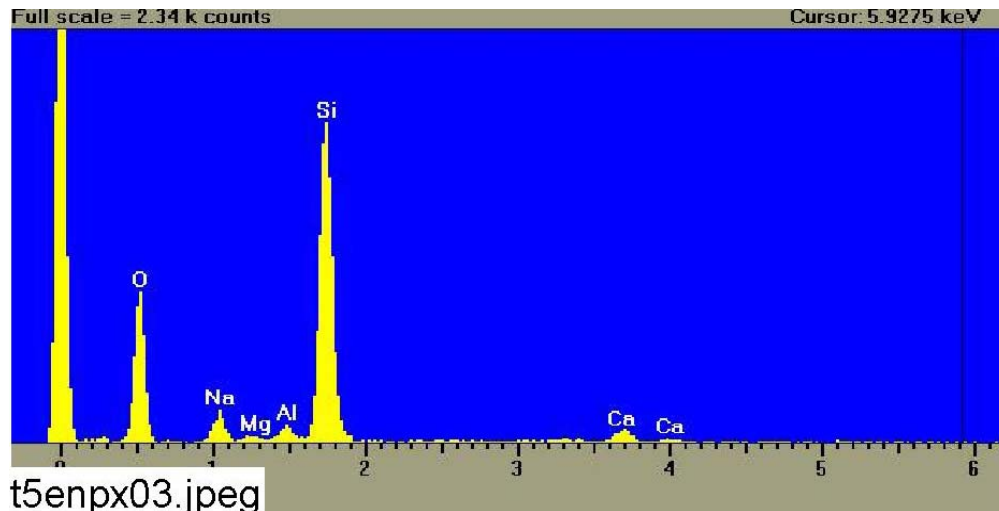


Figure C2-3. EDS counting spectrum for the particulate deposits between the fibers shown in Figure C2-2. (t5enpx03.jpeg)

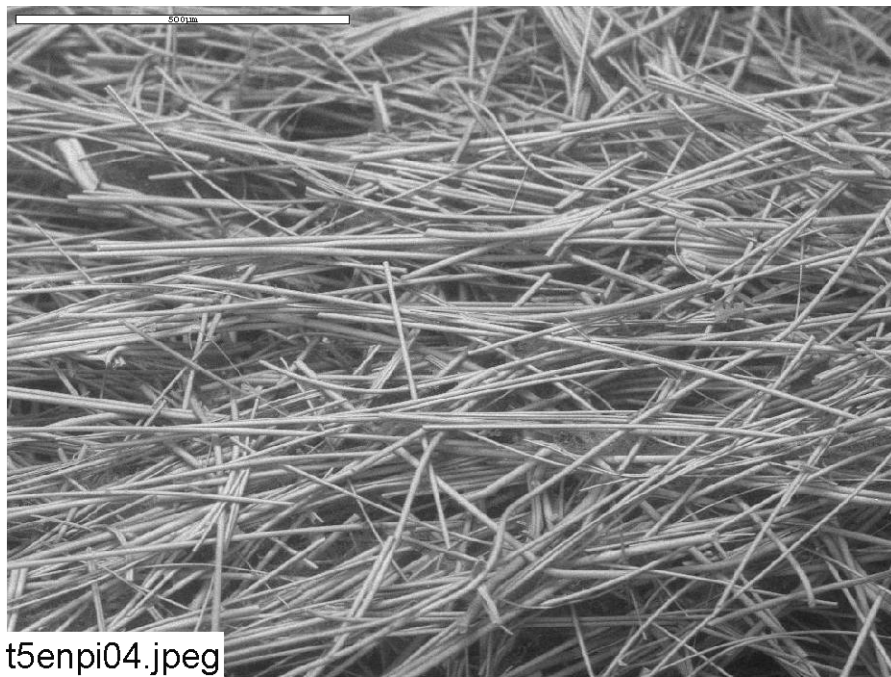
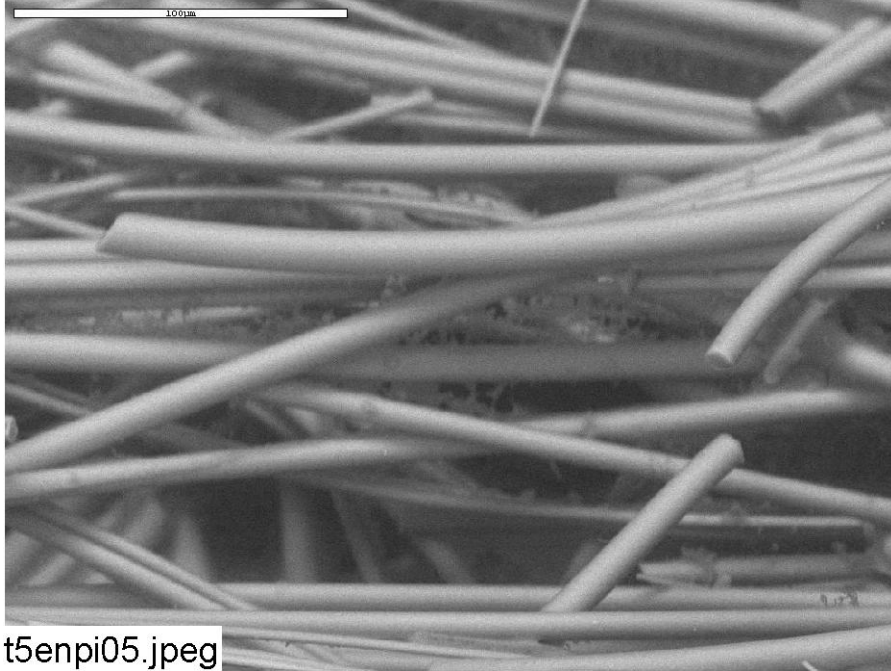


Figure C2-4. ESEM image magnified 100 times for a Test #5, Day-30 low-flow interior fiberglass sample in a big envelope. (T5enpi04.jpeg)



t5enpi05.jpeg

**Figure C2-5. ESEM image magnified 500 times for a Test #5, Day-30 low-flow interior fiberglass sample in a big envelope. (T5enpi05.jpeg)**

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