

## Appendix C6

# ESEM/EDS Data for Test #4, Day-30 Drain Collar Fiberglass

### Figures

Figure C6-1. Environmental SEM image magnified 100 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (away from the drain screen). (T4DCOX01.jpg).....	C6-5
Figure C6-2. Environmental SEM image magnified 100 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (away from the drain screen). (t4dcox05.jpg).....	C6-5
Figure C6-3. Environmental SEM image magnified 500 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (away from the drain screen). (t4dcox02.jpg).....	C6-6
Figure C6-4. Environmental SEM image magnified 1000 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (away from the drain screen). (t4dcox03.jpg).....	C6-6
Figure C6-5. EDS counting spectrum for the large mass of particulate deposits on fiberglass shown in Figure C6-4. (t4dcox04.jpg).....	C6-7
Figure C6-6. Environmental SEM image magnified 100 times for a Test #4, Day-30 interior fiberglass sample on the drain collar. (t4dcin11.jpg).....	C6-7
Figure C6-7. Environmental SEM image magnified 100 times for a Test #4, Day-30 interior fiberglass sample on the drain collar. (t4dcin14.jpg).....	C6-8
Figure C6-8. Environmental SEM image magnified 500 times for a Test #4, Day-30 interior fiberglass sample on the drain collar. (t4dcin12.jpg).....	C6-8
Figure C6-9. Environmental SEM image magnified 500 times for a Test #4, Day-30 interior fiberglass sample on the drain collar. (t4dcin13.jpg).....	C6-9
Figure C6-10. Environmental SEM image magnified 500 times for a Test #4, Day-30 interior fiberglass sample on the drain collar. (t4dcin15.jpg).....	C6-9
Figure C6-11. Environmental SEM image magnified 100 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (next to the drain screen). (t4dcix06.jpg).....	C6-10

Figure C6-12. Environmental SEM image magnified 100 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (next to the drain screen). (t4dcix10.jpg)..... C6-10

Figure C6-13. Environmental SEM image magnified 500 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (next to the drain screen). (t4dcix07.jpg)..... C6-11

Figure C6-14. Environmental SEM image magnified 1000 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (next to the drain screen). (t4dcix08.jpg)..... C6-11

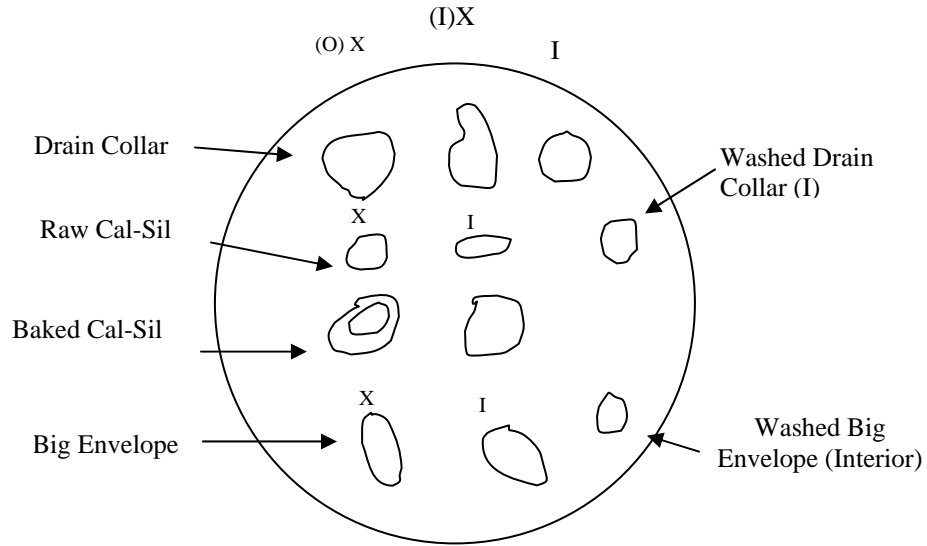
Figure C6-15. EDS counting spectrum for the large mass of particulate deposits on fiberglass shown in Figure C6-14. (t4dcix09.jpg)..... C6-12

In this appendix, ESEM/EDS results are shown from the examination of the fiberglass samples within the drain collar submerged in the tank. The fiberglass samples within the drain collar were extracted on the date Test #4 was shut down (June 23, 2005). The fiberglass samples located at the outside exterior (away from the drain screen), the inside exterior (next to the drain screen), and the interior 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. ESEM/EDS results of the Test #4, Day-30 drain collar fiberglass samples were obtained on June 30, 2005. EDS results provide an elemental composition analysis of the debris attached on fiberglass.

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## Transcribed Laboratory Log

Laboratory session from June 30, 2005.  
 Test #4, Day-30 Drain Collar Fiberglass.



### Drain Collar Exterior (away from the drain screen)

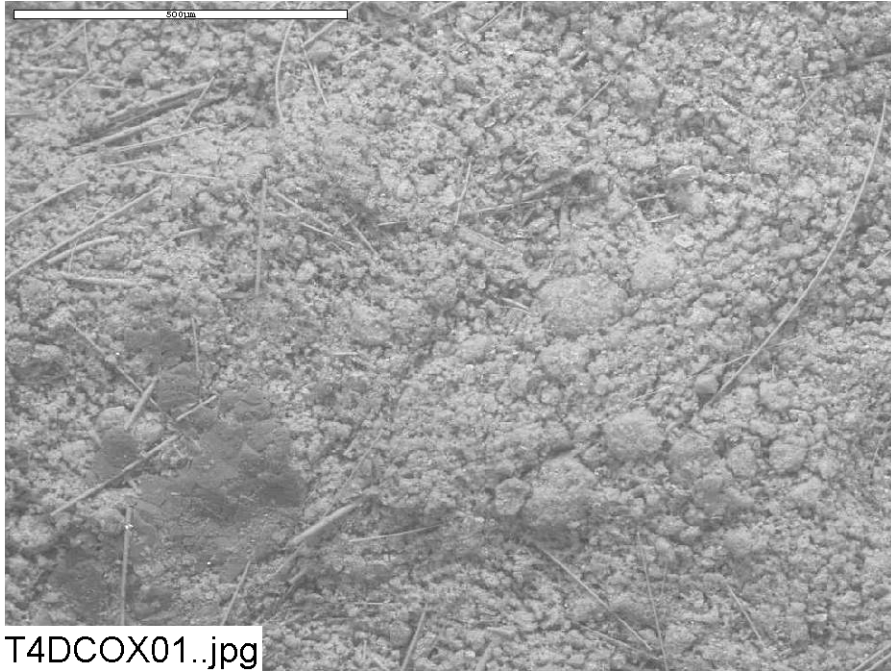
Image:	T4DCOX01	100 ×	ESEM image	Figure C6-1
	t4dcox05	100 ×	ESEM image	Figure C6-2
	t4dcox02	500 ×	ESEM image	Figure C6-3
	t4dcox03	1000 ×	ESEM at higher magnification	Figure C6-4
EDS:	t4dcox04		EDS on particles in t4dcox03	Figure C6-5

