

Appendix D
Scanning Electron Microscopy Images
(East Coast Ship, DE)

FIGURES

	Page
Figure D-1. SEM images of pure silver sample retrieved on 24 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	6
Figure D-2. SEM images of pure silver sample retrieved on 21 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	7
Figure D-3. SEM images of pure silver sample retrieved on 18 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	8
Figure D-4. SEM images of pure silver sample retrieved on 15 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	9
Figure D-5. SEM images of pure silver sample retrieved on 12 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	10
Figure D-6. SEM images of pure silver sample retrieved on 9 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	11
Figure D-7. SEM images of pure silver sample retrieved on 6 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.	12
Figure D-8. SEM images of pure silver sample retrieved on 3 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 1000X magnification.	13
Figure D-9. SEM images of aluminum alloy 7075 sample retrieved on 24 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	14
Figure D-10. SEM images of aluminum alloy 7075 sample retrieved on 21 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	15
Figure D-11. SEM images of aluminum alloy 7075 sample retrieved on 18 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	16
Figure D-12. SEM images of aluminum alloy 7075 sample retrieved on 15 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	17

Figure D-13. SEM images of aluminum alloy 7075 sample retrieved on 12 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 18

Figure D-14. SEM images of aluminum alloy 7075 sample retrieved on 9 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 19

Figure D-15. SEM images of aluminum alloy 7075 sample retrieved on 6 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 20

Figure D-16. SEM images of aluminum alloy 7075 sample retrieved on 3 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification..... 21

Figure D-17. SEM images of aluminum alloy 6061 sample retrieved on 24 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 22

Figure D-18. SEM images of aluminum alloy 6061 sample retrieved on 21 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification 23

Figure D-19. SEM images of aluminum alloy 6061 sample retrieved on 18 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification 24

Figure D-20. SEM images of aluminum alloy 6061 sample retrieved on 15 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification 25

Figure D-21. SEM images of aluminum alloy 6061 sample retrieved on 12 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 26

Figure D-22. SEM images of aluminum alloy 6061 sample retrieved on 9 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 27

Figure D-23. SEM images of aluminum alloy 6061 sample retrieved on 6 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 28

Figure D-24. SEM images of aluminum alloy 6061 sample retrieved on 3 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification..... 29

Figure D-25. SEM images of aluminum alloy 2024 sample retrieved on 24 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 30

Figure D-26. SEM images of aluminum alloy 2024 sample retrieved on 21 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 31

Figure D-27. SEM images of aluminum alloy 2024 sample retrieved on 18 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 32

Figure D-28. SEM images of aluminum alloy 2024 sample retrieved on 15 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 33

Figure D-29. SEM images of aluminum alloy 2024 sample retrieved on 12 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 34

Figure D-30. SEM images of aluminum alloy 2024 sample retrieved on 9 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 35

Figure D-31. SEM images of aluminum alloy 2024 sample retrieved on 6 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 36

Figure D-32. SEM images of aluminum alloy 2024 sample retrieved on 3 months exposure from East Coast Ship site. (a) 100X magnification, (b) 250X magnification, (c) 250X magnification, and (d) 500X magnification. 37

Figure D-33. SEM images of pure copper sample retrieved on 24 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 38

Figure D-34. SEM images of pure copper sample retrieved on 21 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 39

Figure D-35. SEM images of pure copper sample retrieved on 18 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 40

Figure D-36. SEM images of pure copper sample retrieved on 15 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 41

Figure D-37. SEM images of pure copper sample retrieved on 12 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 42

Figure D-38. SEM images of pure copper sample retrieved on 9 months exposure from East Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 43

Figure D-39. SEM images of pure copper sample retrieved on 6 months exposure from East Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 44

Figure D-40. SEM images of pure copper sample retrieved on 3 months exposure from East Coast Ship site.
(a) 100X magnification (b) 250X magnification, and (c) 500X magnification. 45

Figure D-41. SEM images of 1010 steel sample retrieved on 24 months exposure from East Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 46

Figure D-42. SEM images of 1010 steel sample retrieved on 21 months exposure from East Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 47

Figure D-43. SEM images of 1010 steel sample retrieved on 18 months exposure from East Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 48

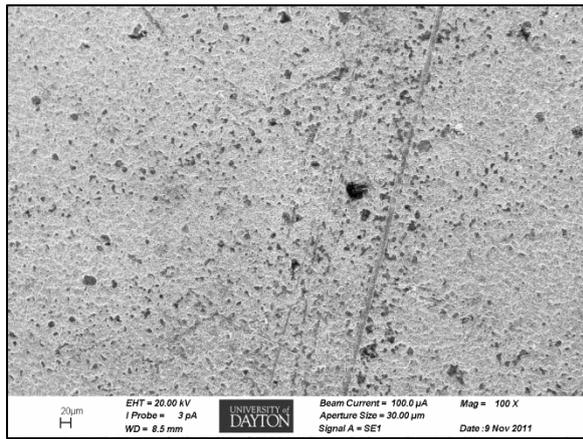
Figure D-44. SEM images of 1010 steel sample retrieved on 15 months exposure from East Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 49

Figure D-45. SEM images of 1010 steel sample retrieved on 12 months exposure from East Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 50

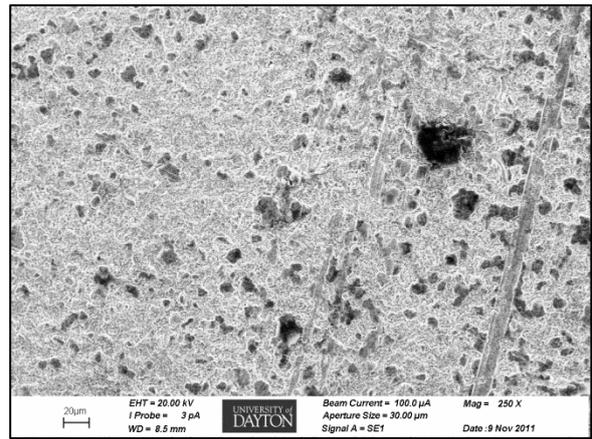
Figure D-46. SEM images of 1010 steel sample retrieved on 9 months exposure from East Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 51

Figure D-47. SEM images of 1010 steel sample retrieved on 6 months exposure from East Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 52

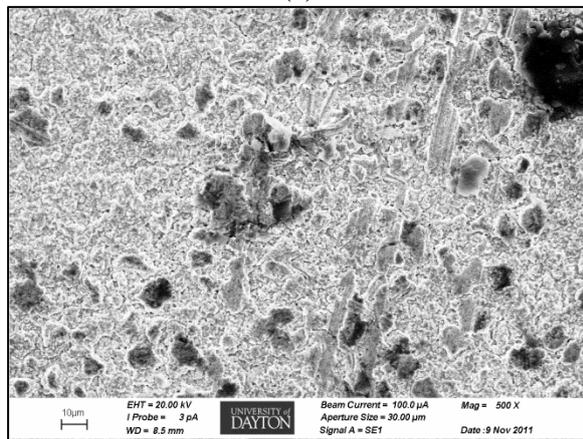
Figure D-48. SEM images of 1010 steel sample retrieved on 3 months exposure from East Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 53



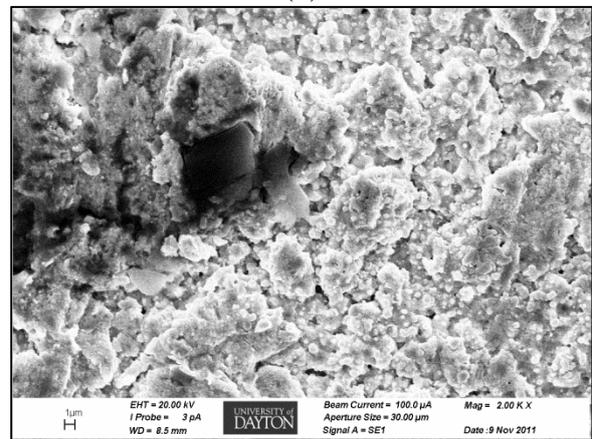
(a)



(b)

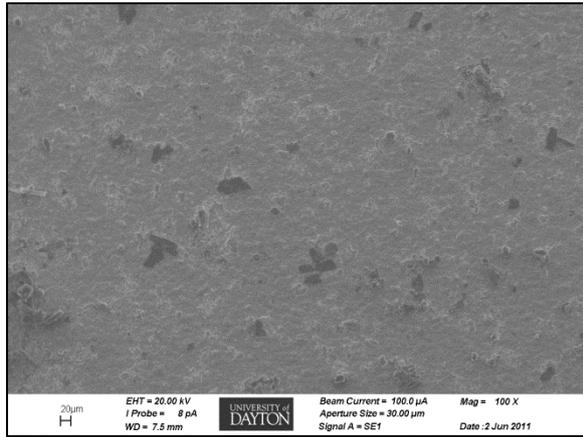


(c)

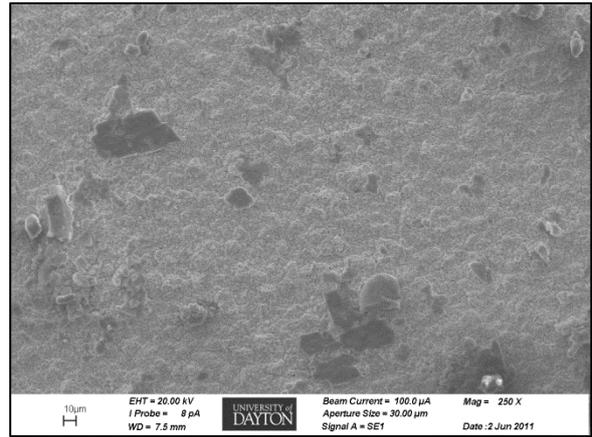


(d)

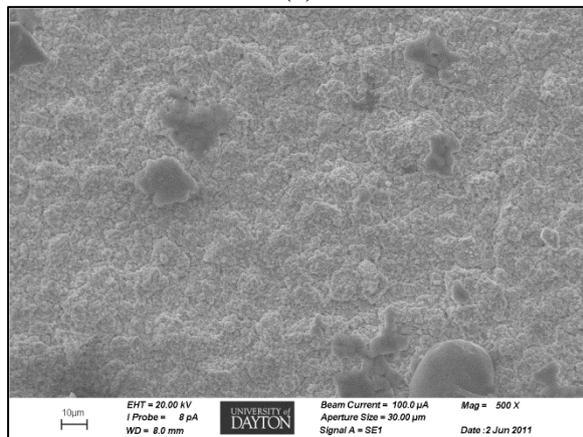
Figure D-1. SEM images of pure silver sample retrieved on 24 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



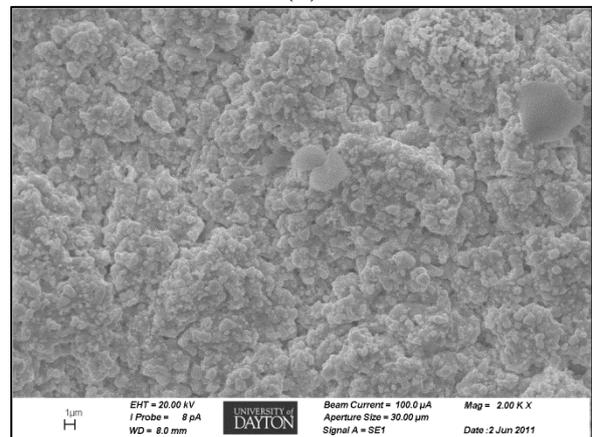
(a)



(b)

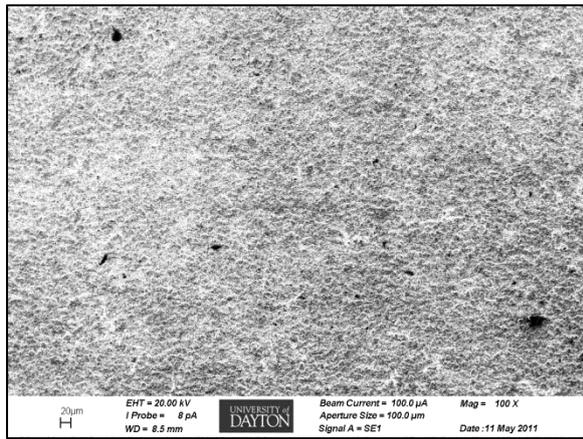


(c)

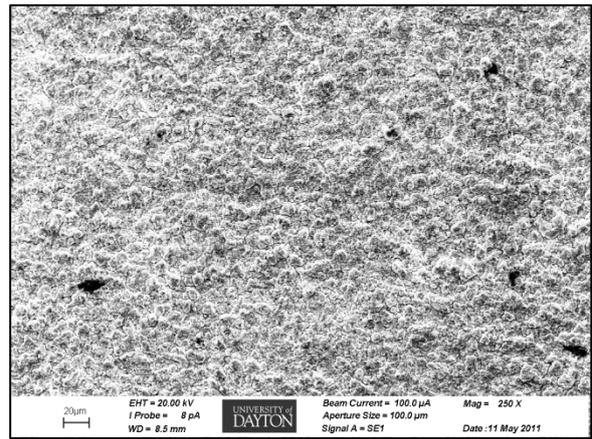


(d)

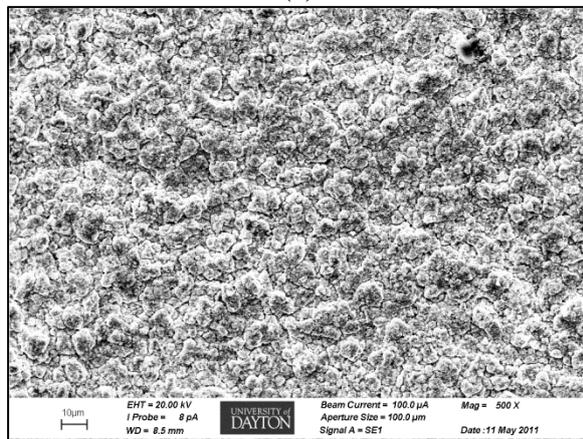
Figure D-2. SEM images of pure silver sample retrieved on 21 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



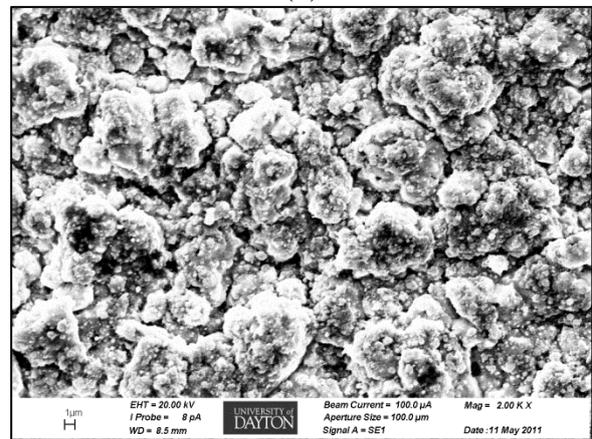
(a)



(b)

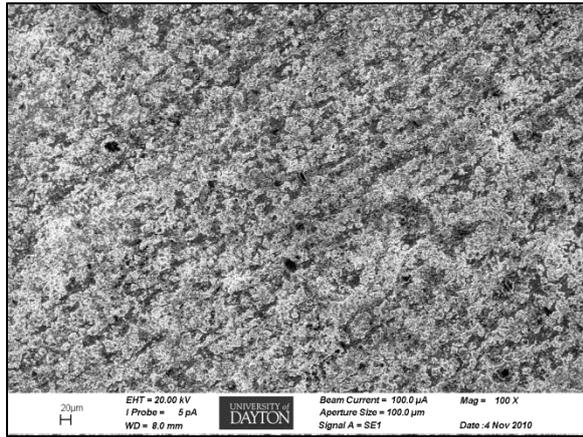


(c)

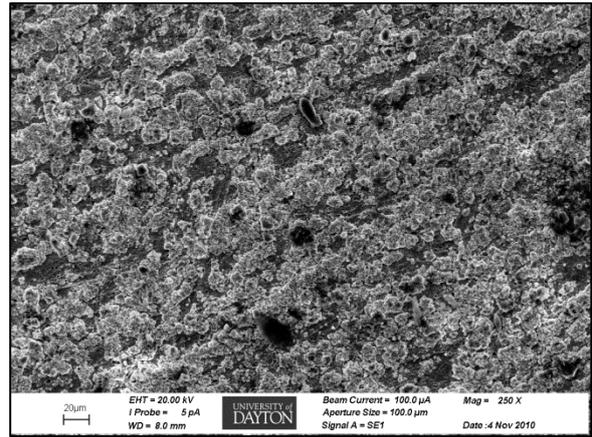


(d)

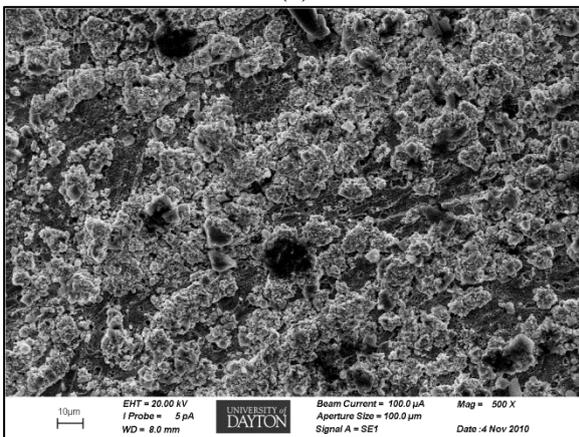
Figure D-3. SEM images of pure silver sample retrieved on 18 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



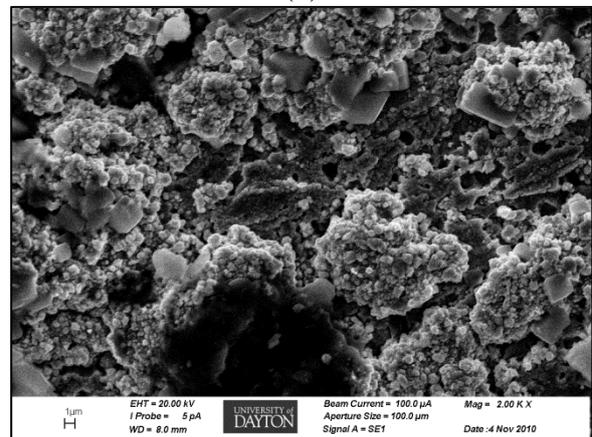
(a)



(b)

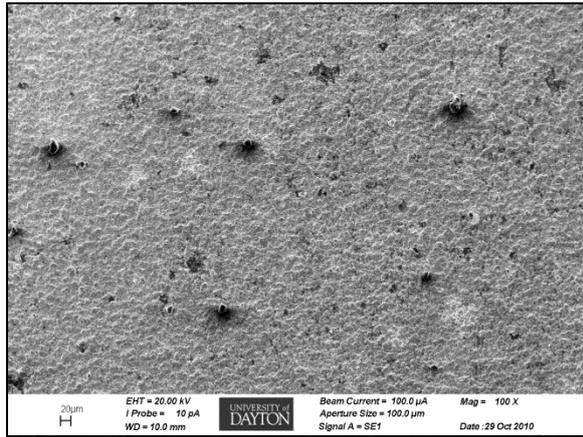


(c)

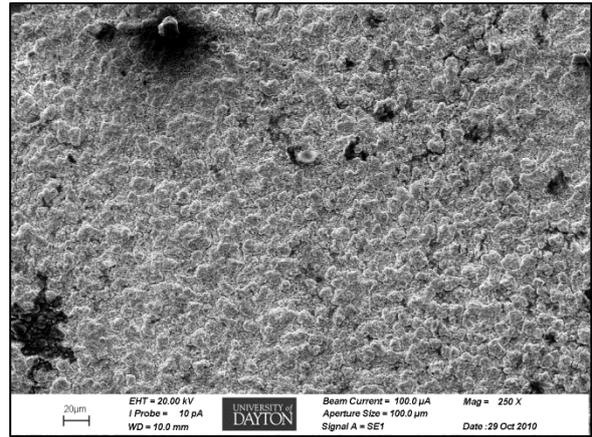


(d)

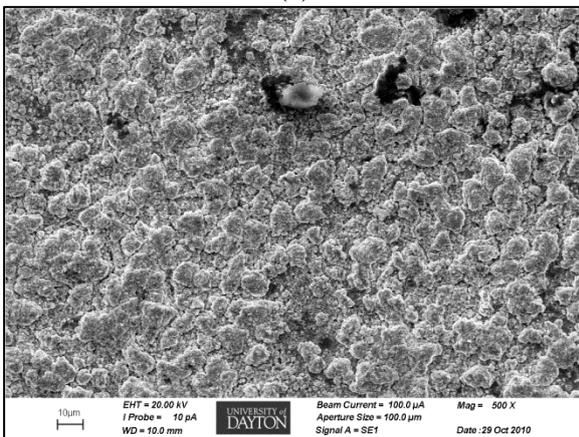
Figure D-4. SEM images of pure silver sample retrieved on 15 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



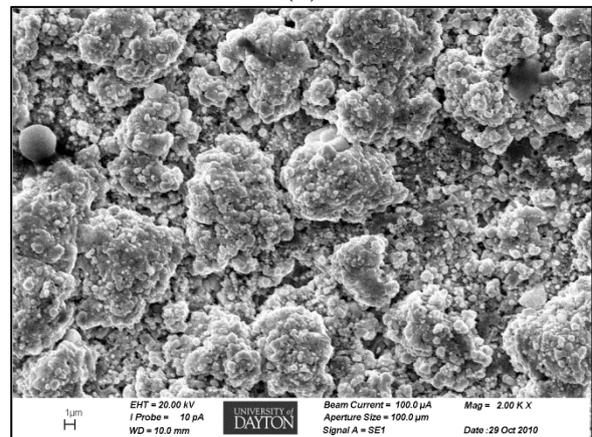
(a)



(b)

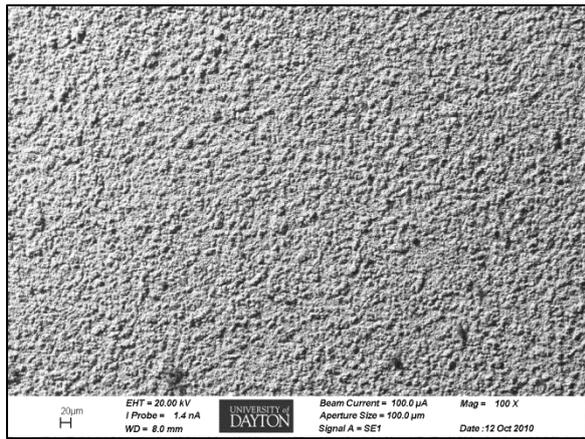


(c)

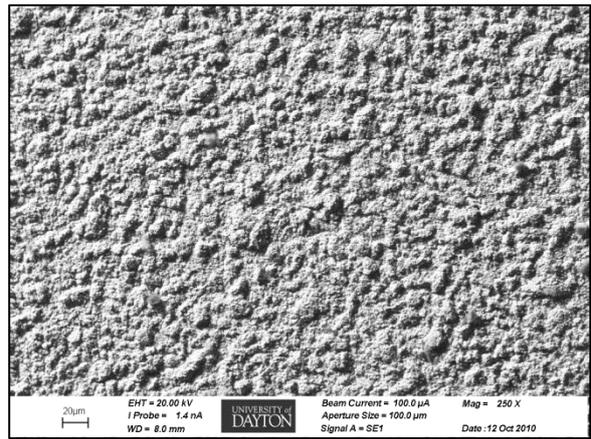


(d)

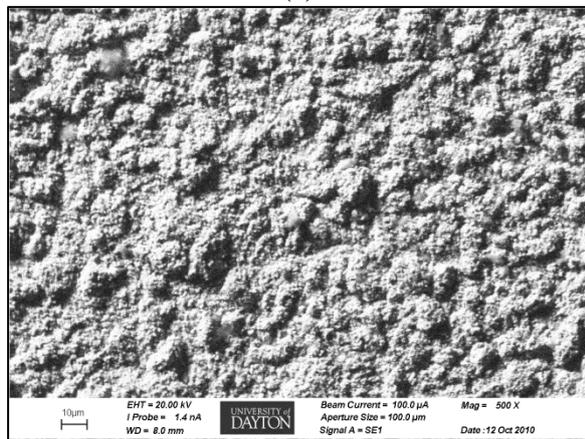
Figure D-5. SEM images of pure silver sample retrieved on 12 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



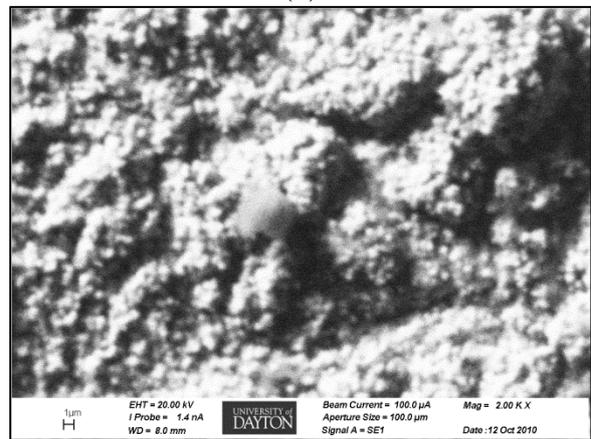
(a)



(b)

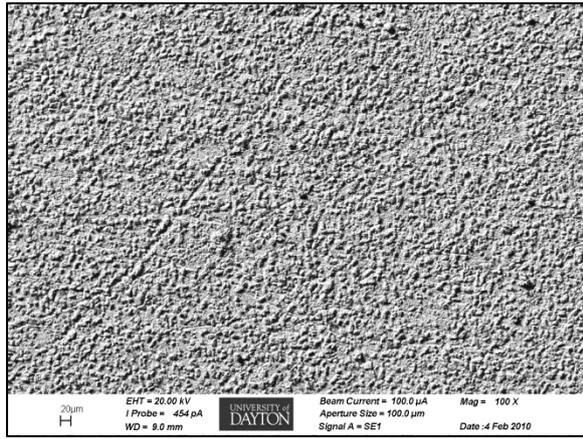


(c)

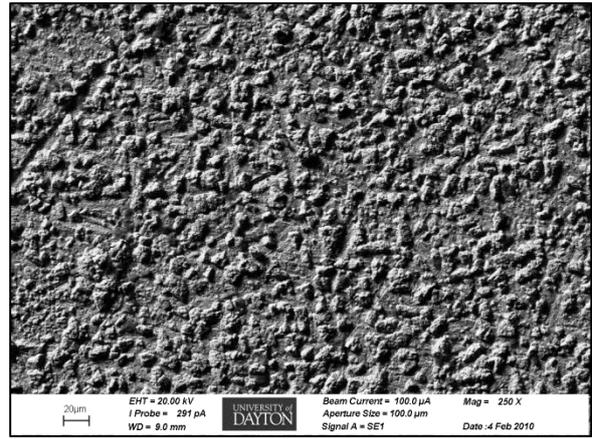


(d)

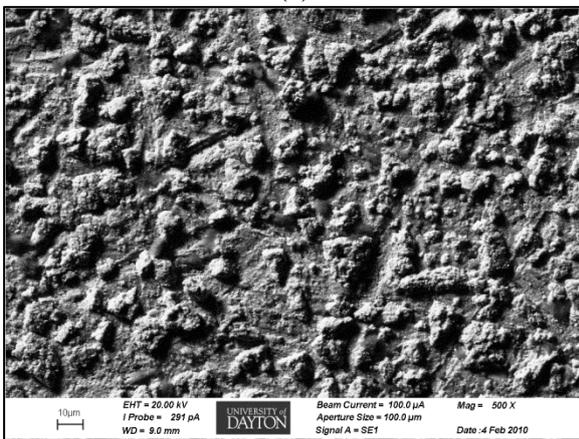
Figure D-6. SEM images of pure silver sample retrieved on 9 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



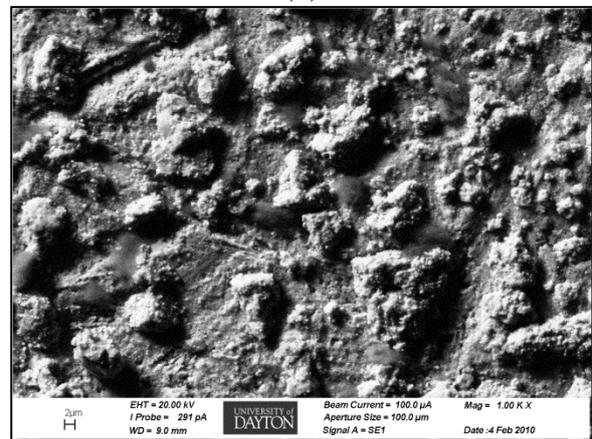
(a)



(b)



(c)



(d)

Figure D-7. SEM images of pure silver sample retrieved on 6 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.

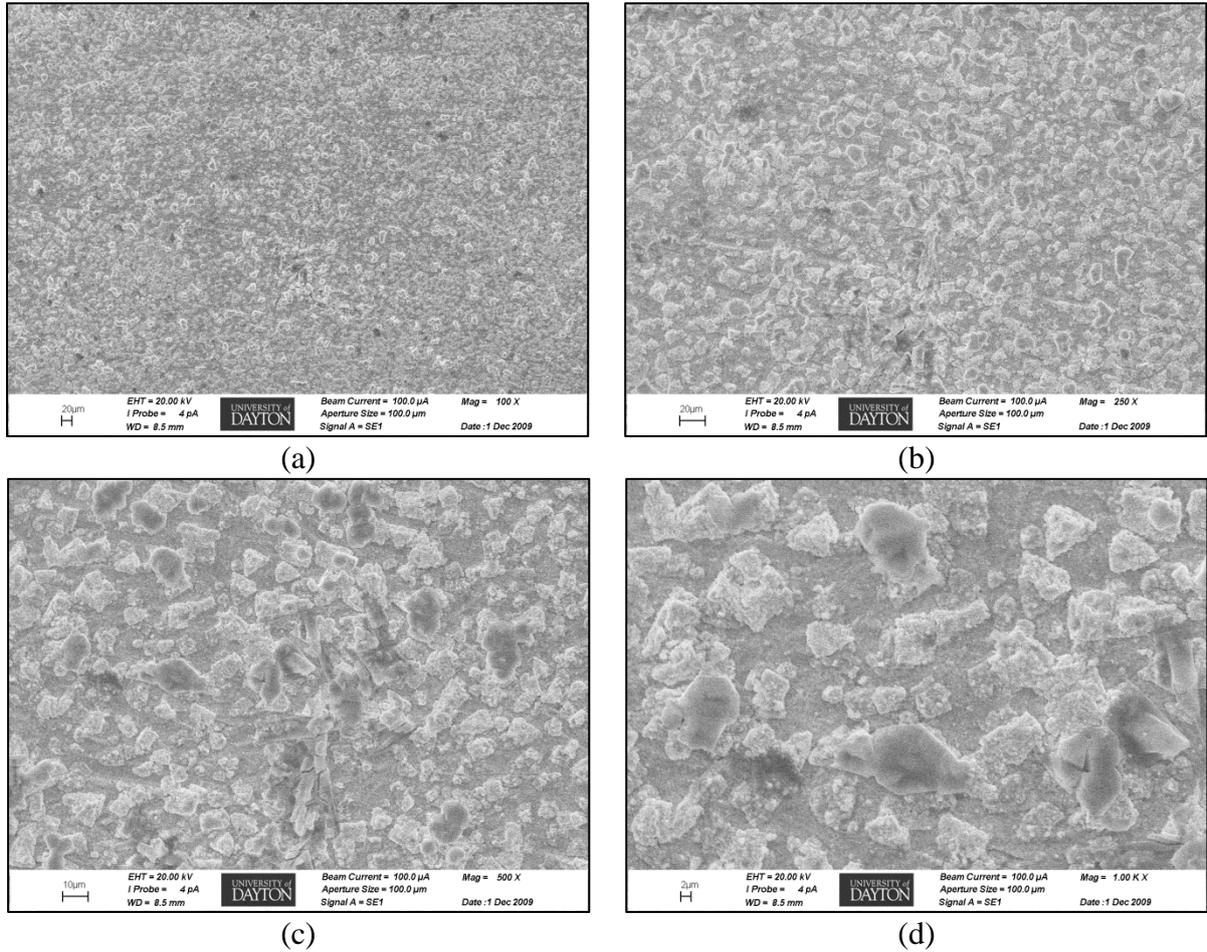
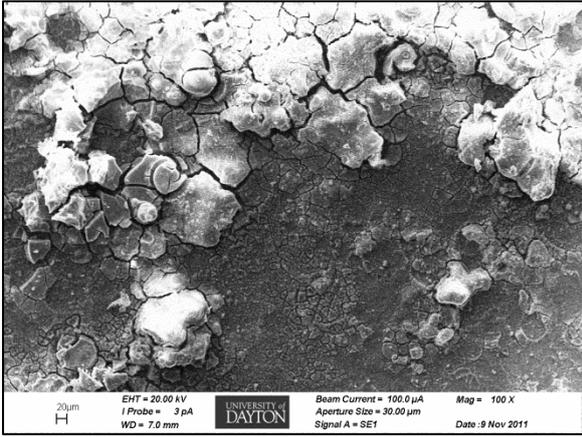
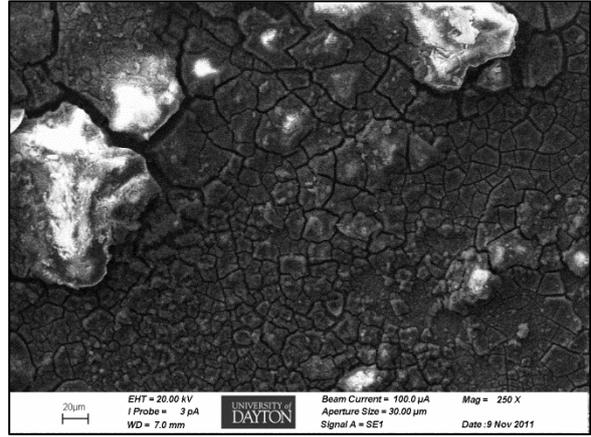


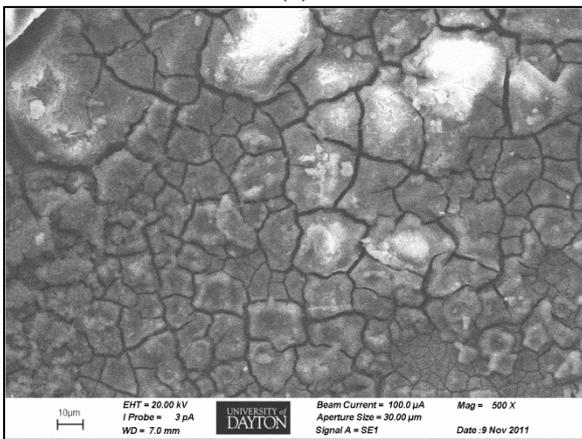
Figure D-8. SEM images of pure silver sample retrieved on 3 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 1000X magnification.



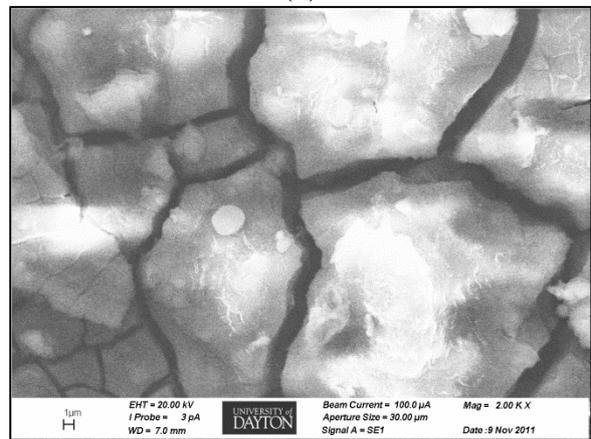
(a)



(b)

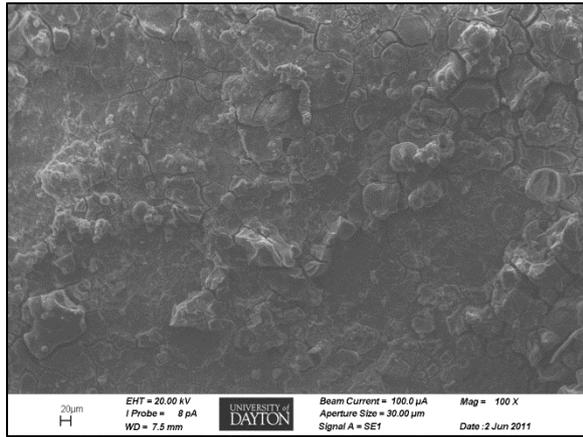


(c)

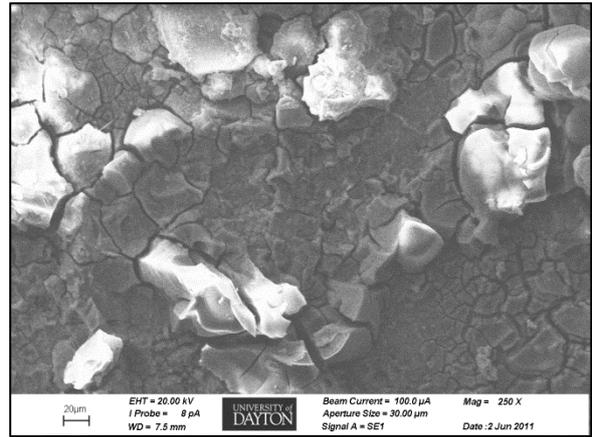


(d)

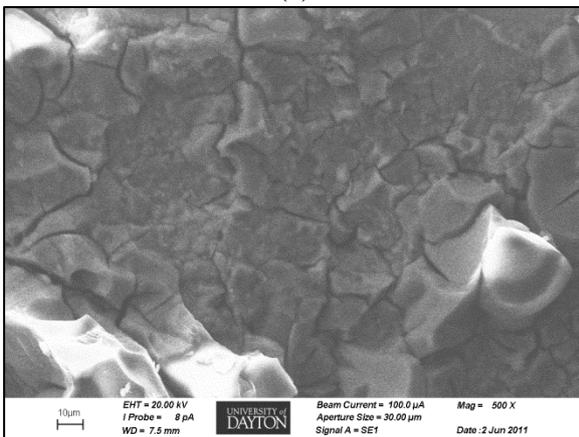
Figure D-9. SEM images of aluminum alloy 7075 sample retrieved on 24 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



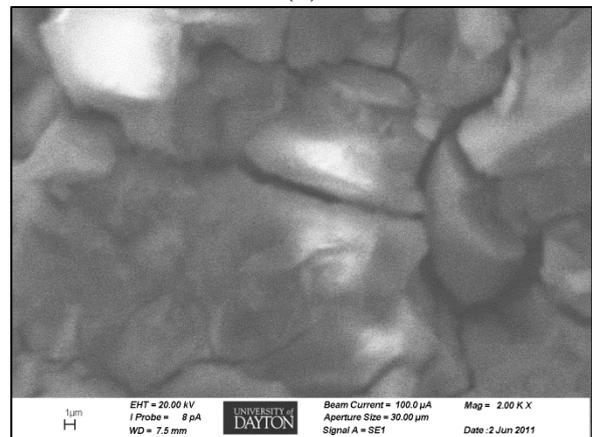
(a)



(b)

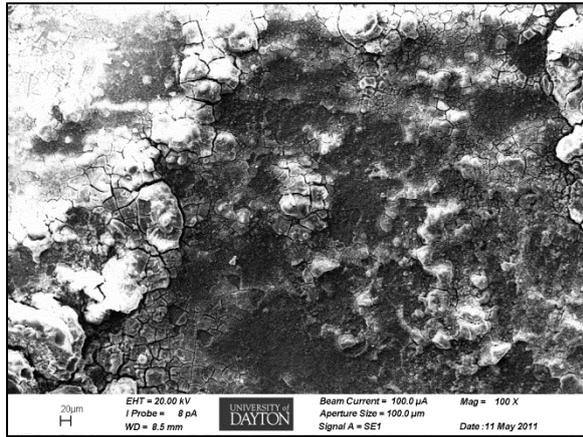


(c)

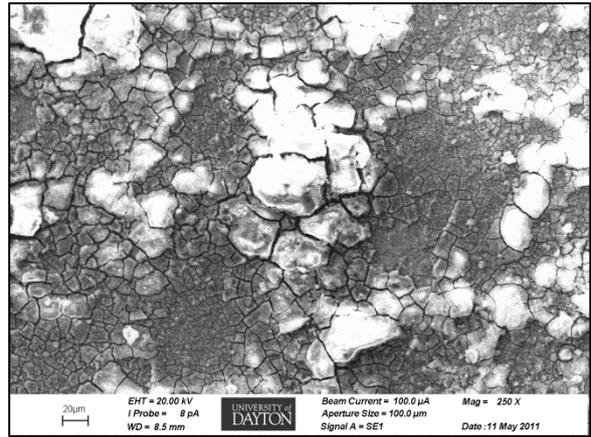


(d)

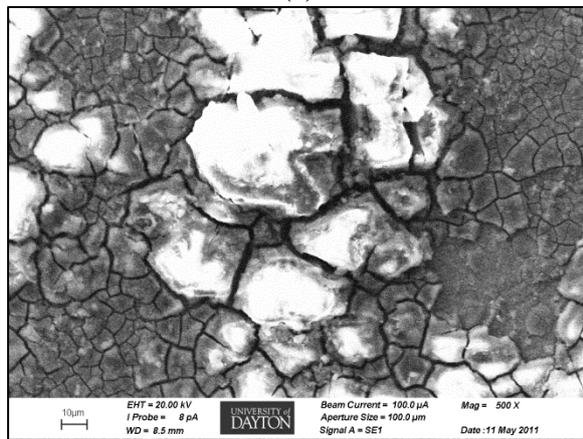
Figure D-10. SEM images of aluminum alloy 7075 sample retrieved on 21 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



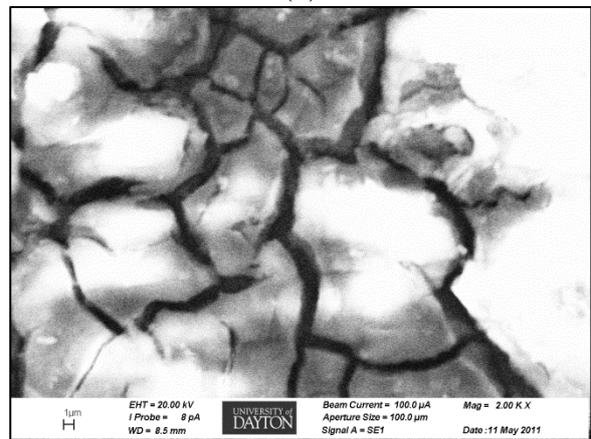
(a)



(b)

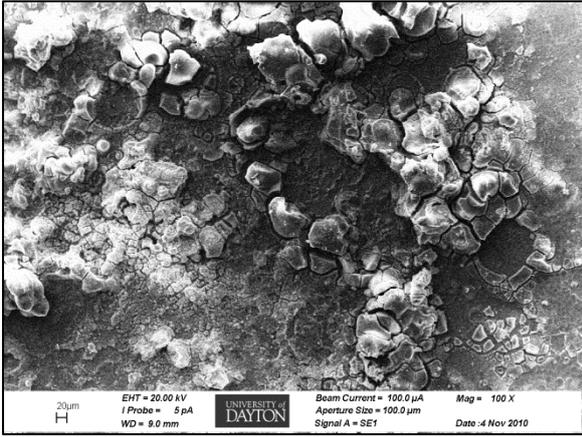


(c)

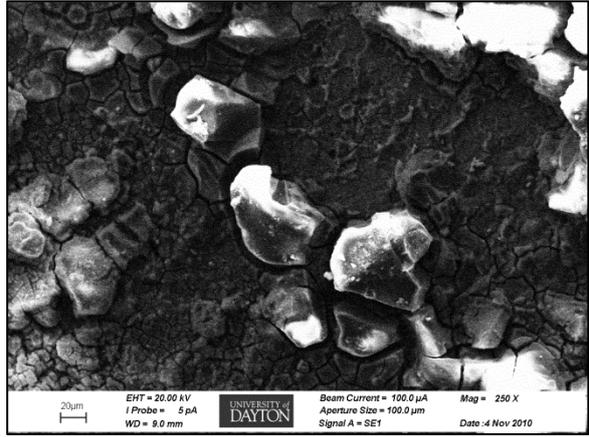


(d)

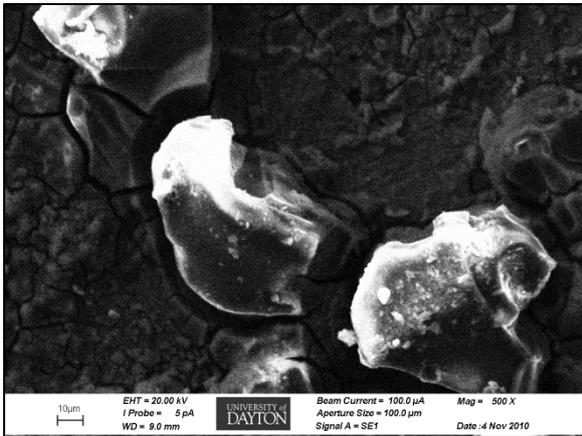
Figure D-11. SEM images of aluminum alloy 7075 sample retrieved on 18 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



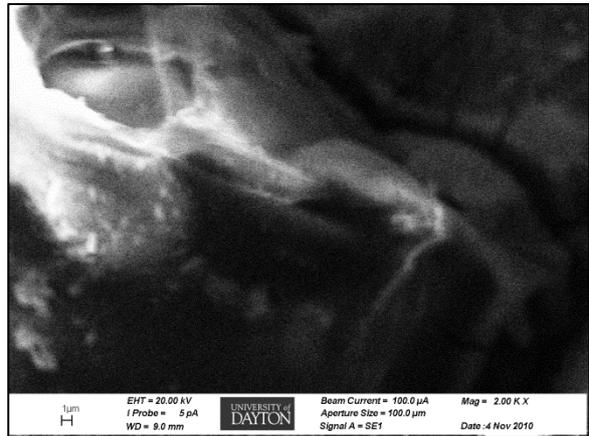
(a)



(b)

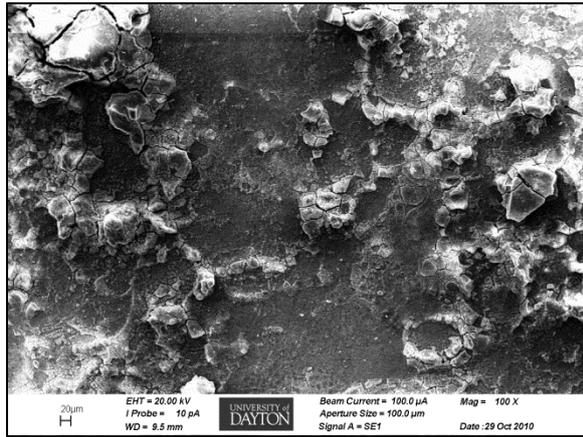


(c)