### Drain Collar Interior

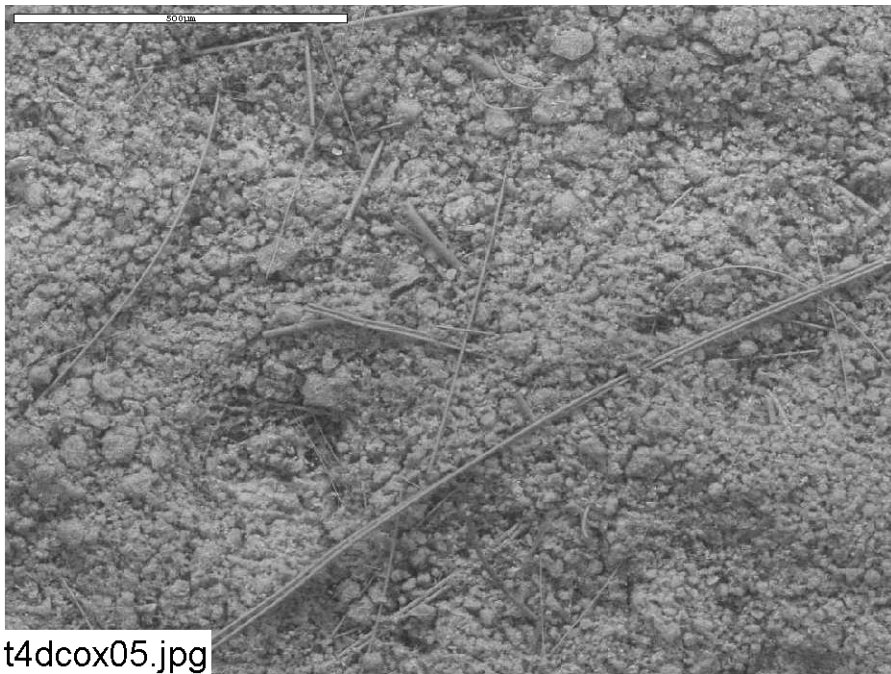
Image:	t4dcin11	100 ×	ESEM image	Figure C6-6
	t4dcin14	100 ×	ESEM image	Figure C6-7
	t4dcin12	500 ×	ESEM image higher magnification	Figure C6-8
	t4dcin13	500 ×	ESEM image high magnification	Figure C6-9
	t4dcin15	500 ×	ESEM image high magnification	Figure C6-10

**Drain Collar Exterior (Next to the Drain Screen)**

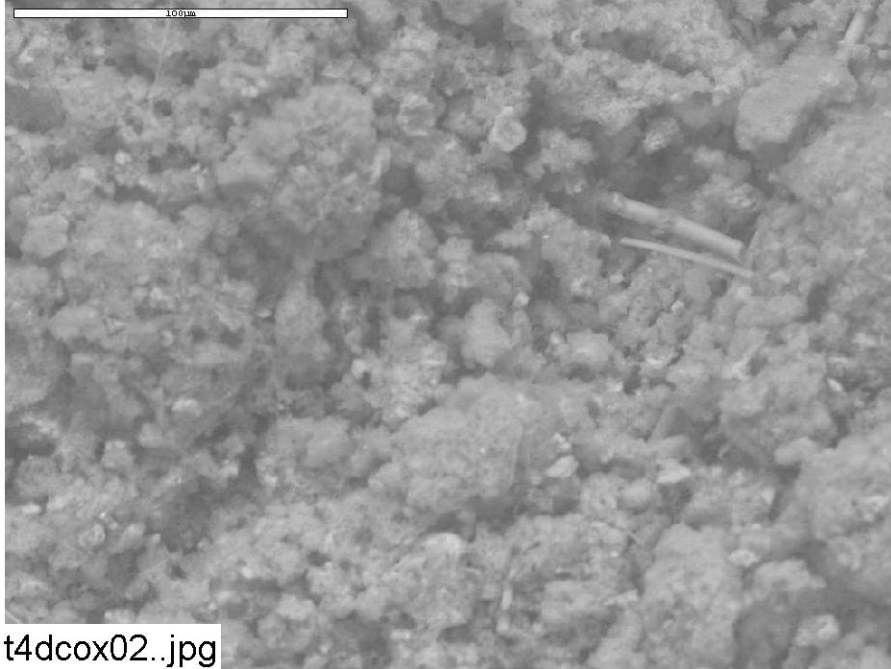
Image:	t4dcix06	100 ×	ESEM image	Figure C6-11
	t4dcix10	100 ×	ESEM image	Figure C6-12
	t4dcix07	500 ×	ESEM image	Figure C6-13
	t4dcix08	1000 ×	ESEM image higher magnification	Figure C6-14
EDS:	t4dcix09		EDS on particles in t4dcix08	Figure C6-15