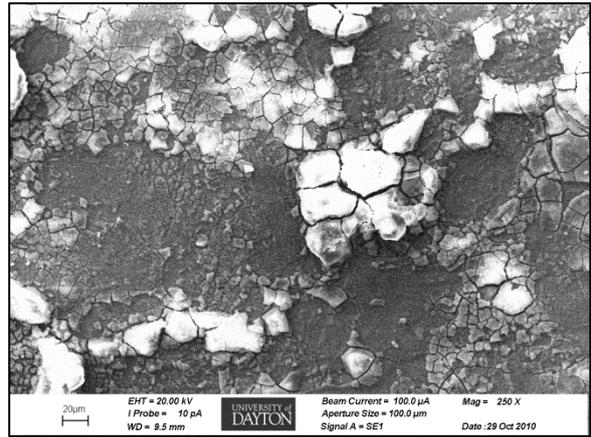


(d)

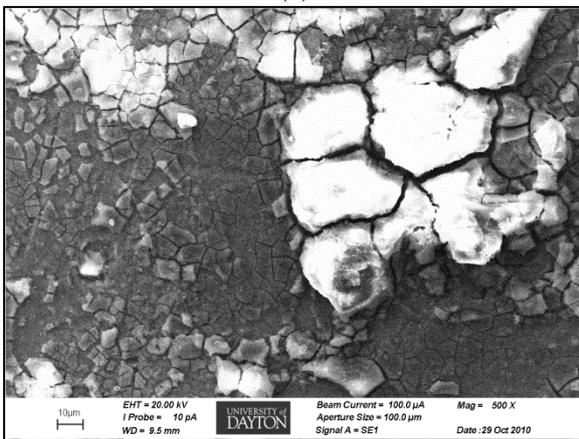
Figure D-12. SEM images of aluminum alloy 7075 sample retrieved on 15 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



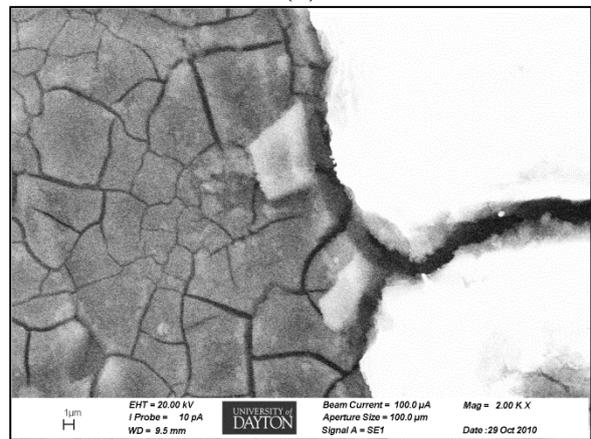
(a)



(b)

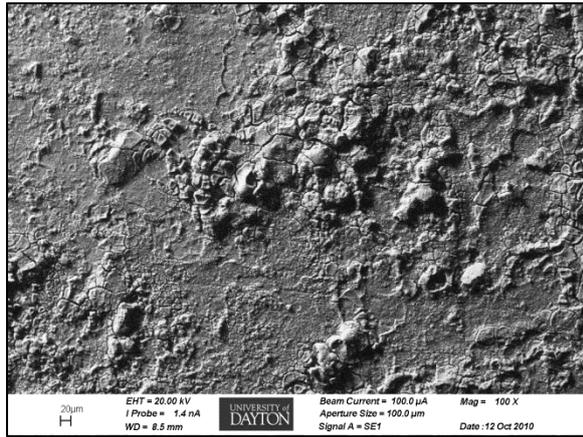


(c)

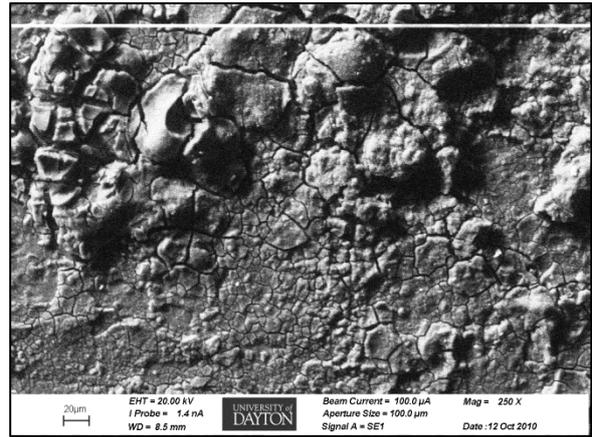


(d)

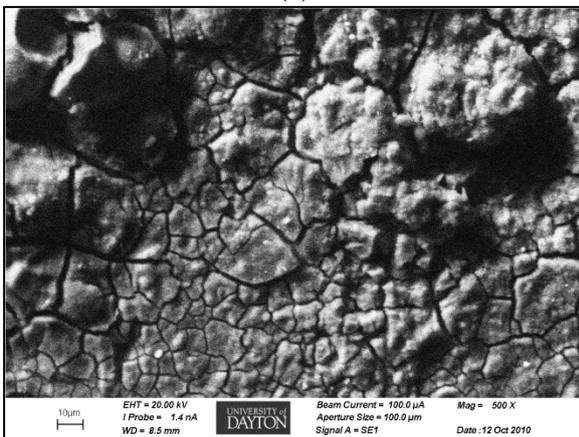
Figure D-13. SEM images of aluminum alloy 7075 sample retrieved on 12 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



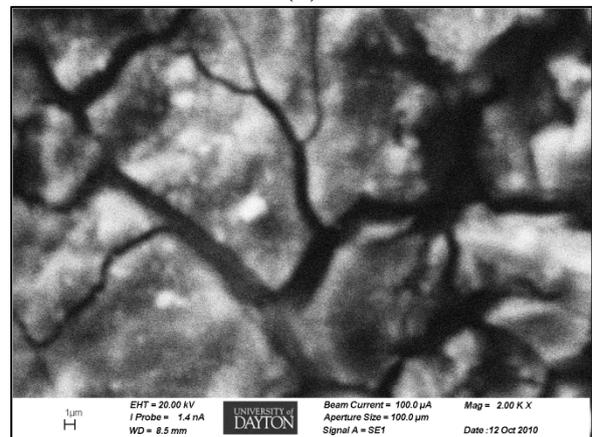
(a)



(b)

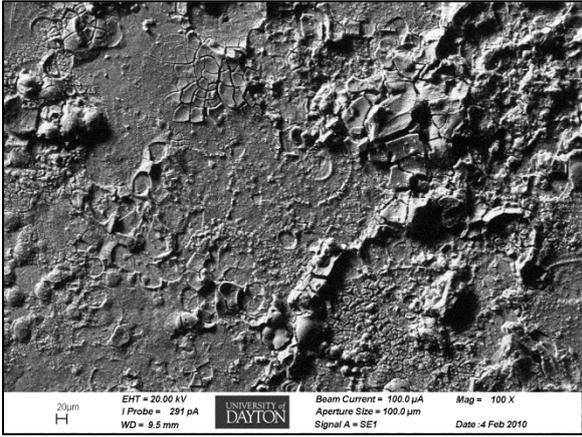


(c)

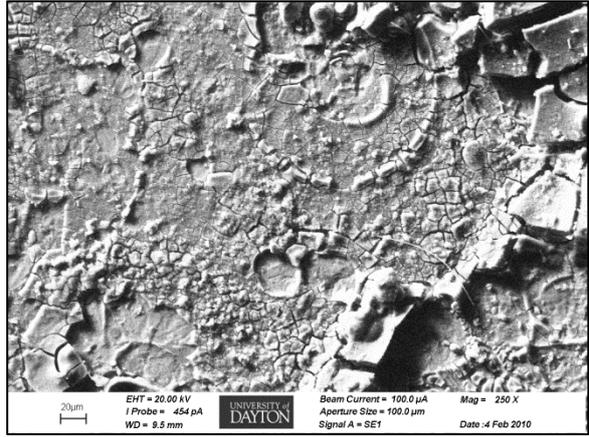


(d)

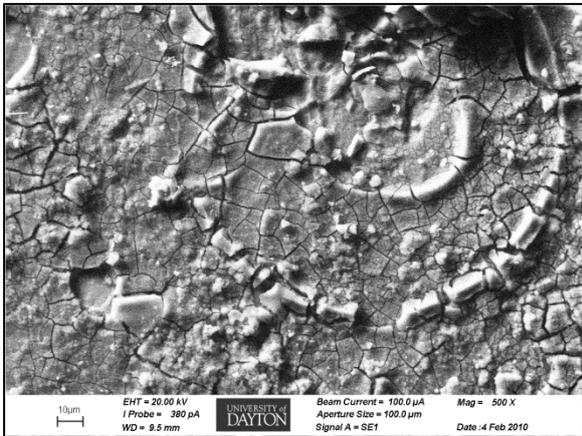
Figure D-14. SEM images of aluminum alloy 7075 sample retrieved on 9 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



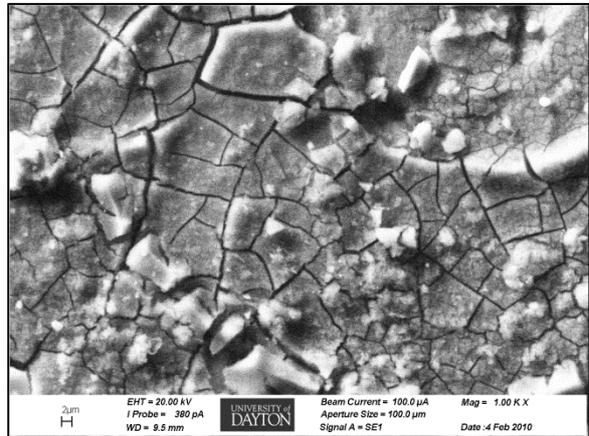
(a)



(b)

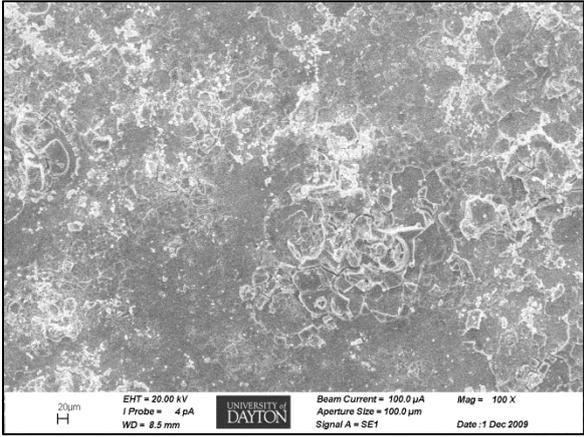


(c)

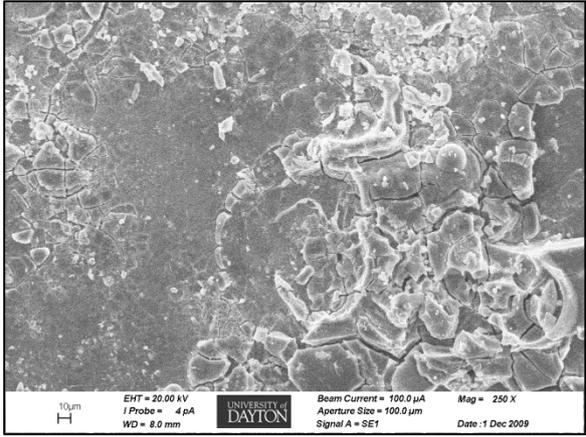


(d)

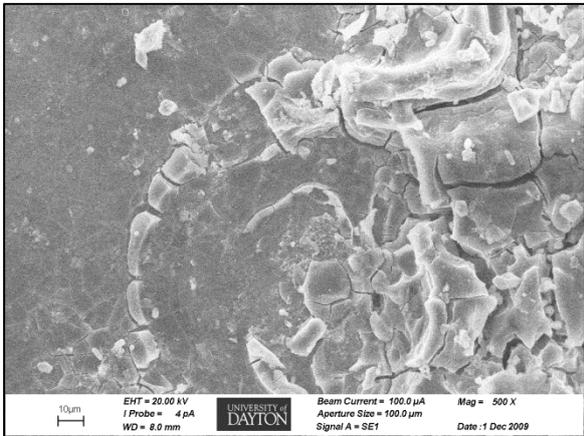
Figure D-15. SEM images of aluminum alloy 7075 sample retrieved on 6 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification..



(a)

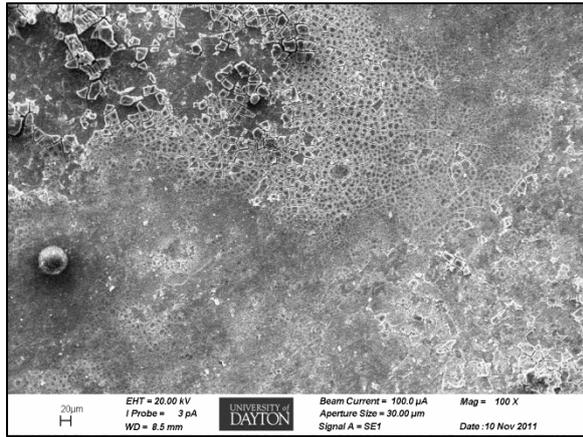


(b)

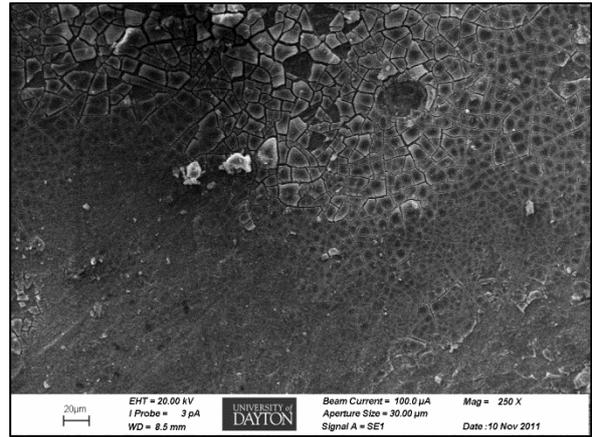


(c)

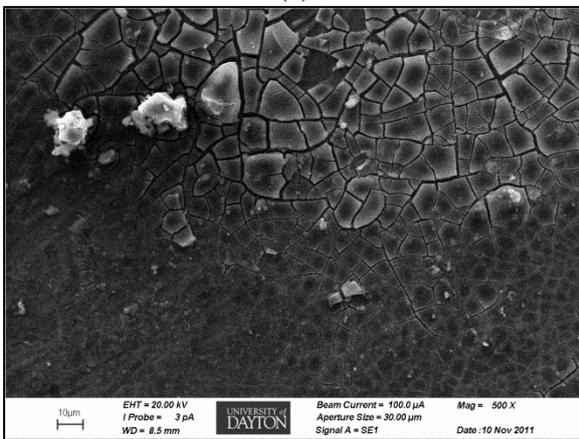
Figure D-16. SEM images of aluminum alloy 7075 sample retrieved on 3 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification..



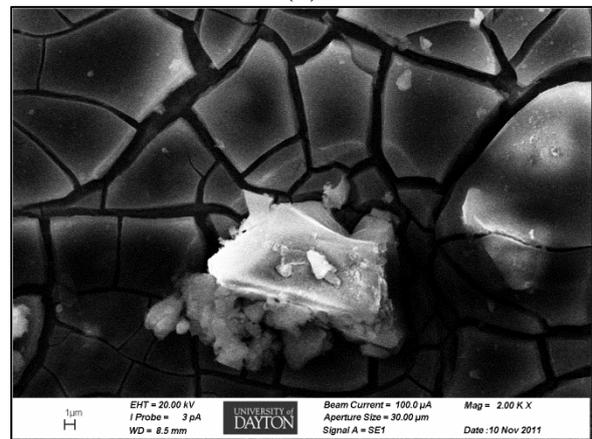
(a)



(b)

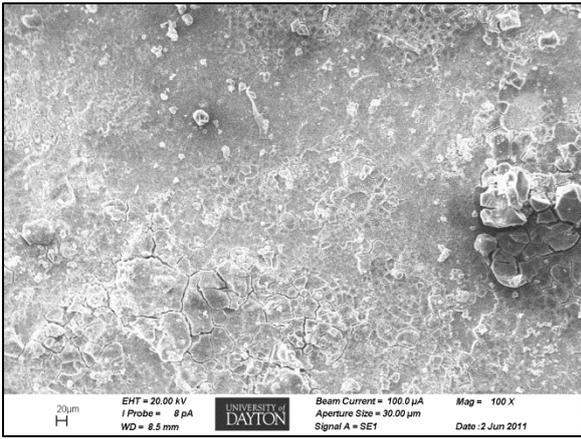


(c)

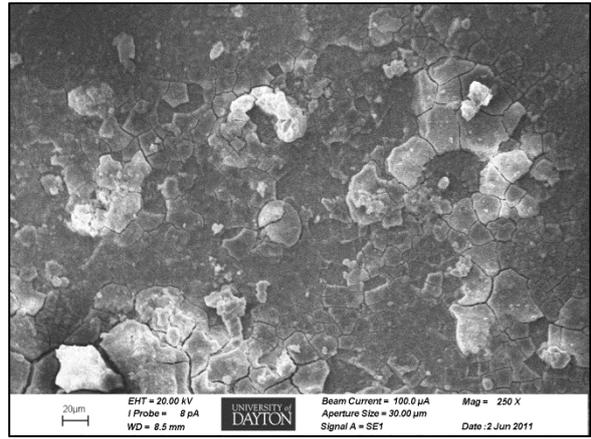


(d)

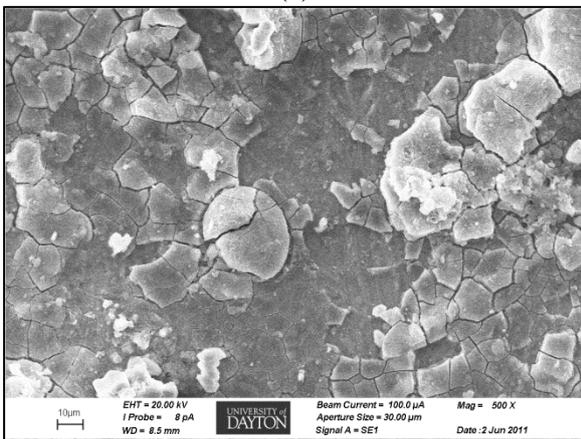
Figure D-17. SEM images of aluminum alloy 6061 sample retrieved on 24 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



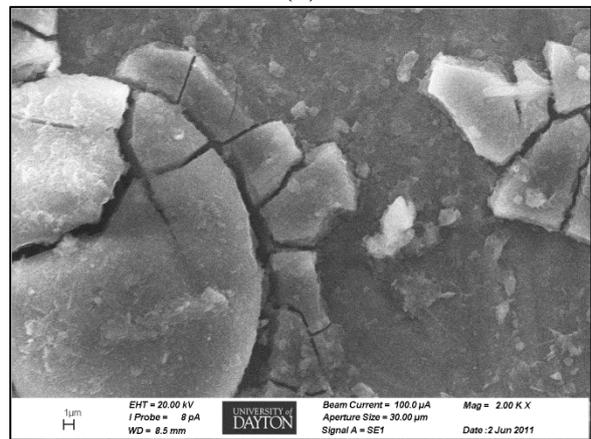
(a)



(b)

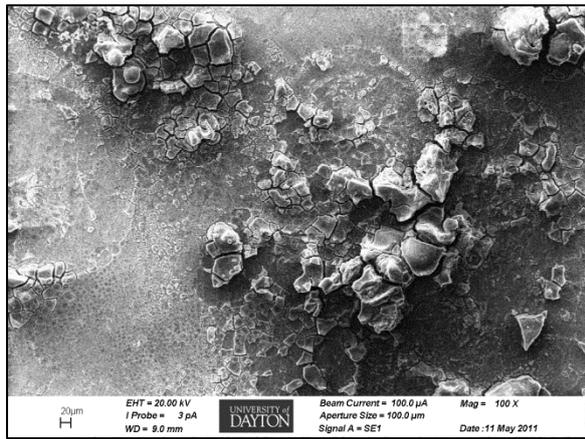


(c)

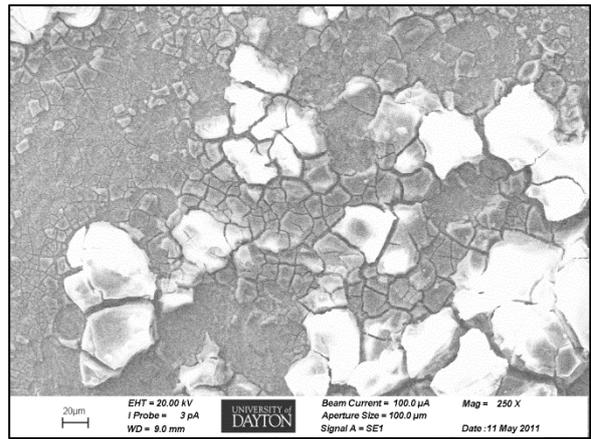


(d)

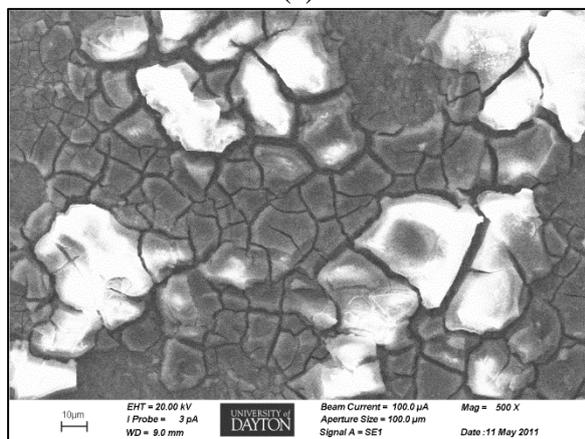
Figure D-18. SEM images of aluminum alloy 6061 sample retrieved on 21 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



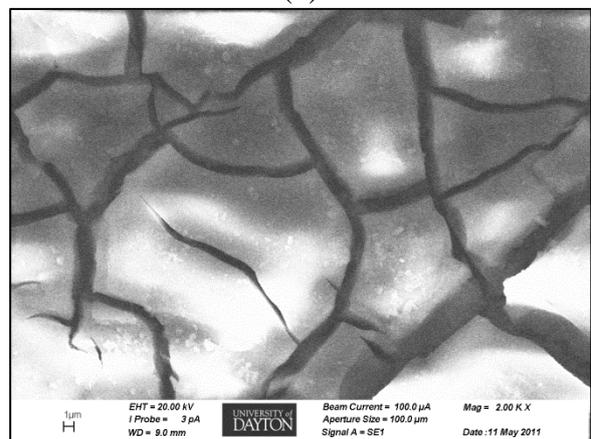
(a)



(b)

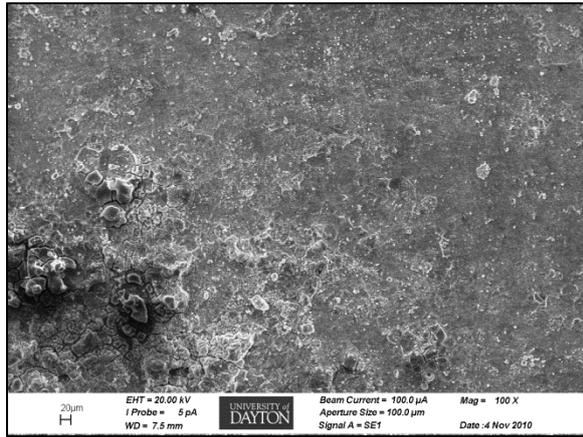


(c)

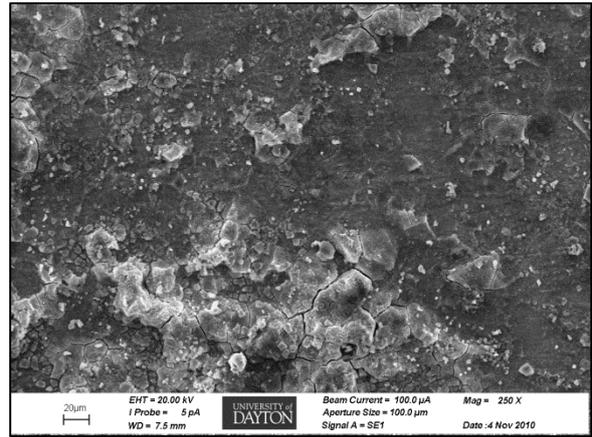


(d)

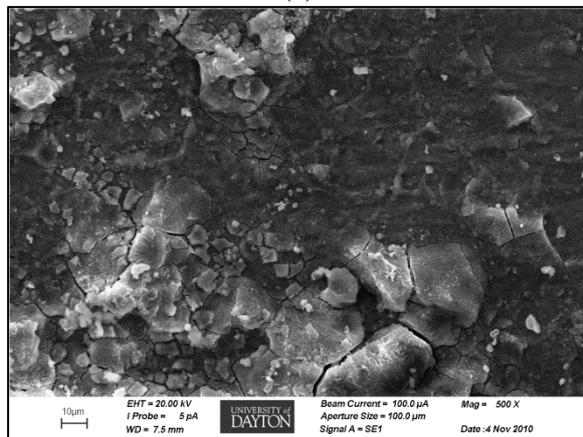
Figure D-19. SEM images of aluminum alloy 6061 sample retrieved on 18 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



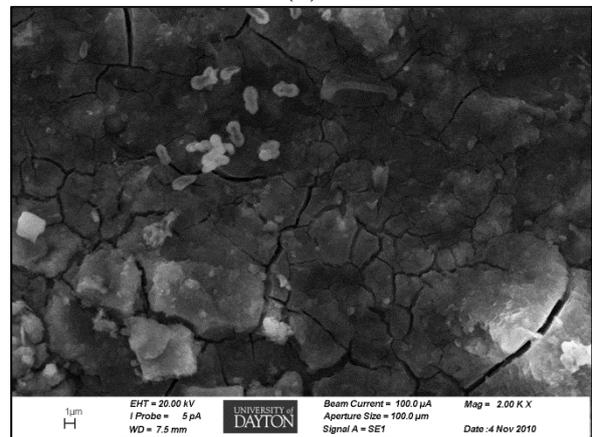
(a)



(b)

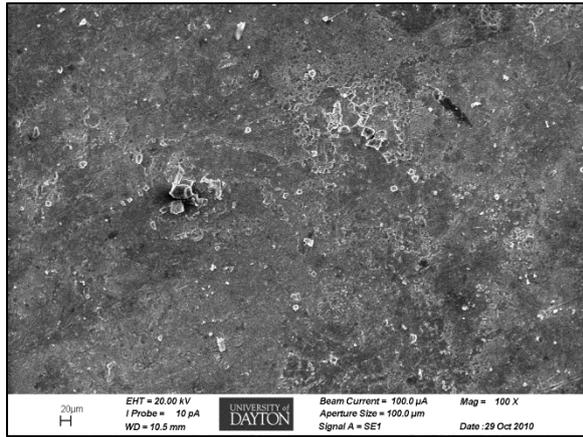


(c)

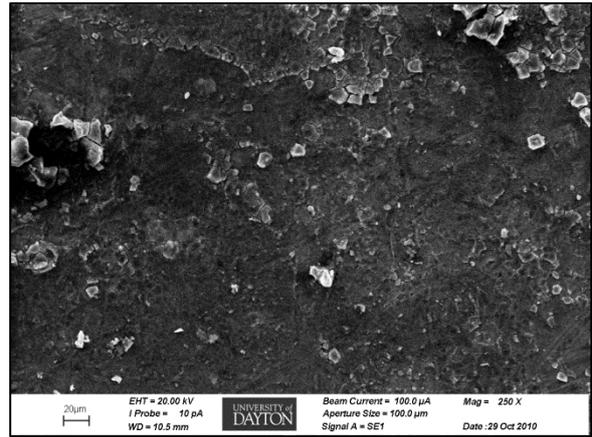


(d)

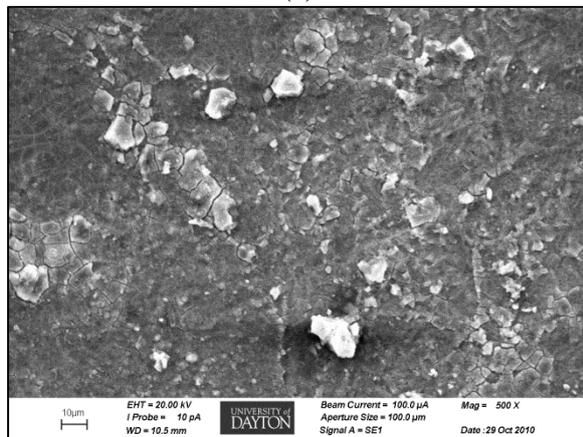
Figure D-20. SEM images of aluminum alloy 6061 sample retrieved on 15 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



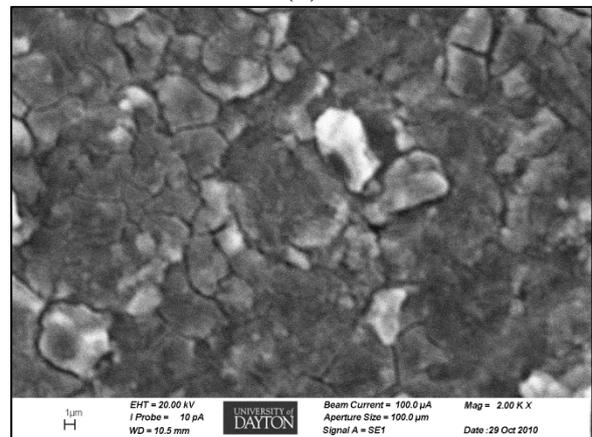
(a)



(b)

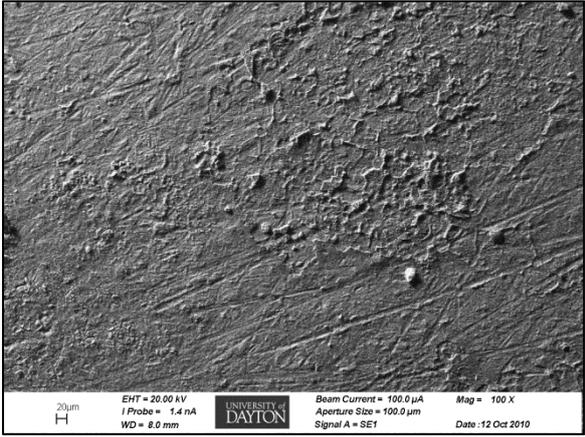


(c)

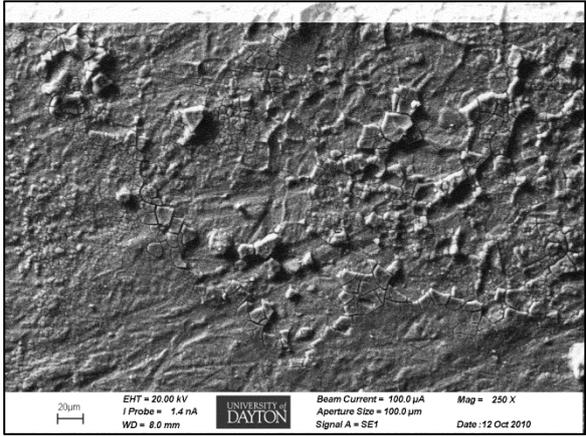


(d)

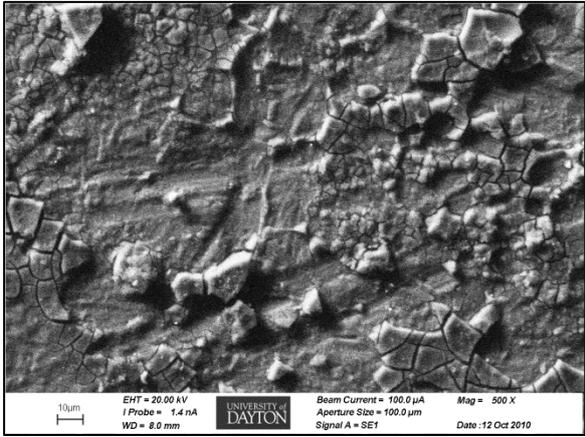
Figure D-21. SEM images of aluminum alloy 6061 sample retrieved on 12 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



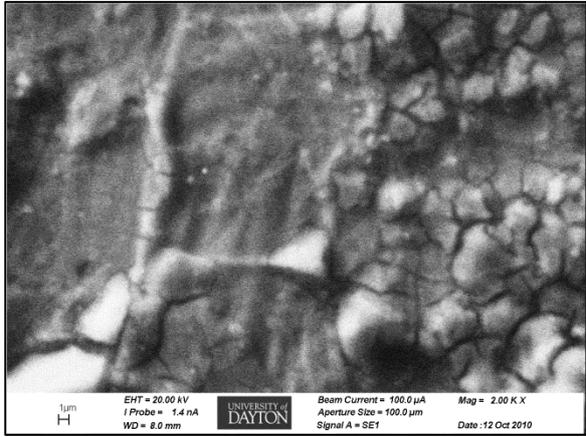
(a)



(b)

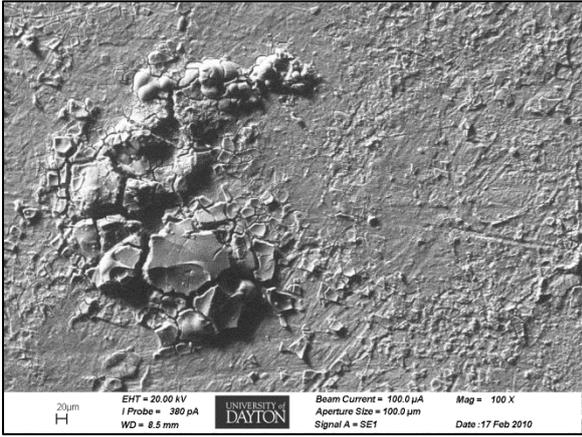


(c)

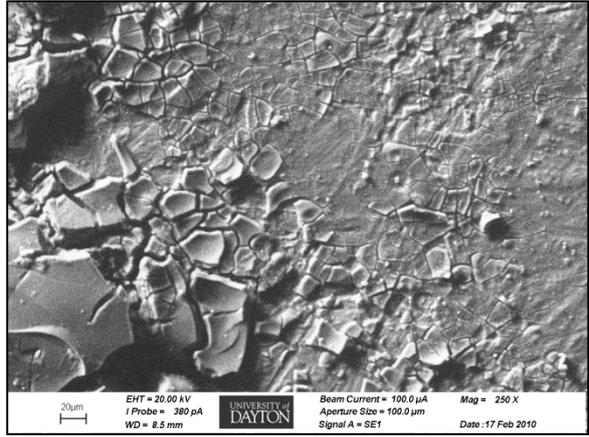


(d)

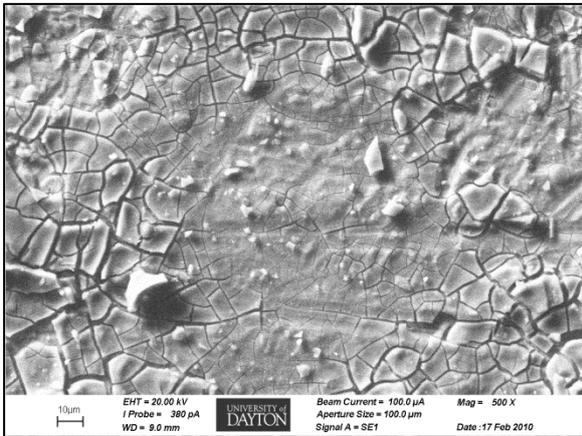
Figure D-22. SEM images of aluminum alloy 6061 sample retrieved on 9 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



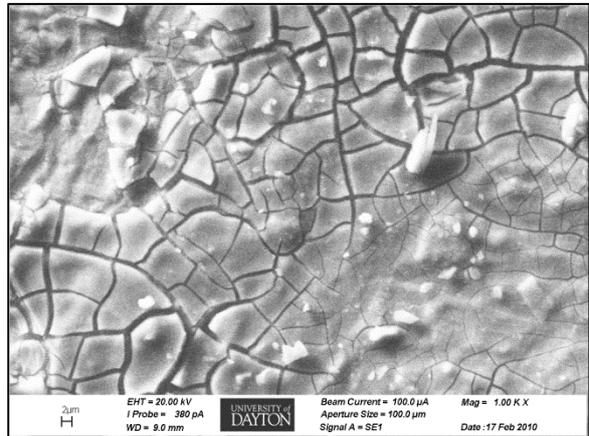
(a)



(b)

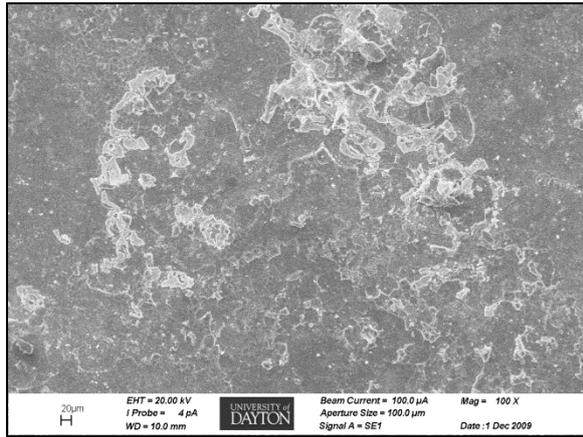


(c)

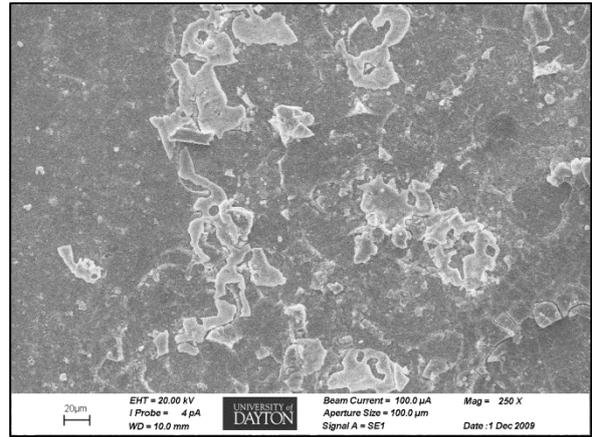


(d)

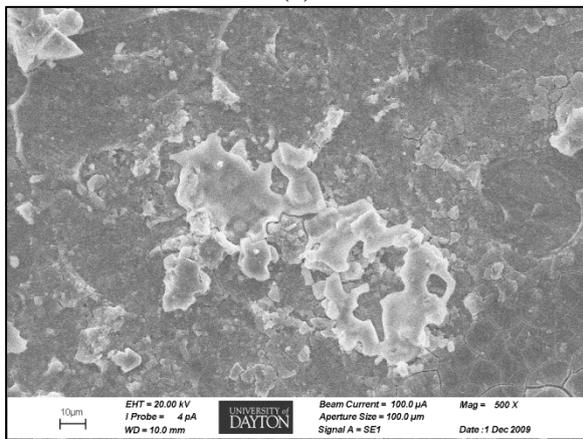
Figure D-23. SEM images of aluminum alloy 6061 sample retrieved on 6 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



(a)

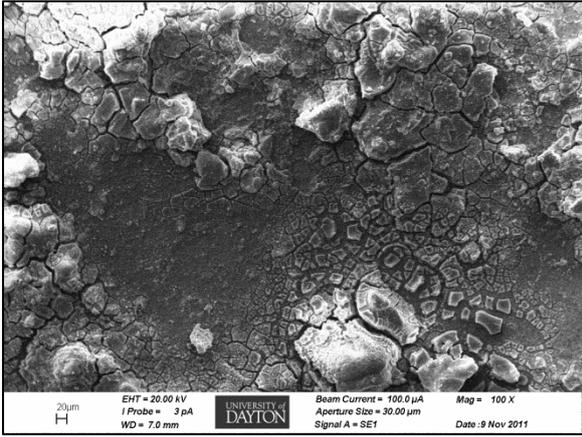


(b)

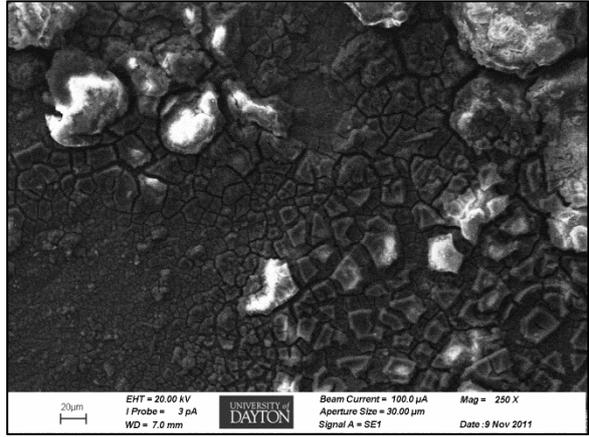


(c)

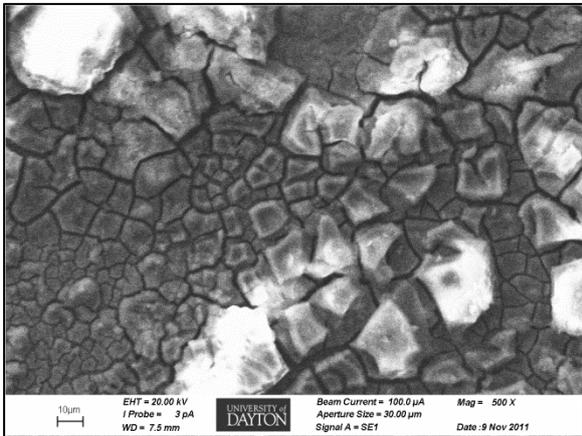
Figure D-24. SEM images of aluminum alloy 6061 sample retrieved on 3 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification.