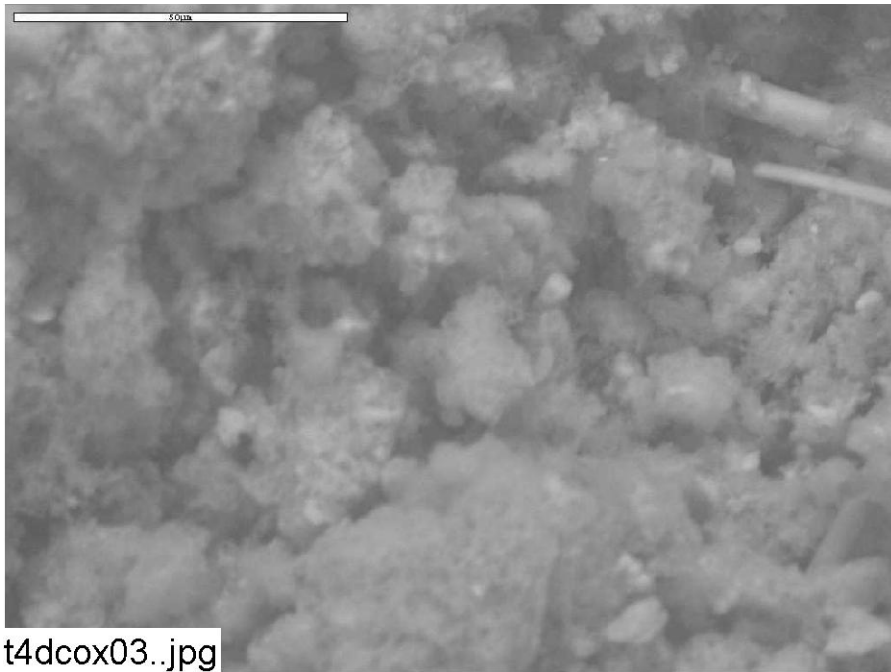
**Figure C6-1.** Environmental SEM image magnified 100 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (away from the drain screen). (T4DCOX01.jpg)



**Figure C6-2.** Environmental SEM image magnified 100 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (away from the drain screen). (t4dcox05.jpg)



**Figure C6-3. Environmental SEM image magnified 500 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (away from the drain screen). (t4dcox02.jpg)**



**Figure C6-4. Environmental SEM image magnified 1000 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (away from the drain screen). (t4dcox03.jpg)**



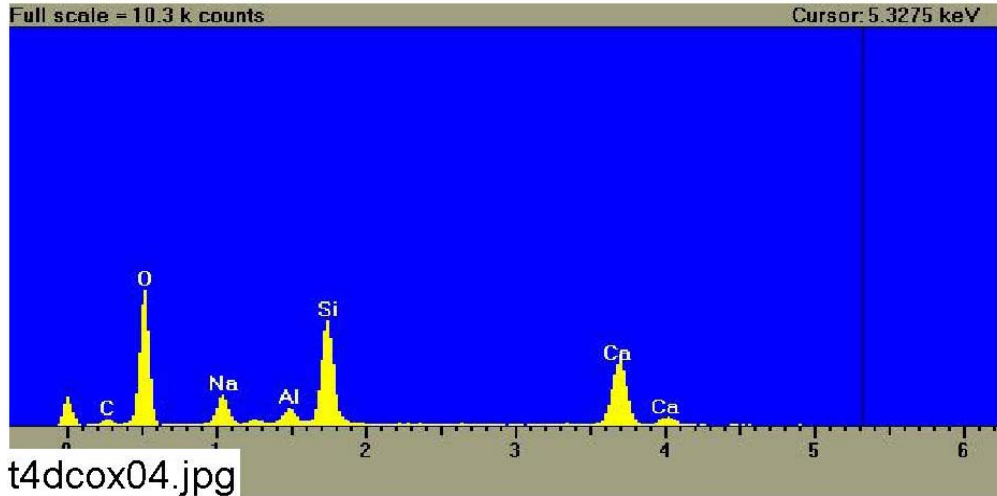


Figure C6-5. EDS counting spectrum for the large mass of particulate deposits on fiberglass shown in Figure C6-4. (t4dcox04.jpg)

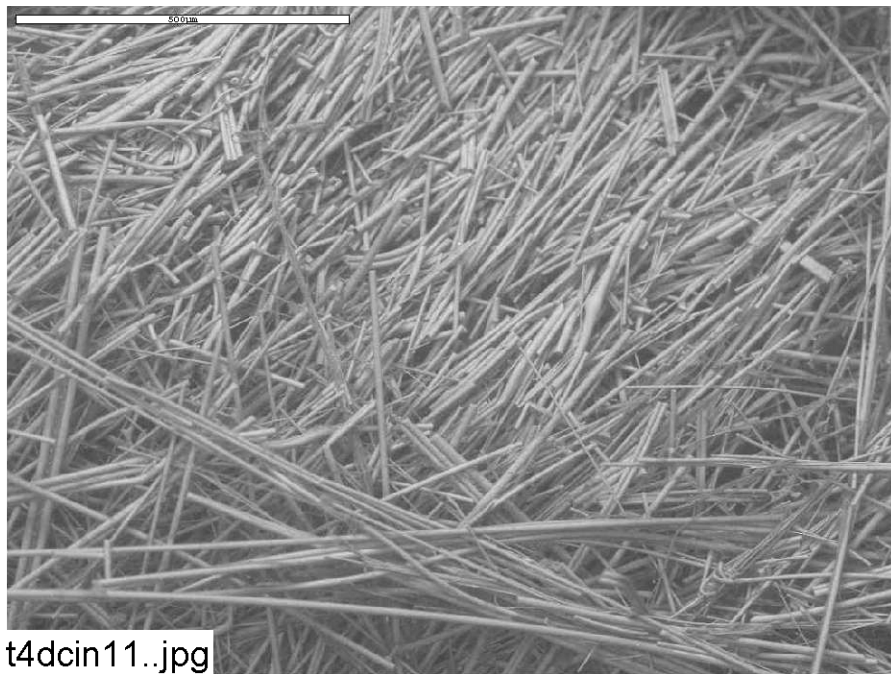
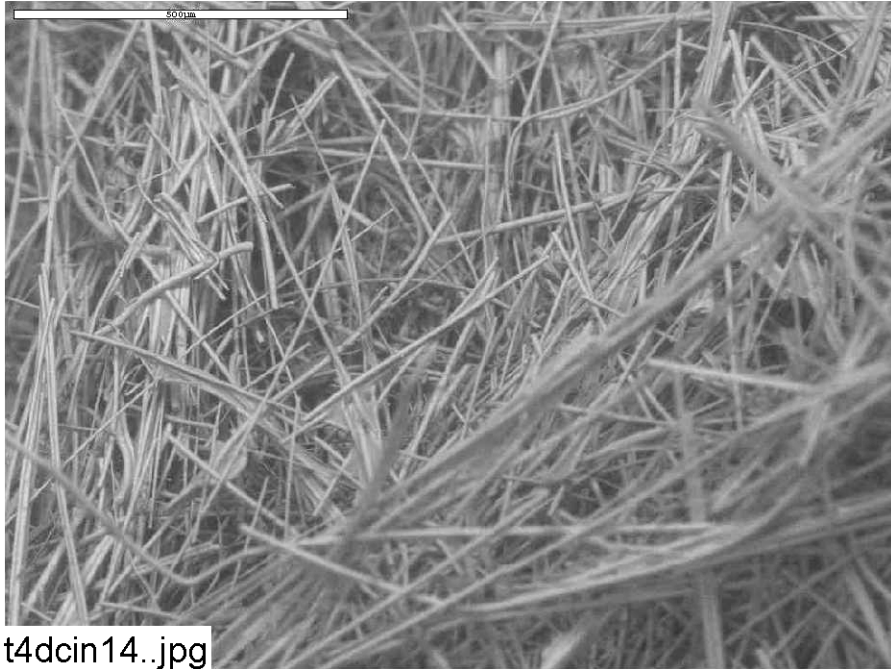
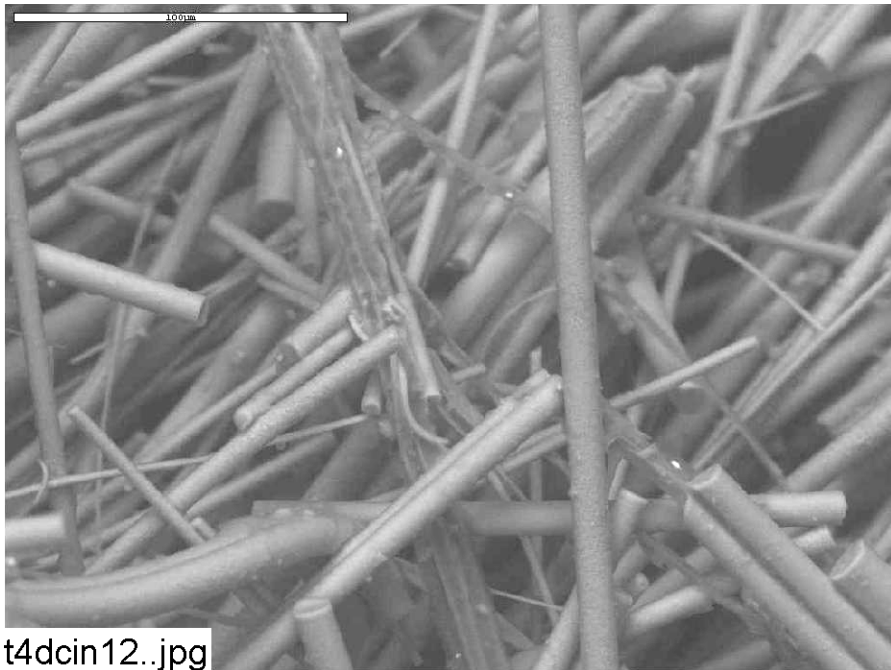


Figure C6-6. Environmental SEM image magnified 100 times for a Test #4, Day-30 interior fiberglass sample on the drain collar. (t4dcin11.jpg)



t4dcin14..jpg

**Figure C6-7.** Environmental SEM image magnified 100 times for a Test #4, Day-30 interior fiberglass sample on the drain collar. (t4dcin14.jpg)