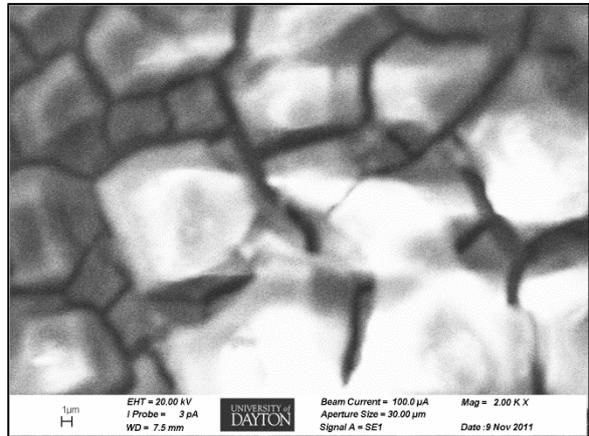
(a)



(b)

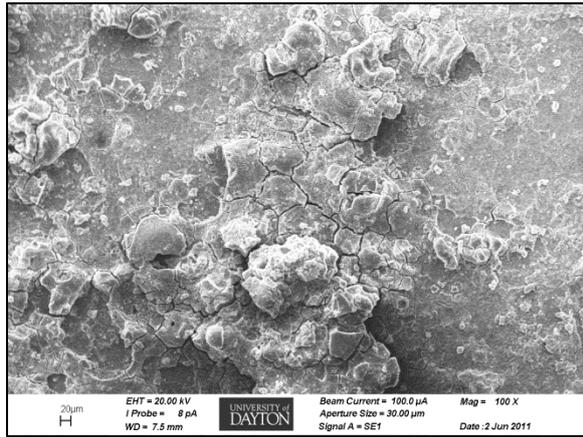


(c)

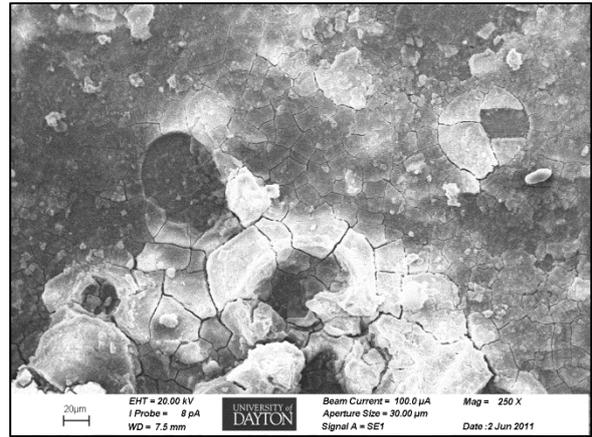


(d)

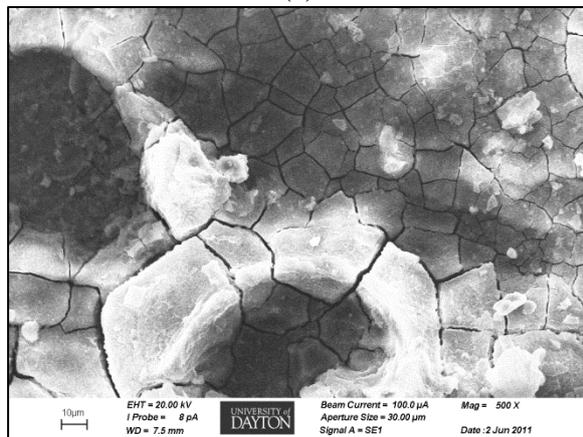
Figure D-25. SEM images of aluminum alloy 2024 sample retrieved on 24 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



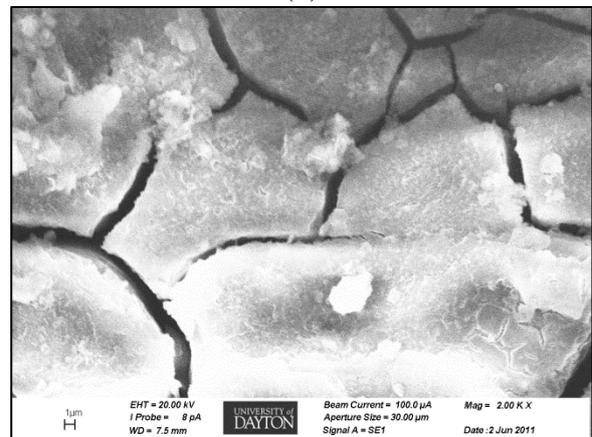
(a)



(b)

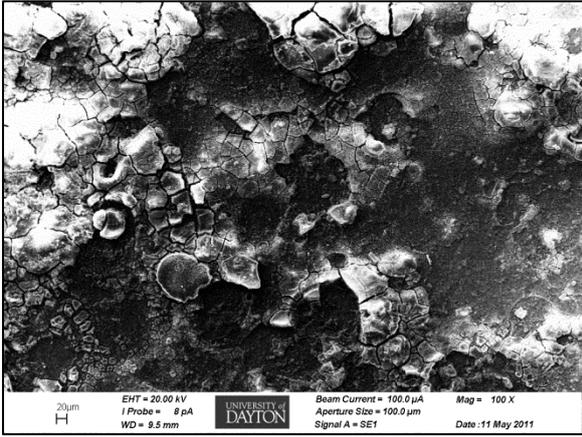


(c)

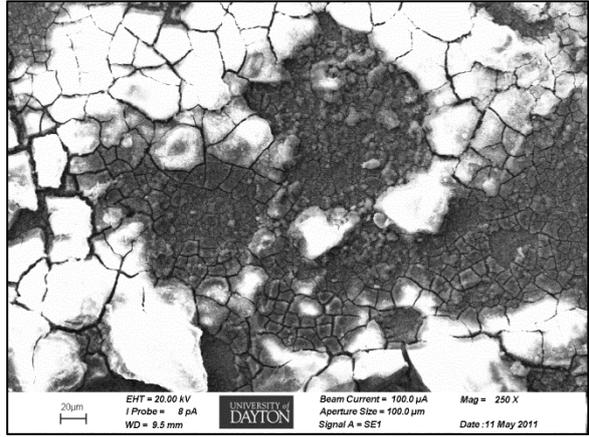


(d)

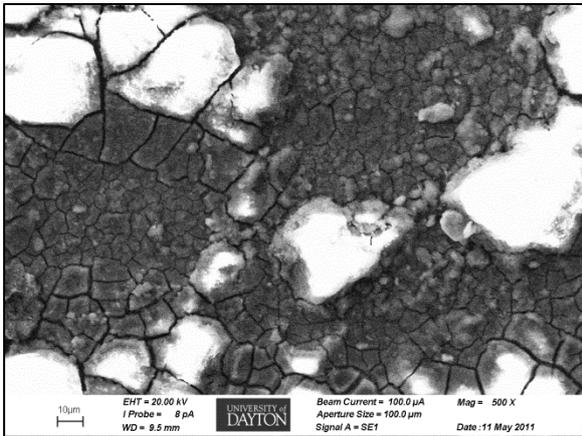
Figure D-26. SEM images of aluminum alloy 2024 sample retrieved on 21 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



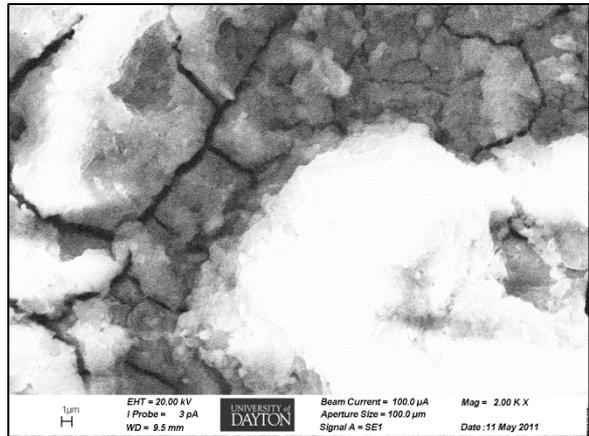
(a)



(b)

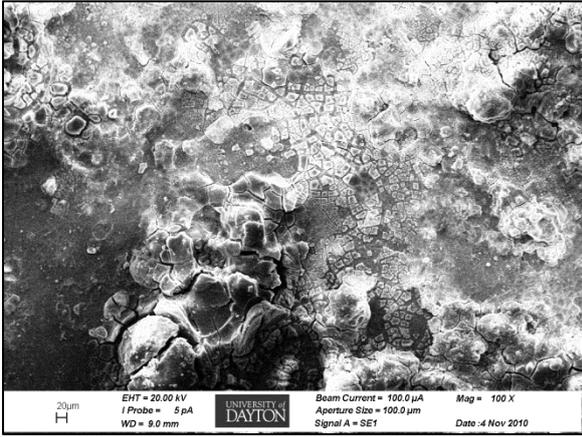


(c)

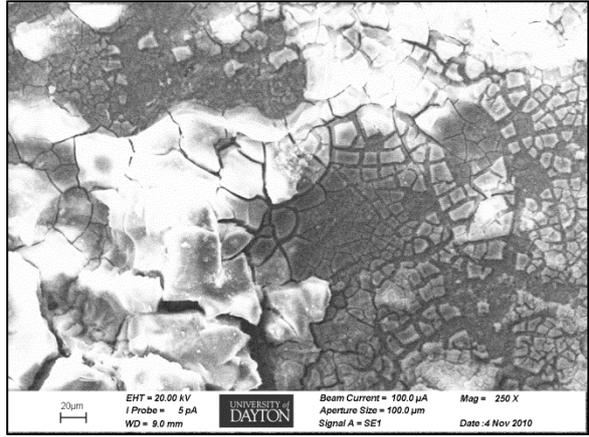


(d)

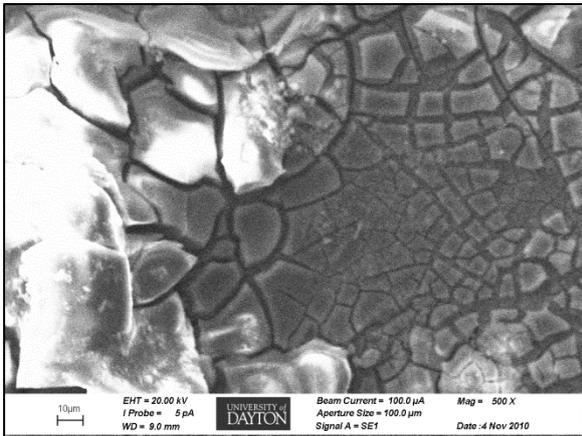
Figure D-27. SEM images of aluminum alloy 2024 sample retrieved on 18 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



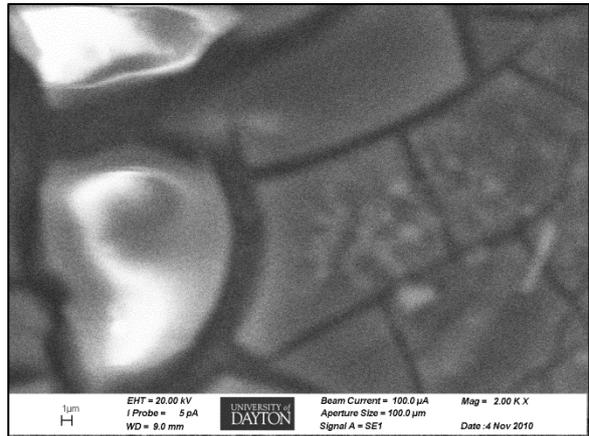
(a)



(b)

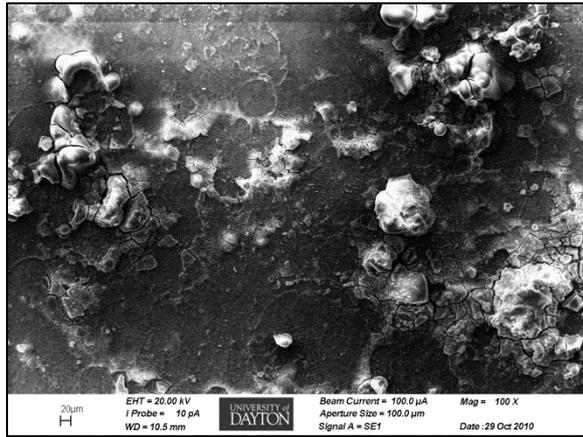


(c)

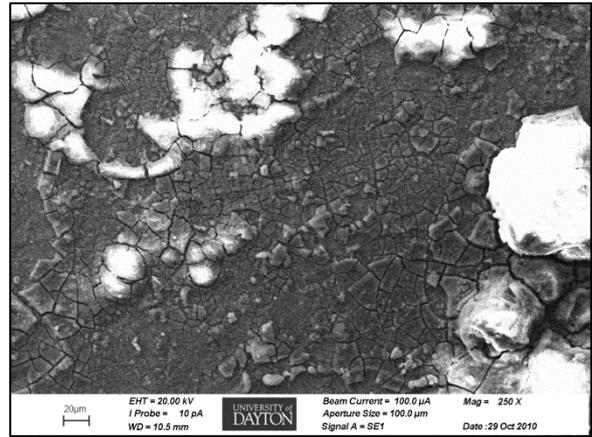


(d)

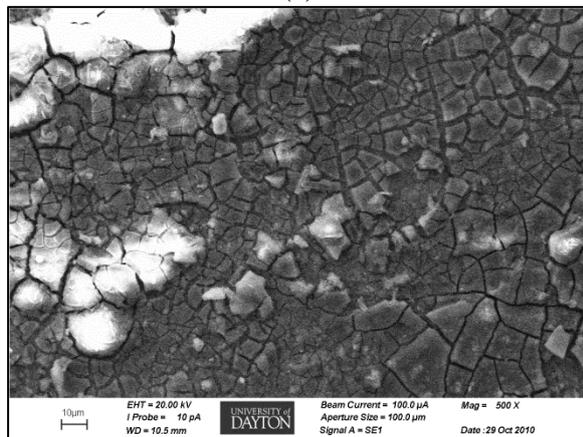
Figure D-28. SEM images of aluminum alloy 2024 sample retrieved on 15 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



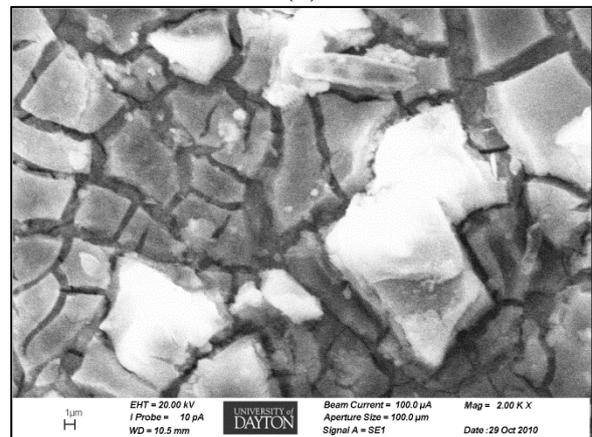
(a)



(b)

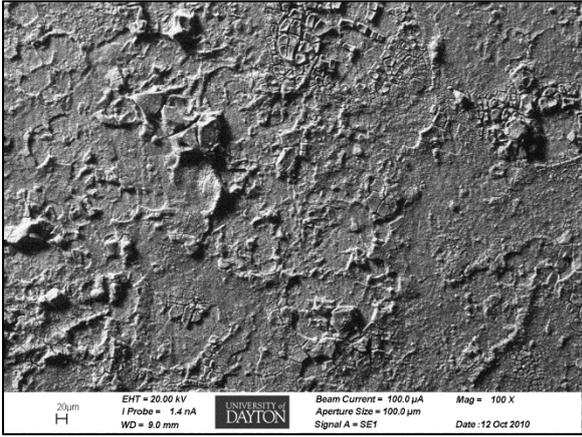


(c)

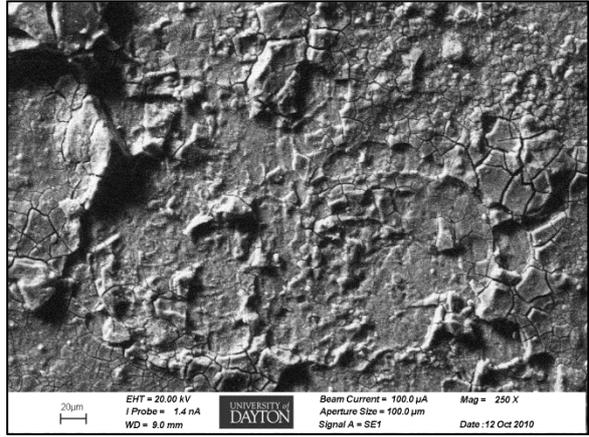


(d)

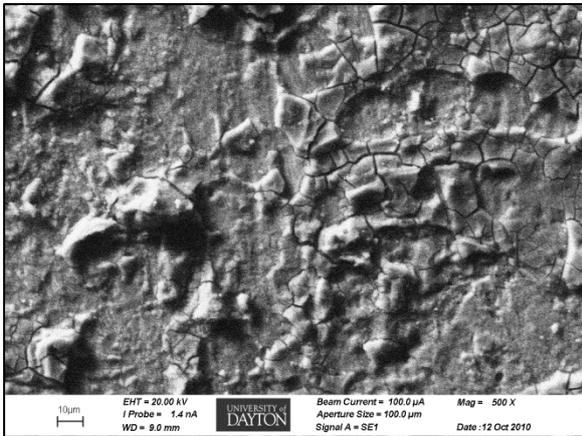
Figure D-29. SEM images of aluminum alloy 2024 sample retrieved on 12 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



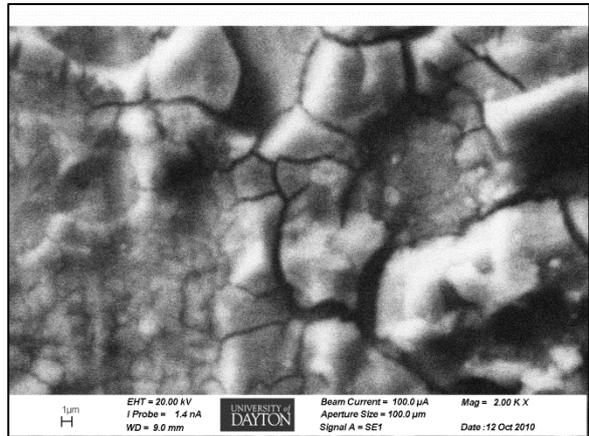
(a)



(b)

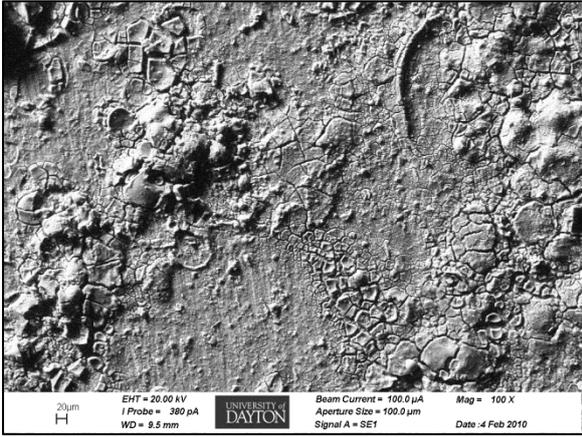


(c)

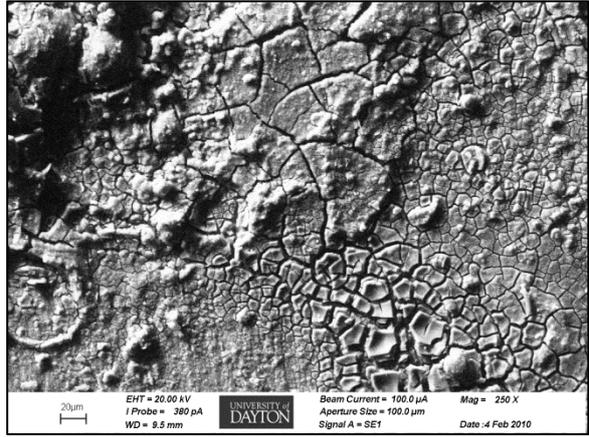


(d)

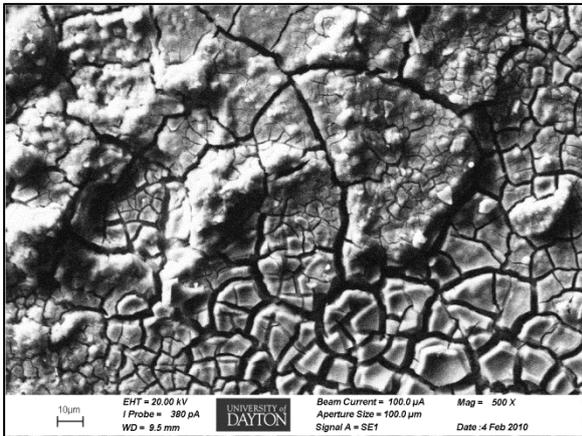
Figure D-30. SEM images of aluminum alloy 2024 sample retrieved on 9 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



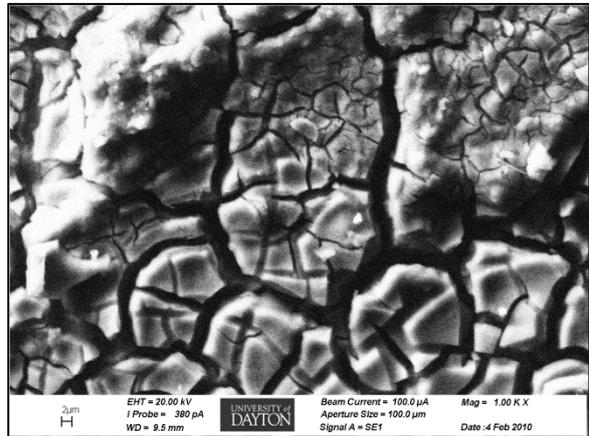
(a)



(b)

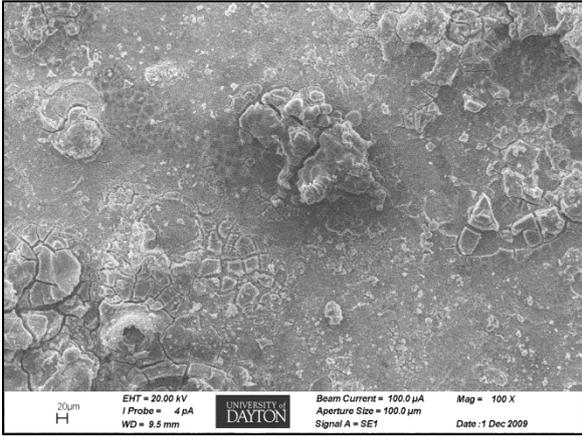


(c)

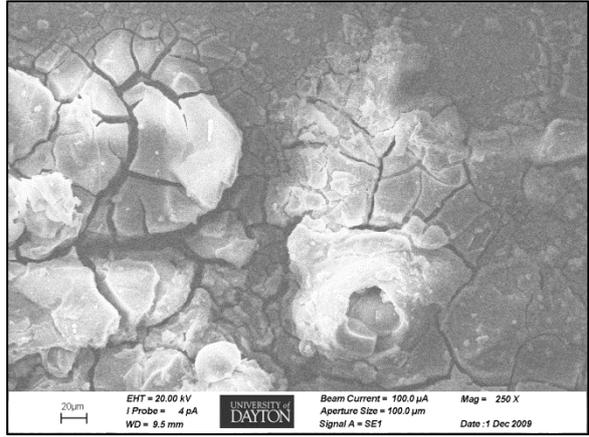


(d)

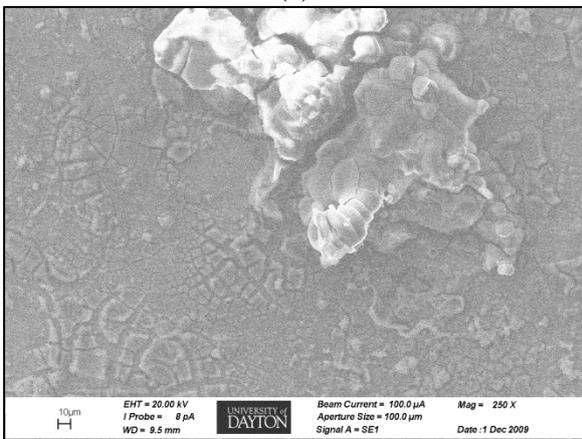
Figure D-31. SEM images of aluminum alloy 2024 sample retrieved on 6 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



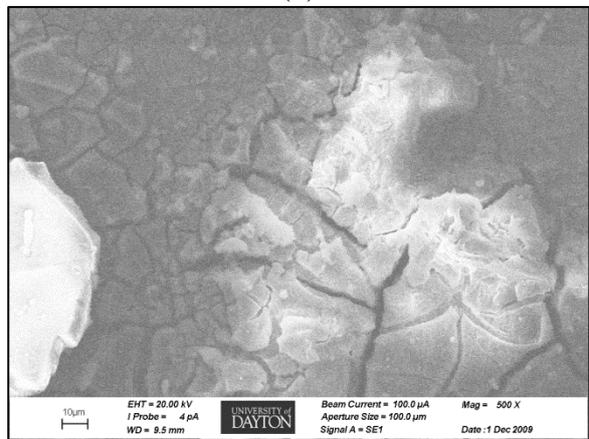
(a)



(b)

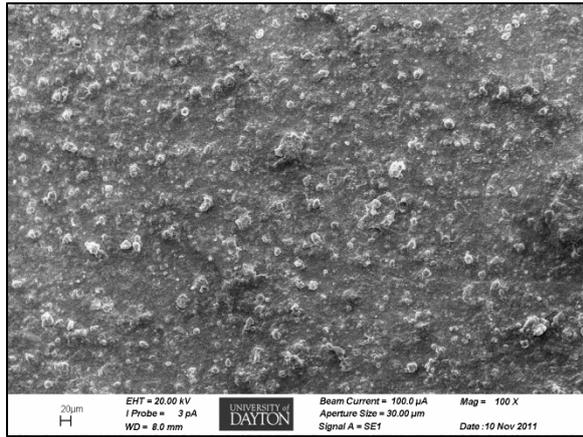


(c)

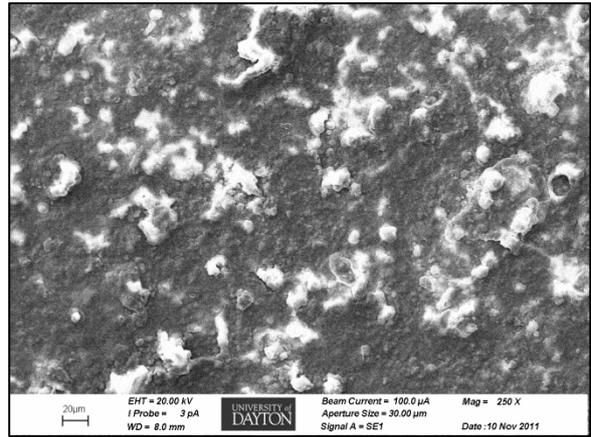


(d)

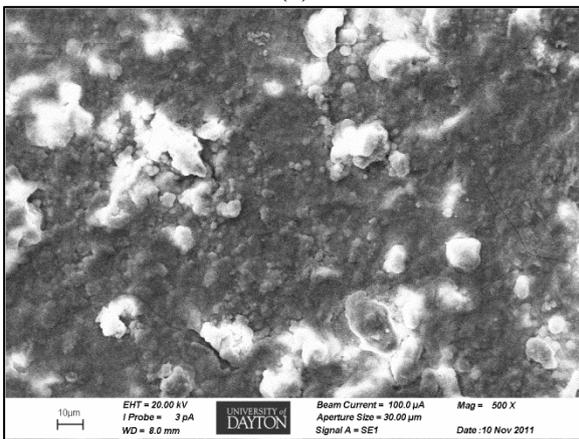
Figure D-32. SEM images of aluminum alloy 2024 sample retrieved on 3 months exposure from East Coast Ship site. (a) 100X magnification, (b) 250X magnification, (c) 250X magnification, and (d) 500X magnification.



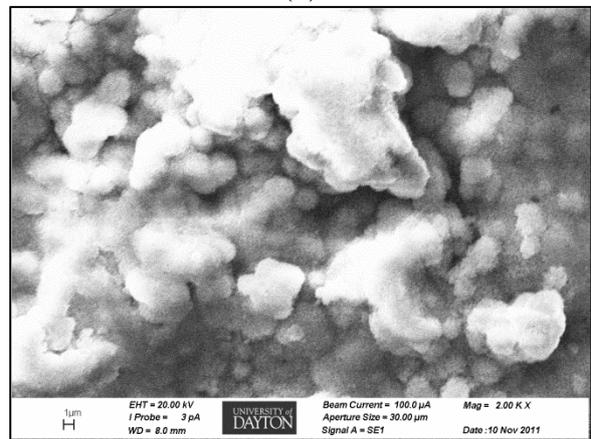
(a)



(b)

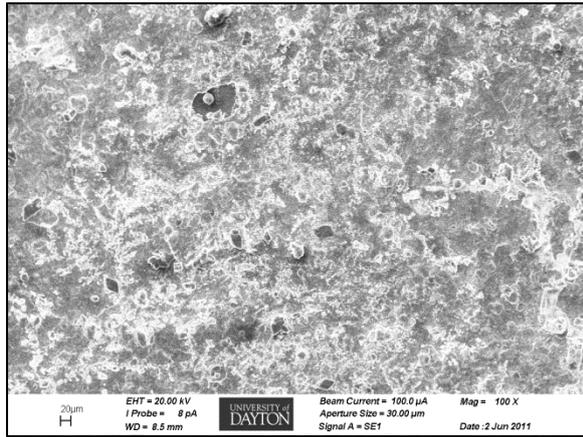


(c)

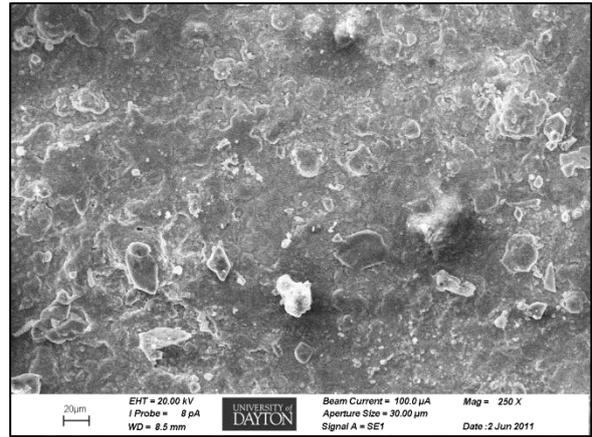


(d)

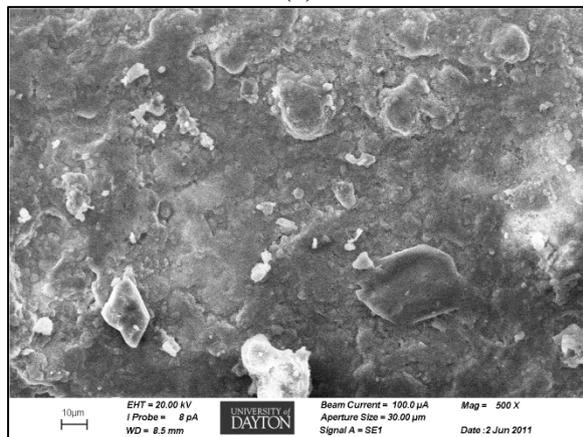
Figure D-33. SEM images of pure copper sample retrieved on 24 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



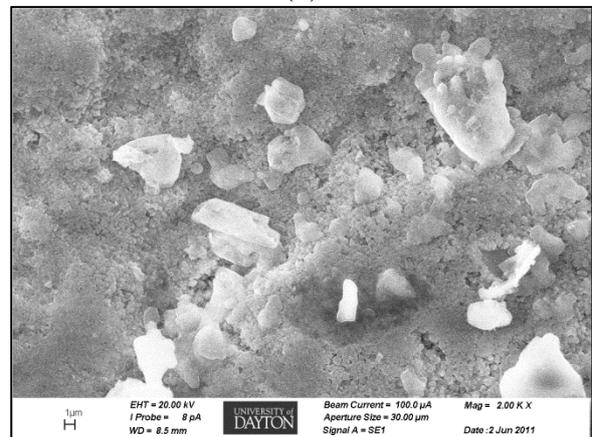
(a)



(b)

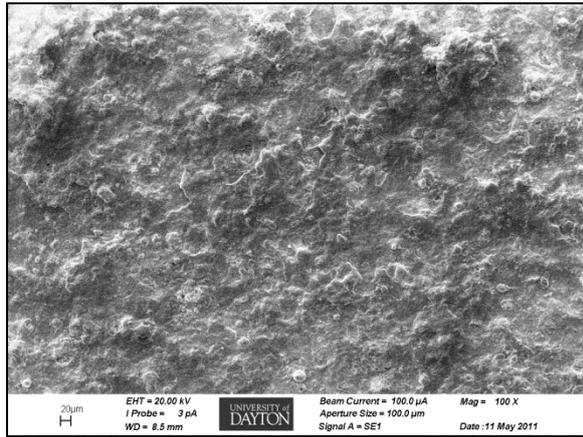


(c)

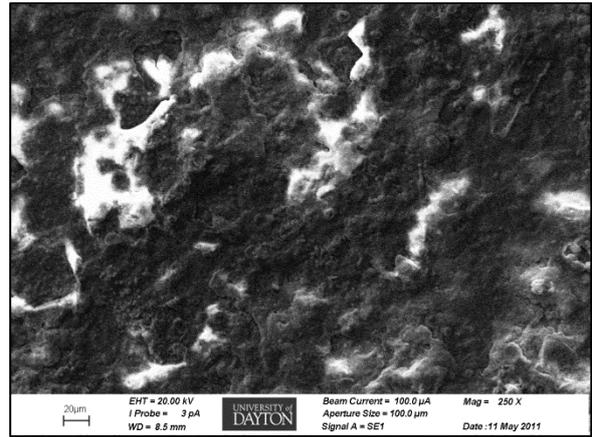


(d)

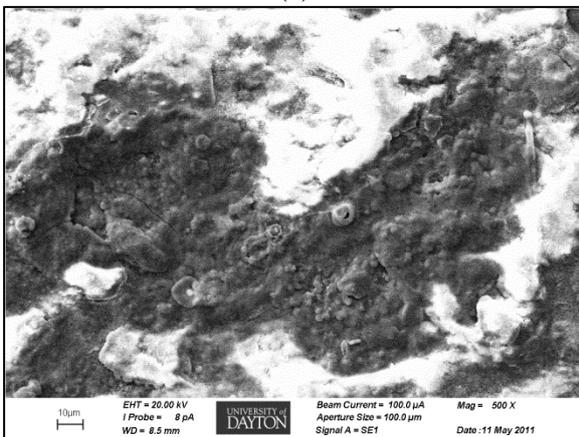
Figure D-34. SEM images of pure copper sample retrieved on 21 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)



(b)

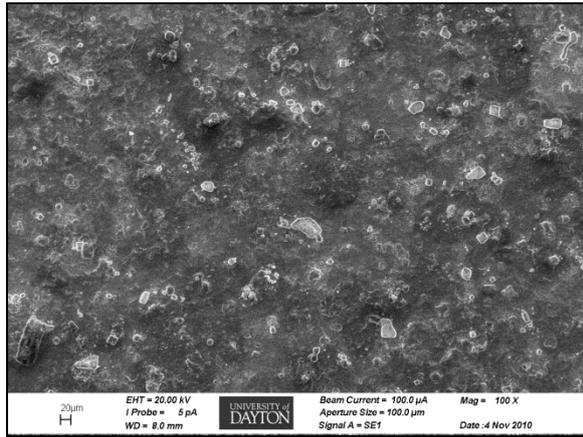


(c)

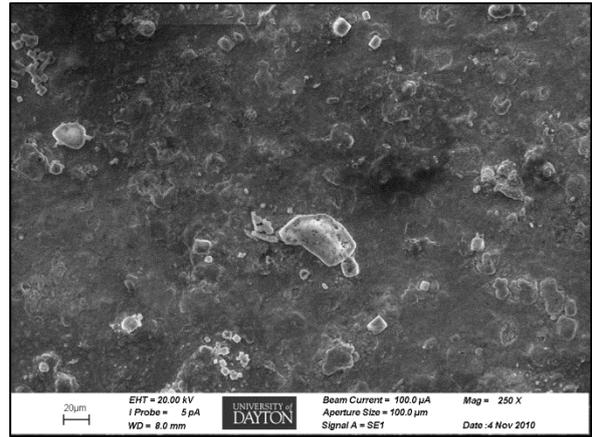


(d)

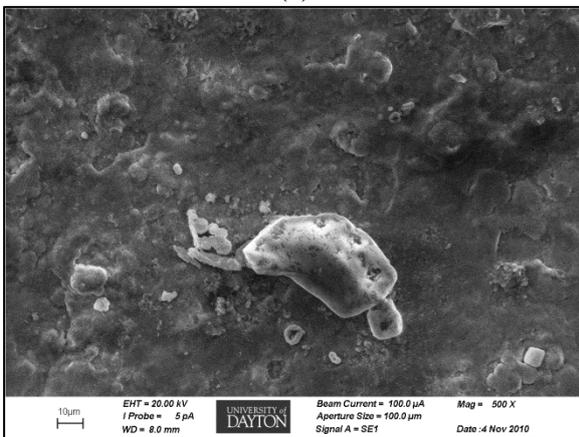
Figure D-35. SEM images of pure copper sample retrieved on 18 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



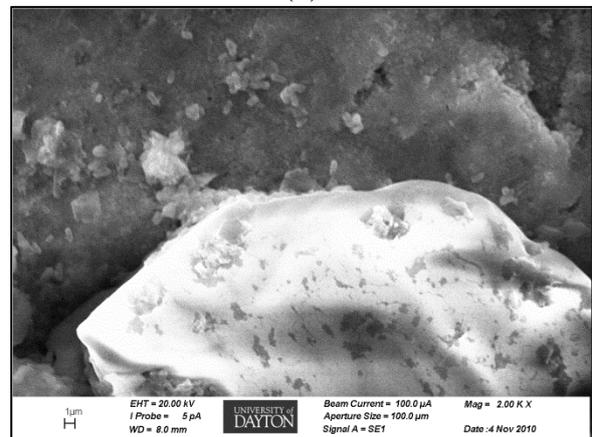
(a)



(b)

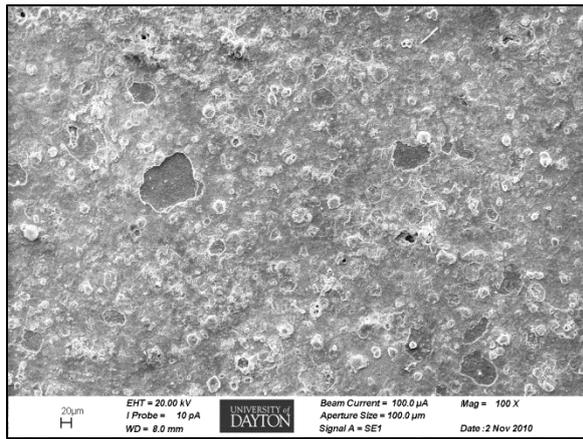


(c)

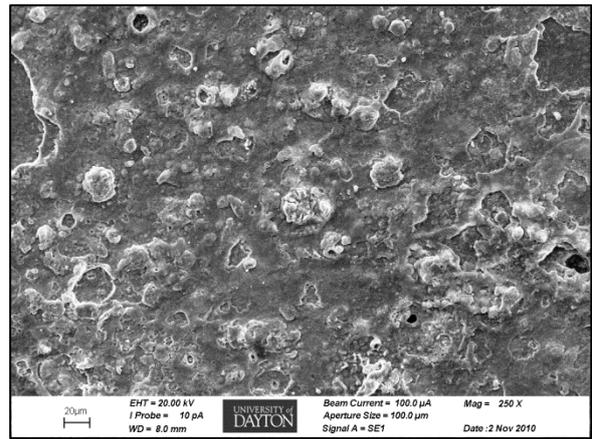


(d)

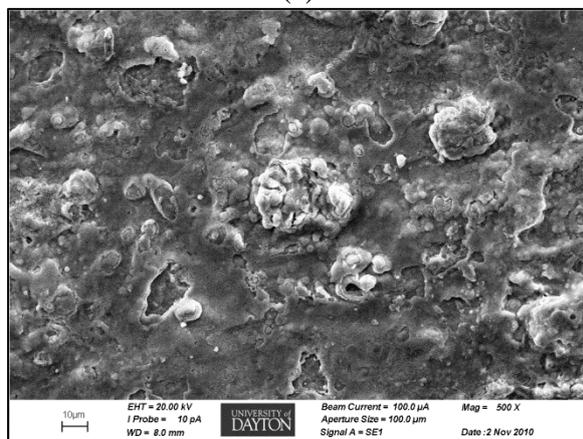
Figure D-36. SEM images of pure copper sample retrieved on 15 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



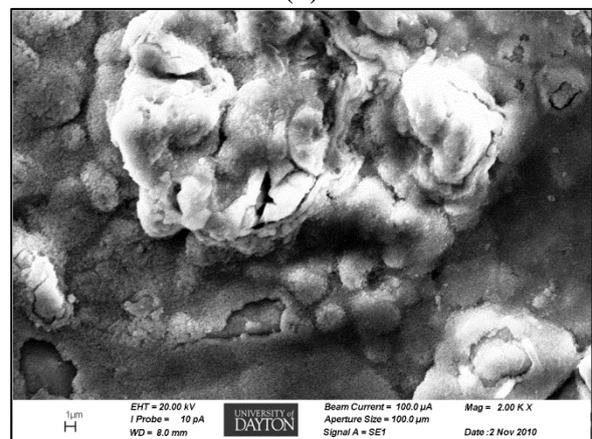
(a)



(b)

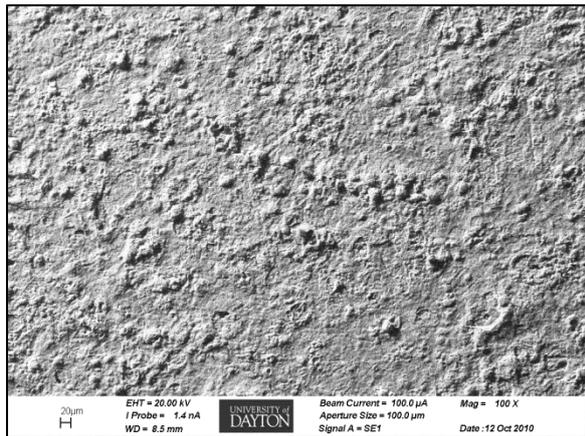


(c)

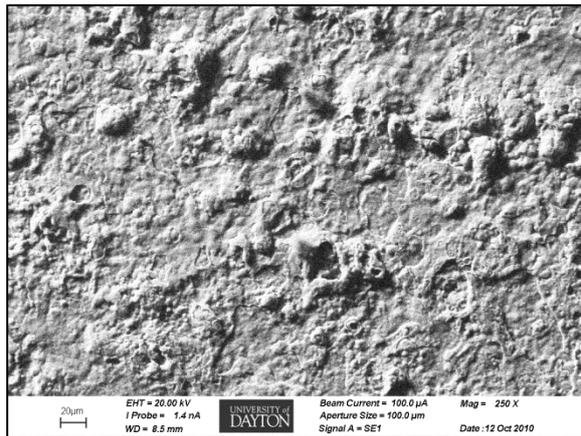


(d)

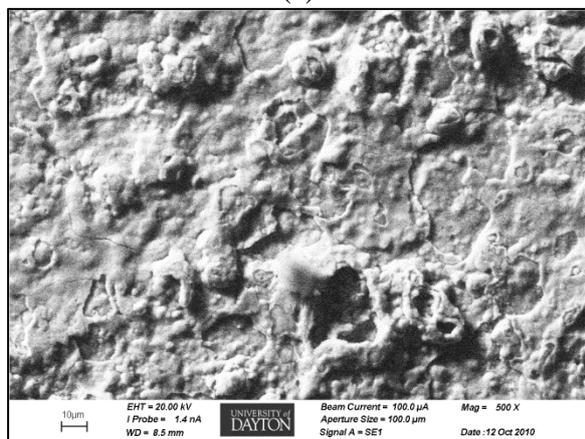
Figure D-37. SEM images of pure copper sample retrieved on 12 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



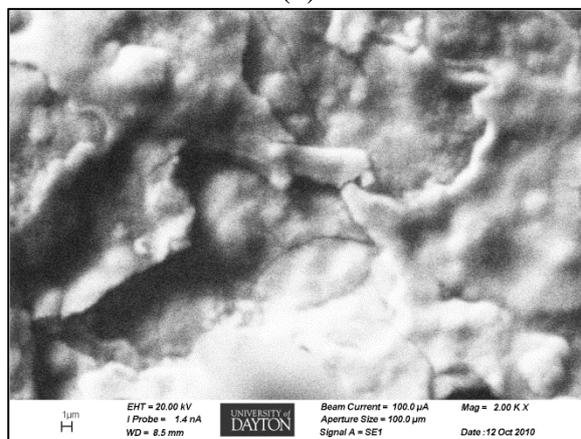
(a)



(b)

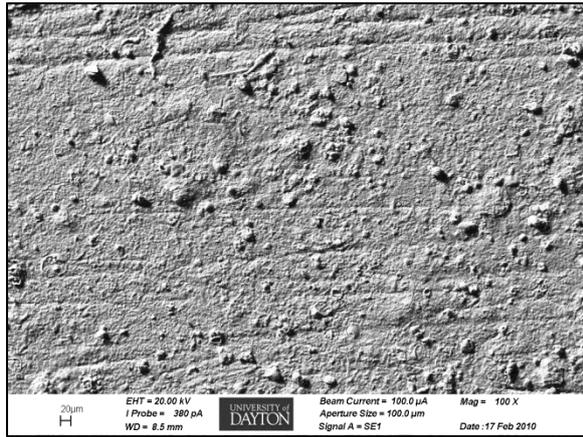


(c)

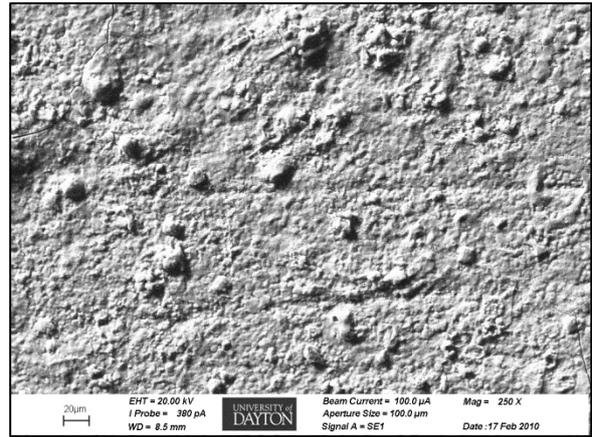


(d)

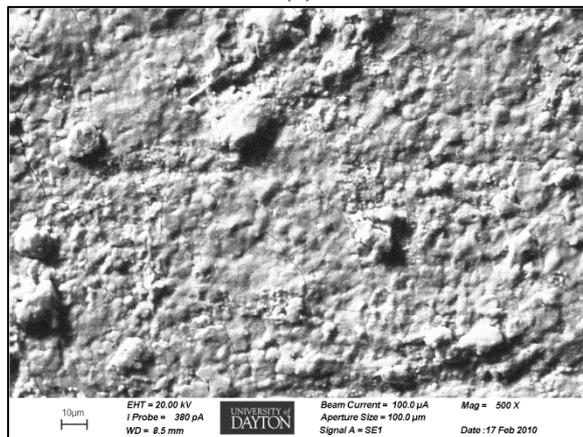
Figure D-38. SEM images of pure copper sample retrieved on 9 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



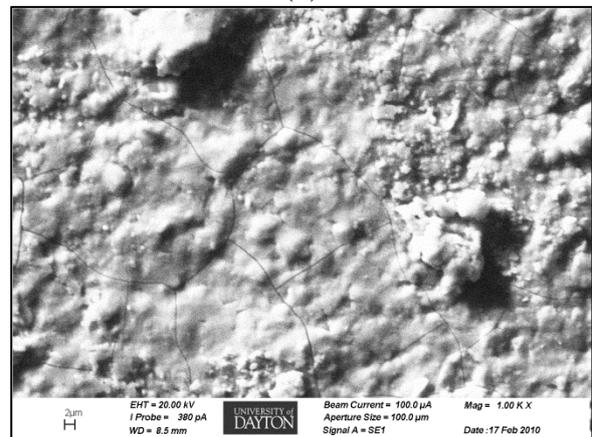
(a)



(b)

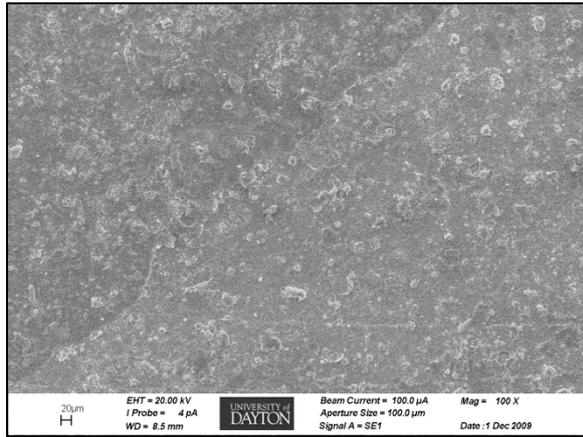


(c)

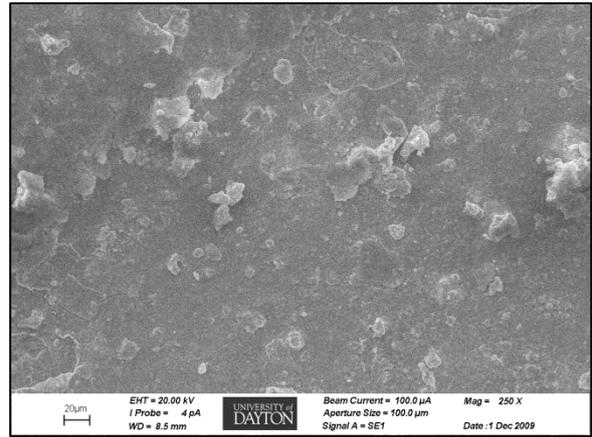


(d)

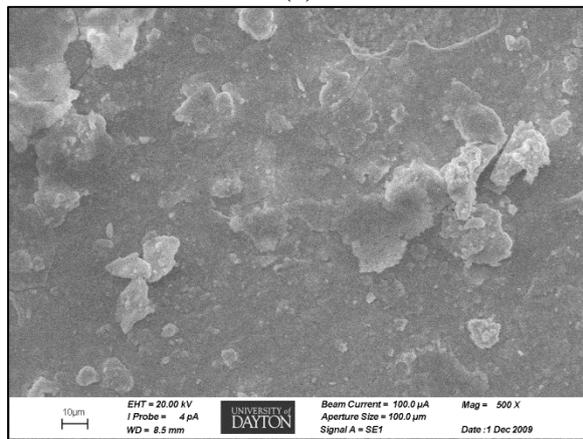
Figure D-39. SEM images of pure copper sample retrieved on 6 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



(a)

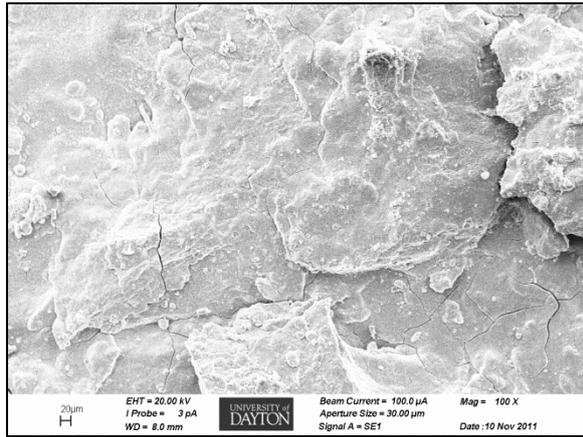


(b)

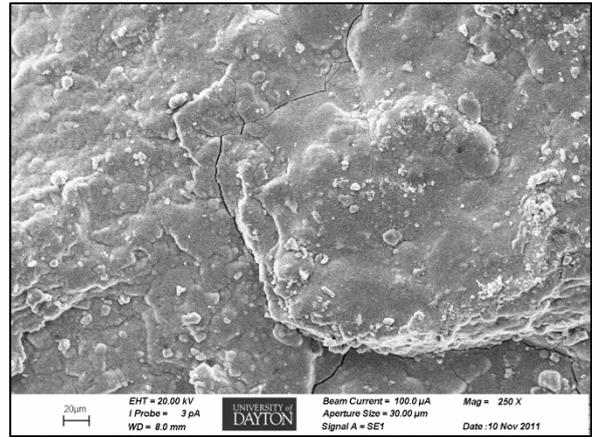


(c)

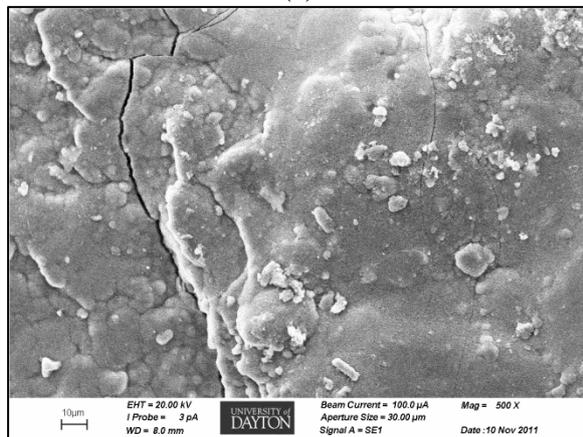
Figure D-40. SEM images of pure copper sample retrieved on 3 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification.



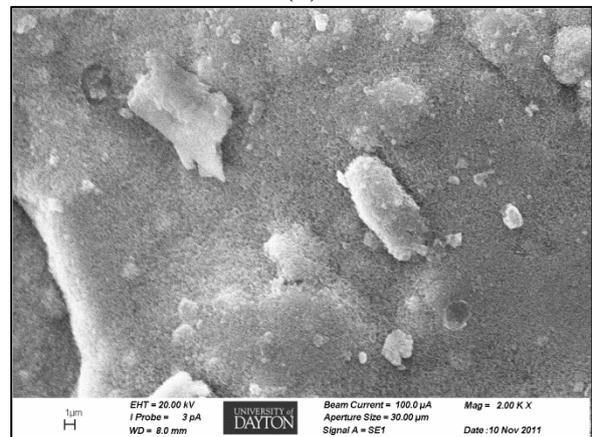
(a)



(b)

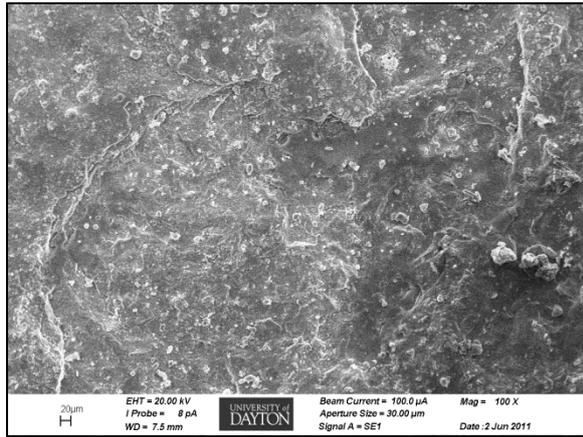


(c)

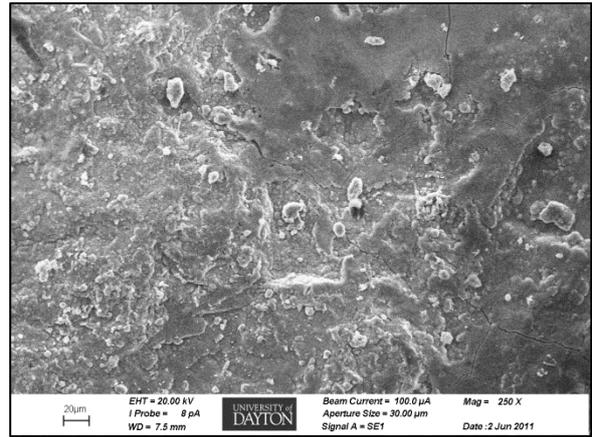


(d)

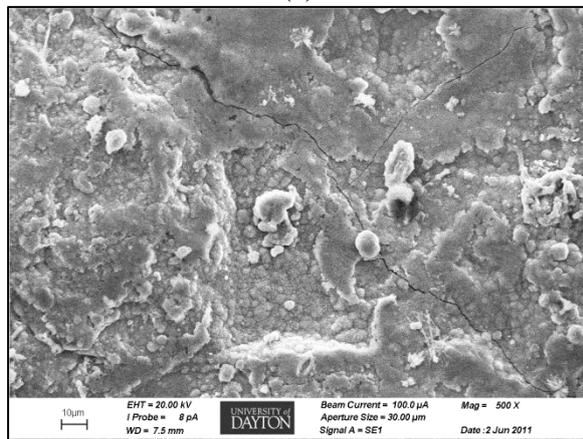
Figure D-41. SEM images of 1010 steel sample retrieved on 24 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



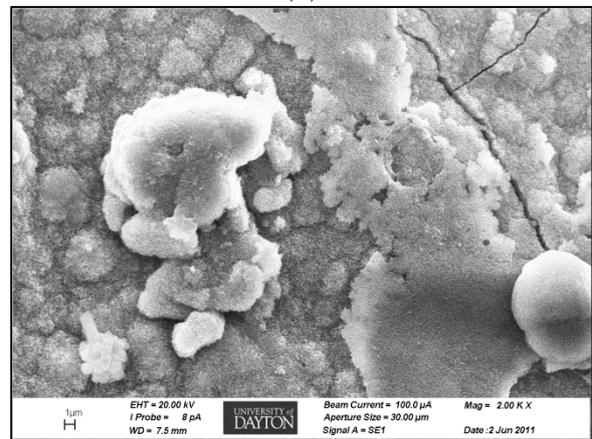
(a)



(b)

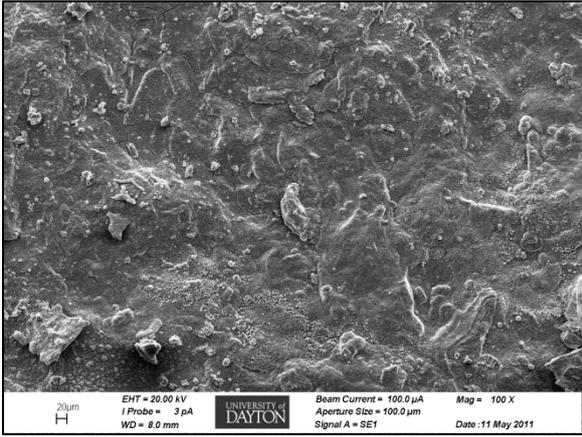


(c)

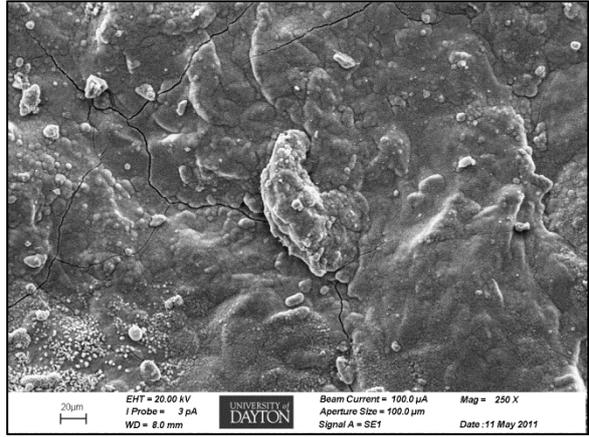


(d)

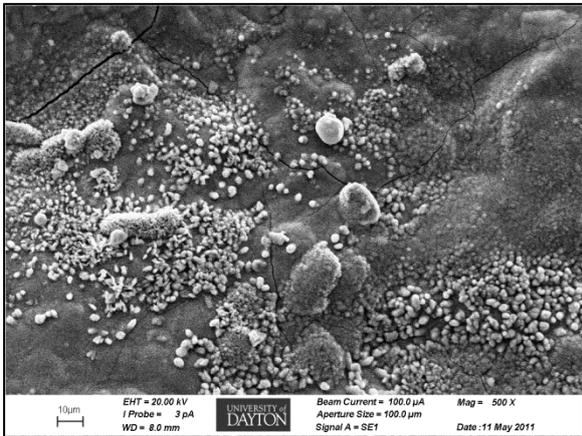
Figure D-42. SEM images of 1010 steel sample retrieved on 21 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



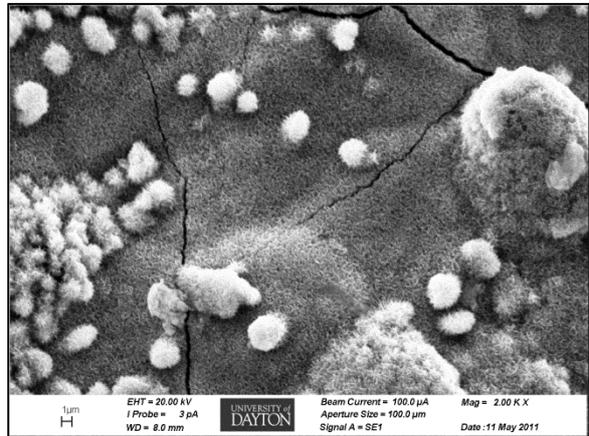
(a)



(b)

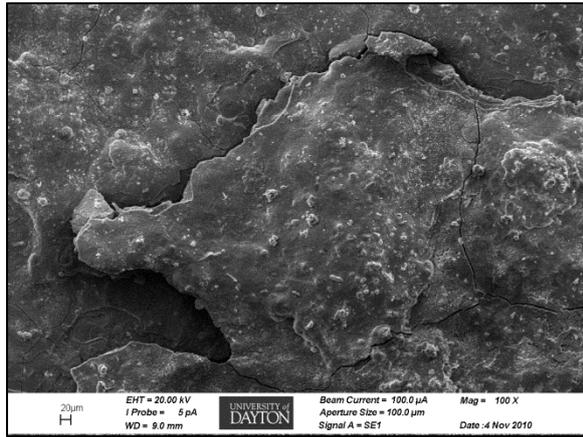


(c)

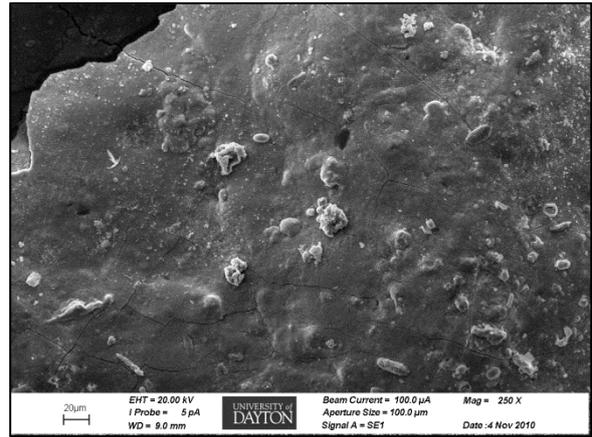


(d)

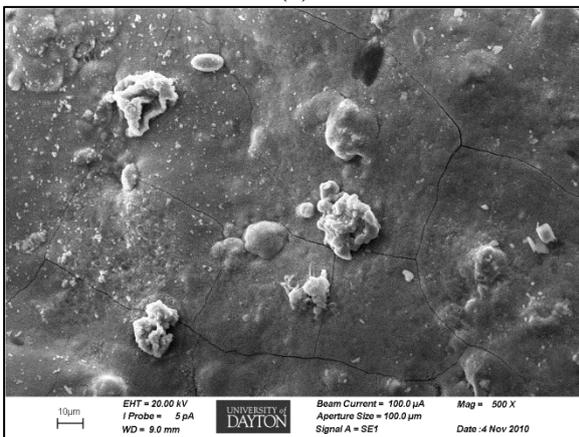
Figure D-43. SEM images of 1010 steel sample retrieved on 18 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



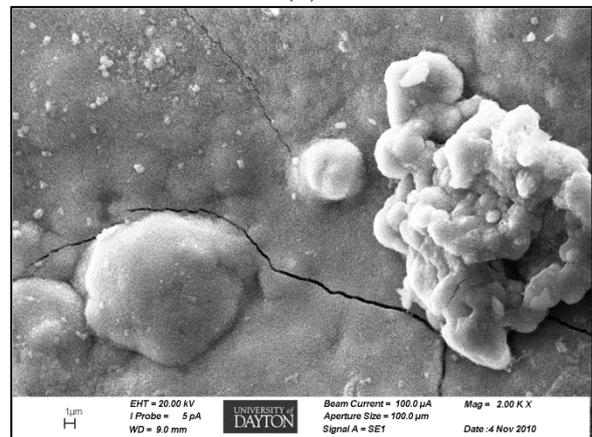
(a)



(b)

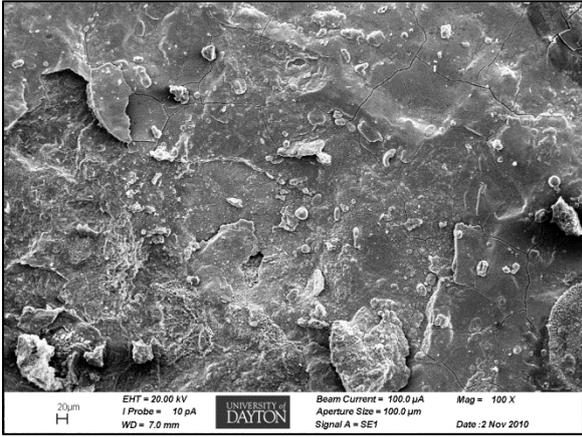


(c)

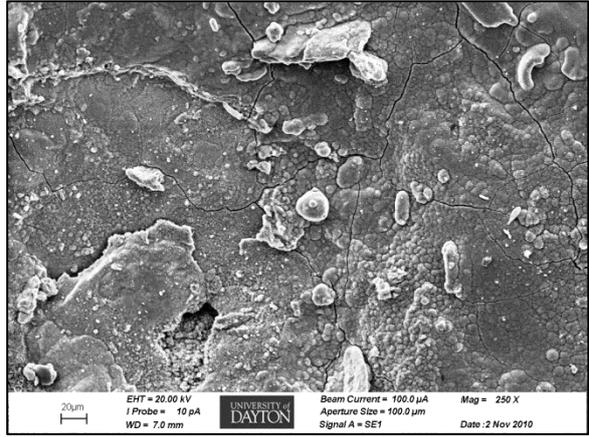


(d)

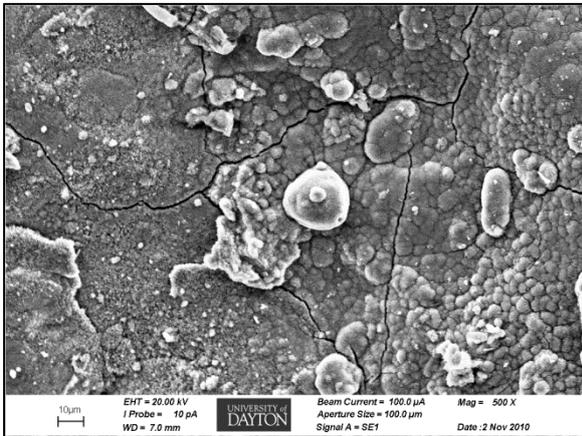
Figure D-44. SEM images of 1010 steel sample retrieved on 15 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



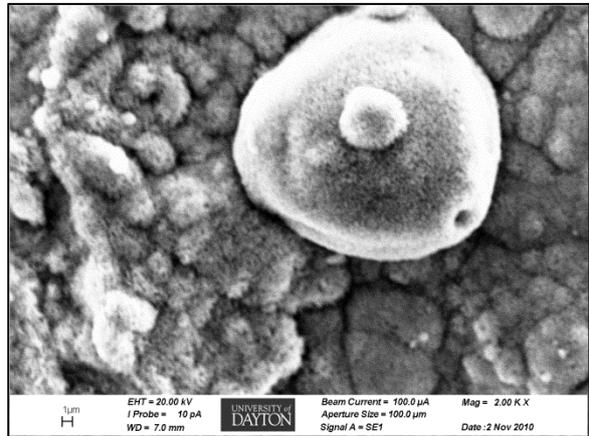
(a)



(b)

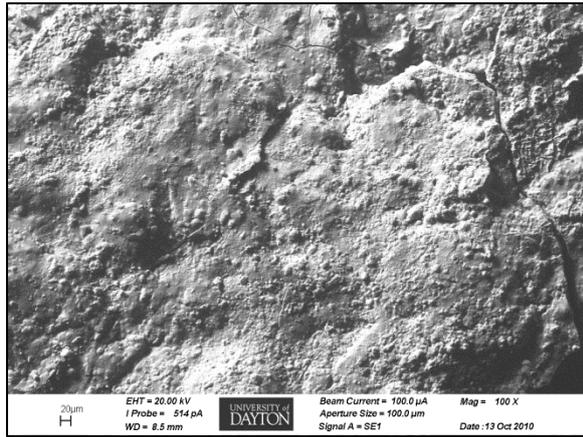


(c)

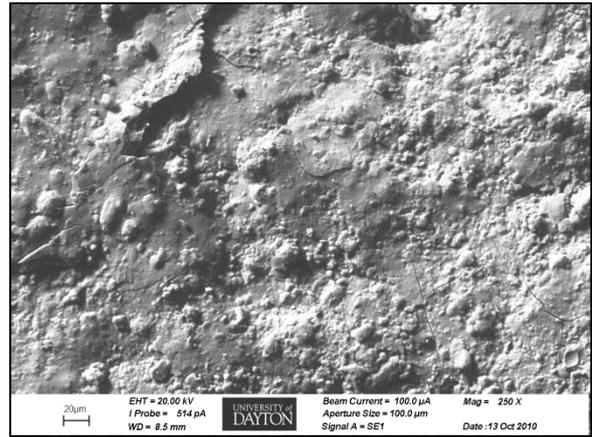


(d)

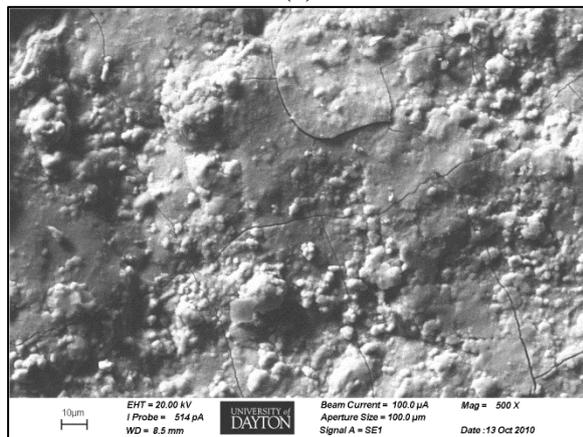
Figure D-45. SEM images of 1010 steel sample retrieved on 12 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



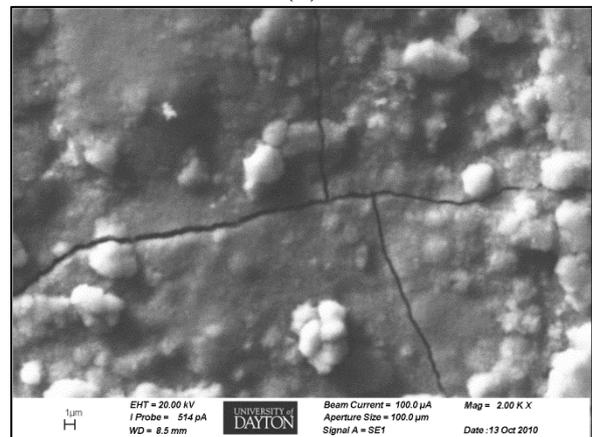
(a)



(b)

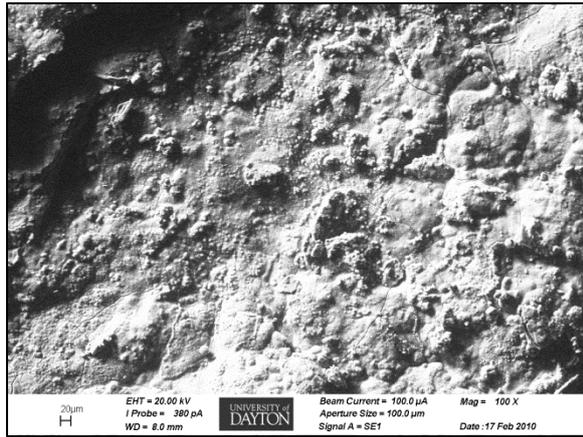


(c)

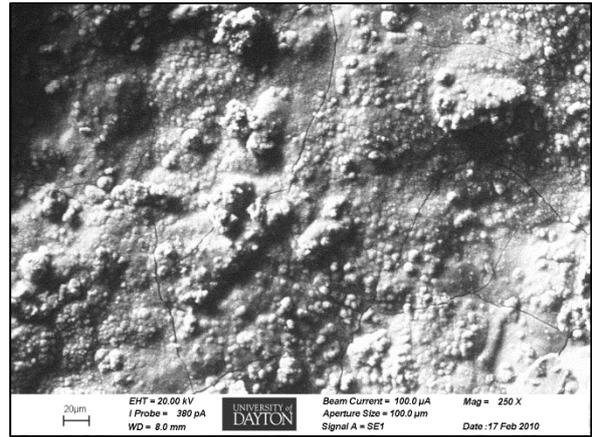


(d)

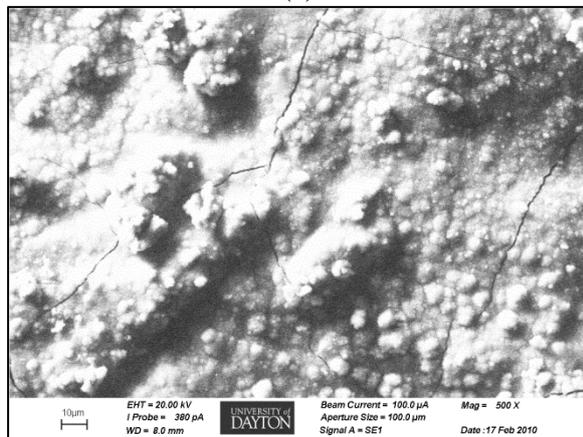
Figure D-46. SEM images of 1010 steel sample retrieved on 9 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



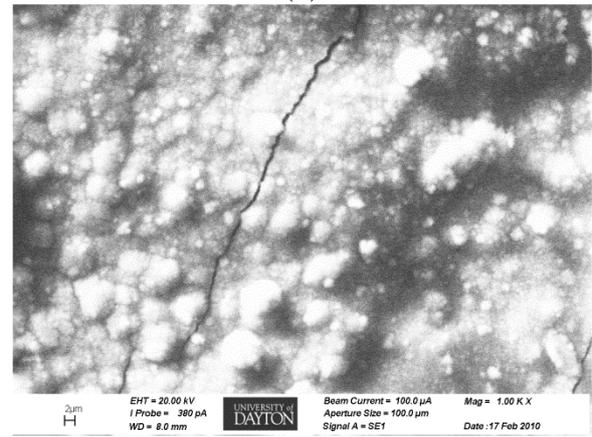
(a)



(b)

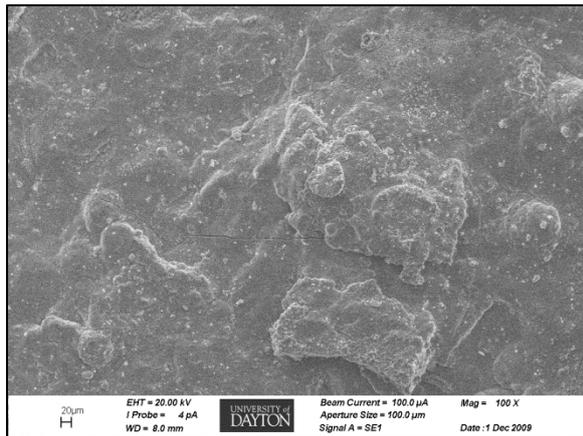


(c)

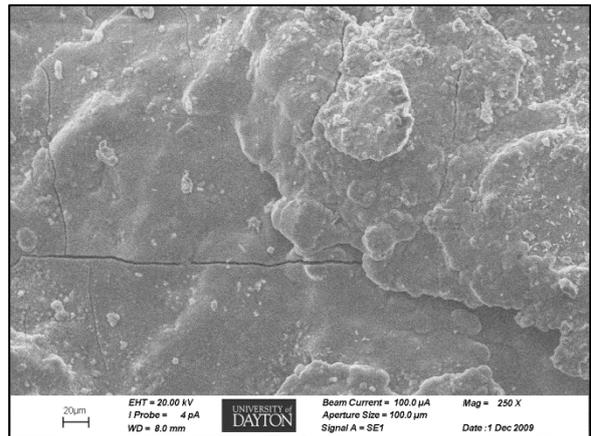


(d)

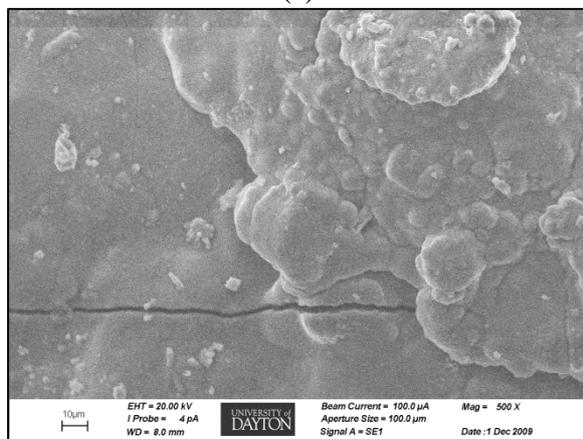
Figure D-47. SEM images of 1010 steel sample retrieved on 6 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



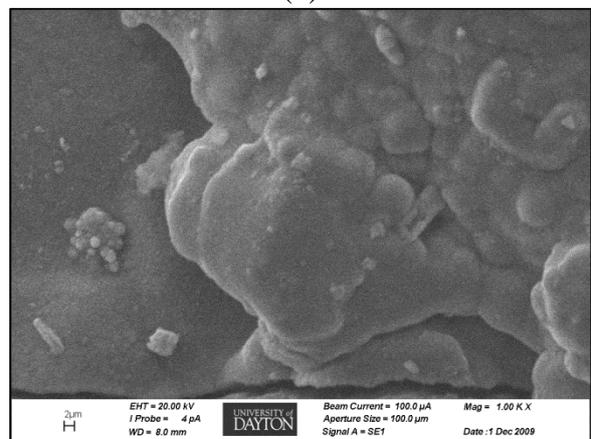
(a)



(b)



(c)



(d)

Figure D-48. SEM images of 1010 steel sample retrieved on 3 months exposure from East Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.

Appendix E
Scanning Electron Microscopy Images
(West Coast Ship, WA)

FIGURES

	Page
Figure E-1. SEM images of pure silver sample retrieved on 24 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	6
Figure E-2. SEM images of pure silver sample retrieved on 21 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	7
Figure E-3. SEM images of pure silver sample retrieved on 18 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	8
Figure E-4. SEM images of pure silver sample retrieved on 15 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	9
Figure E-5. SEM images of pure silver sample retrieved on 12 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	10
Figure E-6. SEM images of pure silver sample retrieved on 9 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	11
Figure E-7. SEM images of pure silver sample retrieved on 6 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.	12
Figure E-8. SEM images of pure silver sample retrieved on 3 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 1000X magnification.	13
Figure E-9. SEM images of aluminum alloy 7075 sample retrieved on 24 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	14
Figure E-10. SEM images of aluminum alloy 7075 sample retrieved on 21 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	15
Figure E-11. SEM images of aluminum alloy 7075 sample retrieved on 18 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	16
Figure E-12. SEM images of aluminum alloy 7075 sample retrieved on 15 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	17
Figure E-13. SEM images of aluminum alloy 7075 sample retrieved on 12 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	18

Figure E-14. SEM images of aluminum alloy 7075 sample retrieved on 9 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification..... 19

Figure E-15. SEM images of aluminum alloy 7075 sample retrieved on 6 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification..... 20

Figure E-16. SEM images of aluminum alloy 7075 sample retrieved on 3 months exposure from West Coast Ship site. (a) 30X magnification (b) 100X magnification, (c) 250X magnification, and (d) 500X magnification..... 21

Figure E-17. SEM images of aluminum alloy 6061 sample retrieved on 24 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification..... 22

Figure E-18. SEM images of aluminum alloy 6061 sample retrieved on 21 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification..... 23

Figure E-19. SEM images of aluminum alloy 6061 sample retrieved on 18 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification..... 24

Figure E-20. SEM images of aluminum alloy 6061 sample retrieved on 15 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification..... 25

Figure E-21. SEM images of aluminum alloy 6061 sample retrieved on 12 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification..... 26

Figure E-22. SEM images of aluminum alloy 6061 sample retrieved on 9 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification..... 27

Figure E-23. SEM images of aluminum alloy 6061 sample retrieved on 6 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification..... 28

Figure E-24. SEM images of aluminum alloy 6061 sample retrieved on 3 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification..... 29

Figure E-25. SEM images of aluminum alloy 2024 sample retrieved on 24 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification..... 30

Figure E-26. SEM images of aluminum alloy 2024 sample retrieved on 21 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification..... 31

Figure E-27. SEM images of aluminum alloy 2024 sample retrieved on 18 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification..... 32

Figure E-28. SEM images of aluminum alloy 2024 sample retrieved on 15 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 33

Figure E-29. SEM images of aluminum alloy 2024 sample retrieved on 12 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 34

Figure E-30. SEM images of aluminum alloy 2024 sample retrieved on 9 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 35

Figure E-31. SEM images of aluminum alloy 2024 sample retrieved on 6 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification 36

Figure E-32. SEM images of aluminum alloy 2024 sample retrieved on 3 months exposure from West Coast Ship site. (a) 100X magnification, (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 37

Figure E-33. SEM images of pure copper sample retrieved on 24 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 38

Figure E-34. SEM images of pure copper sample retrieved on 21 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 39

Figure E-35. SEM images of pure copper sample retrieved on 18 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 40

Figure E-36. SEM images of pure copper sample retrieved on 15 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 41

Figure E-37. SEM images of pure copper sample retrieved on 12 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 42

Figure E-38. SEM images of pure copper sample retrieved on 9 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 43

Figure E-39. SEM images of pure copper sample retrieved on 6 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification. 44

Figure E-40. SEM images of pure copper sample retrieved on 3 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 45

Figure E-41. SEM images of 1010 steel sample retrieved on 24 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 46

Figure E-42. SEM images of 1010 steel sample retrieved on 21 months exposure from West Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 47

Figure E-43. SEM images of 1010 steel sample retrieved on 18 months exposure from West Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 48

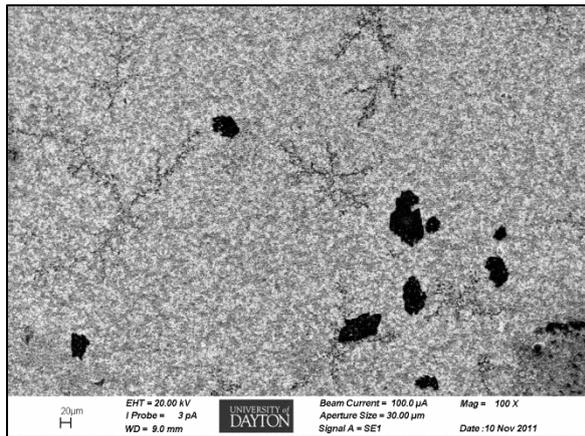
Figure E-44. SEM images of 1010 steel sample retrieved on 15 months exposure from West Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 49

Figure E-45. SEM images of 1010 steel sample retrieved on 12 months exposure from West Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 50

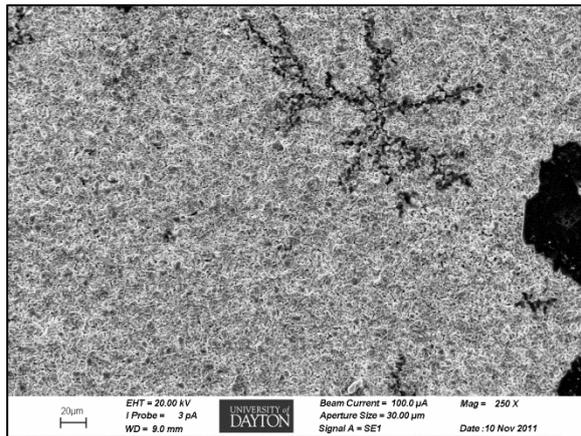
Figure E-46. SEM images of 1010 steel sample retrieved on 9 months exposure from West Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 51

Figure E-47. SEM images of 1010 steel sample retrieved on 6 months exposure from West Coast Ship site.
(a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 52

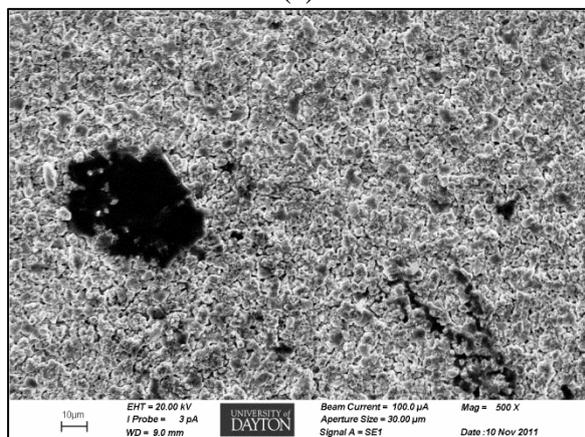
Figure E-48. SEM images of 1010 steel sample retrieved on 3 months exposure from West Coast Ship site.
(a) 100X magnification and (b) 250X magnification. 53



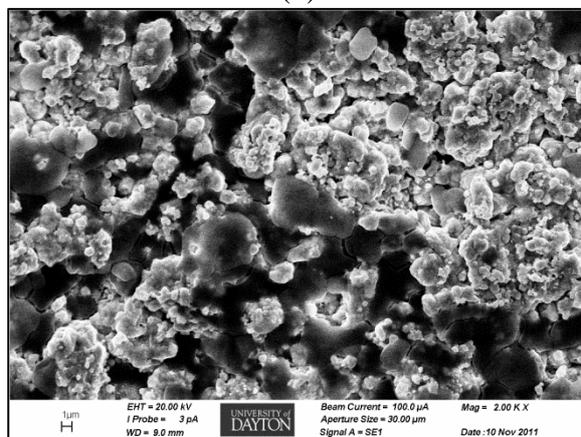
(a)



(b)

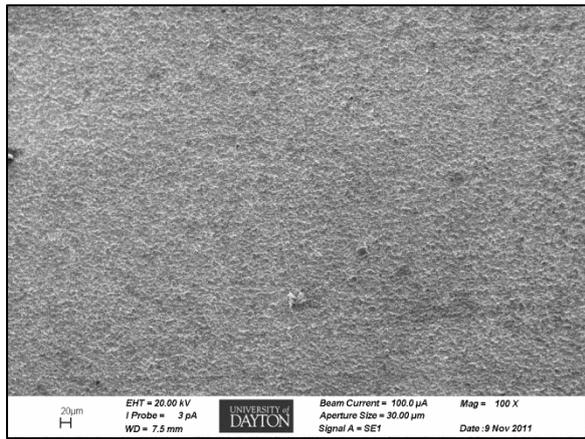


(c)

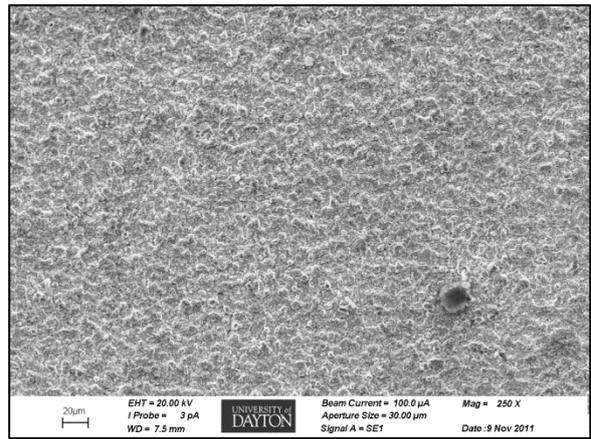


(d)

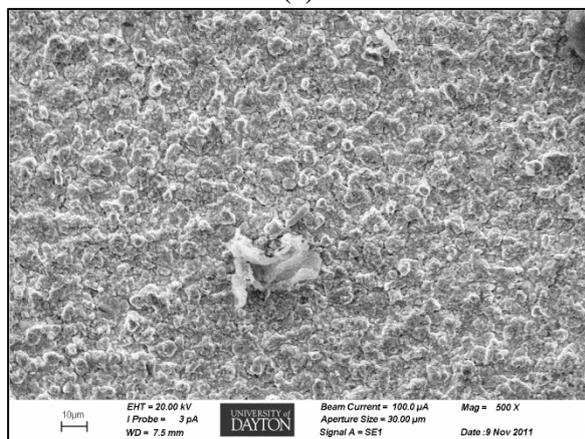
Figure E-1. SEM images of pure silver sample retrieved on 24 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



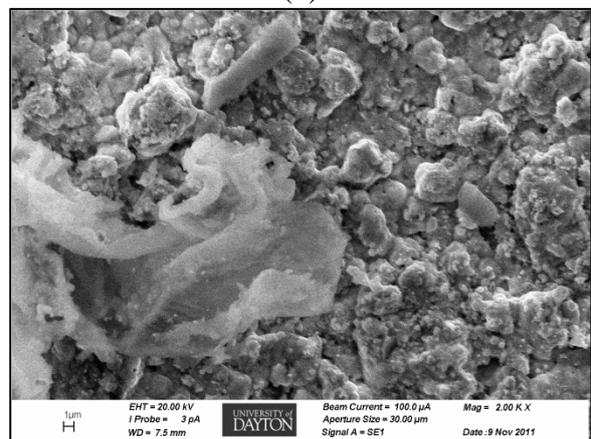
(a)



(b)

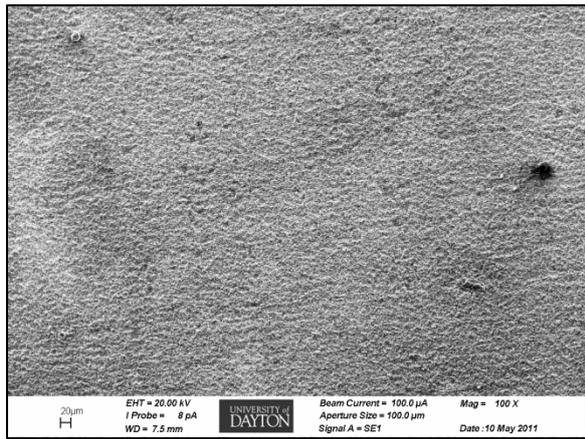


(c)

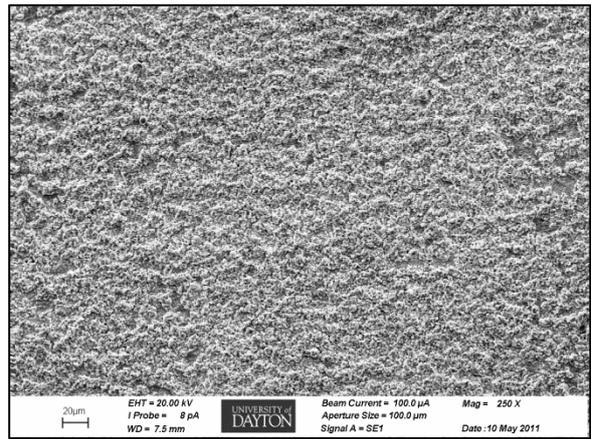


(d)

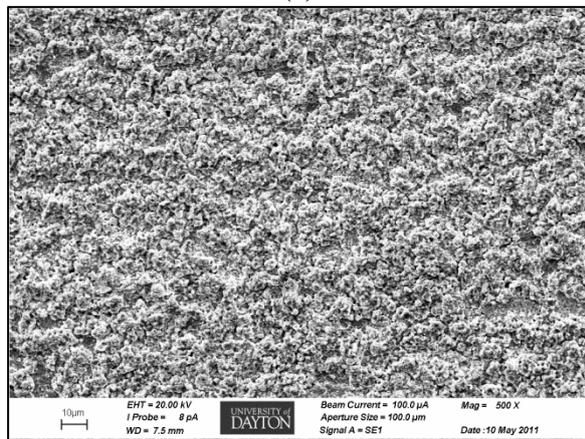
Figure E-2. SEM images of pure silver sample retrieved on 21 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



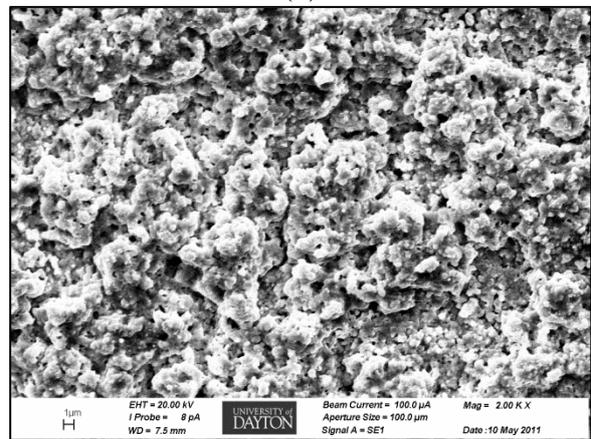
(a)



(b)

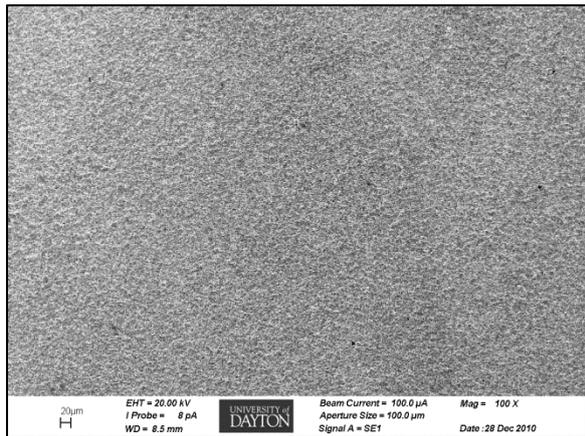


(c)

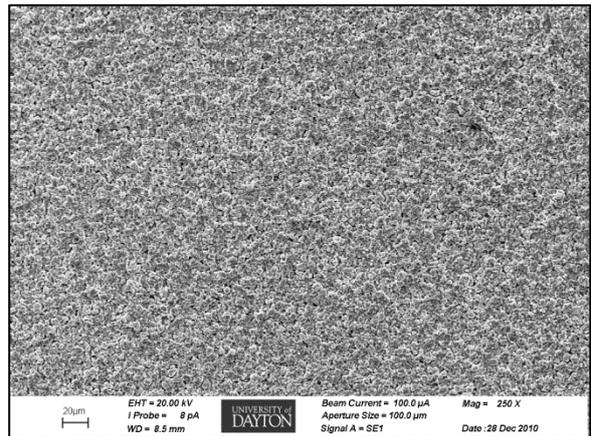


(d)

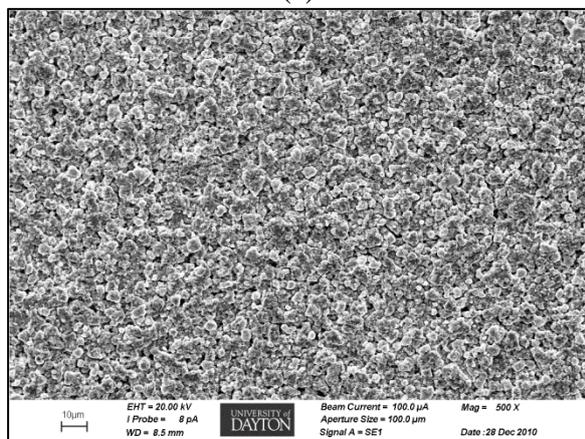
Figure E-3. SEM images of pure silver sample retrieved on 18 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



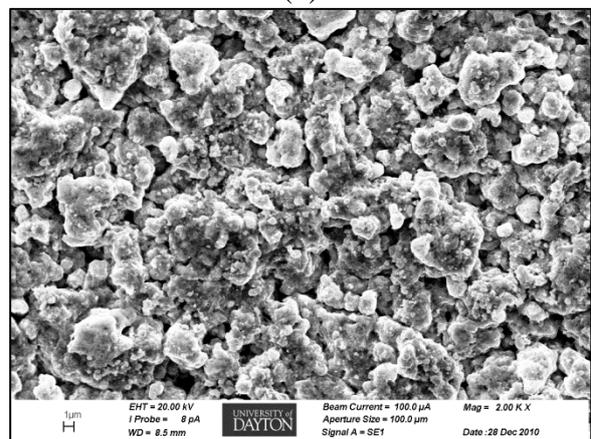
(a)



(b)

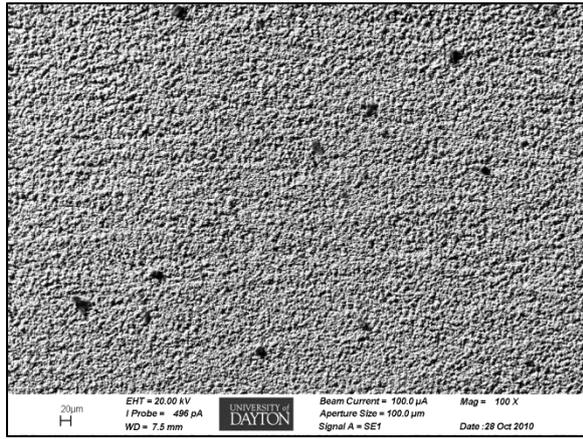


(c)

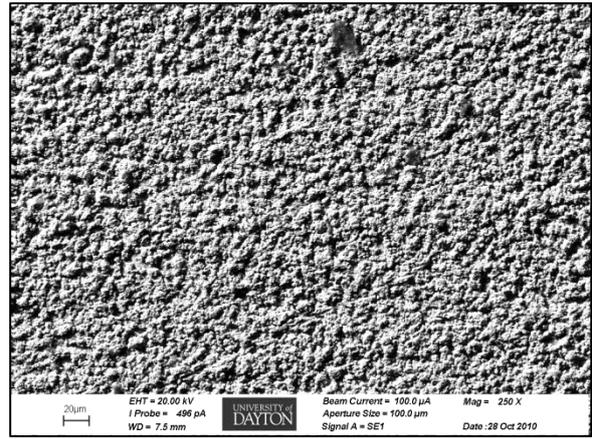


(d)

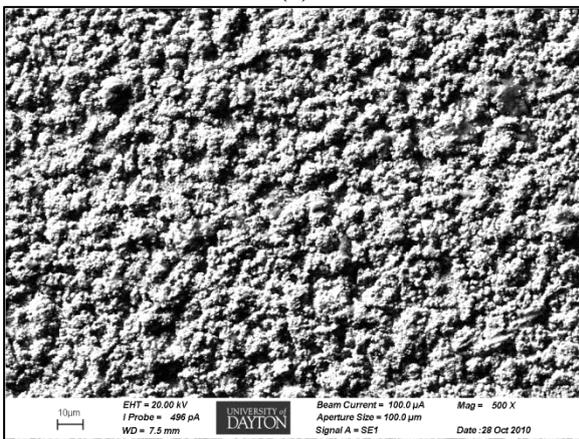
Figure E-4. SEM images of pure silver sample retrieved on 15 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