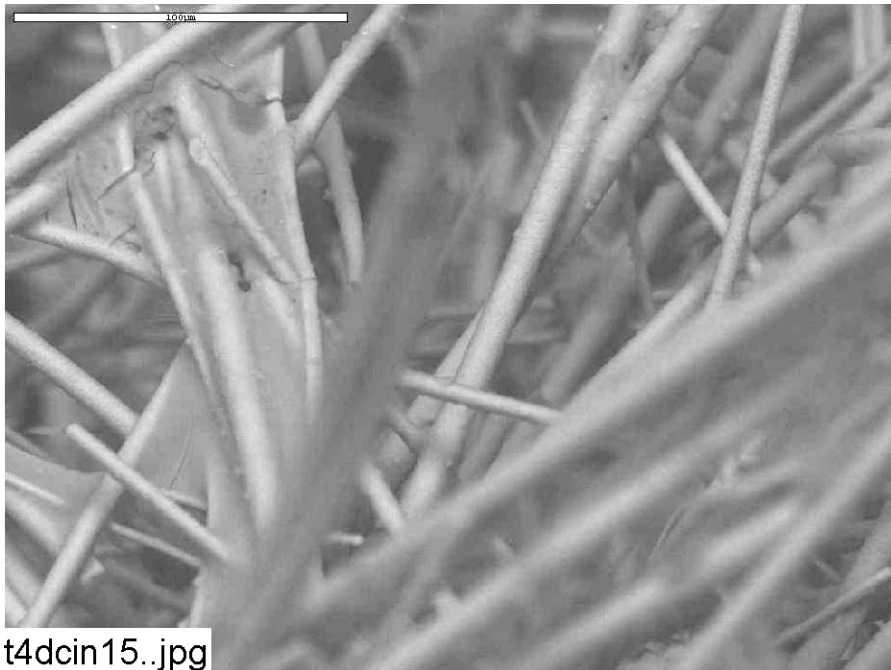


t4dcin12..jpg

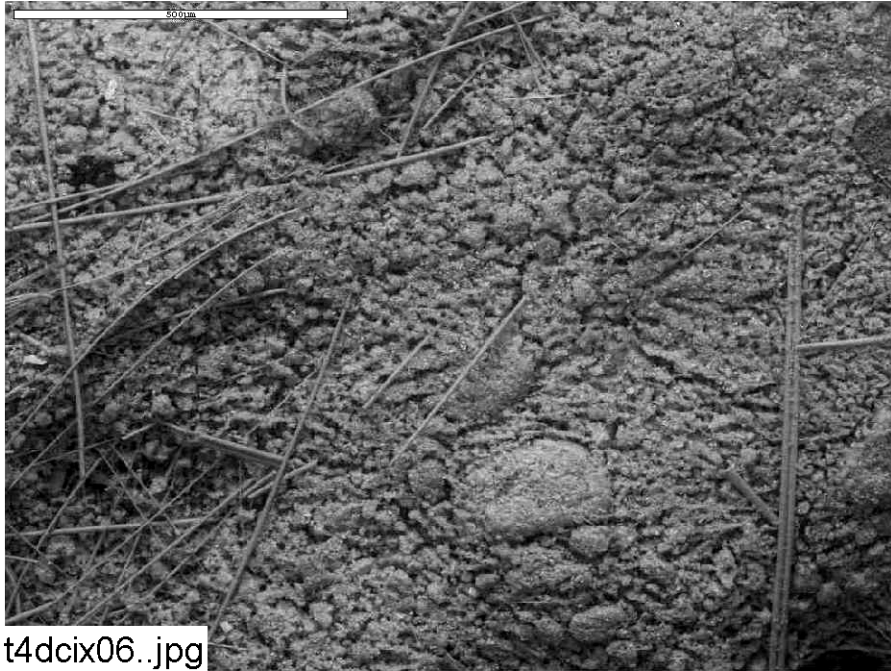
**Figure C6-8.** Environmental SEM image magnified 500 times for a Test #4, Day-30 interior fiberglass sample on the drain collar. (t4dcin12.jpg)



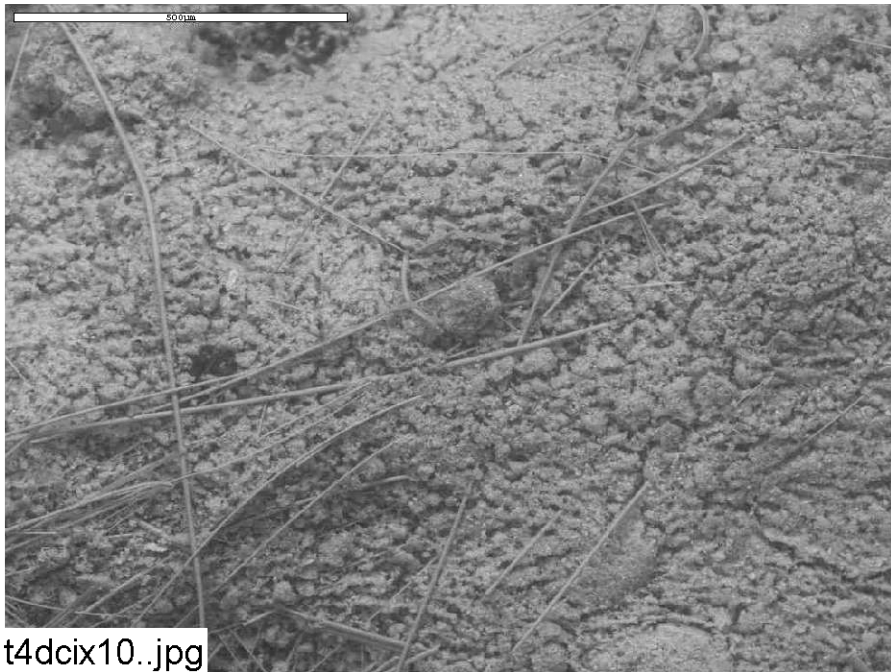
**Figure C6-9.** Environmental SEM image magnified 500 times for a Test #4, Day-30 interior fiberglass sample on the drain collar. (t4dcin13.jpg)



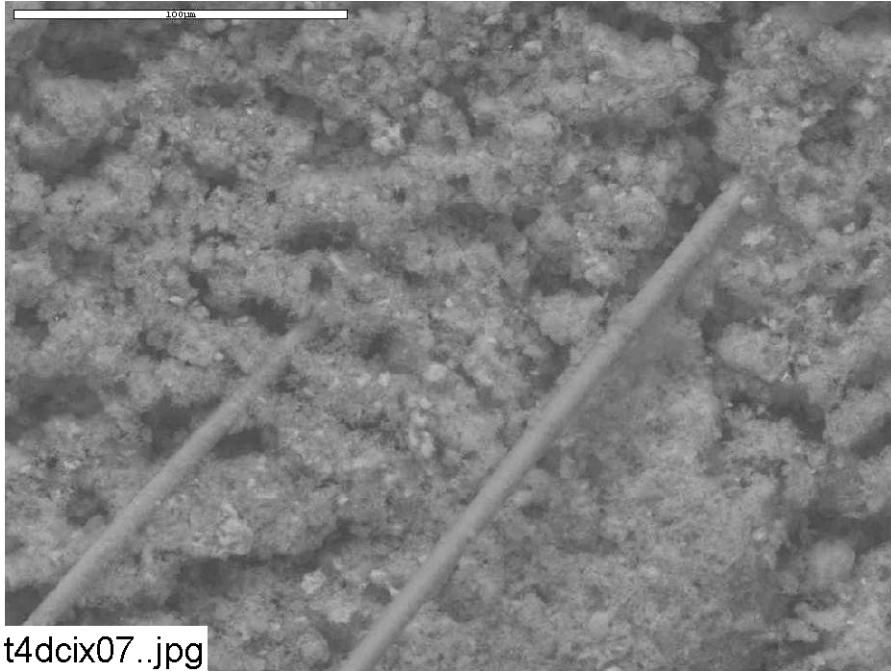
**Figure C6-10.** Environmental SEM image magnified 500 times for a Test #4, Day-30 interior fiberglass sample on the drain collar. (t4dcin15.jpg)