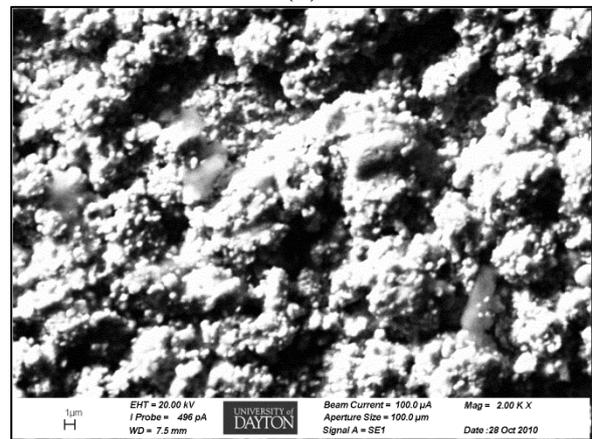
(a)



(b)

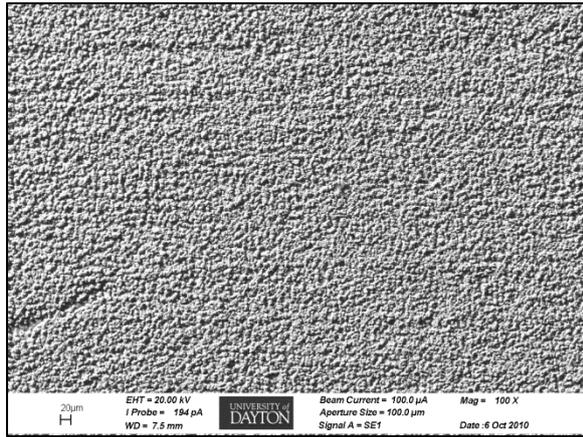


(c)

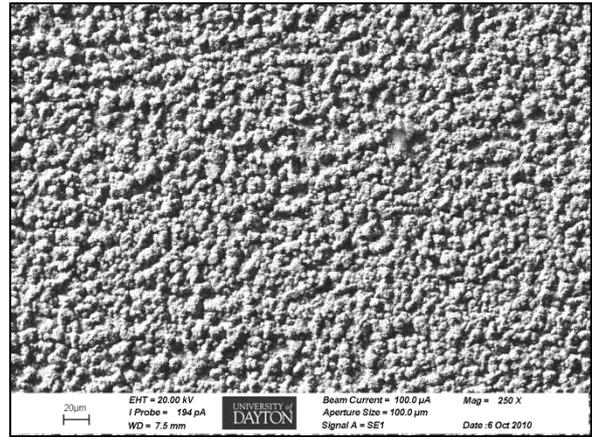


(d)

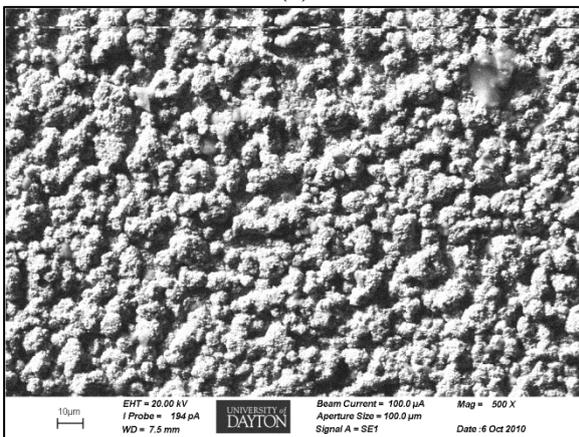
Figure E-5. SEM images of pure silver sample retrieved on 12 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



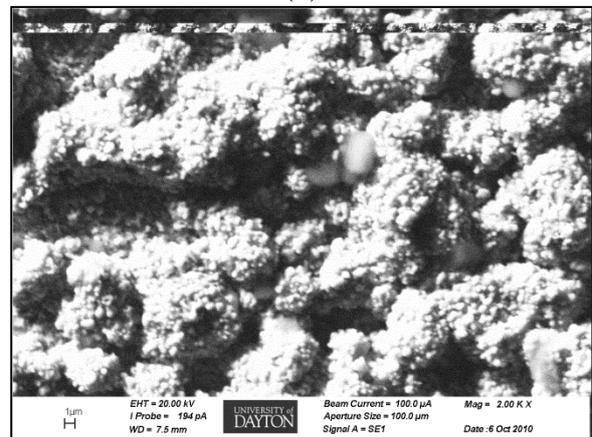
(a)



(b)

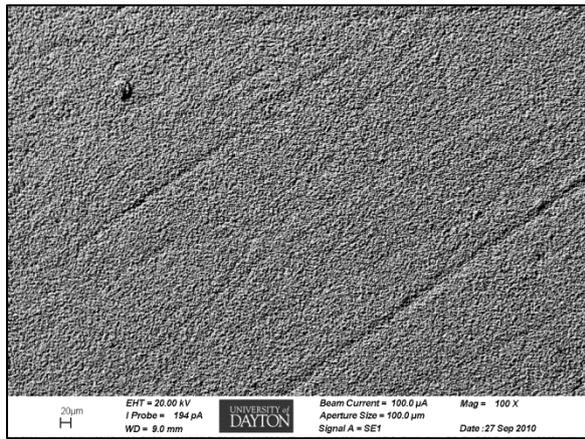


(c)

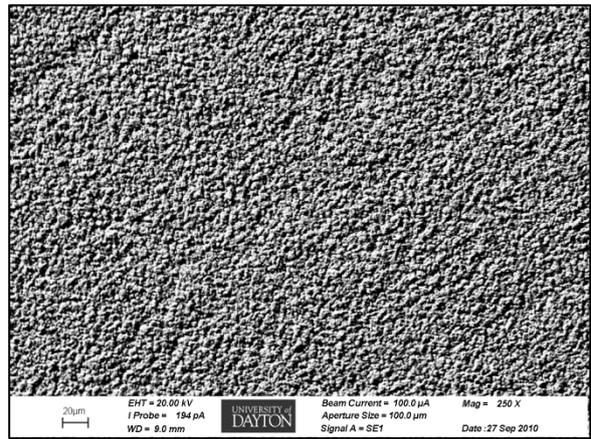


(d)

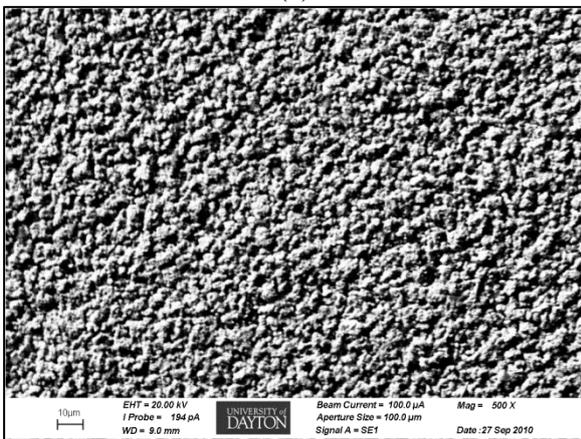
Figure E-6. SEM images of pure silver sample retrieved on 9 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



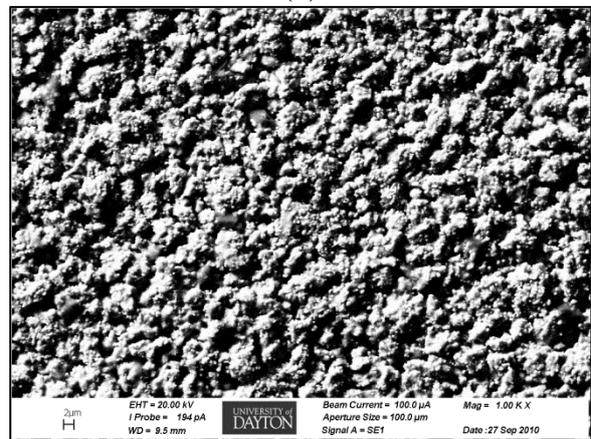
(a)



(b)

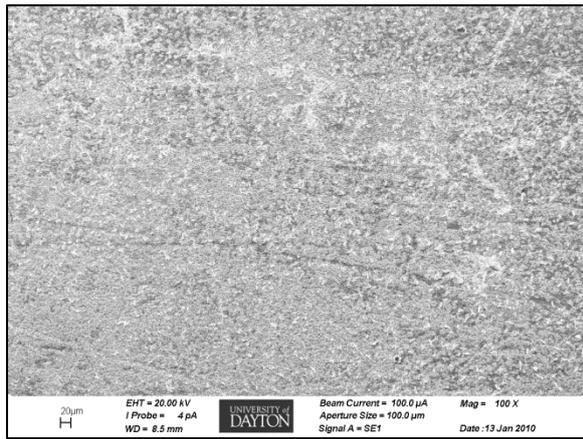


(c)

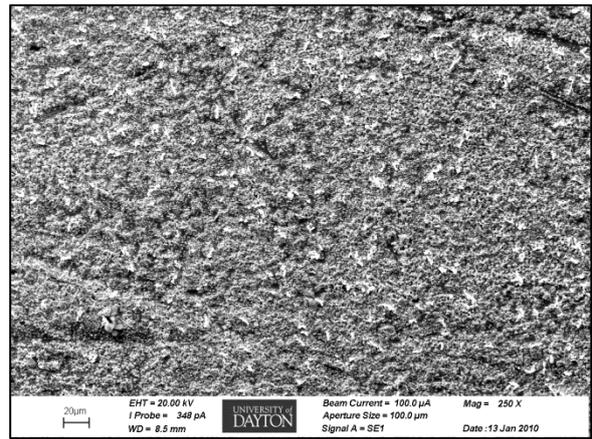


(d)

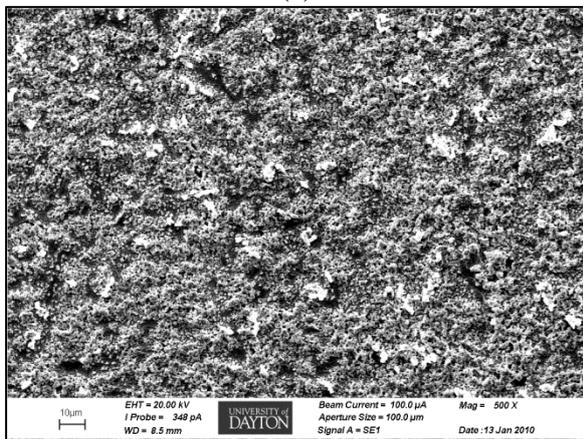
Figure E-7. SEM images of pure silver sample retrieved on 6 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



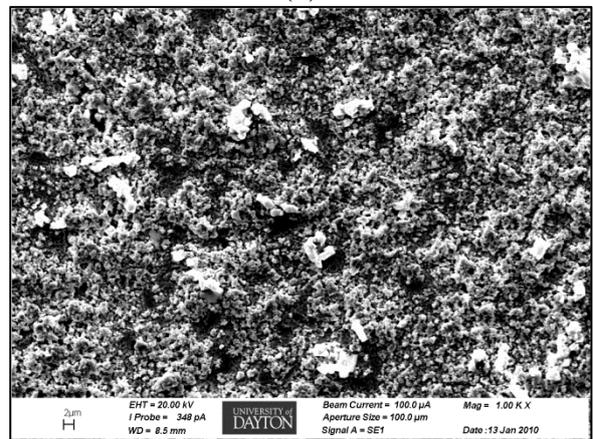
(a)



(b)

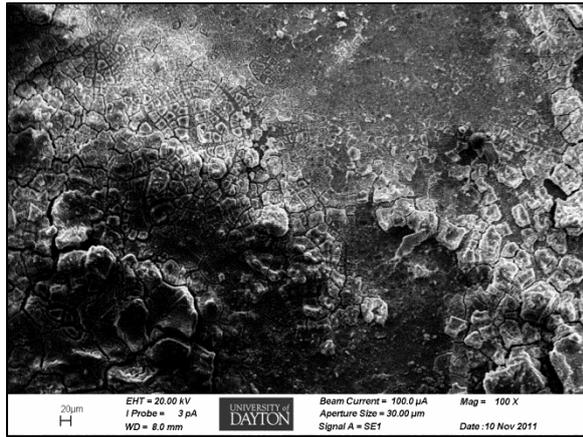


(c)

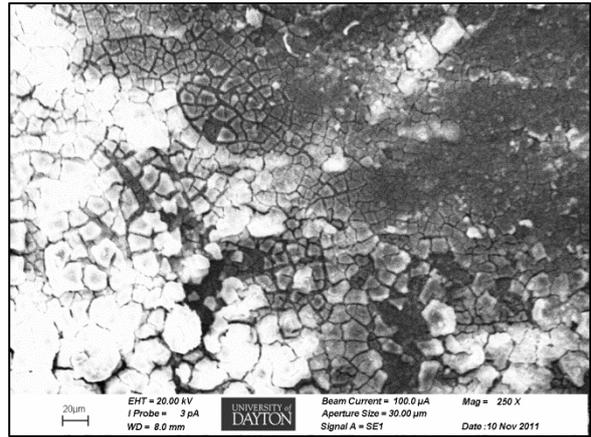


(d)

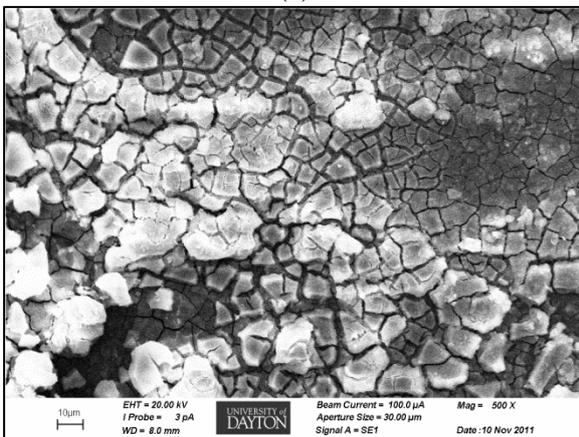
Figure E-8. SEM images of pure silver sample retrieved on 3 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 1000X magnification.



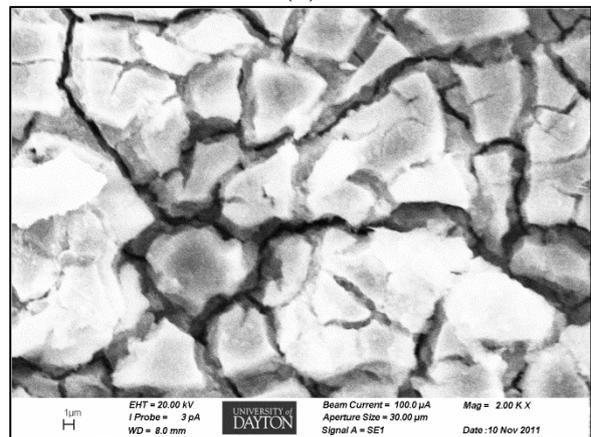
(a)



(b)

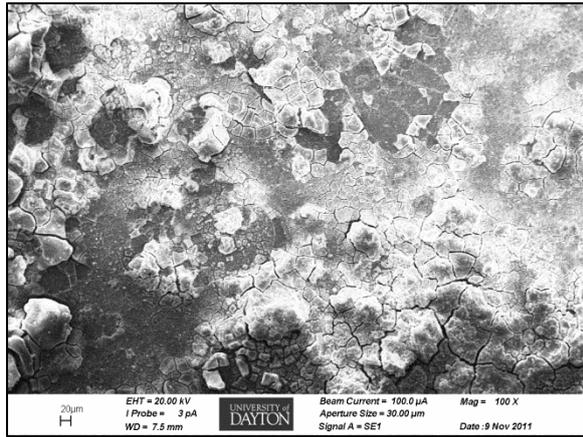


(c)

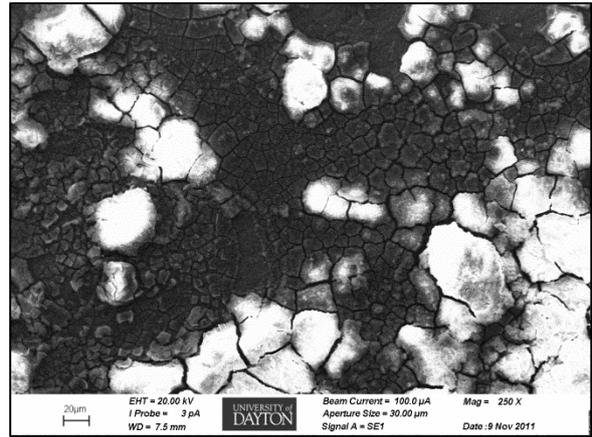


(d)

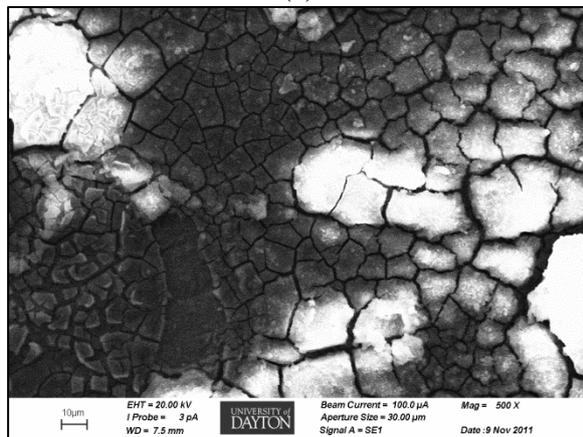
Figure E-9. SEM images of aluminum alloy 7075 sample retrieved on 24 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



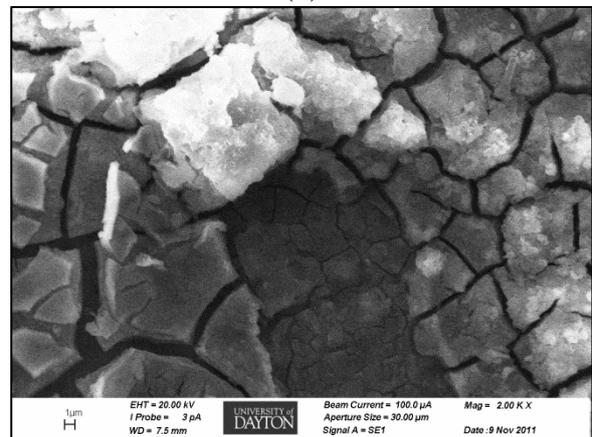
(a)



(b)

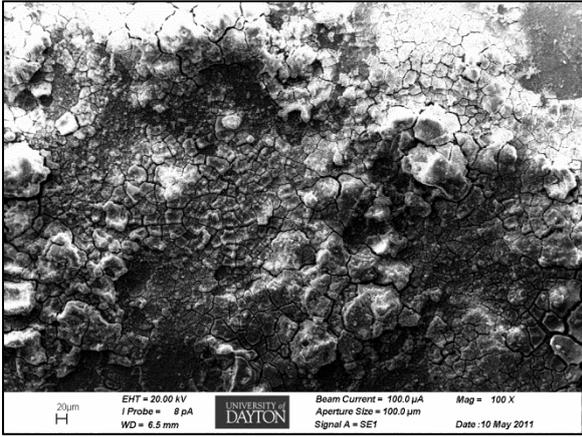


(c)

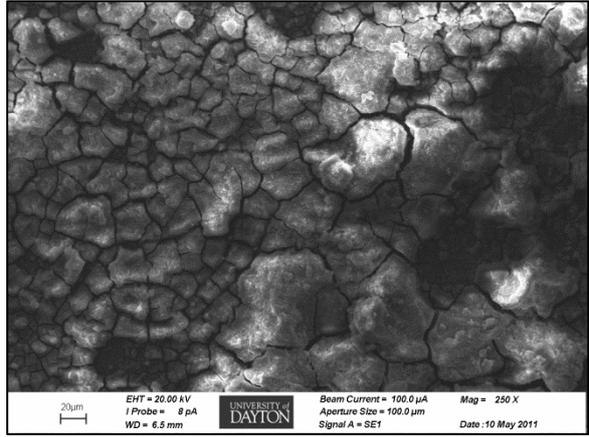


(d)

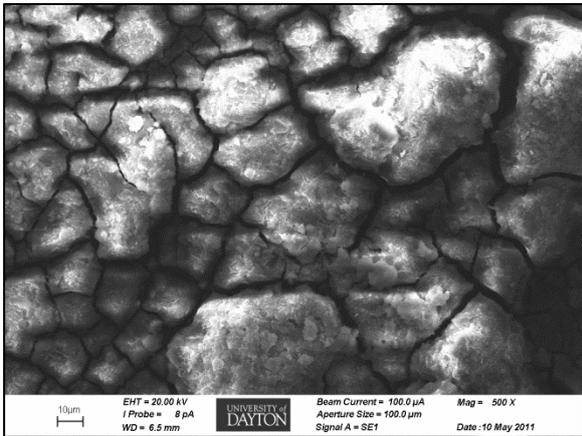
Figure E-10. SEM images of aluminum alloy 7075 sample retrieved on 21 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



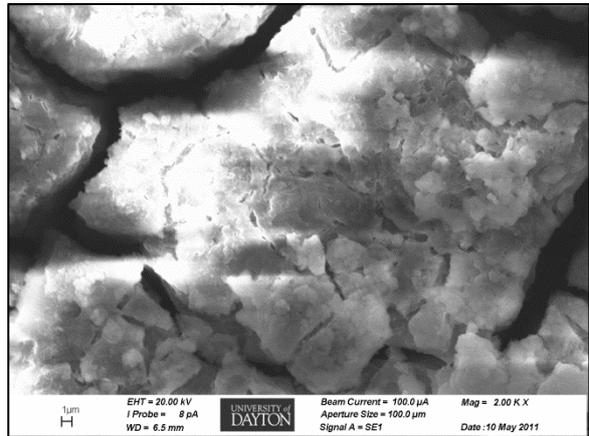
(a)



(b)

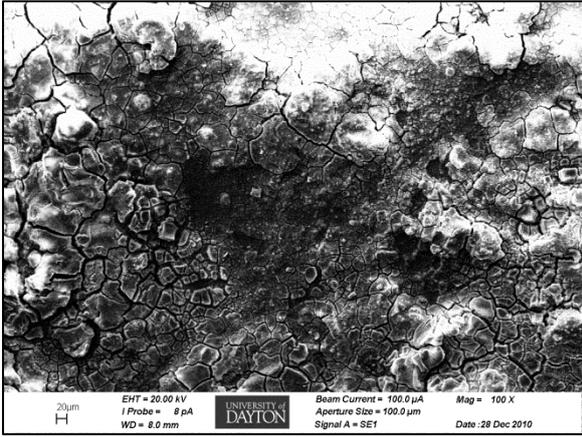


(c)

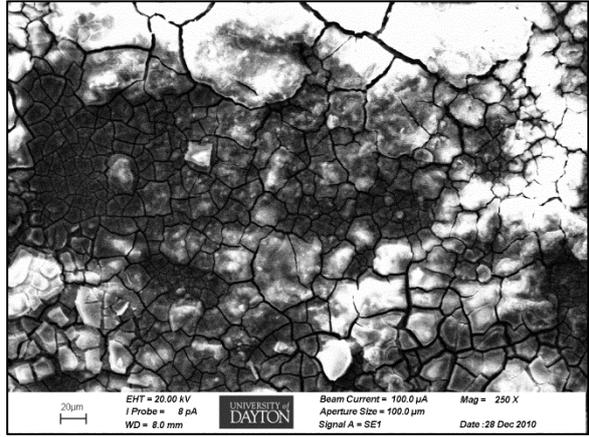


(d)

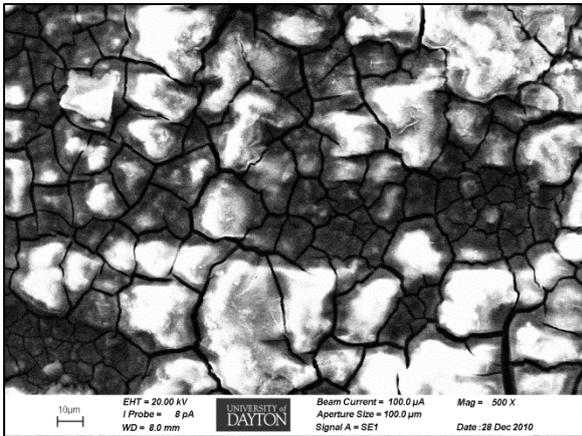
Figure E-11. SEM images of aluminum alloy 7075 sample retrieved on 18 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



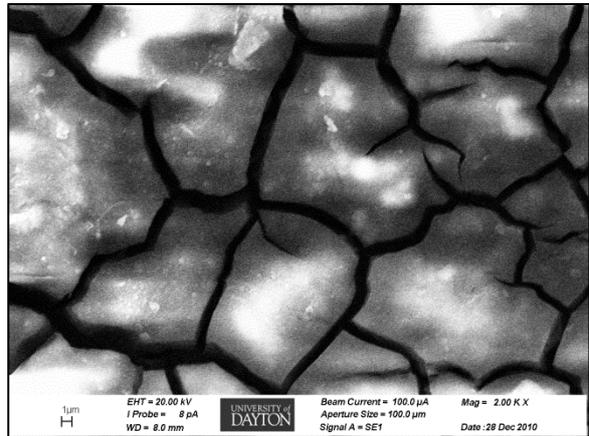
(a)



(b)

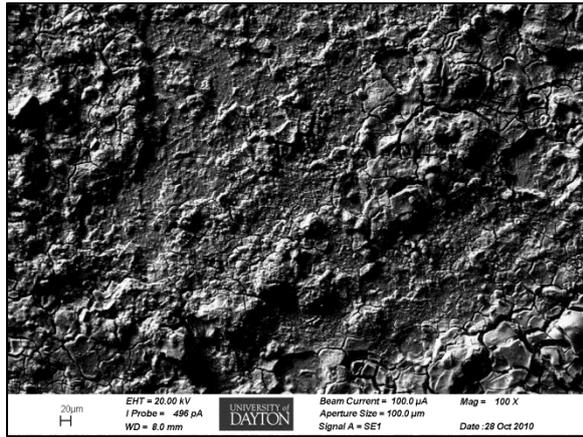


(c)

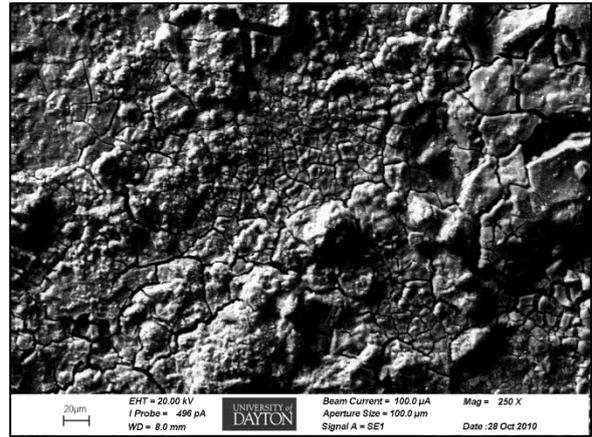


(d)

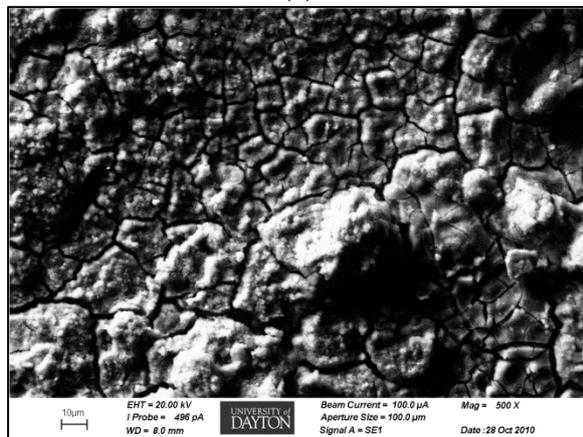
Figure E-12. SEM images of aluminum alloy 7075 sample retrieved on 15 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



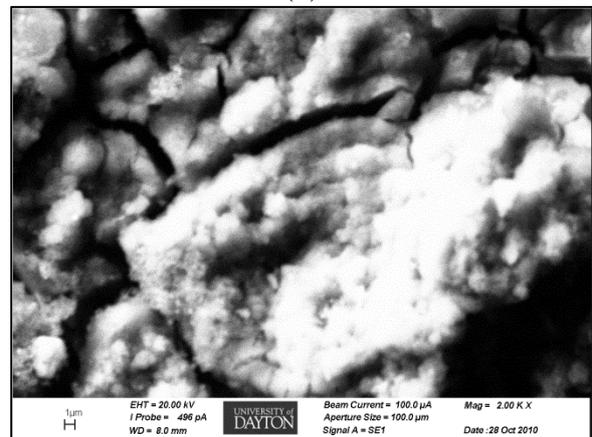
(a)



(b)

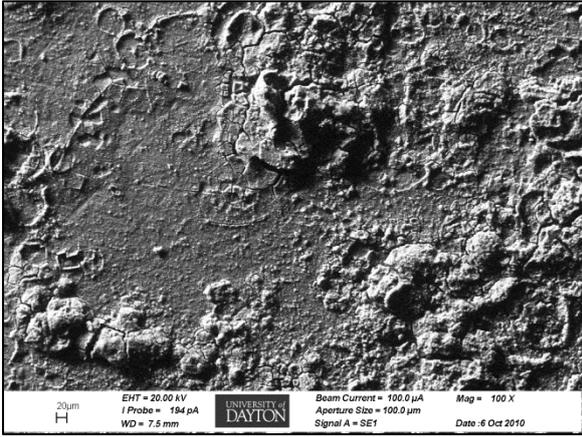


(c)

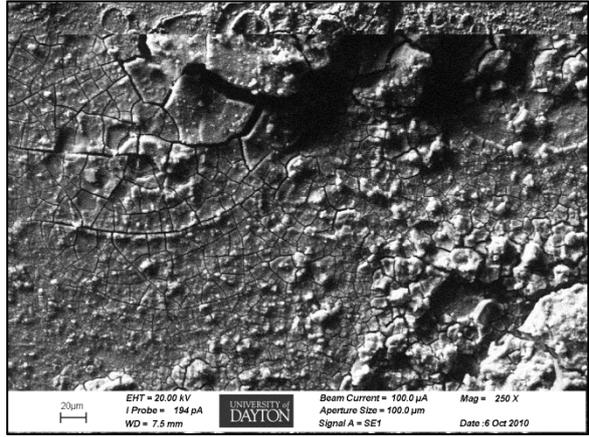


(d)

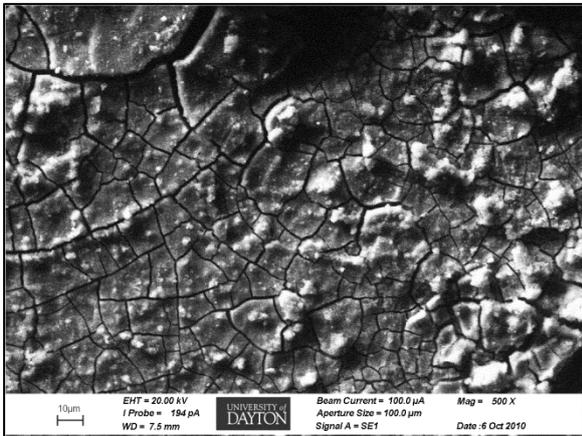
Figure E-13. SEM images of aluminum alloy 7075 sample retrieved on 12 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



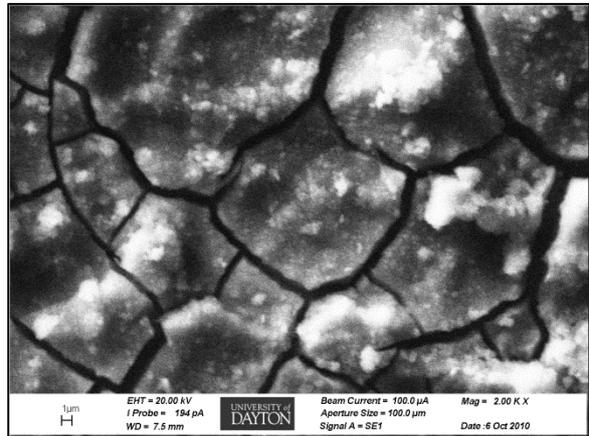
(a)



(b)

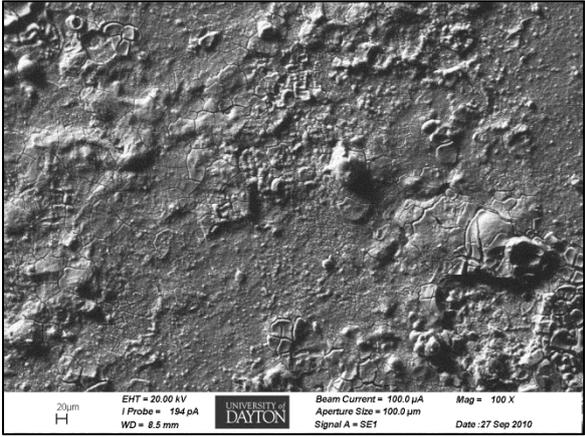


(c)

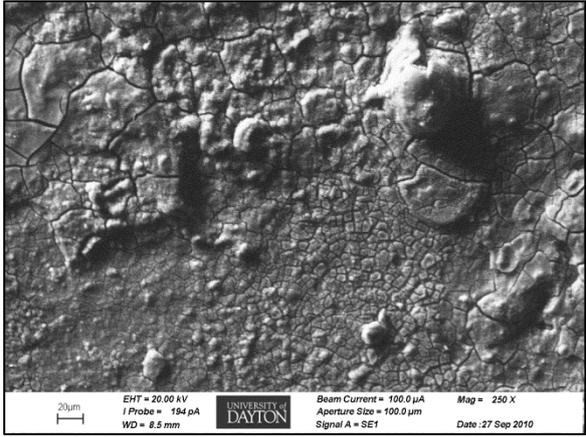


(d)

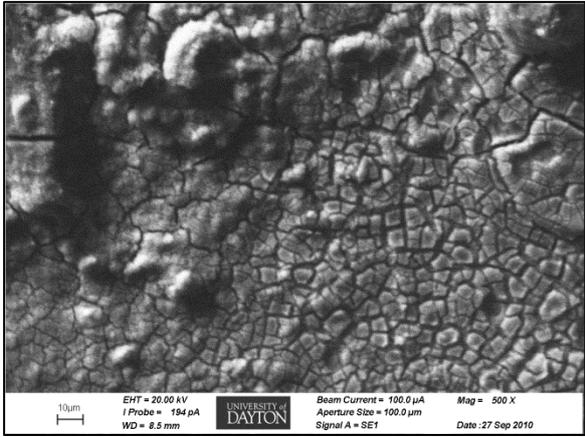
Figure E-14. SEM images of aluminum alloy 7075 sample retrieved on 9 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)

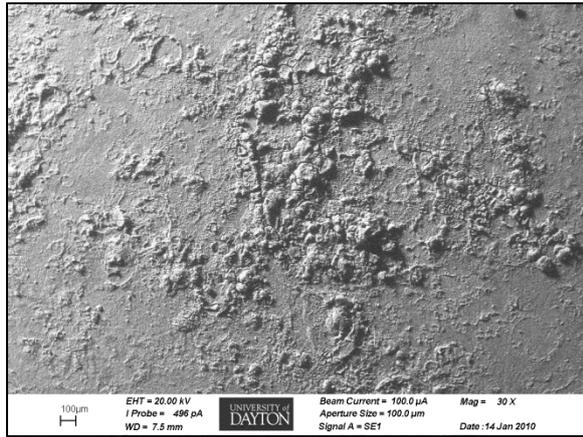


(b)

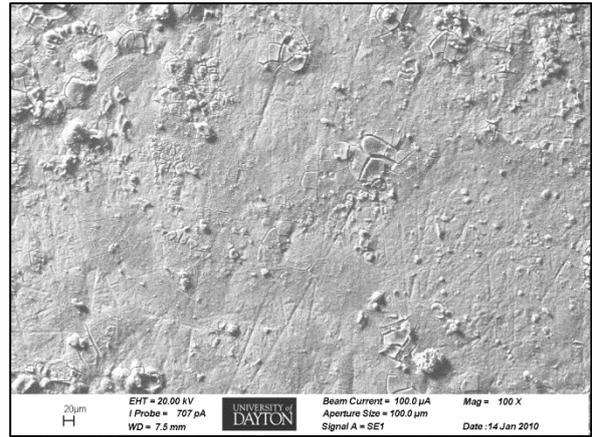


(c)

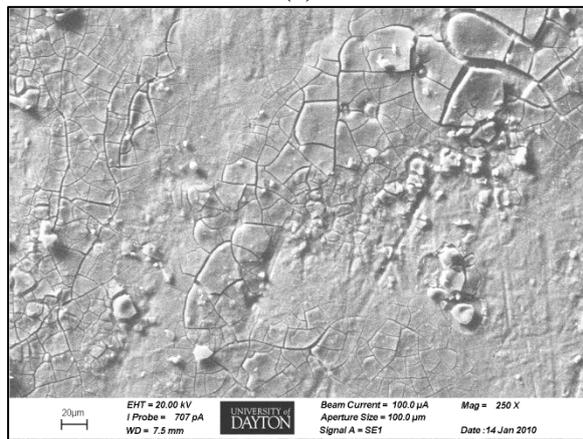
Figure E-15. SEM images of aluminum alloy 7075 sample retrieved on 6 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification..



(a)



(b)



(c)

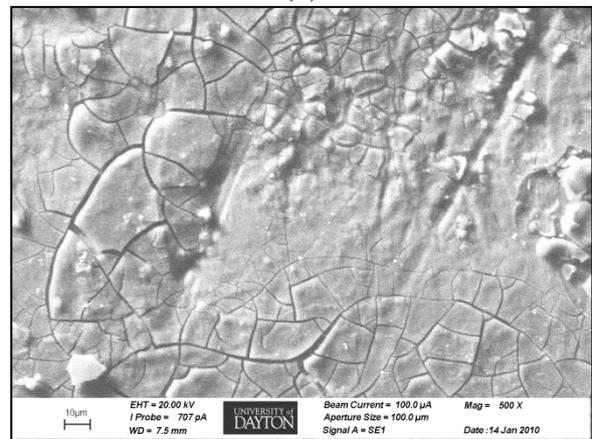
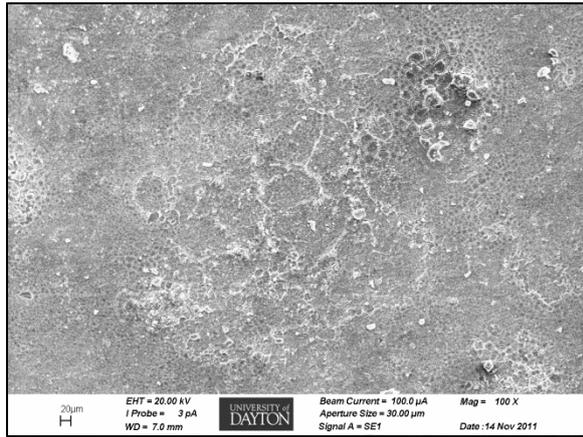
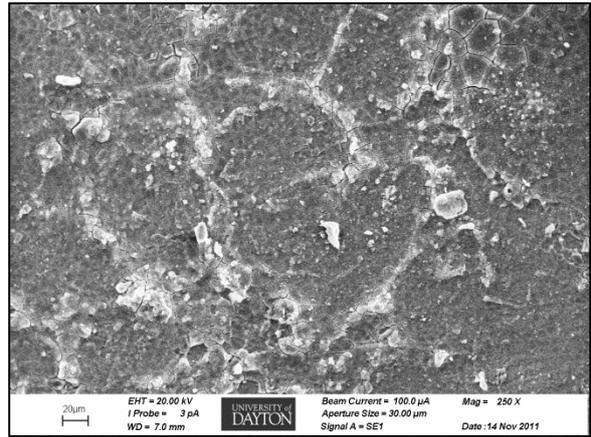


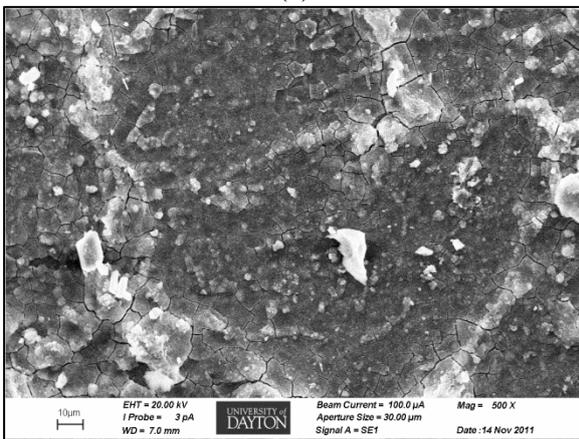
Figure E-16. SEM images of aluminum alloy 7075 sample retrieved on 3 months exposure from West Coast Ship site. (a) 30X magnification (b) 100X magnification, (c) 250X magnification, and (d) 500X magnification.



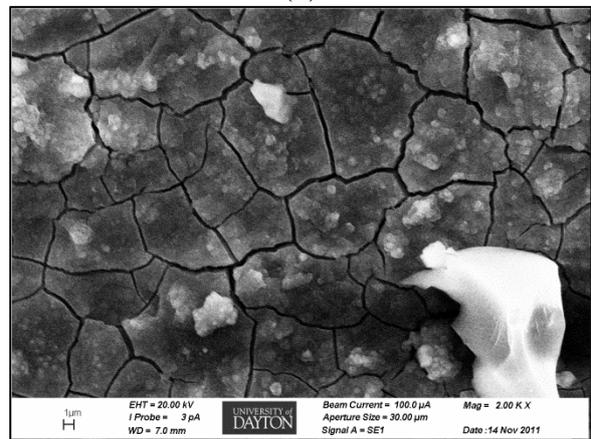
(a)



(b)

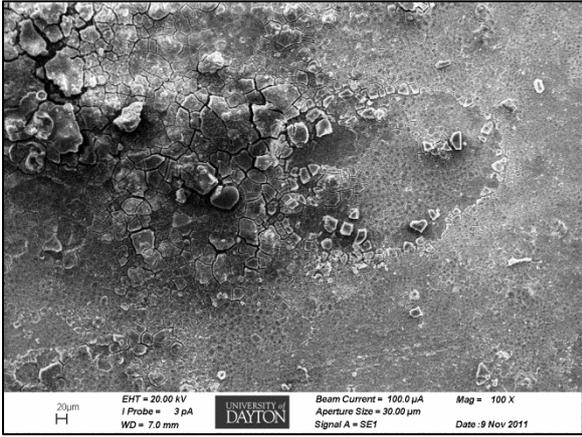


(c)

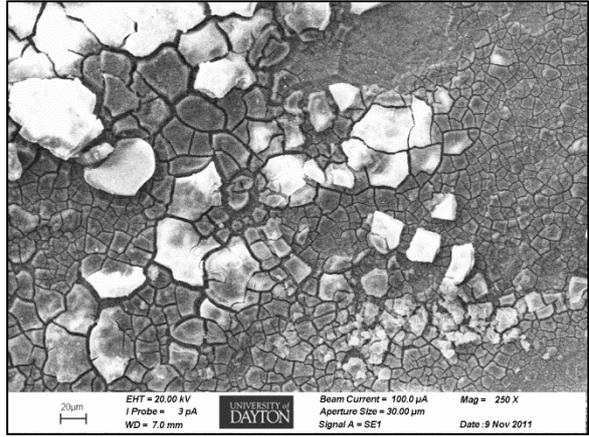


(d)

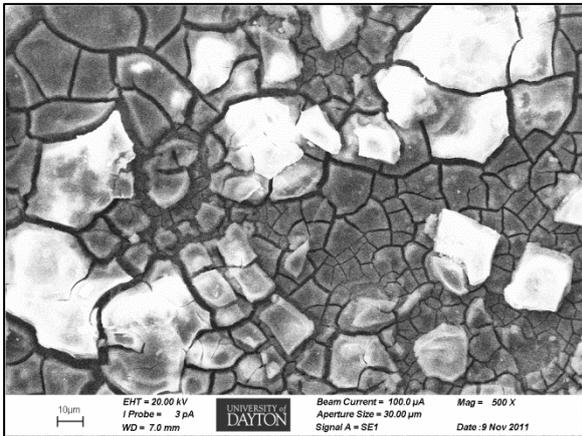
Figure E-17. SEM images of aluminum alloy 6061 sample retrieved on 24 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



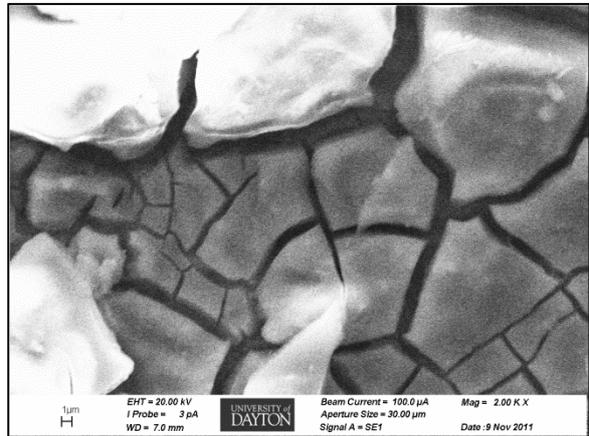
(a)



(b)

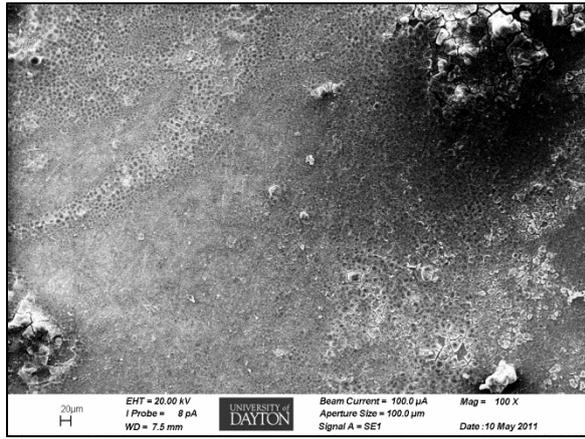


(c)

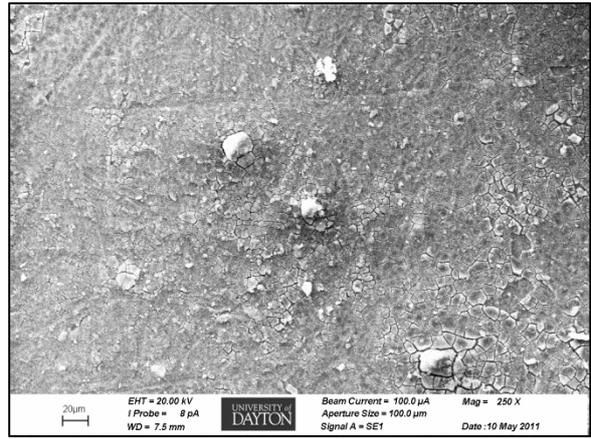


(d)

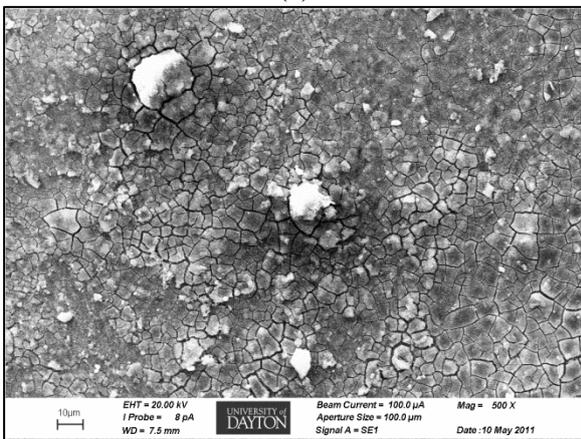
Figure E-18. SEM images of aluminum alloy 6061 sample retrieved on 21 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



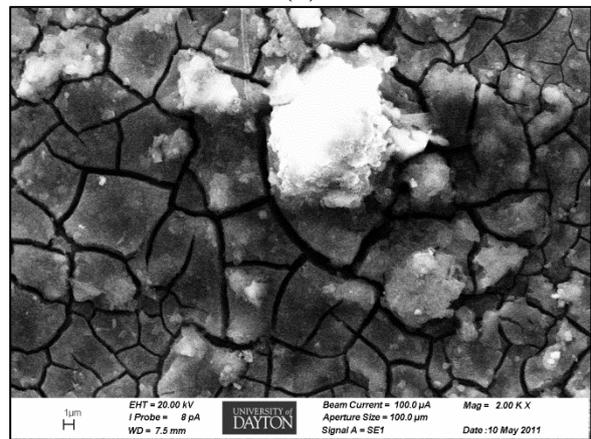
(a)



(b)

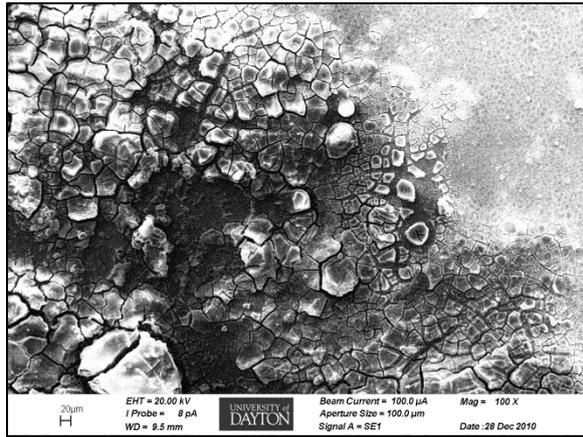


(c)

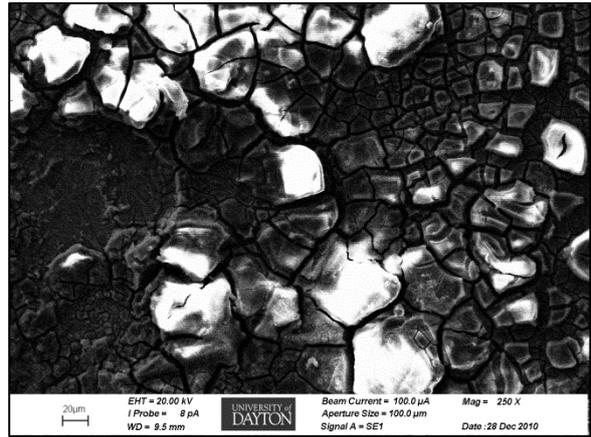


(d)

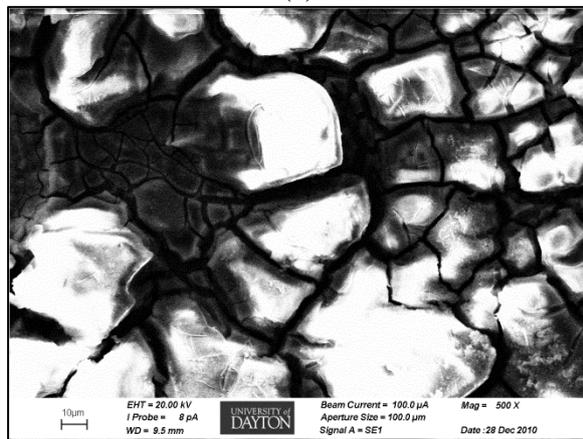
Figure E-19. SEM images of aluminum alloy 6061 sample retrieved on 18 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



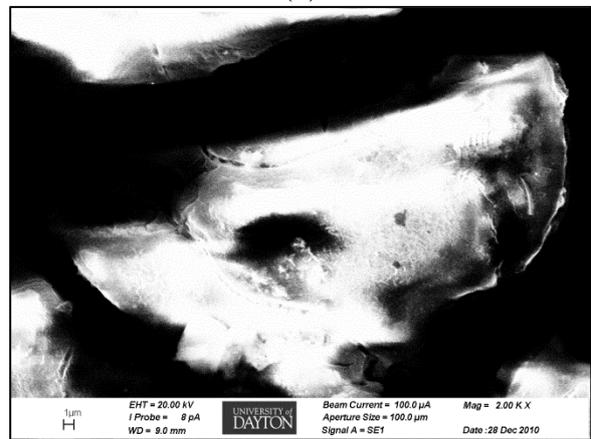
(a)



(b)

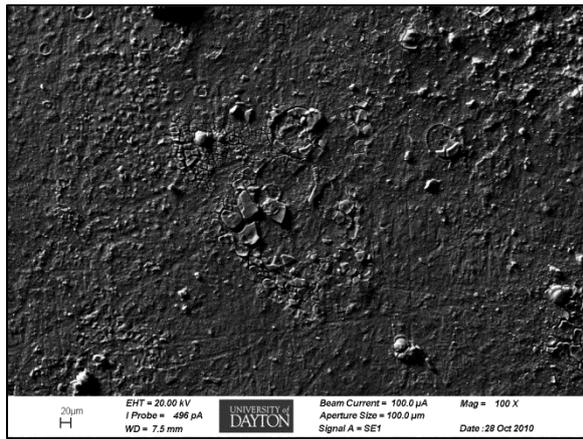


(c)

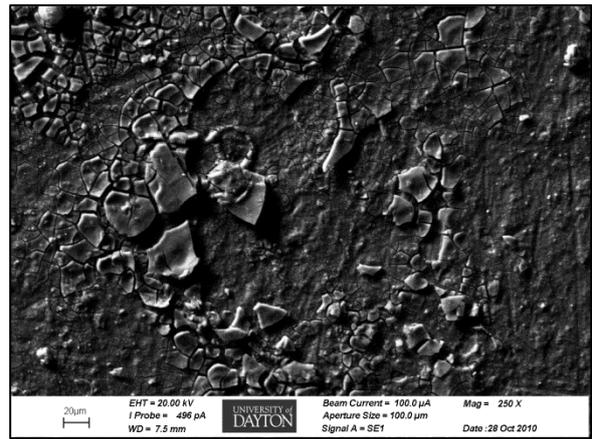


(d)

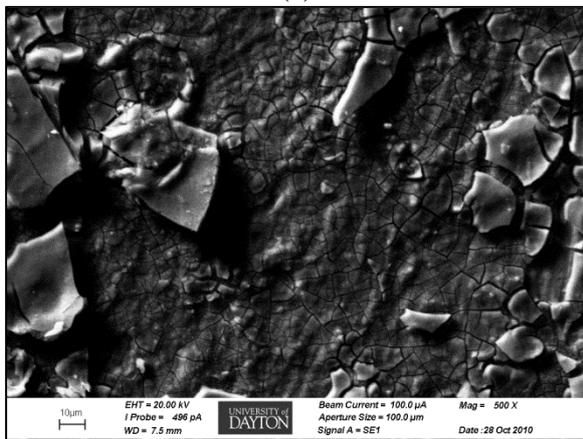
Figure E-20. SEM images of aluminum alloy 6061 sample retrieved on 15 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



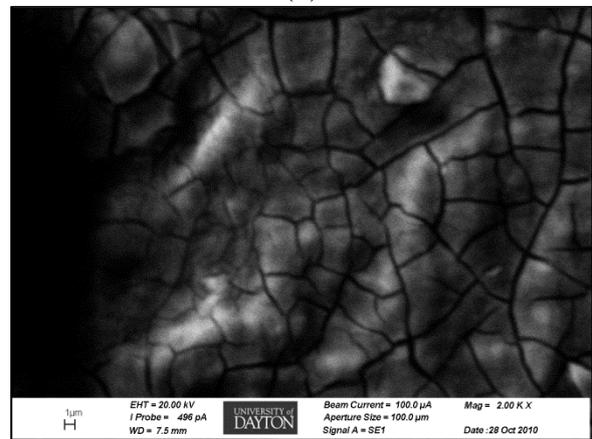
(a)



(b)

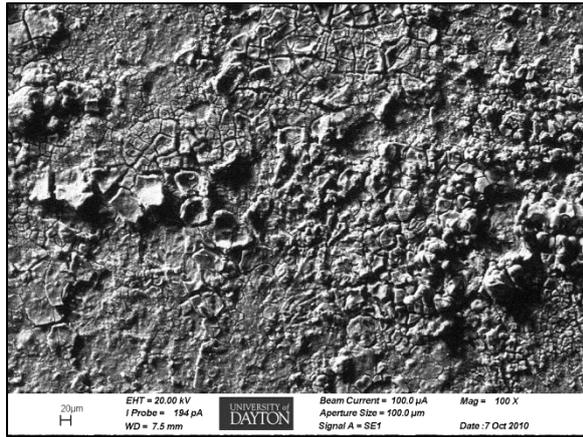


(c)

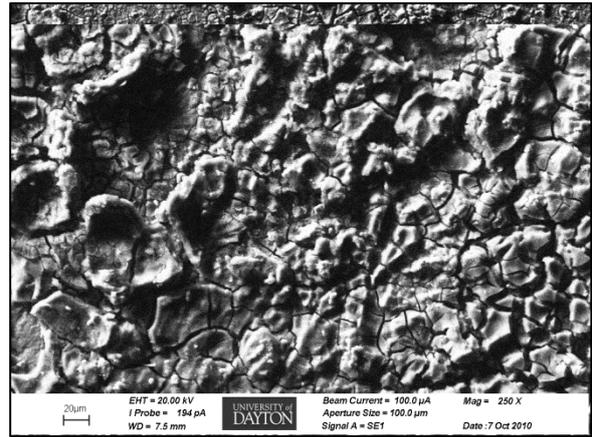


(d)

Figure E-21. SEM images of aluminum alloy 6061 sample retrieved on 12 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



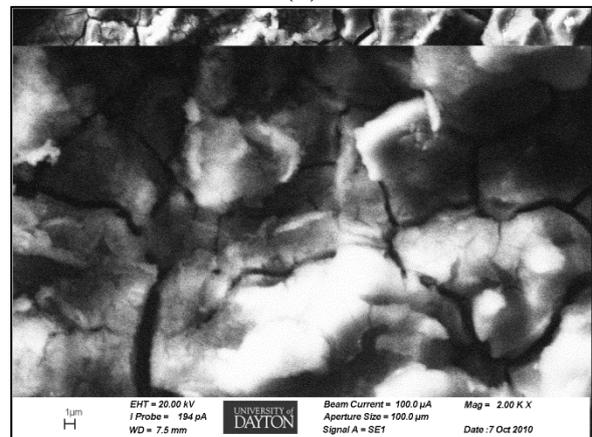
(a)



(b)

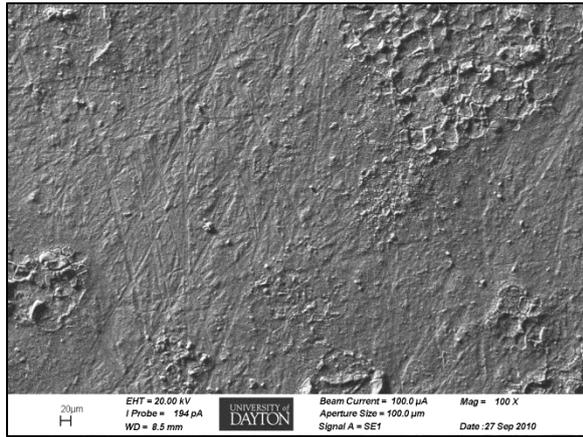


(c)

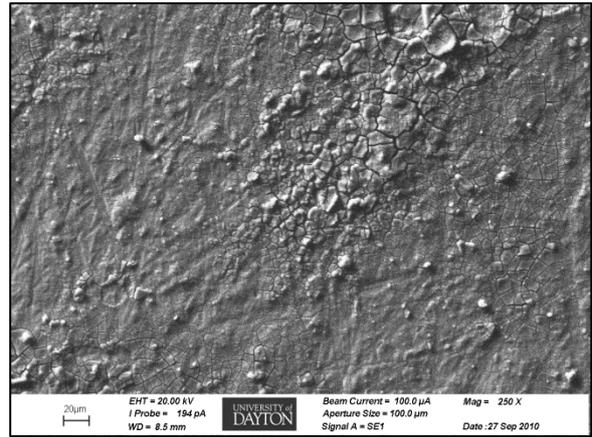


(d)

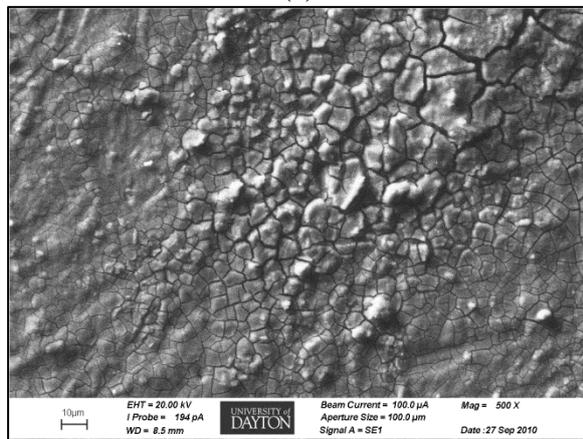
Figure E-22. SEM images of aluminum alloy 6061 sample retrieved on 9 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)

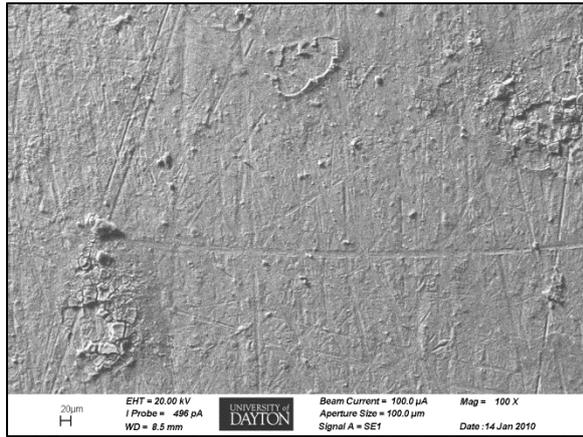


(b)

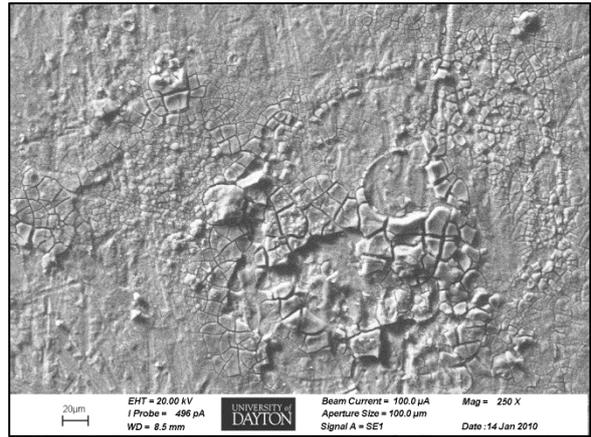


(c)

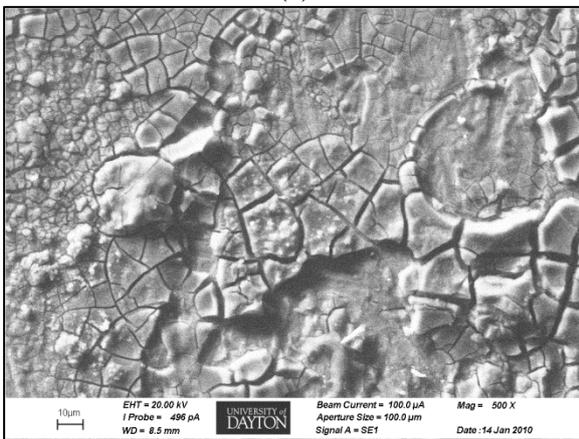
Figure E-23. SEM images of aluminum alloy 6061 sample retrieved on 6 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification..



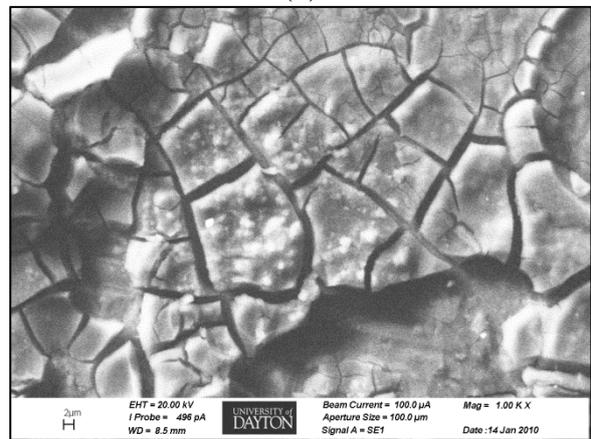
(a)



(b)

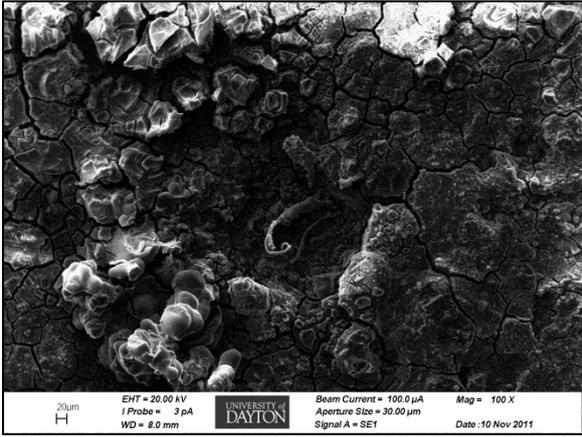


(c)

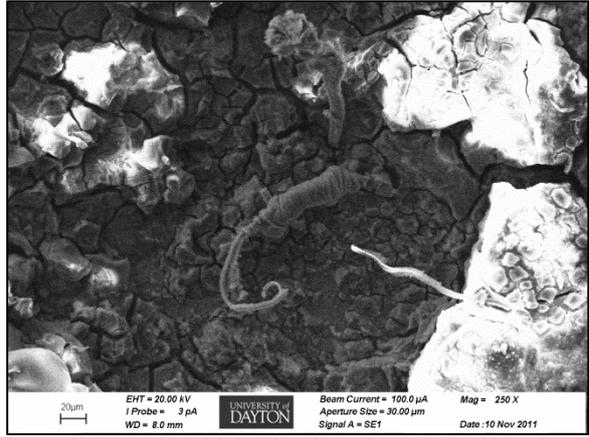


(d)

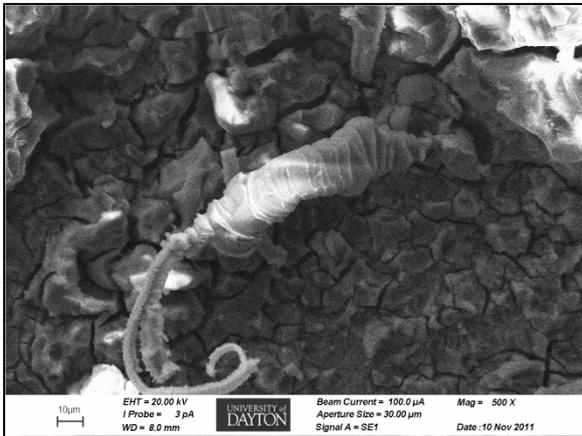
Figure E-24. SEM images of aluminum alloy 6061 sample retrieved on 3 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



(a)



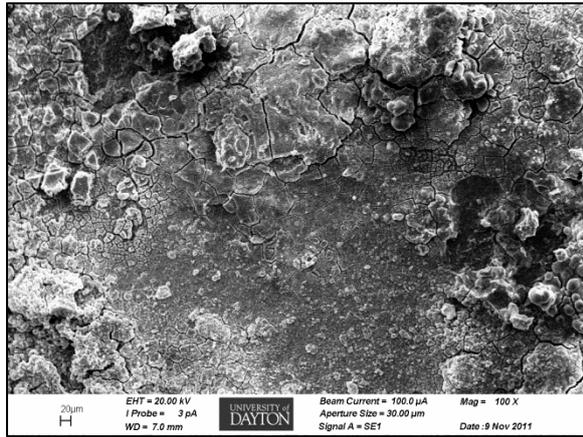
(b)



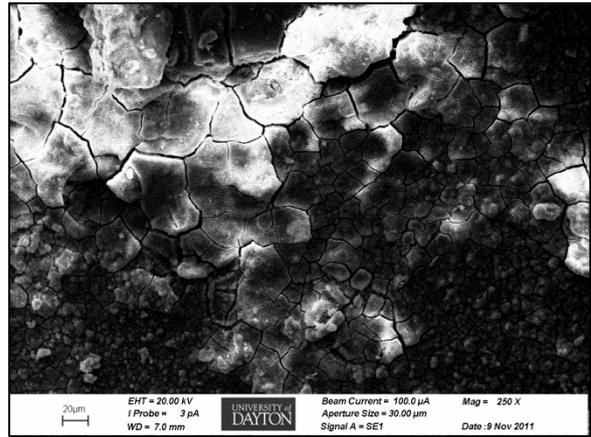
(c)

(d)

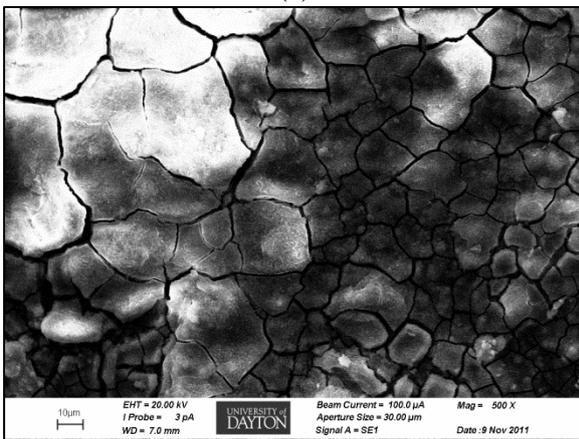
Figure E-25. SEM images of aluminum alloy 2024 sample retrieved on 24 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification.



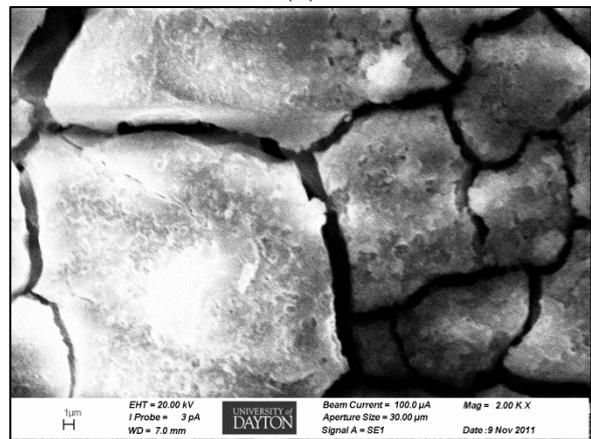
(a)



(b)

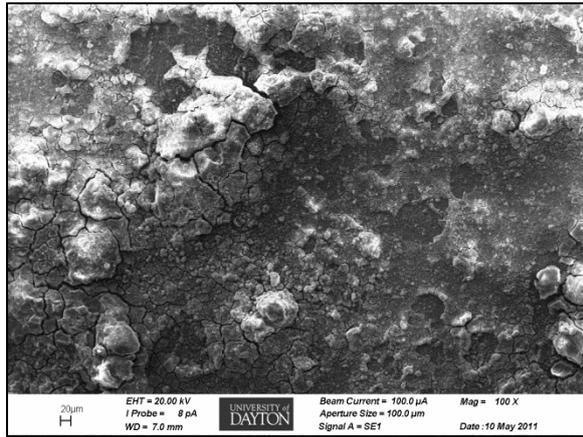


(c)

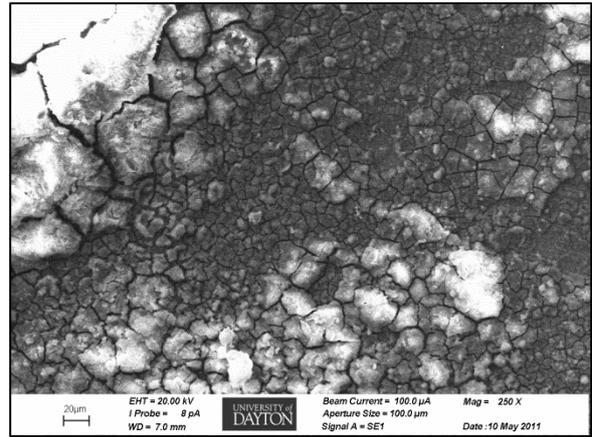


(d)

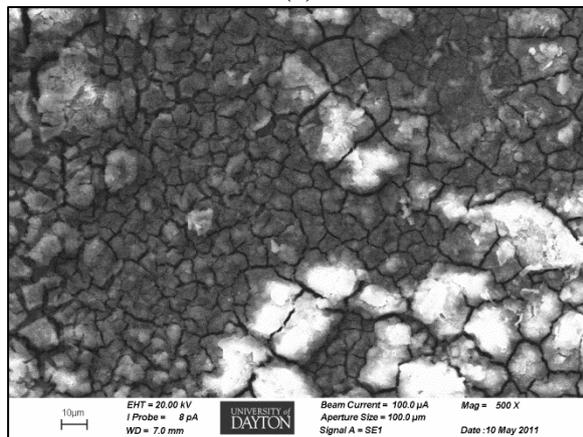
Figure E-26. SEM images of aluminum alloy 2024 sample retrieved on 21 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



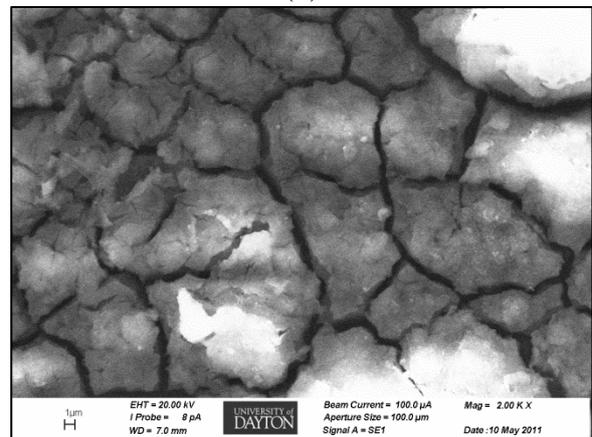
(a)



(b)

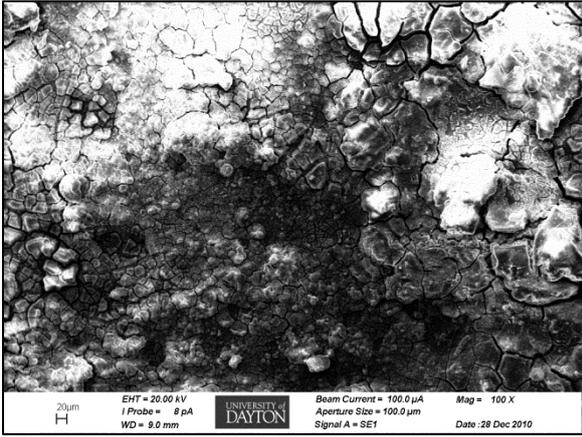


(c)

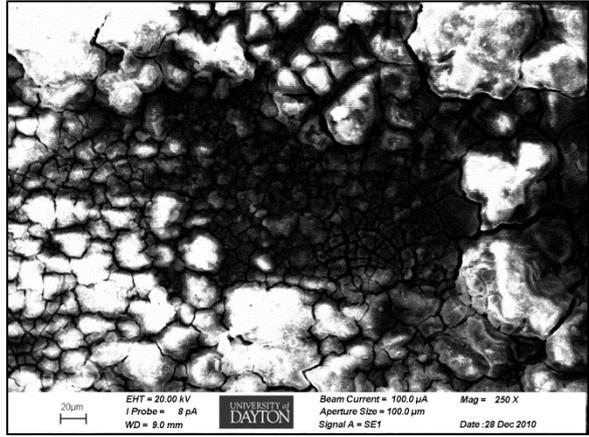


(d)

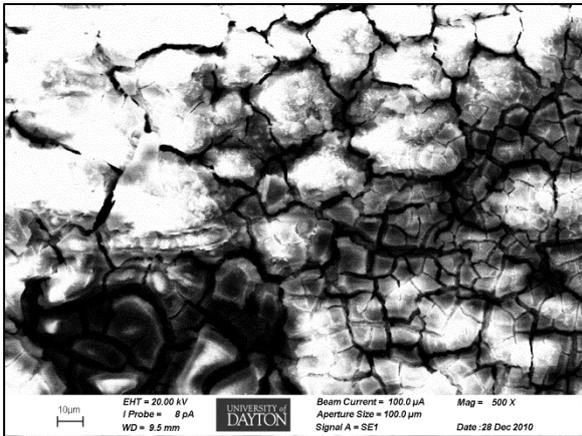
Figure E-27. SEM images of aluminum alloy 2024 sample retrieved on 18 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



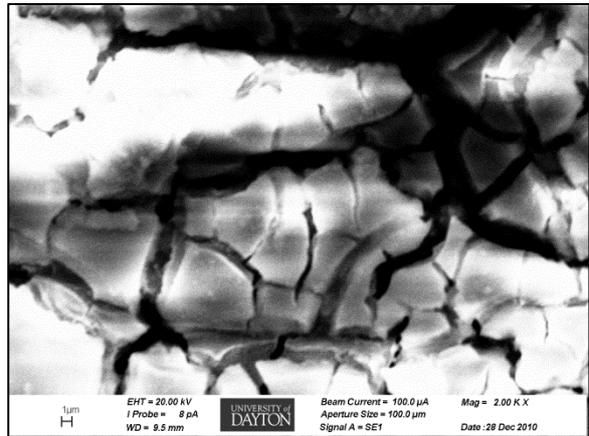
(a)



(b)

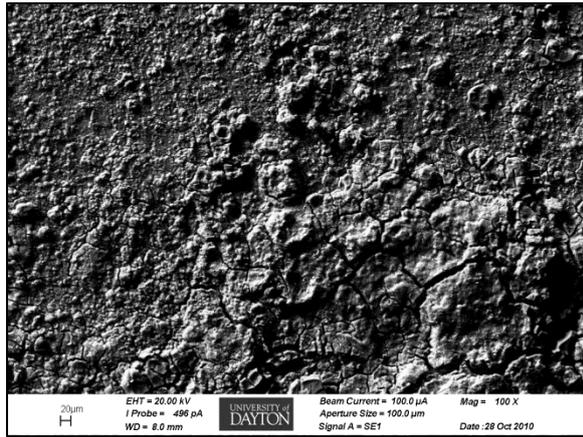


(c)

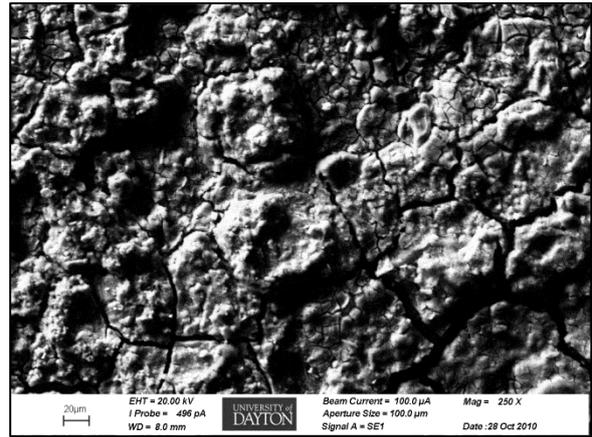


(d)

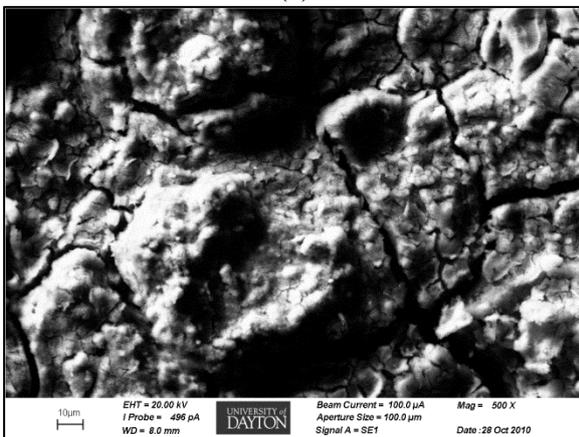
Figure E-28. SEM images of aluminum alloy 2024 sample retrieved on 15 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



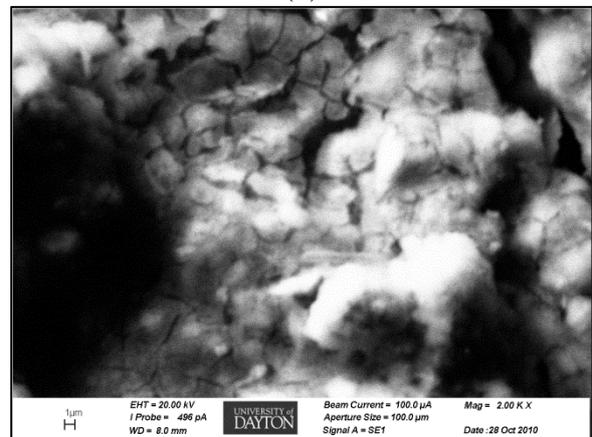
(a)



(b)

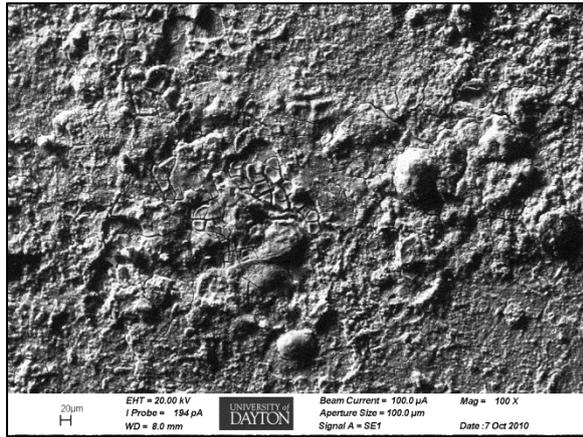


(c)

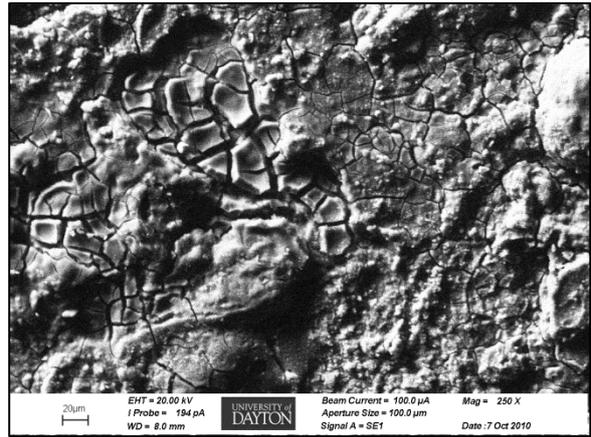


(d)

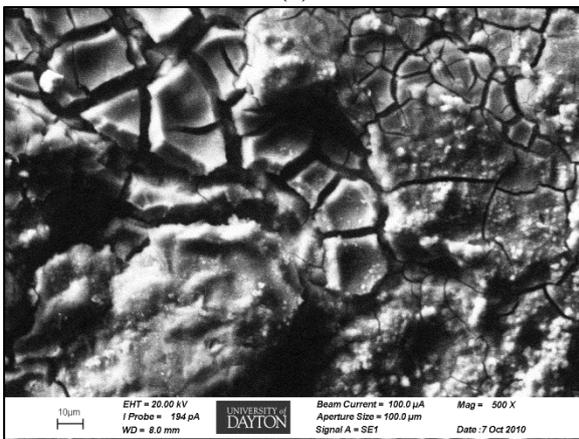
Figure E-29. SEM images of aluminum alloy 2024 sample retrieved on 12 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



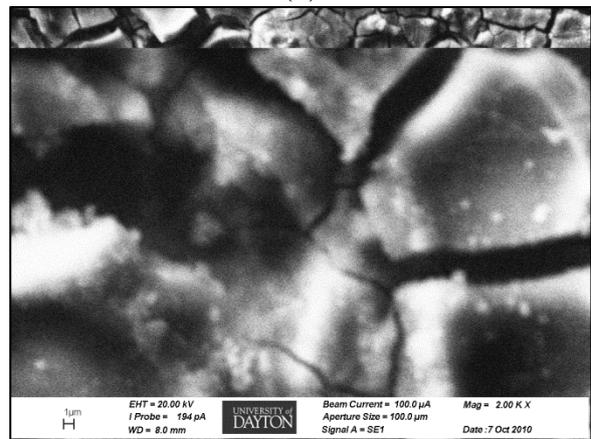
(a)



(b)

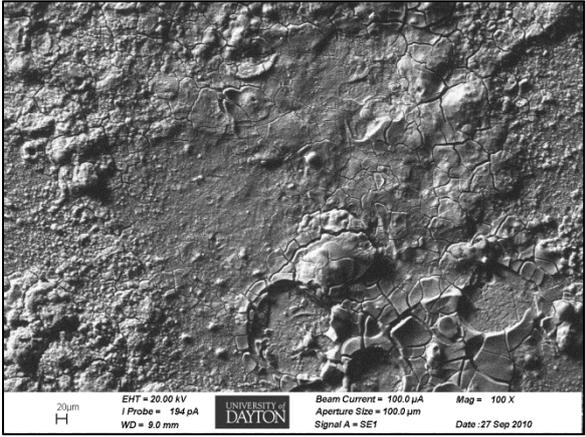


(c)

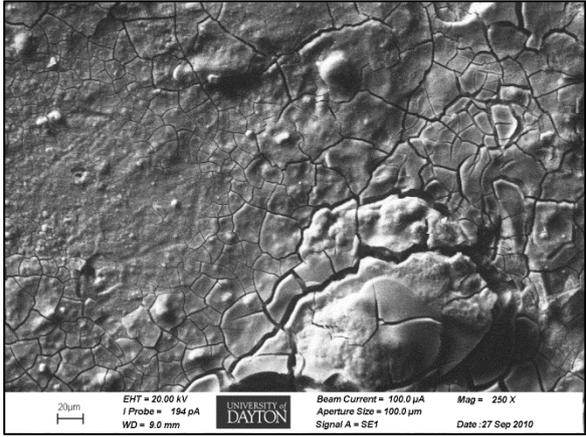


(d)

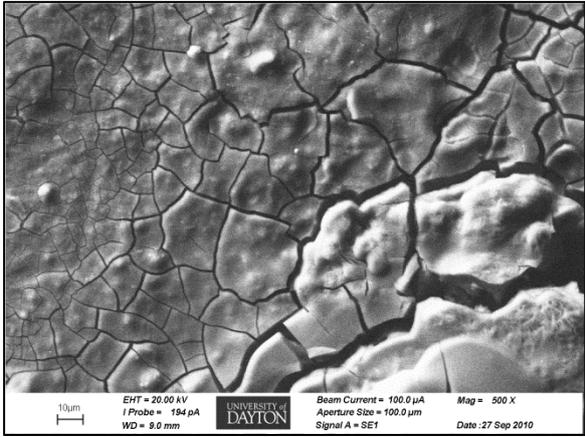
Figure E-30. SEM images of aluminum alloy 2024 sample retrieved on 9 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)

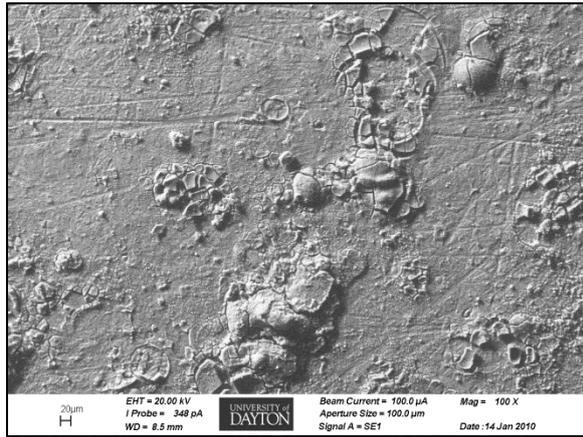


(b)

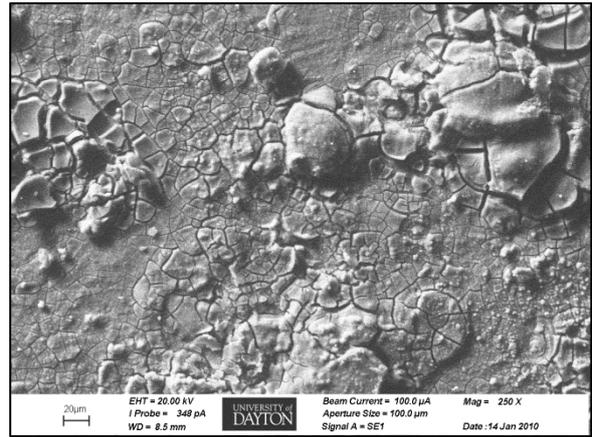


(c)

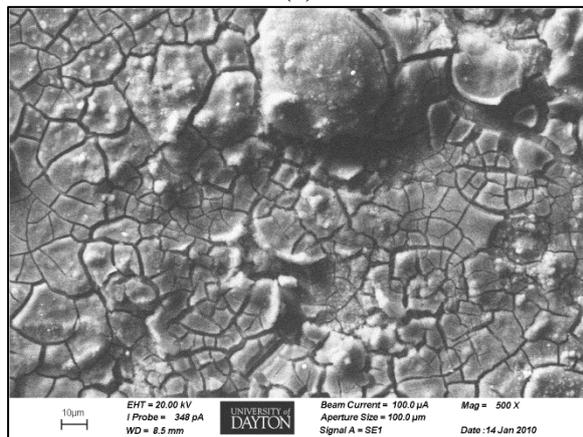
Figure E-31. SEM images of aluminum alloy 2024 sample retrieved on 6 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification .