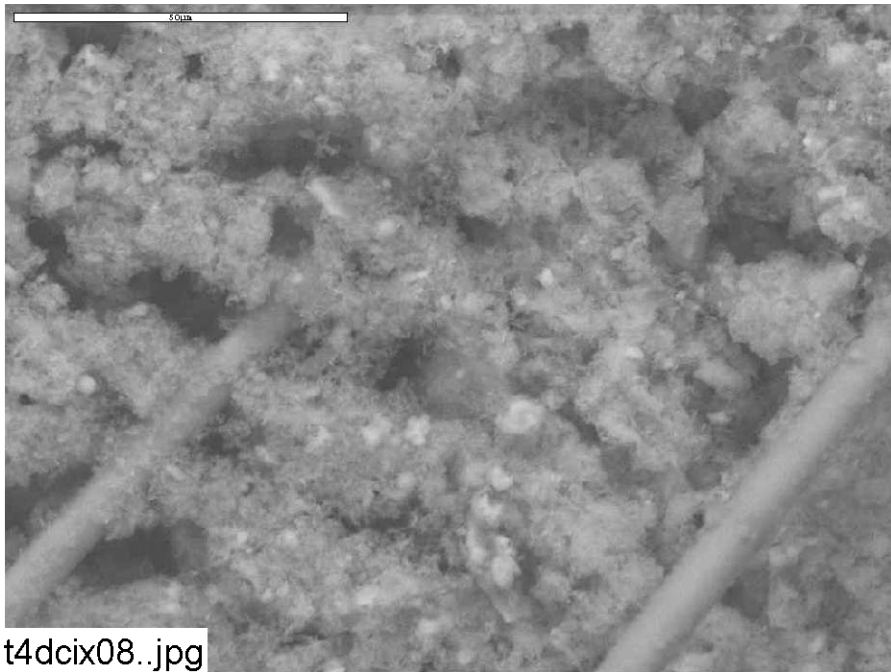
**Figure C6-11. Environmental SEM image magnified 100 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (next to the drain screen). (t4dcix06.jpg)**



**Figure C6-12. Environmental SEM image magnified 100 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (next to the drain screen). (t4dcix10.jpg)**



**Figure C6-13. Environmental SEM image magnified 500 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (next to the drain screen). (t4dcix07.jpg)**



**Figure C6-14. Environmental SEM image magnified 1000 times for a Test #4, Day-30 exterior fiberglass sample on the drain collar (next to the drain screen). (t4dcix08.jpg)**

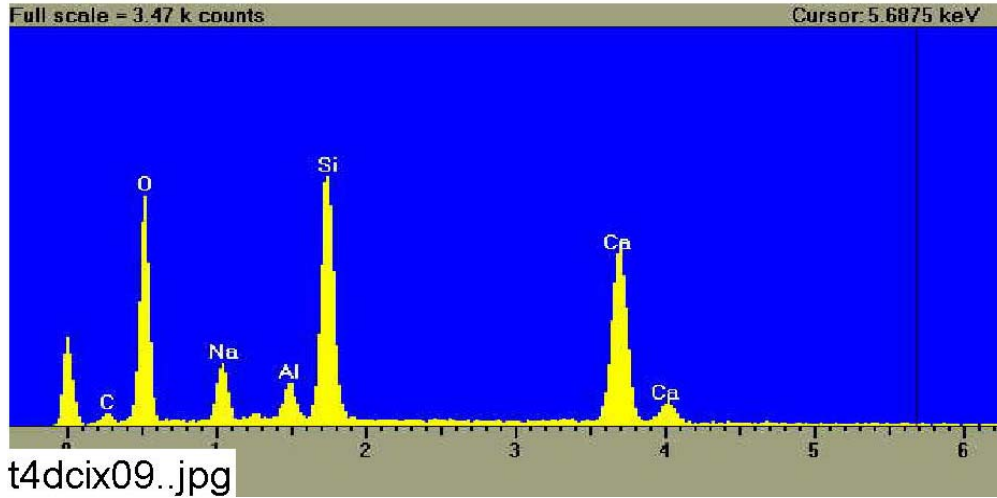


Figure C6-15. EDS counting spectrum for the large mass of particulate deposits on fiberglass shown in Figure C6-14. (t4dcix09.jpg)

## Appendix C7

### ESEM/EDS Data for Test #4, Day-30 Birdcage Fiberglass

#### Figures

- Figure C7-1. Environmental SEM image magnified 100 times for a Test #4, Day-30 exterior fiberglass sample within the birdcage. (T4D30BX1.jpg)..... C7-4
- Figure C7-2. Annotated environmental SEM image magnified 500 times for a Test #4, Day-30 exterior fiberglass sample within the birdcage. (t4d30bx4.jpg)..... C7-4
- Figure C7-3. EDS counting spectrum for the particulate deposits on fiberglass shown in Figure C7-2. (T4D30bx3.jpg) ..... C7-5
- Figure C7-4. Environmental SEM image magnified 100 times for a Test #4, Day-30 interior fiberglass sample within the birdcage. (t4d30bi5.jpg) ..... C7-5
- Figure C7-5. Environmental SEM image magnified 500 times for a Test #4, Day-30 interior fiberglass sample within the birdcage. (t4d30bi6.jpg) ..... C7-6
- Figure C7-6. Environmental SEM image magnified 500 times for a Test #4, Day-30 interior fiberglass sample within the birdcage. (t4d30bi7.jpg) ..... C7-6