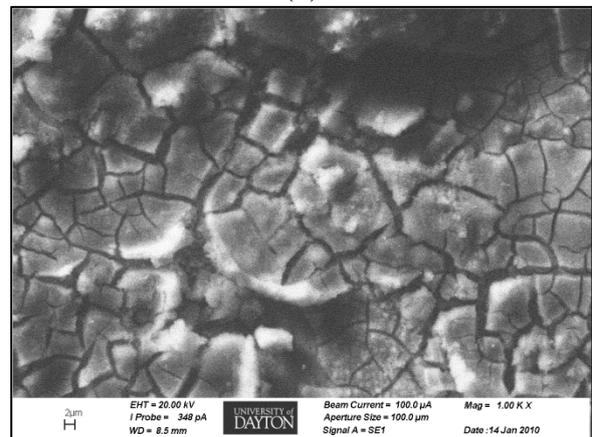
(a)



(b)

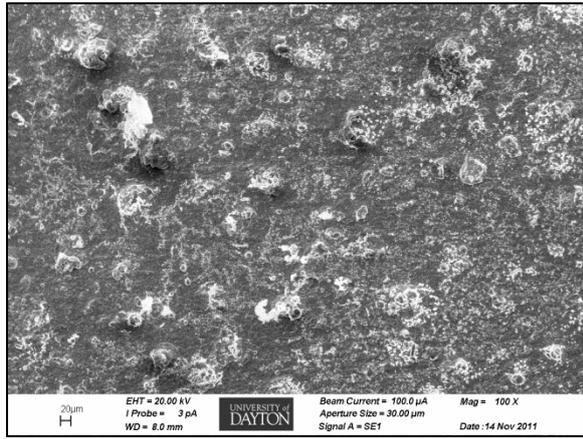


(c)

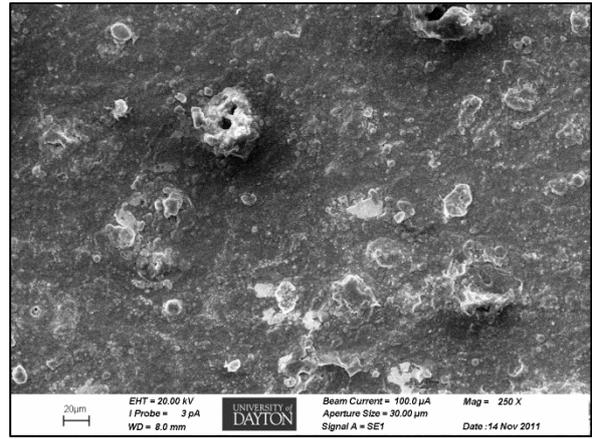


(d)

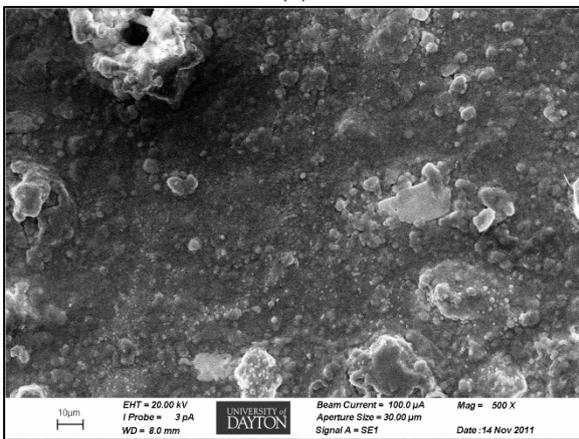
Figure E-32. SEM images of aluminum alloy 2024 sample retrieved on 3 months exposure from West Coast Ship site. (a) 100X magnification, (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



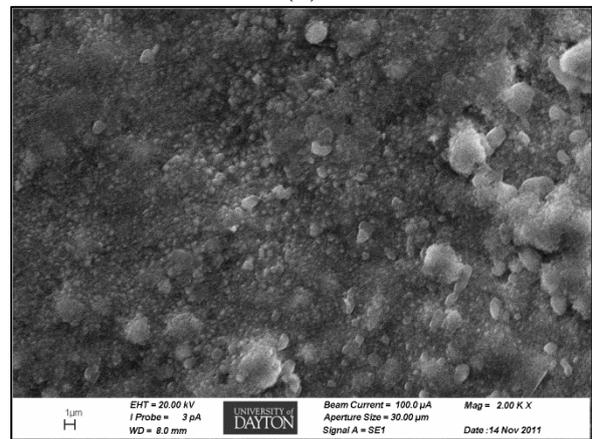
(a)



(b)

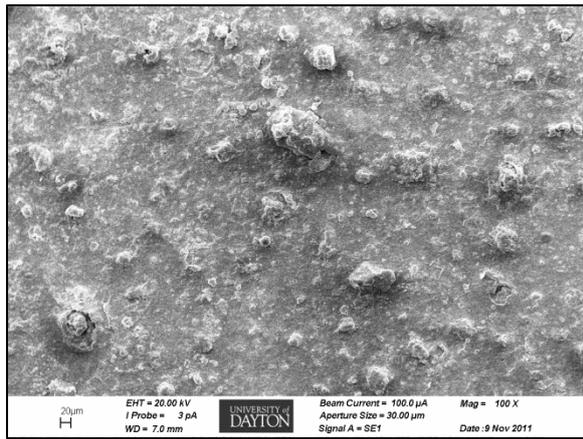


(c)

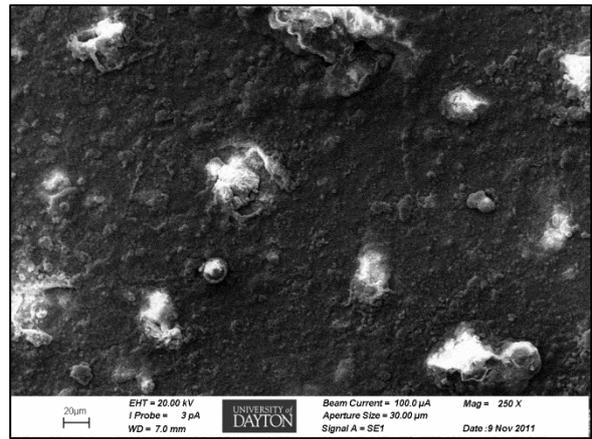


(d)

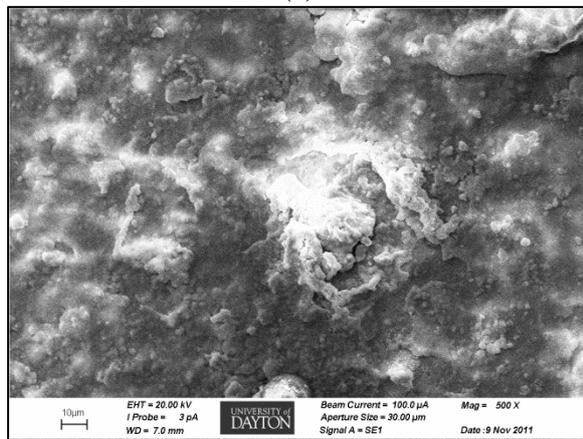
Figure E-33. SEM images of pure copper sample retrieved on 24 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



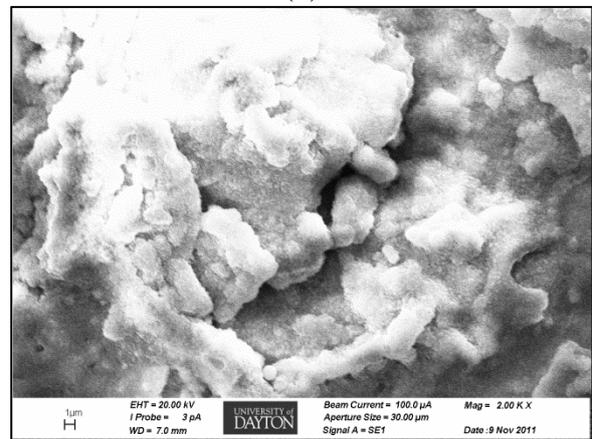
(a)



(b)

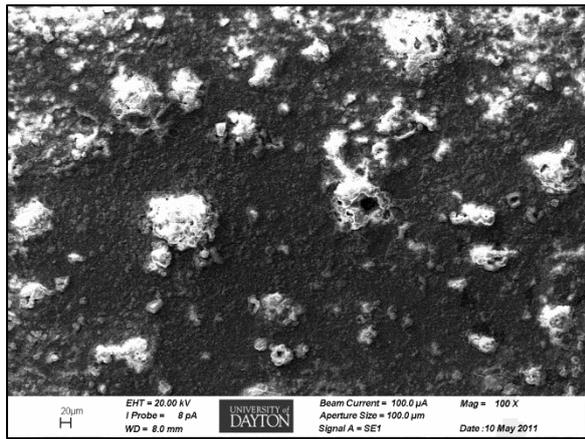


(c)

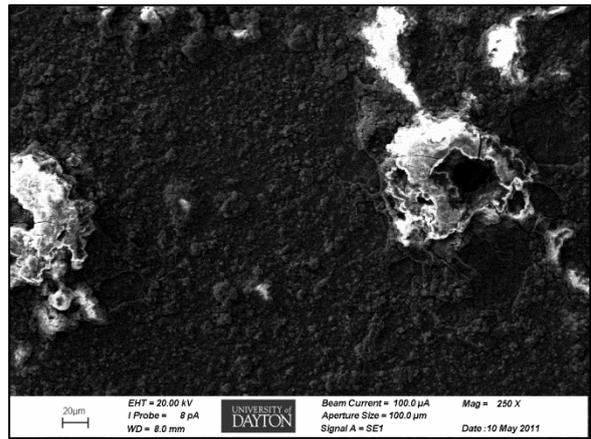


(d)

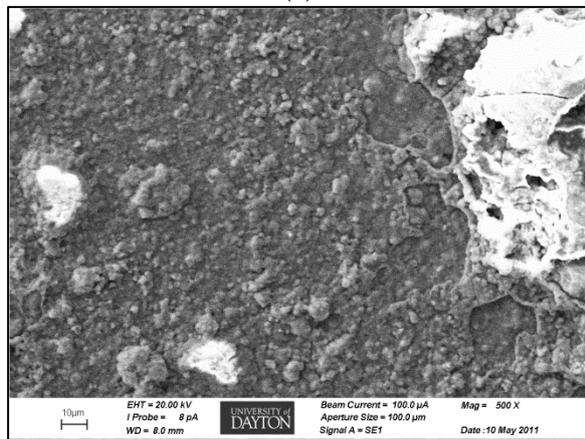
Figure E-34. SEM images of pure copper sample retrieved on 21 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



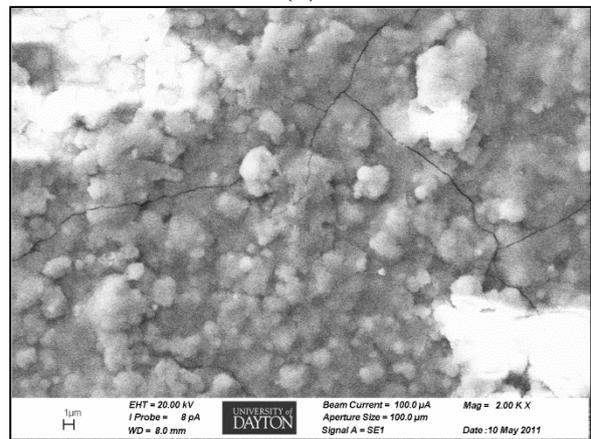
(a)



(b)

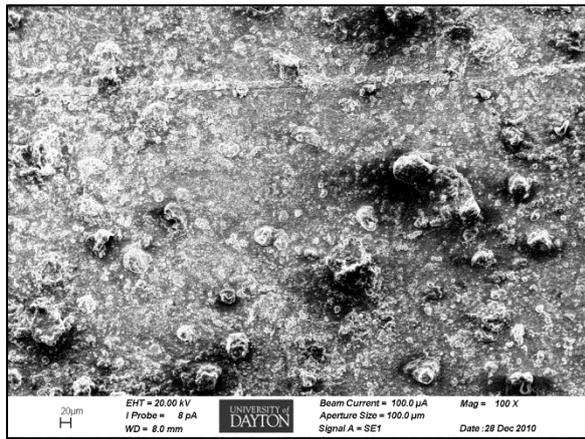


(c)

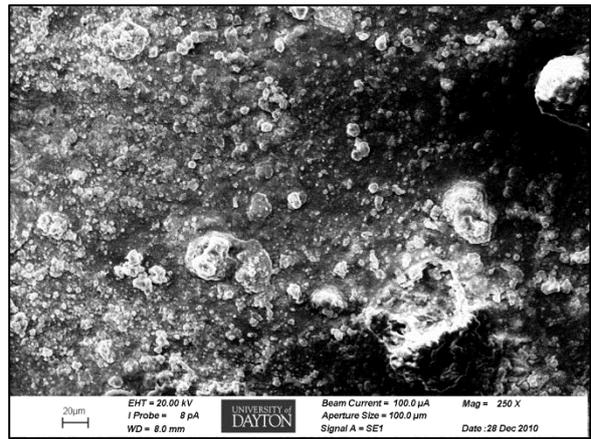


(d)

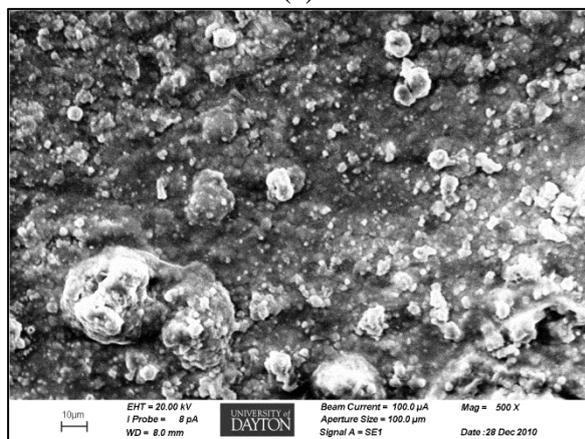
Figure E-35. SEM images of pure copper sample retrieved on 18 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



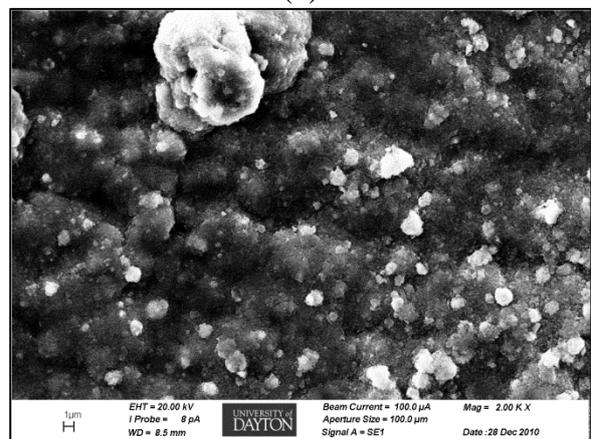
(a)



(b)

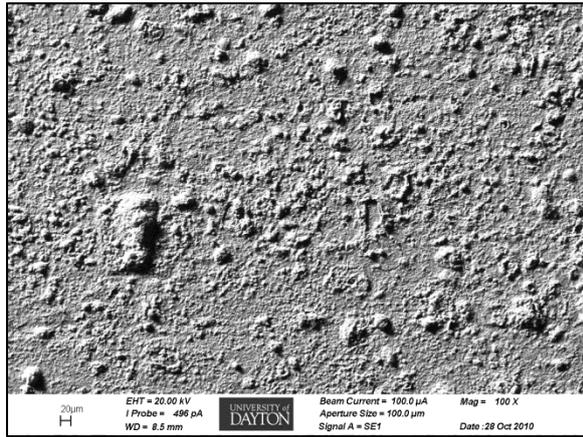


(c)

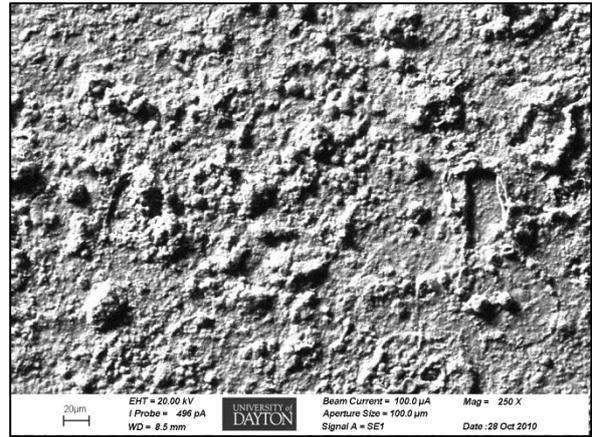


(d)

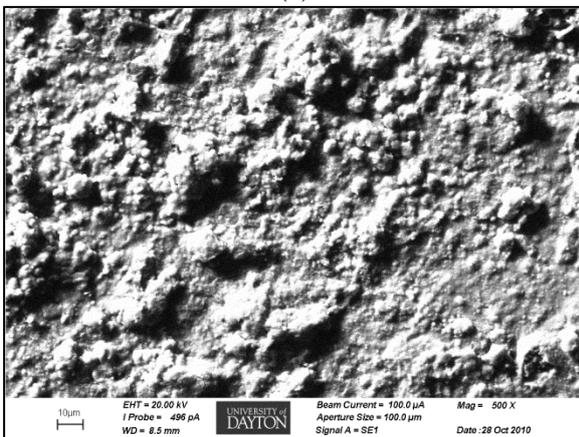
Figure E-36. SEM images of pure copper sample retrieved on 15 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



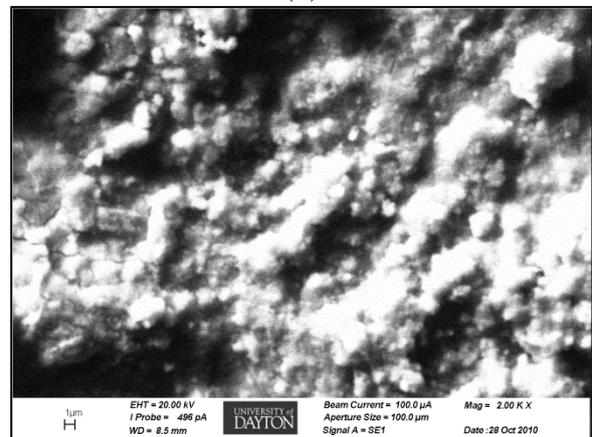
(a)



(b)

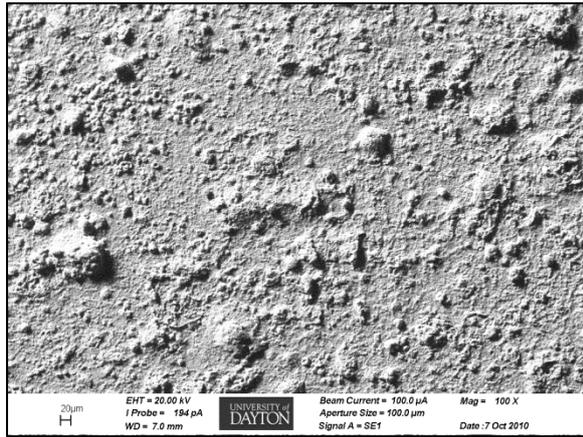


(c)

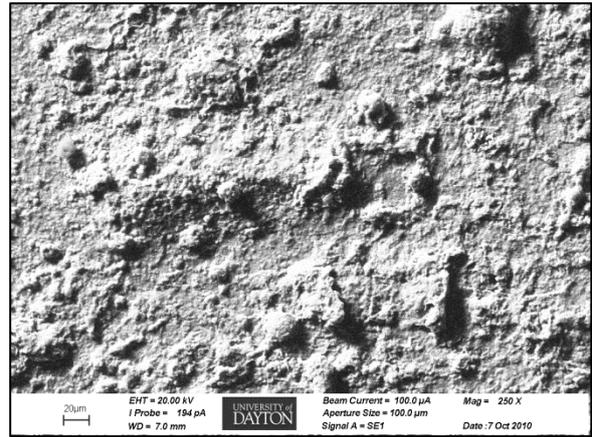


(d)

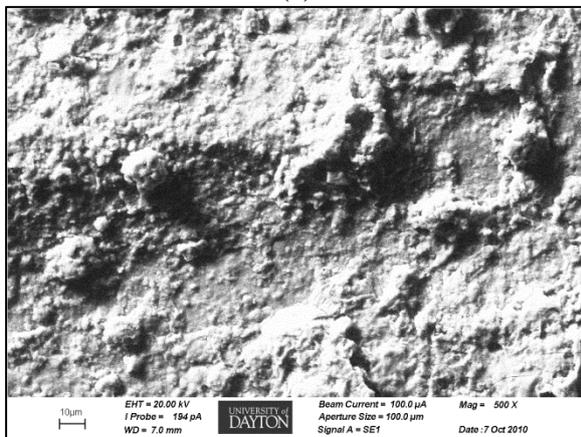
Figure E-37. SEM images of pure copper sample retrieved on 12 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



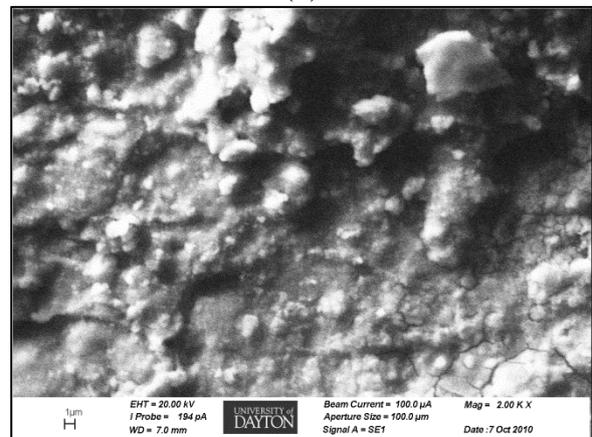
(a)



(b)

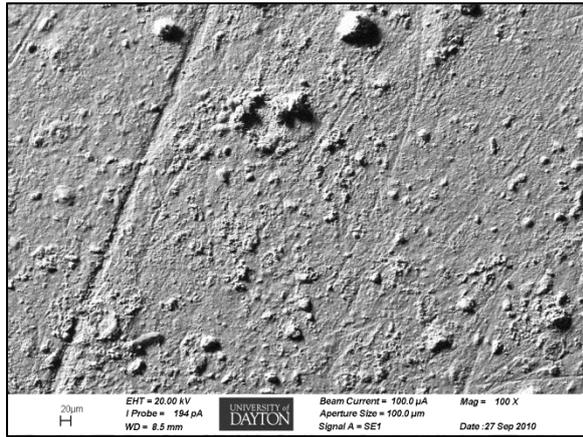


(c)

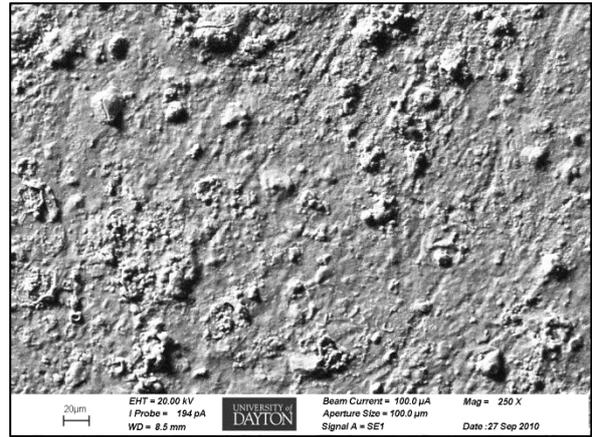


(d)

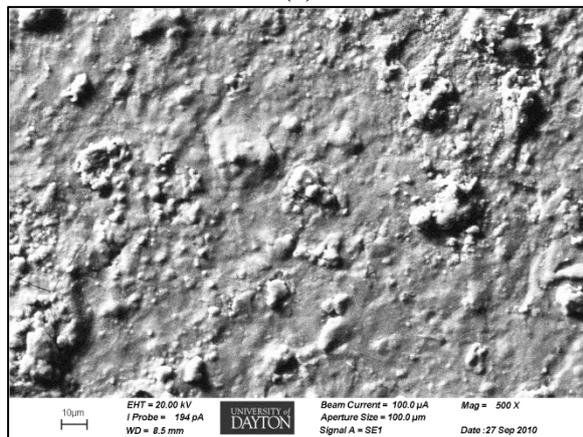
Figure E-38. SEM images of pure copper sample retrieved on 9 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)

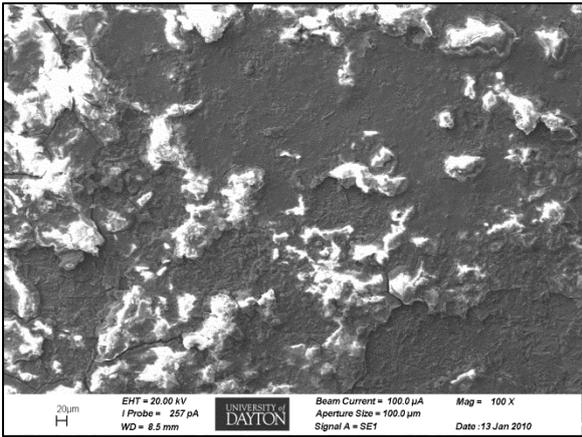


(b)

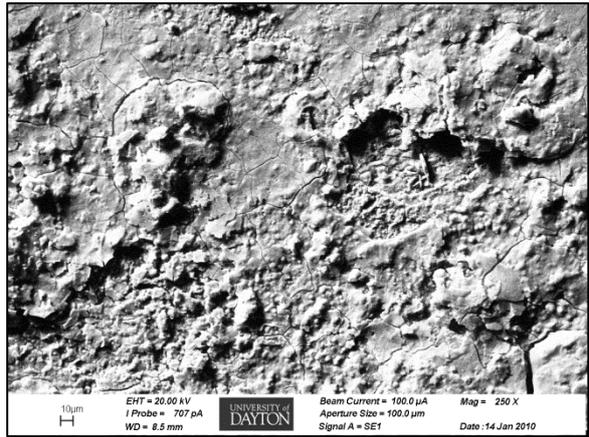


(c)

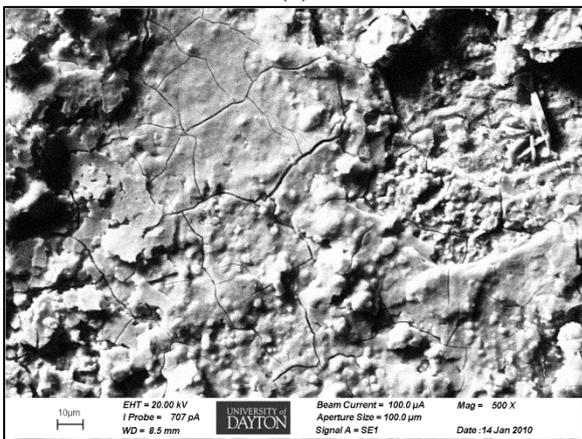
Figure E-39. SEM images of pure copper sample retrieved on 6 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, and (c) 500X magnification.



(a)



(b)



(c)

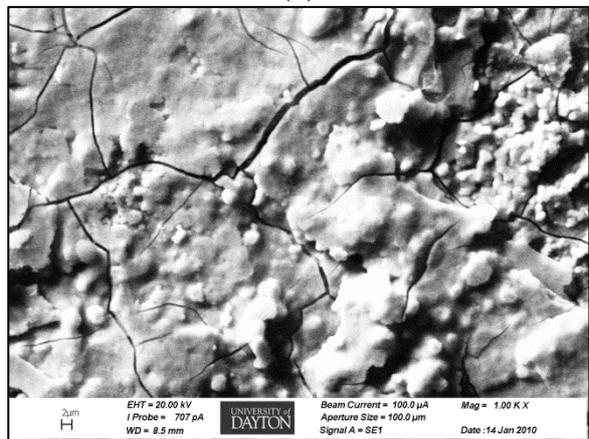
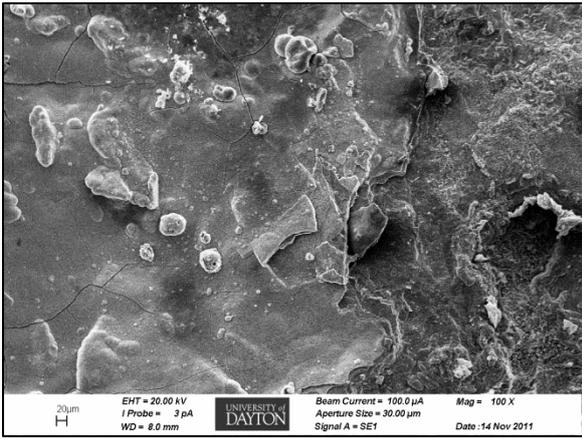
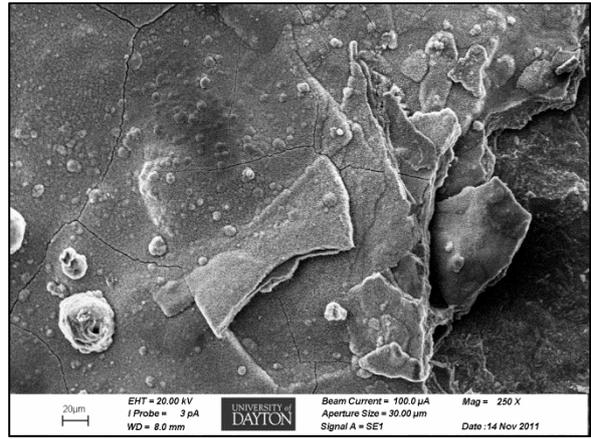


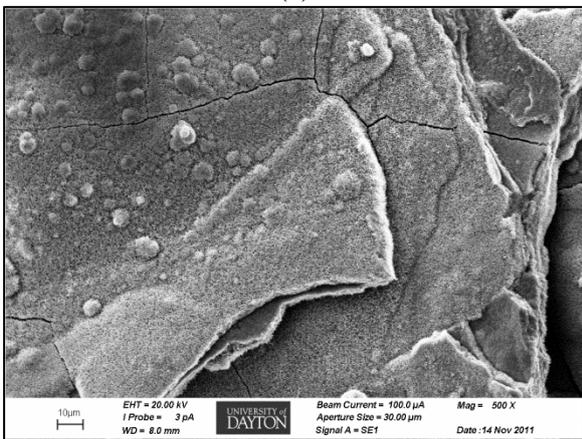
Figure E-40. SEM images of pure copper sample retrieved on 3 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



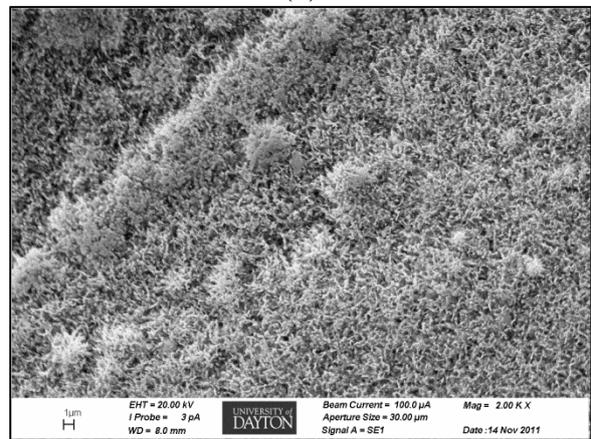
(a)



(b)

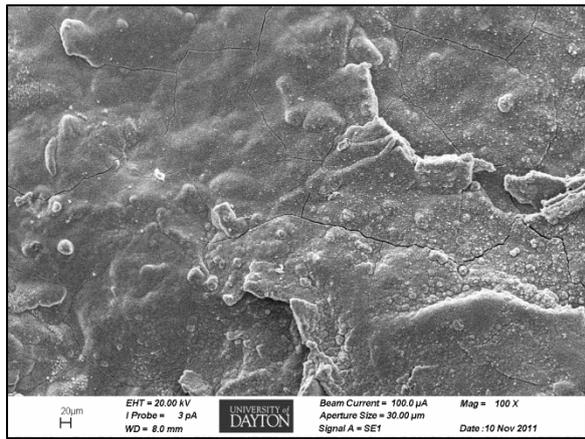


(c)

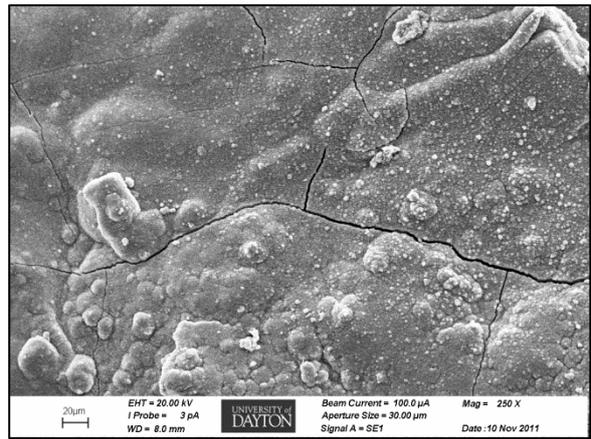


(d)

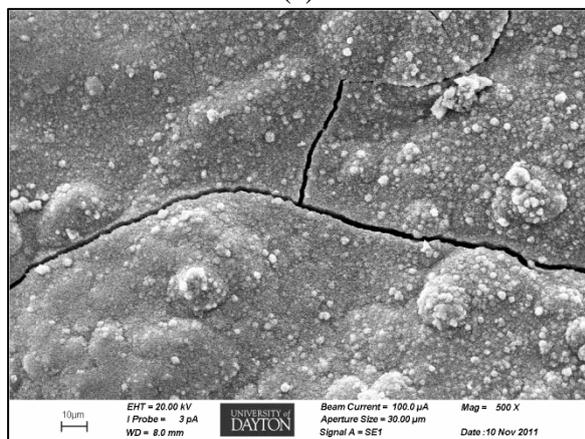
Figure E-41. SEM images of 1010 steel sample retrieved on 24 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



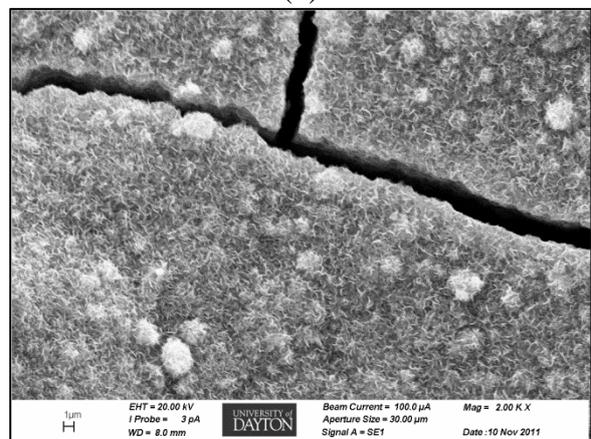
(a)



(b)

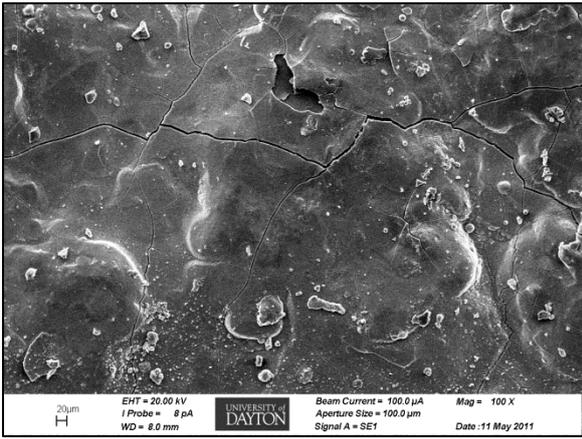


(c)

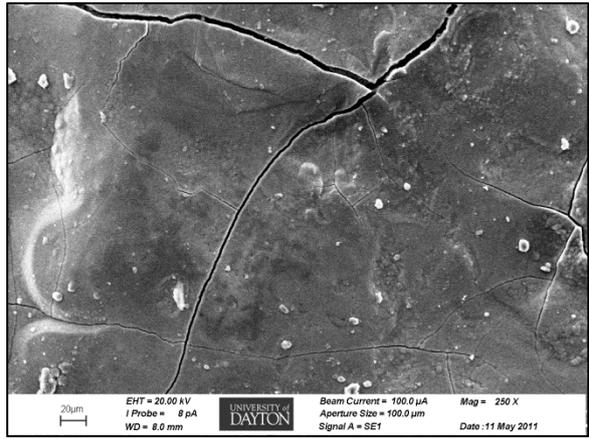


(d)

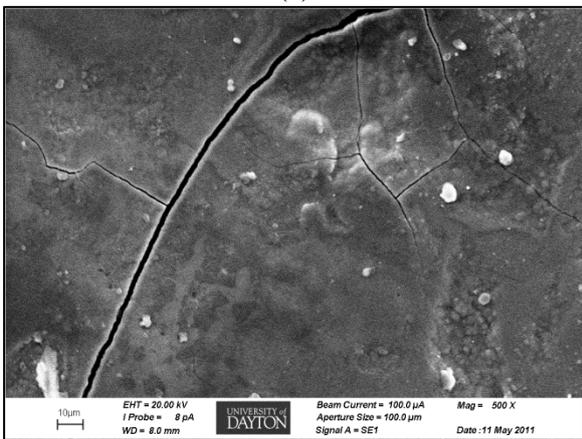
Figure E-42. SEM images of 1010 steel sample retrieved on 21 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



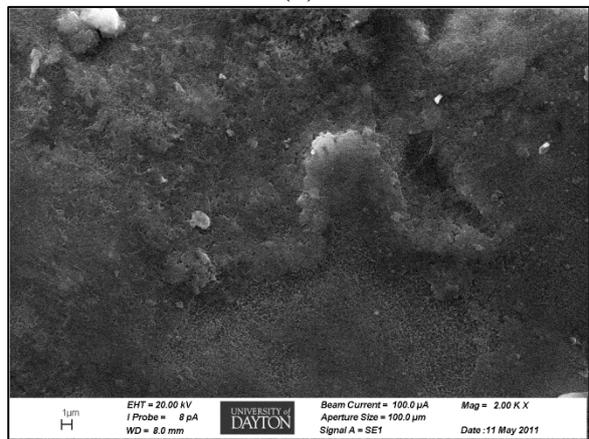
(a)



(b)

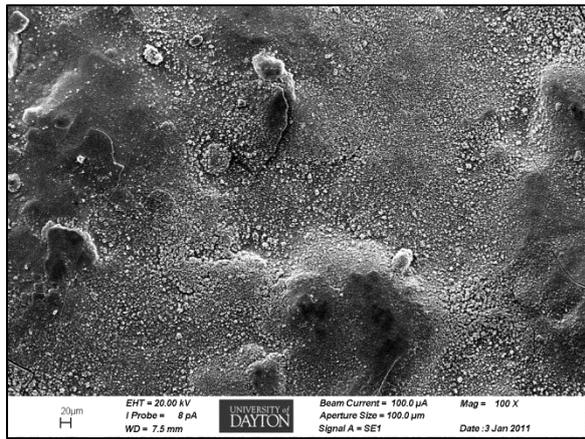


(c)

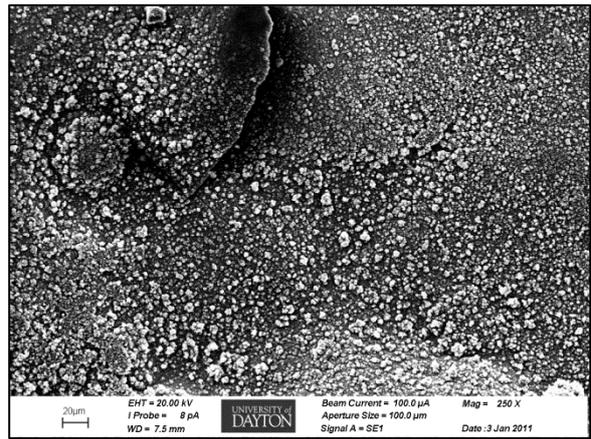


(d)

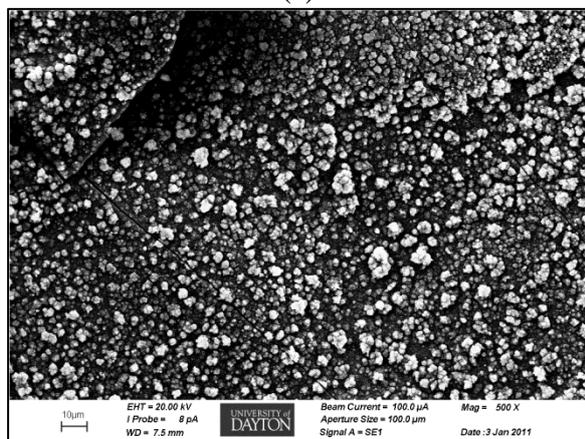
Figure E-43. SEM images of 1010 steel sample retrieved on 18 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



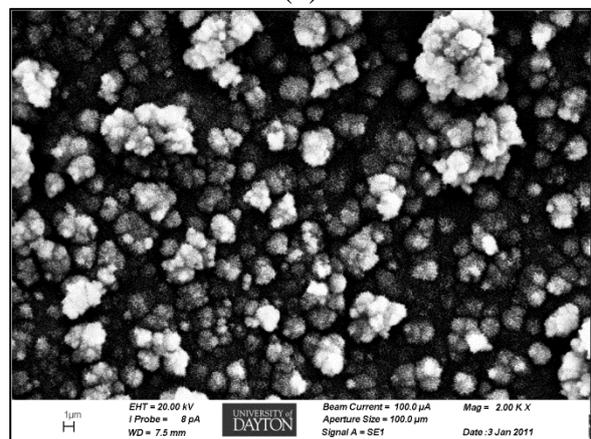
(a)



(b)

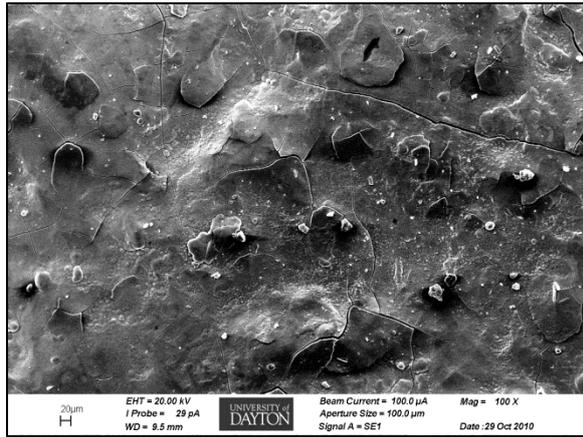


(c)

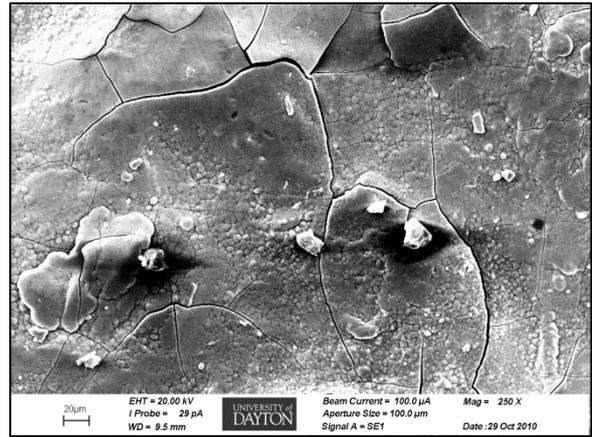


(d)

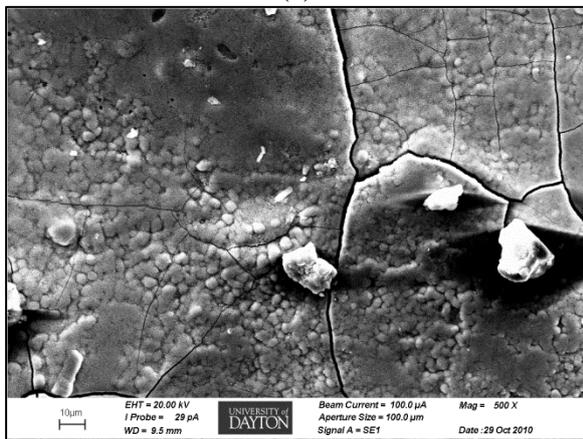
Figure E-44. SEM images of 1010 steel sample retrieved on 15 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



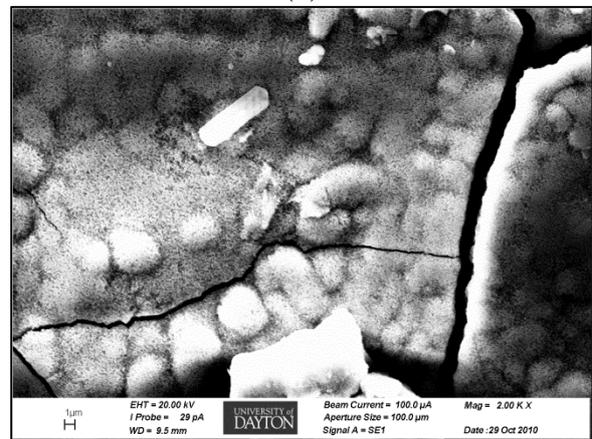
(a)



(b)

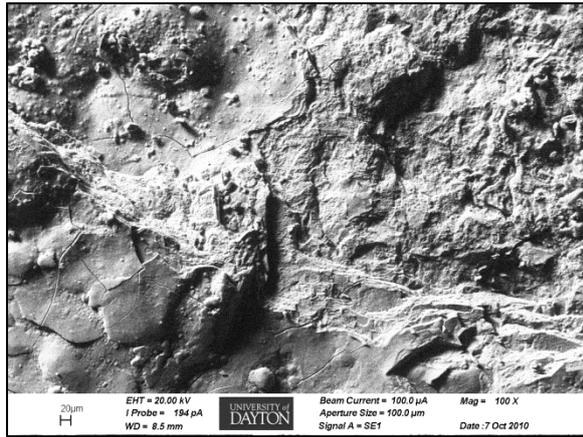


(c)

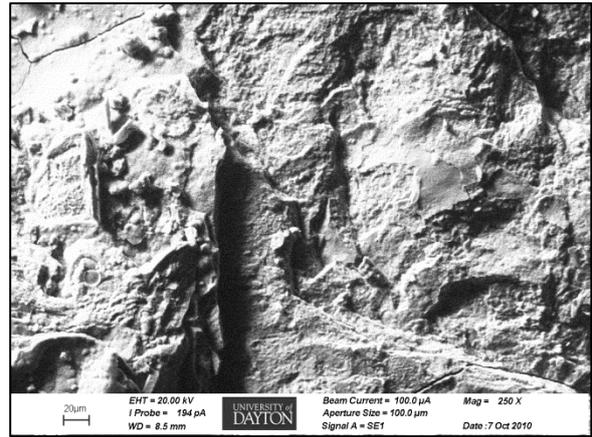


(d)

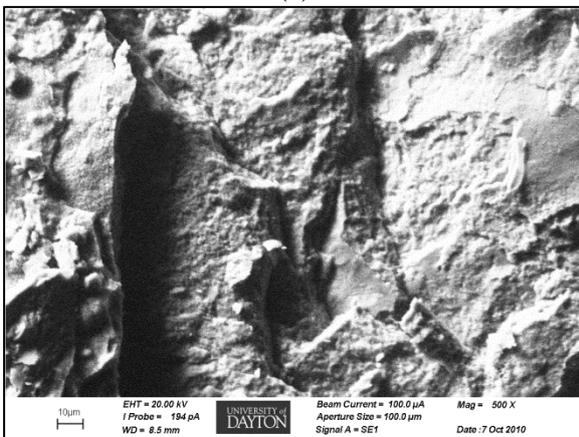
Figure E-45. SEM images of 1010 steel sample retrieved on 12 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



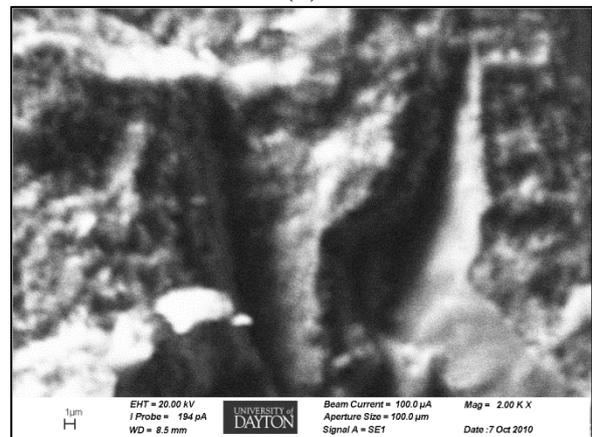
(a)



(b)

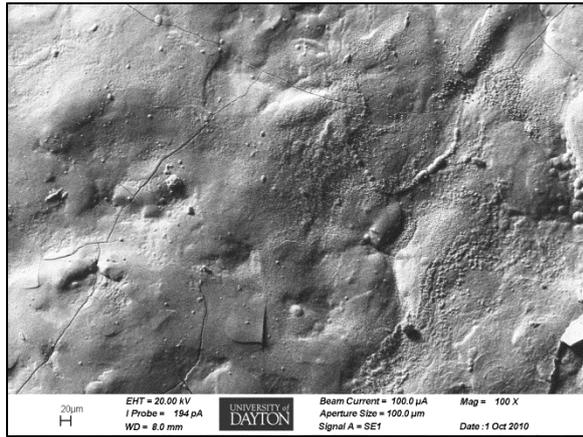


(c)

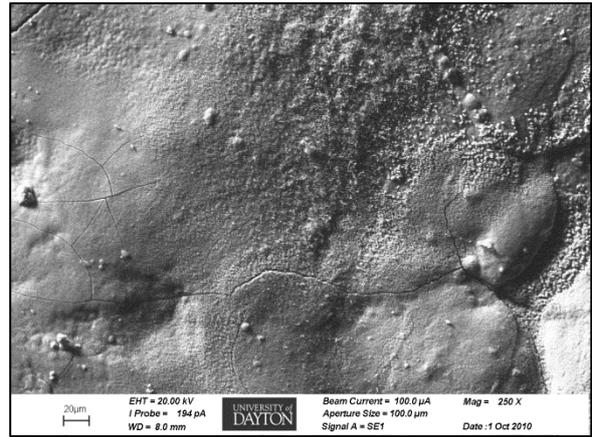


(d)

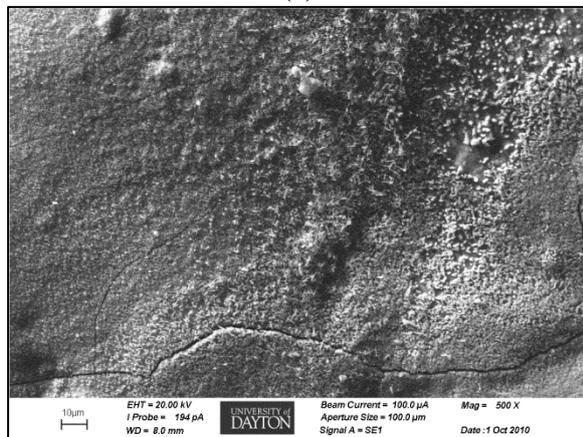
Figure E-46. SEM images of 1010 steel sample retrieved on 9 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



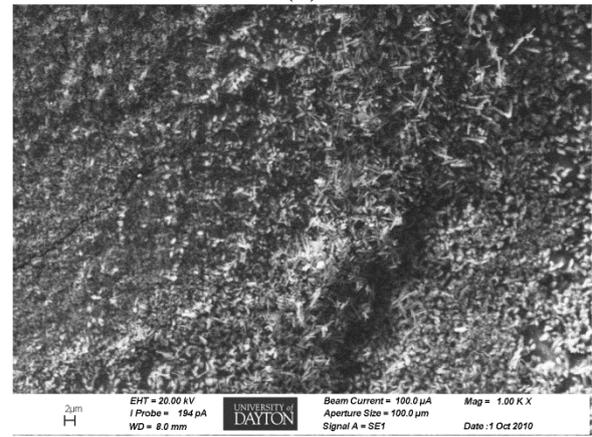
(a)



(b)

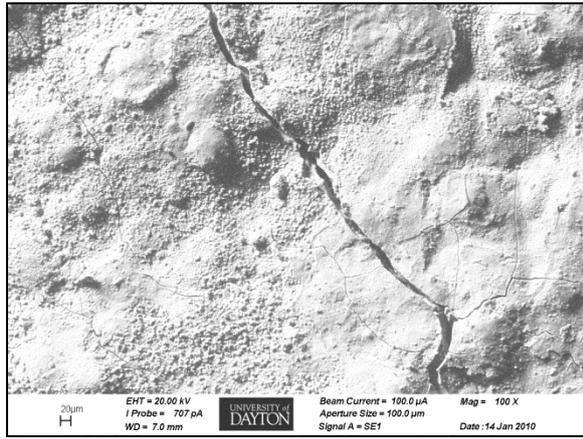


(c)

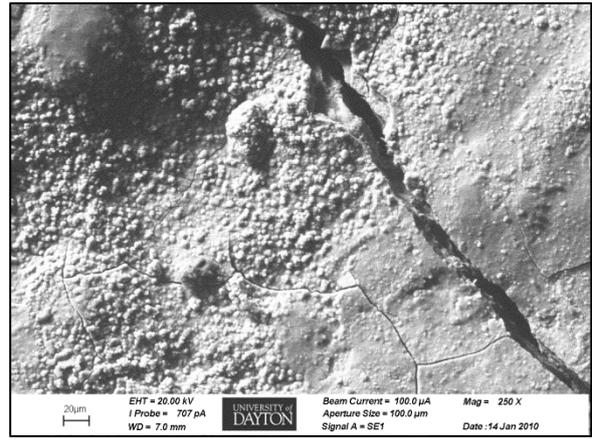


(d)

Figure E-47. SEM images of 1010 steel sample retrieved on 6 months exposure from West Coast Ship site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



(a)



(b)

Figure E-48. SEM images of 1010 steel sample retrieved on 3 months exposure from West Coast Ship site. (a) 100X magnification and (b) 250X magnification.