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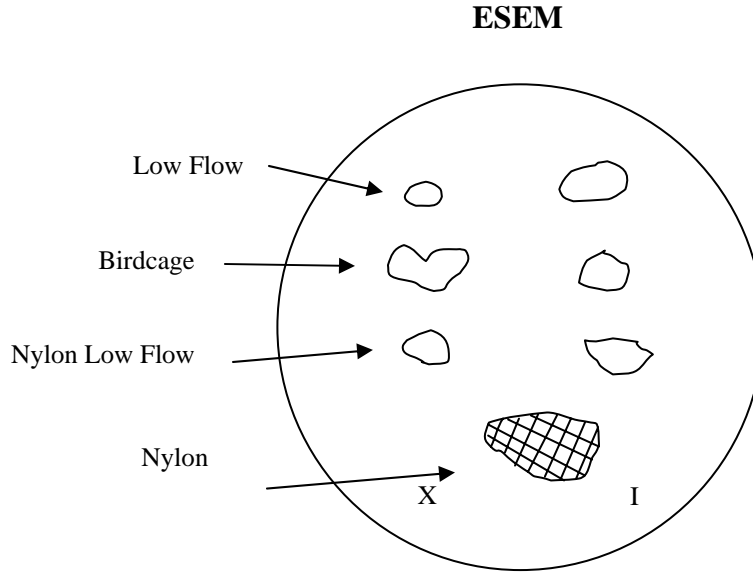
This appendix lists the ESEM/EDS results for the fiberglass samples within a birdcage submerged in the testing solution. The purpose of this analysis was to determine the degree and the extent that particulate debris migrated and attached on fiberglass. In this appendix, the fiberglass samples within the birdcage were extracted on June 23, 2005, the date the test was shut down. Both exterior and interior 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. ESEM/EDS results of the Test #4, Day-30 birdcage fiberglass samples were obtained on June 24, 2005.

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## Transcribed Laboratory Log

Laboratory session from June 24, 2005.

Test #4, Day-30 Birdcage Fiberglass

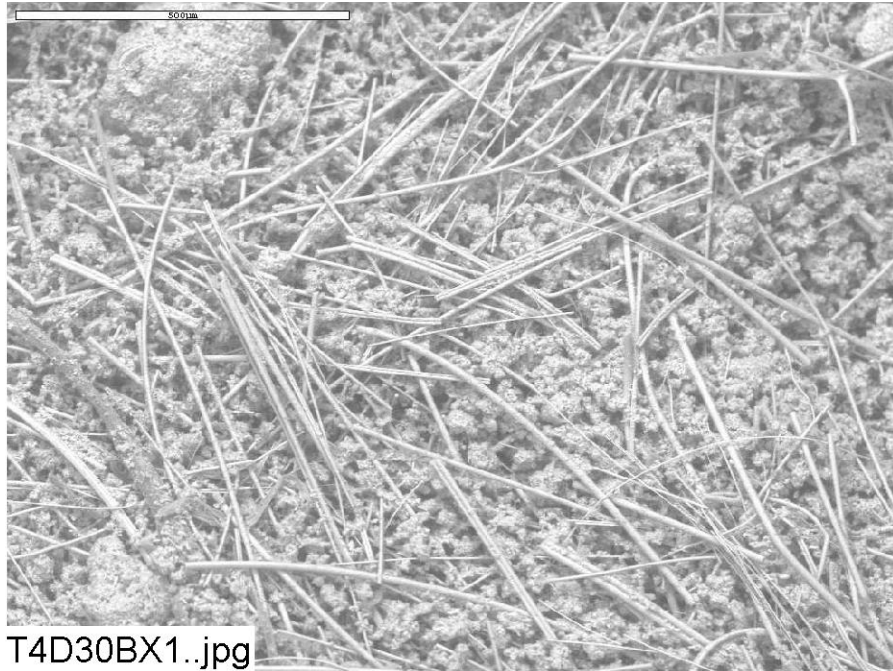


### Birdcage Exterior

Image: T4D30BX1	100 ×	ESEM image	Figure C7-1
t4d30bx4	500 ×	ESEM annotated image	Figure C7-2
EDS: t4d30bx3		EDS on particles in t4d30bx4	Figure C7-3

### Birdcage Interior

Image: t4d30bi5	100 ×	ESEM image of fiberglass	Figure C7-4
t4d30bi6	500 ×	ESEM image higher magnification	Figure C7-5
t4d30bi7	500 ×	ESEM image	Figure C7-6



**Figure C7-1.** Environmental SEM image magnified 100 times for a Test #4, Day-30 exterior fiberglass sample within the birdcage. (T4D30BX1.jpg)



**Figure C7-2.** Annotated environmental SEM image magnified 500 times for a Test #4, Day-30 exterior fiberglass sample within the birdcage. (t4d30bx4.jpg)

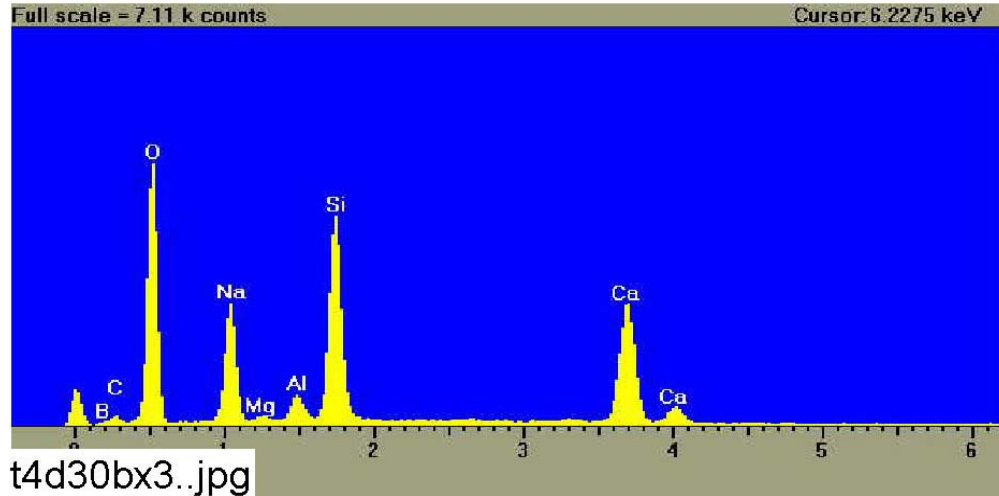


Figure C7-3. EDS counting spectrum for the particulate deposits on fiberglass shown in Figure C7-2. (T4D30bx3.jpg)

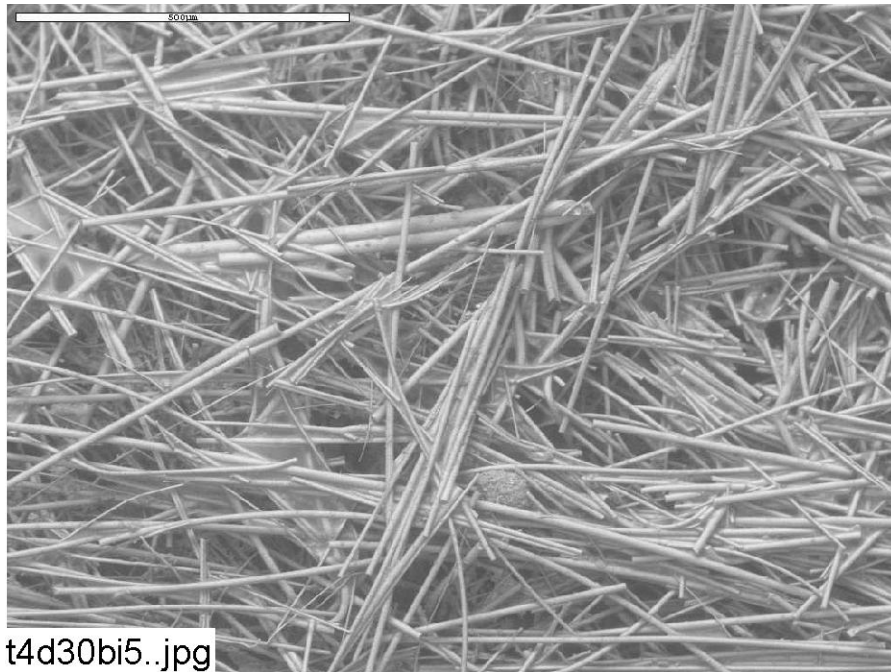
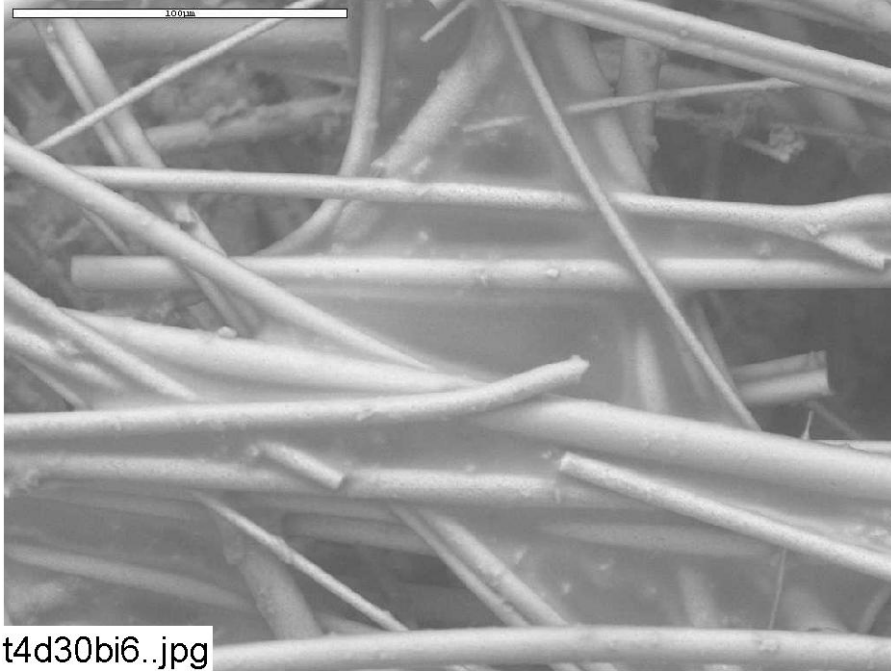
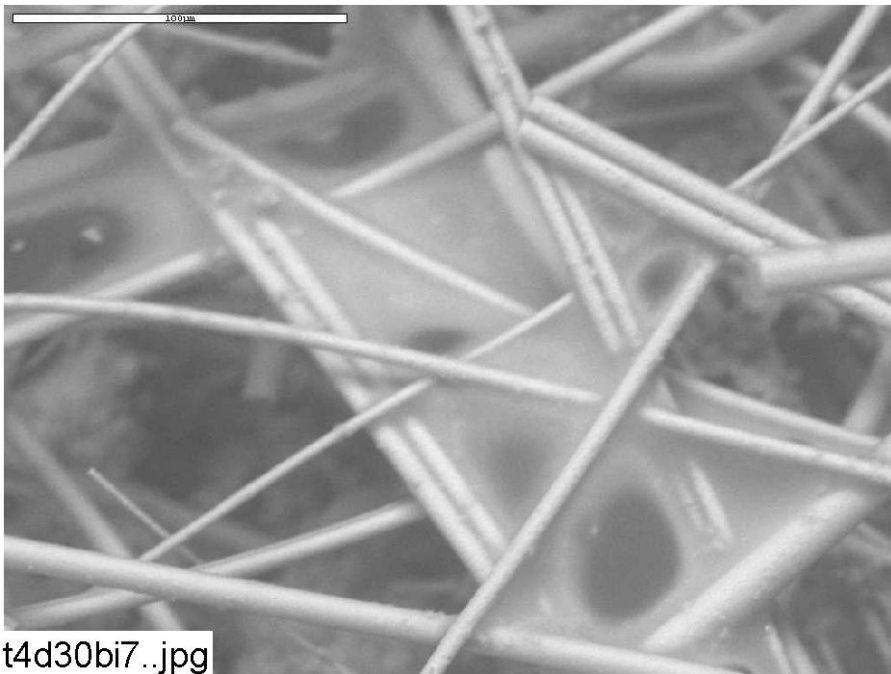


Figure C7-4. Environmental SEM image magnified 100 times for a Test #4, Day-30 interior fiberglass sample within the birdcage. (t4d30bi5.jpg)



**Figure C7-5. Environmental SEM image magnified 500 times for a Test #4, Day-30 interior fiberglass sample within the birdcage. (t4d30bi6.jpg)**



**Figure C7-6. Environmental SEM image magnified 500 times for a Test #4, Day-30 interior fiberglass sample within the birdcage. (t4d30bi7.jpg)**