Appendix F
Scanning Electron Microscopy Images
(Hickam AFB, HI)

FIGURES

	Page
Figure F-1. SEM images of pure silver sample retrieved on 24 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	6
Figure F-2. SEM images of pure silver sample retrieved on 21 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	7
Figure F-3. SEM images of pure silver sample retrieved on 18 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	8
Figure F-4. SEM images of pure silver sample retrieved on 15 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	9
Figure F-5. SEM images of pure silver sample retrieved on 12 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	10
Figure F-6. SEM images of pure silver sample retrieved on 9 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.....	11
Figure F-7. SEM images of pure silver sample retrieved on 6 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.....	12
Figure F-8. SEM images of pure silver sample retrieved on 3 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 1000X magnification.....	13
Figure F-9. SEM images of aluminum alloy 7075 sample retrieved on 24 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... ..	14
Figure F-10. SEM images of aluminum alloy 7075 sample retrieved on 21 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... ..	15
Figure F-11. SEM images of aluminum alloy 7075 sample retrieved on 18 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... ..	16
Figure F-12. SEM images of aluminum alloy 7075 sample retrieved on 15 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... ..	17
Figure F-13. SEM images of aluminum alloy 7075 sample retrieved on 12 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... ..	18
Figure F-14. SEM images of aluminum alloy 7075 sample retrieved on 9 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... ..	19

Figure F-15. SEM images of aluminum alloy 7075 sample retrieved on 6 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification ... 20

Figure F-16. SEM images of aluminum alloy 7075 sample retrieved on 3 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification... 21

Figure F-17. SEM images of aluminum alloy 6061 sample retrieved on 24 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 22

Figure F-18. SEM images of aluminum alloy 6061 sample retrieved on 21 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification ... 23

Figure F-19. SEM images of aluminum alloy 6061 sample retrieved on 18 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification ... 24

Figure F-20. SEM images of aluminum alloy 6061 sample retrieved on 15 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification ... 25

Figure F-21. SEM images of aluminum alloy 6061 sample retrieved on 12 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 26

Figure F-22. SEM images of aluminum alloy 6061 sample retrieved on 9 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 27

Figure F-23. SEM images of aluminum alloy 6061 sample retrieved on 6 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 28

Figure F-24. SEM images of aluminum alloy 6061 sample retrieved on 3 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification... 29

Figure F-25. SEM images of aluminum alloy 2024 sample retrieved on 24 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 30

Figure F-26. SEM images of aluminum alloy 2024 sample retrieved on 21 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 31

Figure F-27. SEM images of aluminum alloy 2024 sample retrieved on 18 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 32

Figure F-28. SEM images of aluminum alloy 2024 sample retrieved on 15 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 33

Figure F-29. SEM images of aluminum alloy 2024 sample retrieved on 12 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 34

Figure F-30. SEM images of aluminum alloy 2024 sample retrieved on 9 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 35

Figure F-31. SEM images of aluminum alloy 2024 sample retrieved on 6 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification , and (d) 1000X magnification.. 36

Figure F-32. SEM images of aluminum alloy 2024 sample retrieved on 3 months exposure from Hickam AFB site. (a) 100X magnification, (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.. 37

Figure F-33. SEM images of pure copper sample retrieved on 24 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 38

Figure F-34. SEM images of pure copper sample retrieved on 21 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 39

Figure F-35. SEM images of pure copper sample retrieved on 18 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 40

Figure F-36. SEM images of pure copper sample retrieved on 15 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 41

Figure F-37. SEM images of pure copper sample retrieved on 12 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 42

Figure F-38. SEM images of pure copper sample retrieved on 9 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 43

Figure F-39. SEM images of pure copper sample retrieved on 6 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification., and (d) 1000X magnification. 44

Figure F-40. SEM images of pure copper sample retrieved on 3 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 45

Figure F-41. SEM images of 1010 steel sample retrieved on 24 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 46

Figure F-42. SEM images of 1010 steel sample retrieved on 21 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 47

Figure F-43. SEM images of 1010 steel sample retrieved on 18 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 48

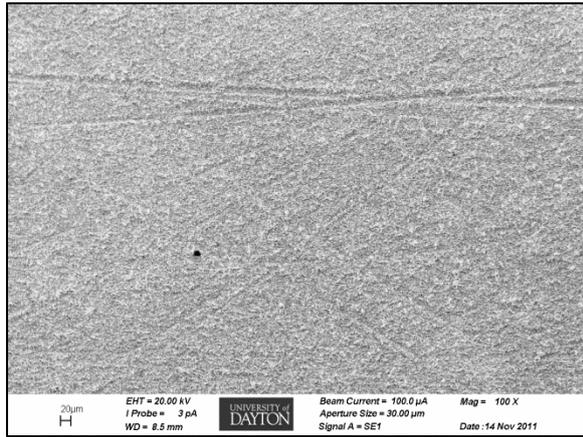
Figure F-44. SEM images of 1010 steel sample retrieved on 15 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 49

Figure F-45. SEM images of 1010 steel sample retrieved on 12 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 50

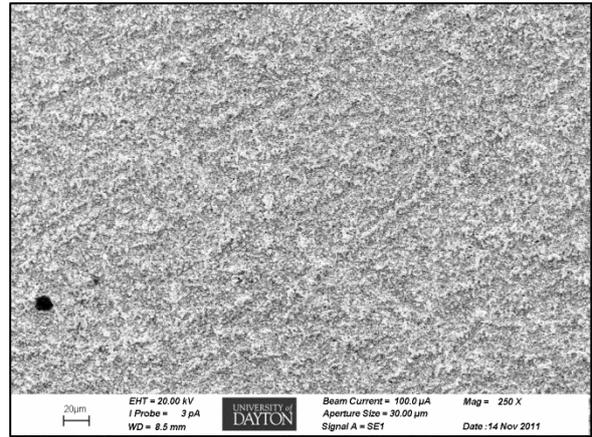
Figure F-46. SEM images of 1010 steel sample retrieved on 9 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 51

Figure F-47. SEM images of 1010 steel sample retrieved on 6 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 52

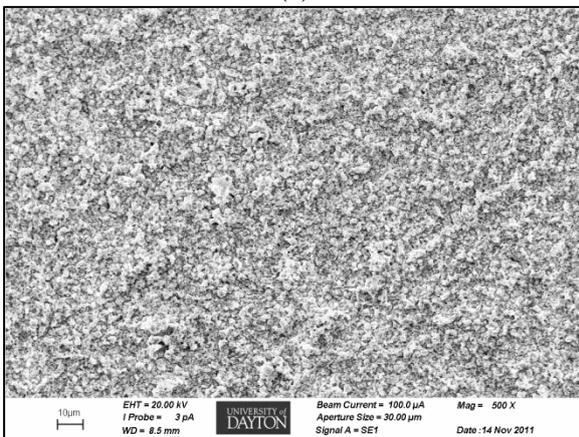
Figure F-48. SEM images of 1010 steel sample retrieved on 3 months exposure from Hickam AFB site. (a) 100X magnification, (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 53



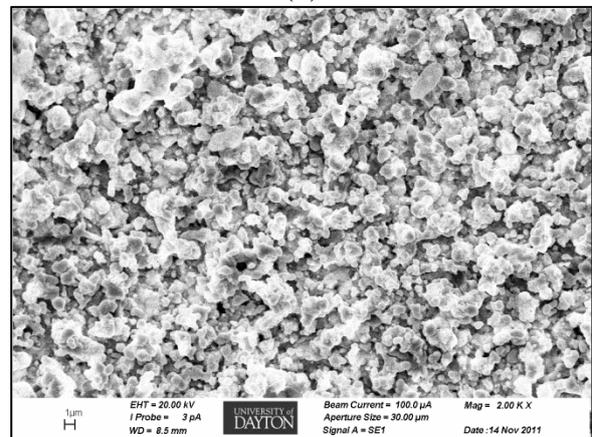
(a)



(b)

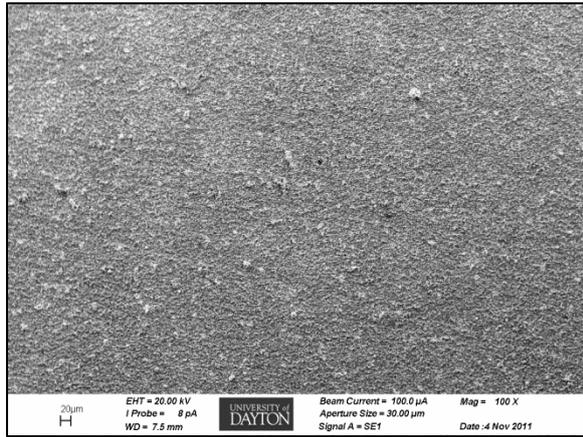


(c)

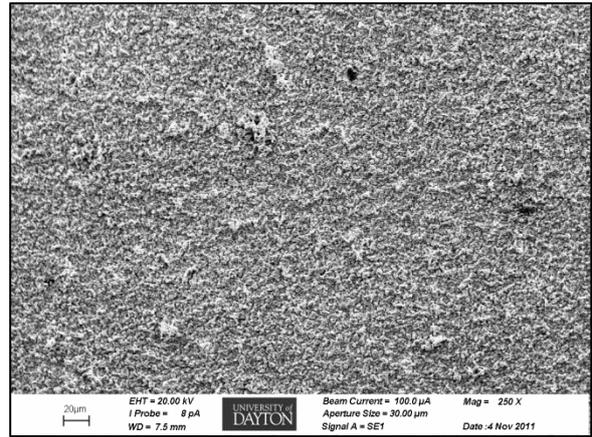


(d)

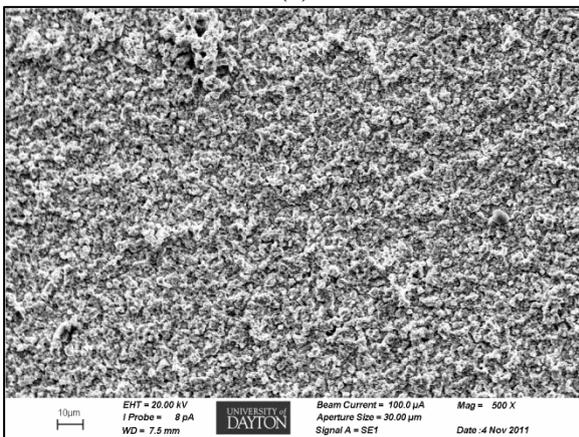
Figure F-1. SEM images of pure silver sample retrieved on 24 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



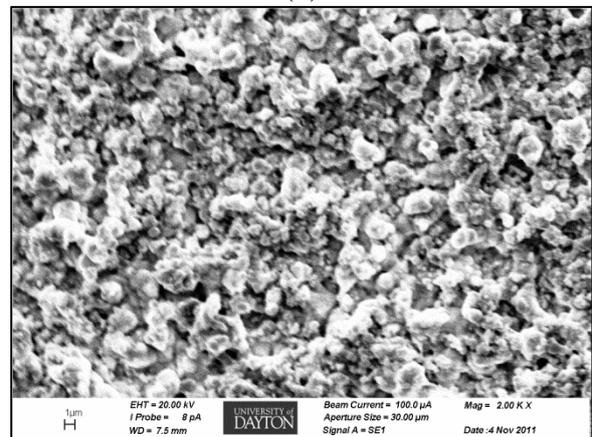
(a)



(b)

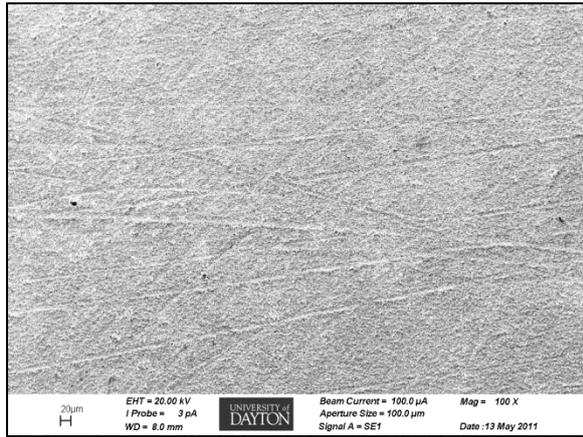


(c)

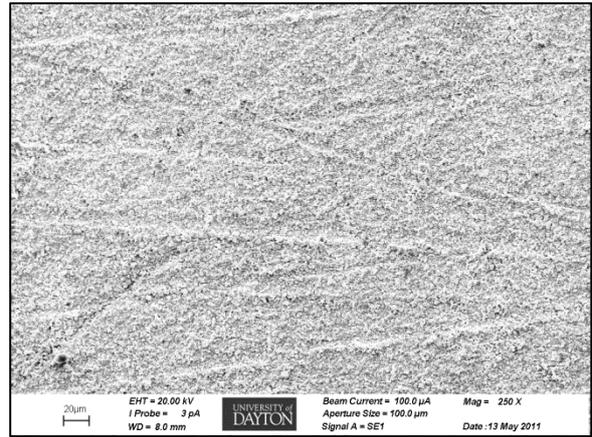


(d)

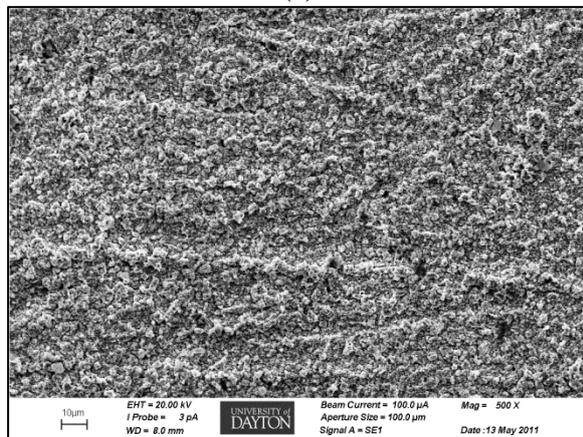
Figure F-2. SEM images of pure silver sample retrieved on 21 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



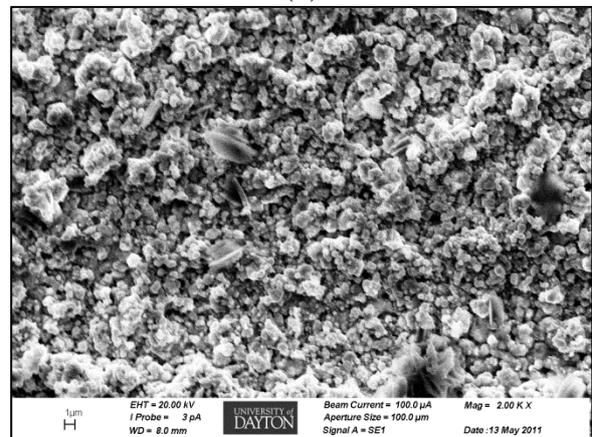
(a)



(b)



(c)



(d)

Figure F-3. SEM images of pure silver sample retrieved on 18 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.

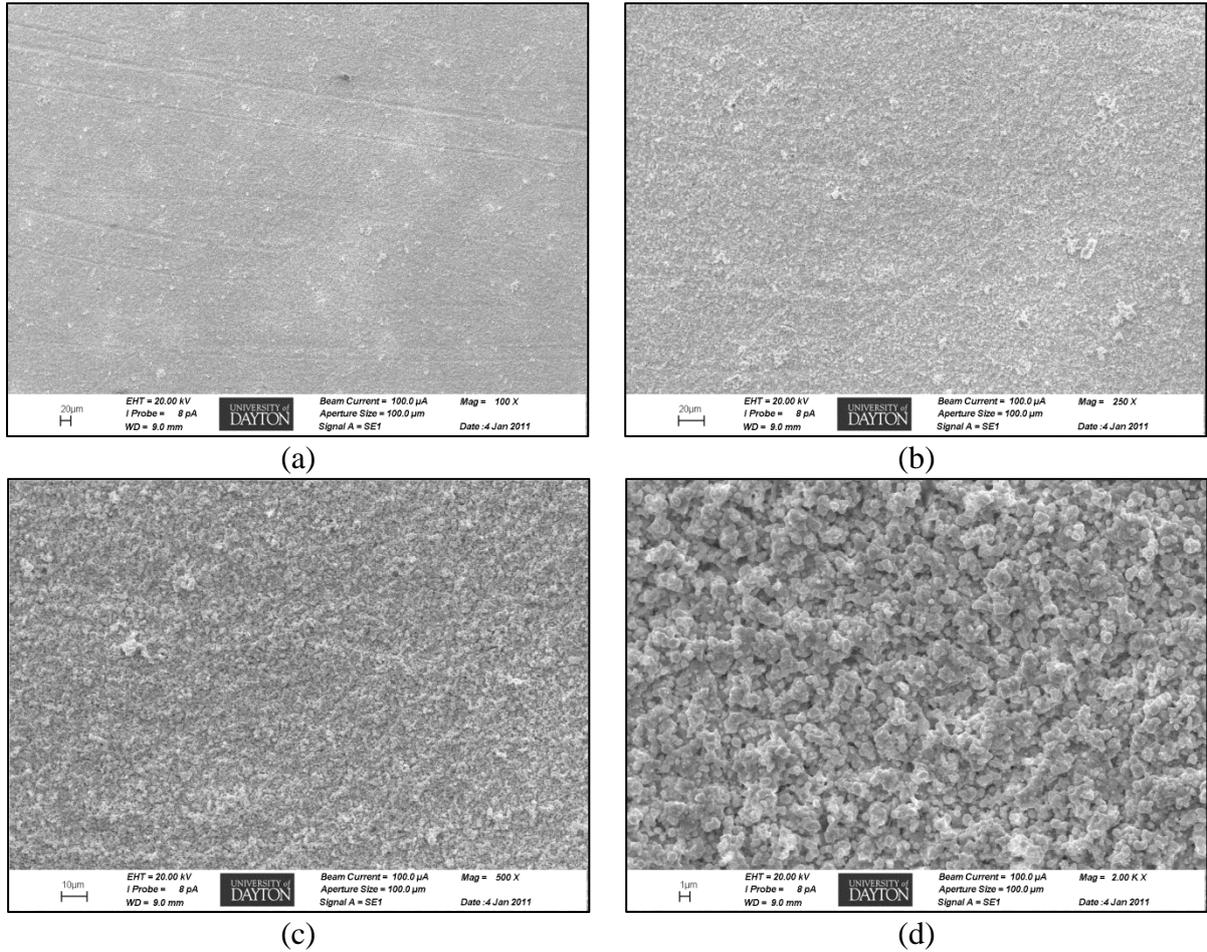
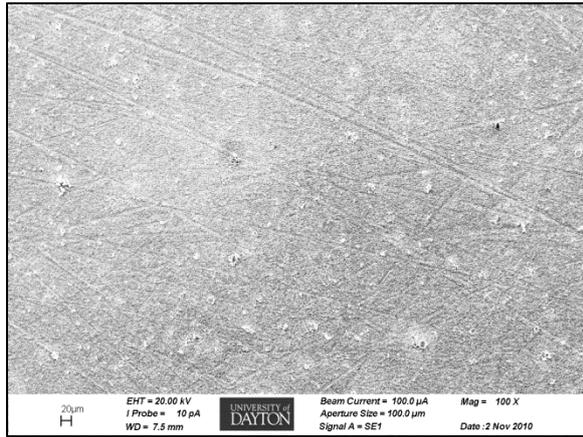
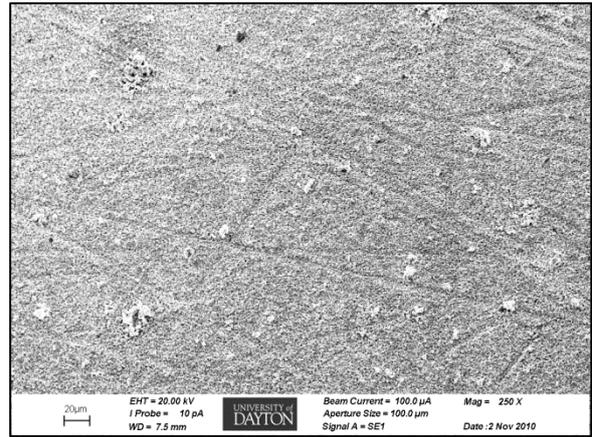


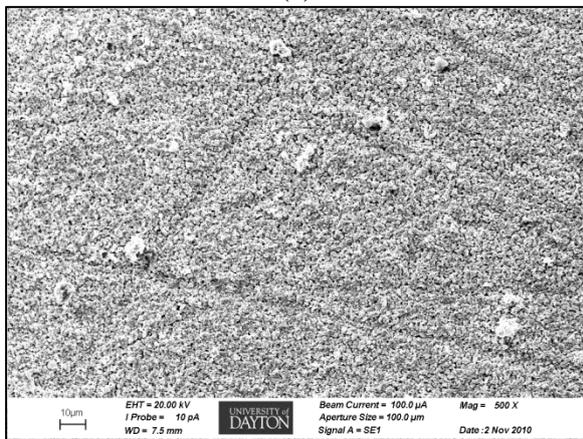
Figure F-4. SEM images of pure silver sample retrieved on 15 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



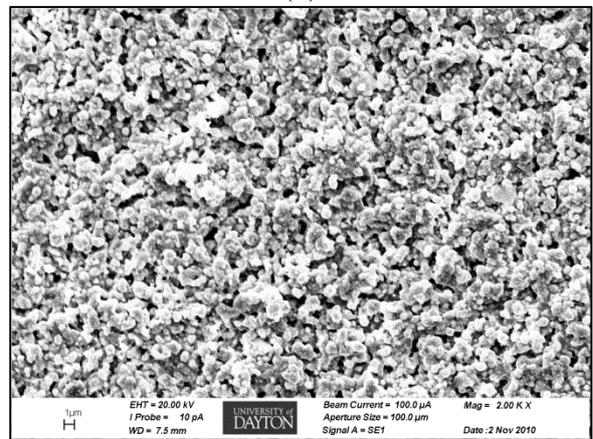
(a)



(b)

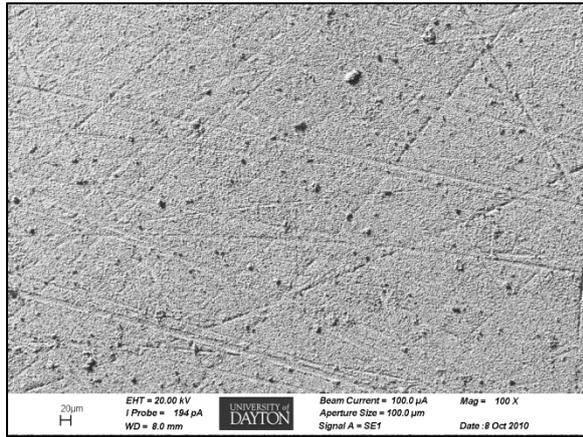


(c)

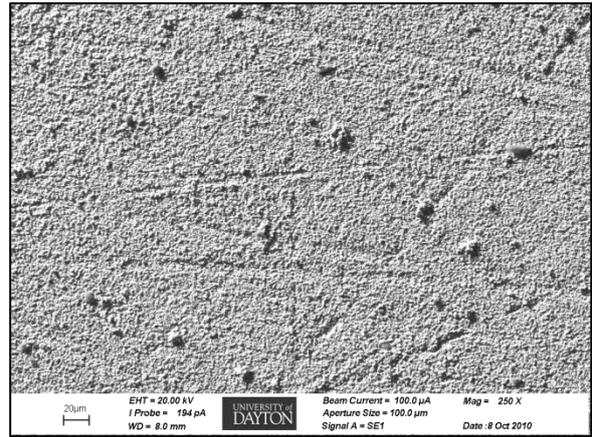


(d)

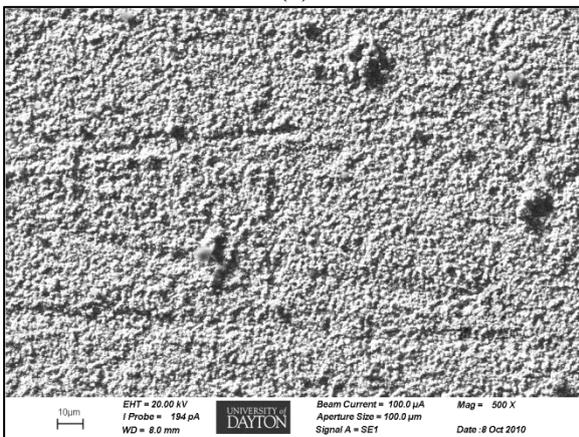
Figure F-5. SEM images of pure silver sample retrieved on 12 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



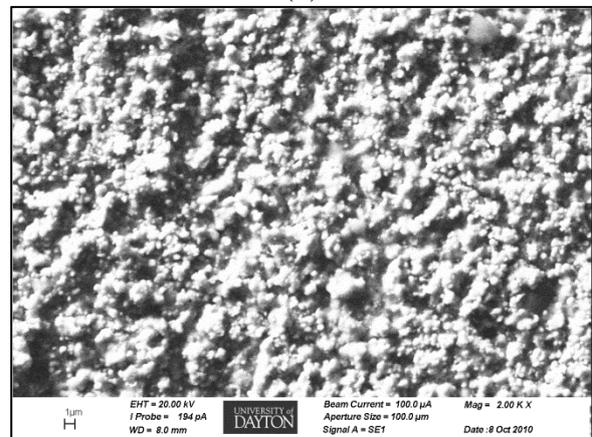
(a)



(b)

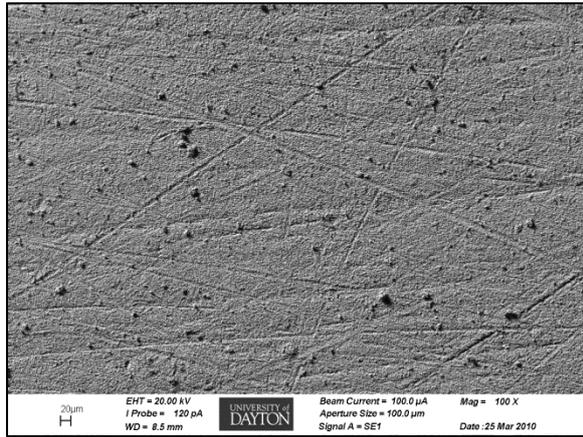


(c)

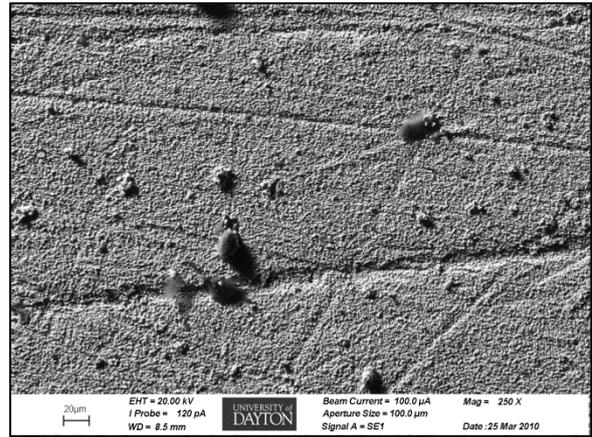


(d)

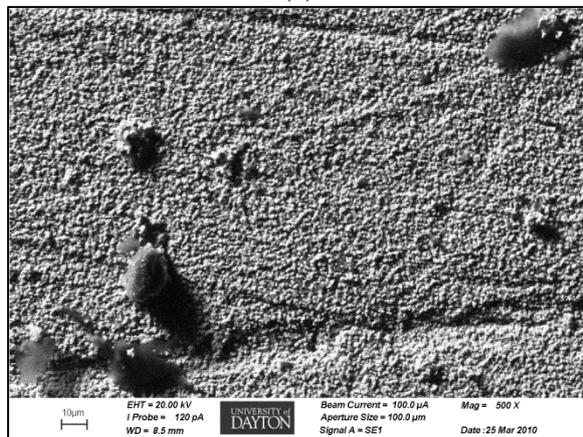
Figure F-6. SEM images of pure silver sample retrieved on 9 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



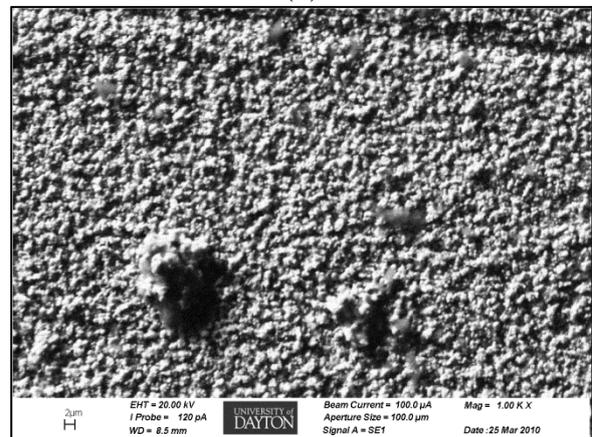
(a)



(b)

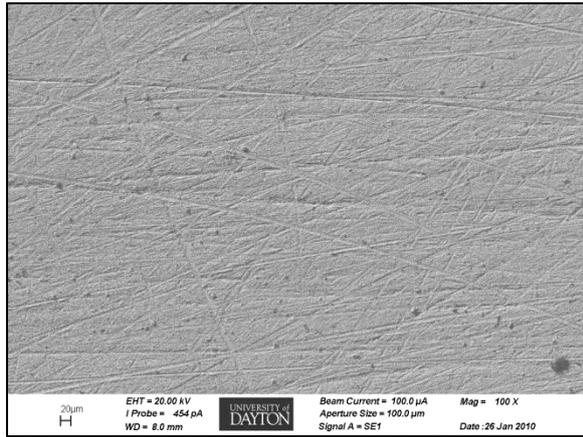


(c)

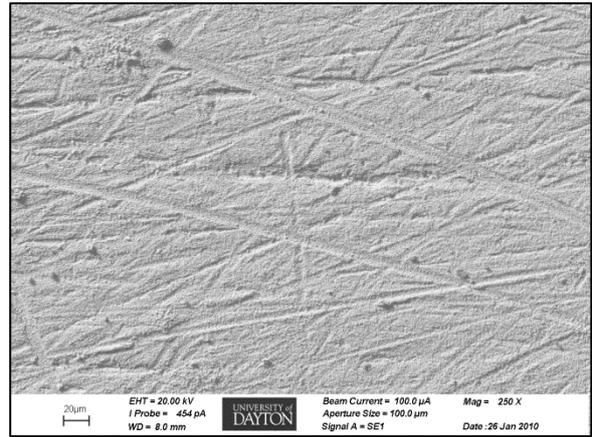


(d)

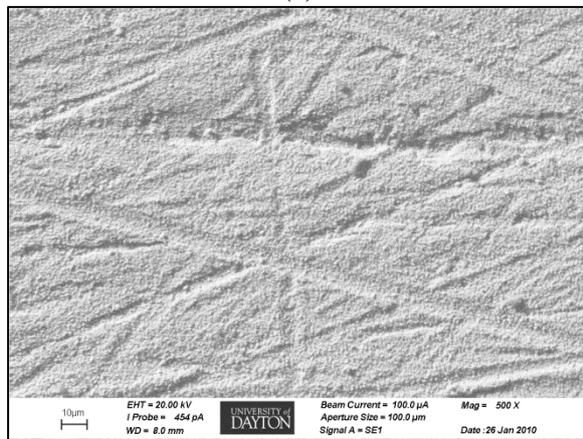
Figure F-7. SEM images of pure silver sample retrieved on 6 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



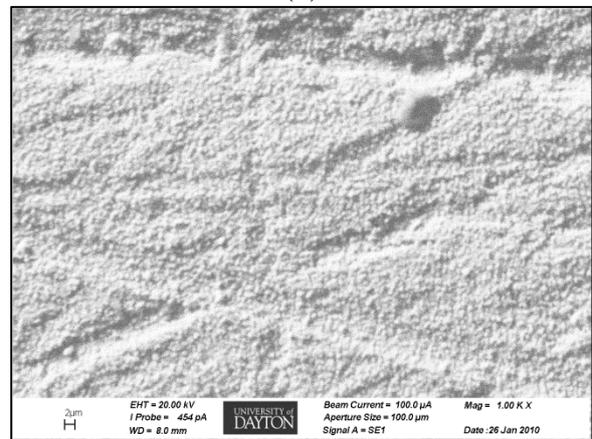
(a)



(b)

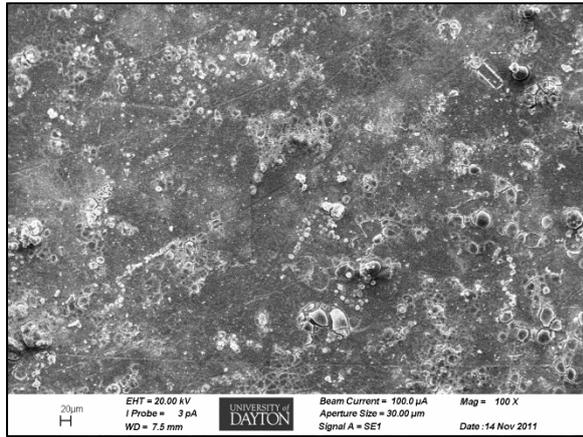


(c)

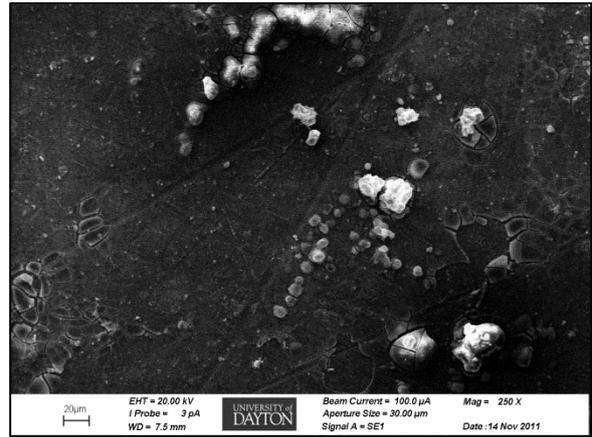


(d)

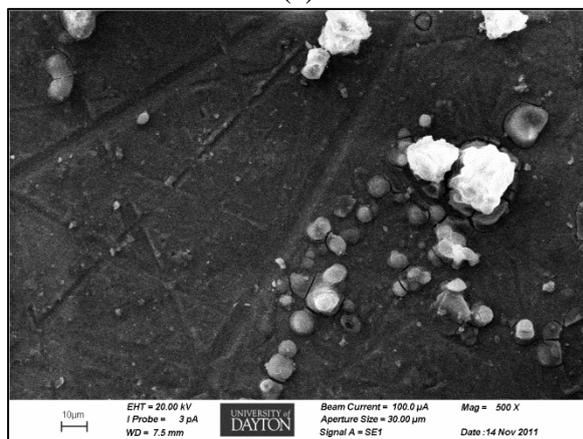
Figure F-8. SEM images of pure silver sample retrieved on 3 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 1000X magnification.



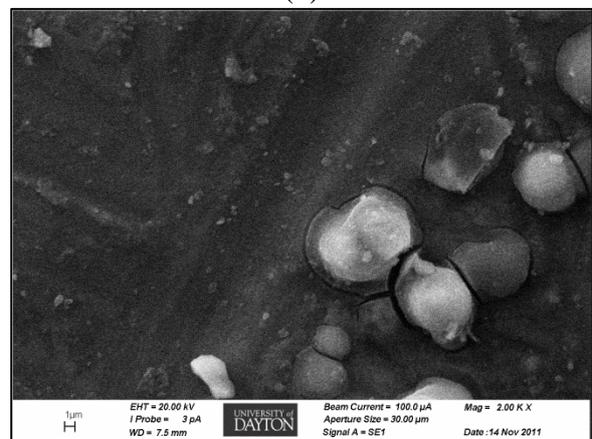
(a)



(b)

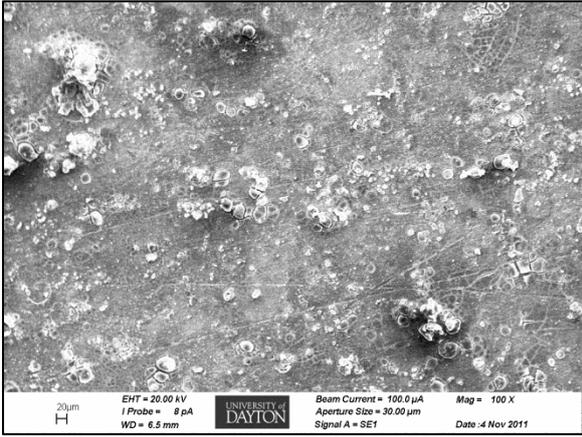


(c)

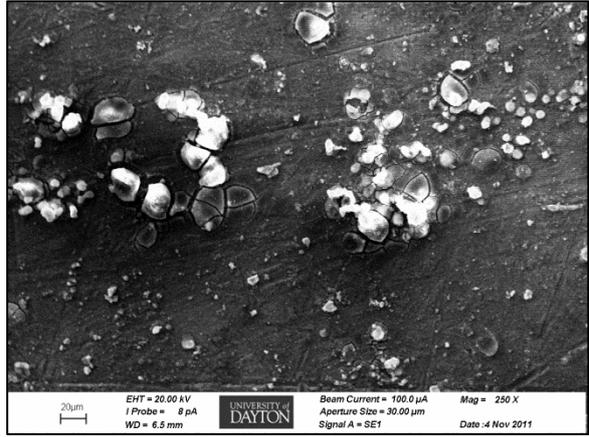


(d)

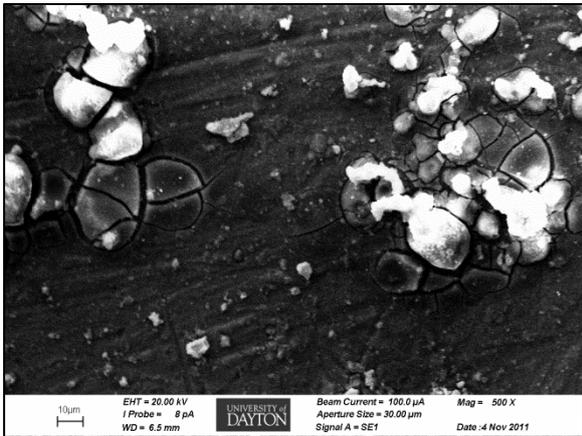
Figure F-9. SEM images of aluminum alloy 7075 sample retrieved on 24 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)



(b)

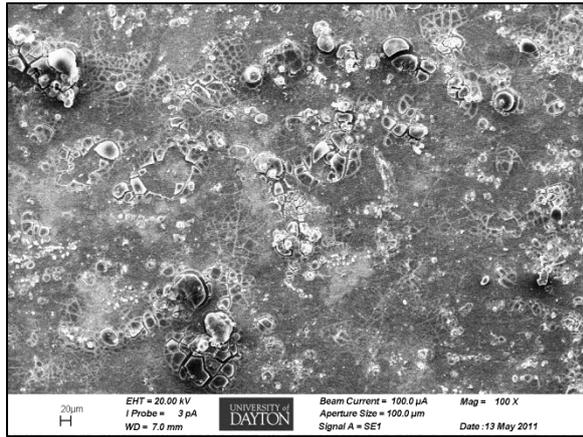


(c)

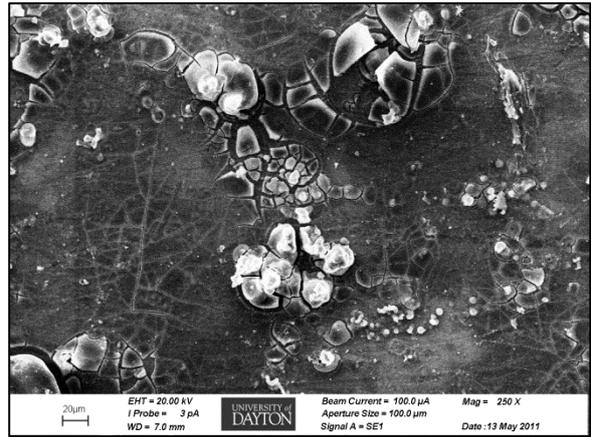


(d)

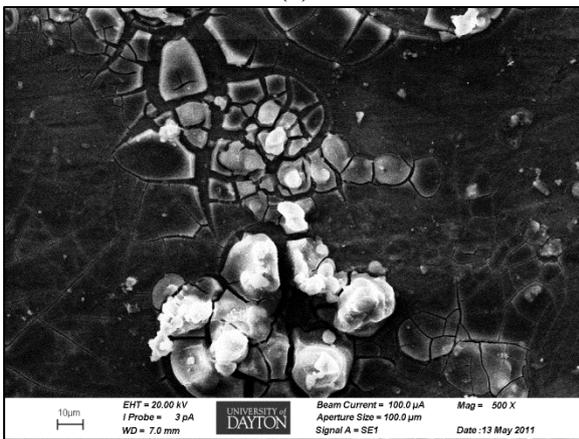
Figure F-10. SEM images of aluminum alloy 7075 sample retrieved on 21 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



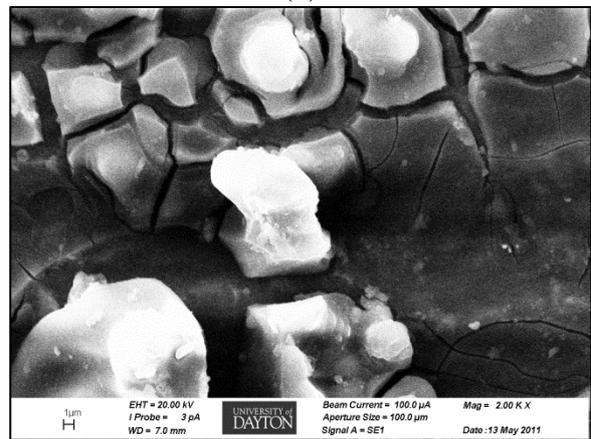
(a)



(b)

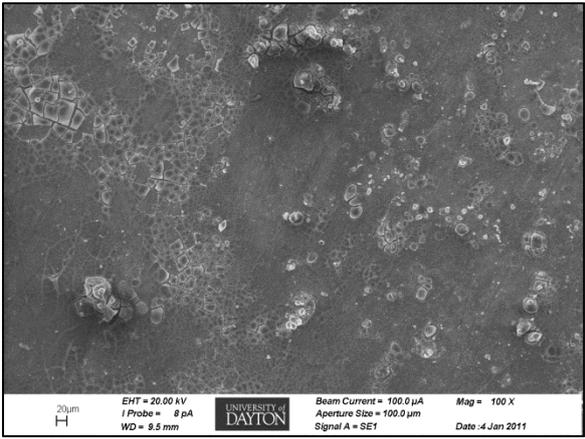


(c)

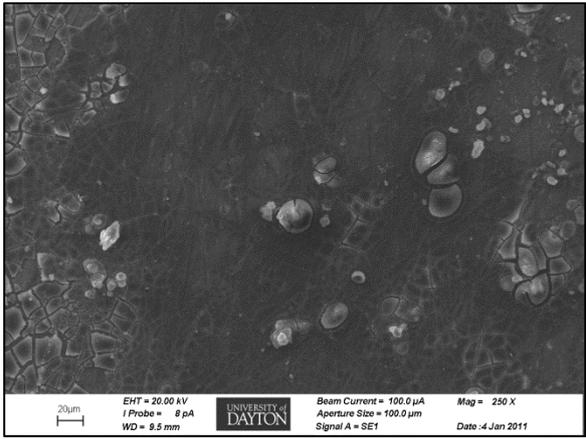


(d)

Figure F-11. SEM images of aluminum alloy 7075 sample retrieved on 18 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



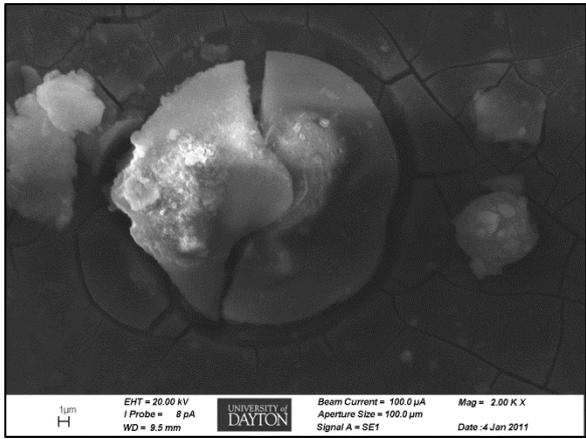
(a)



(b)

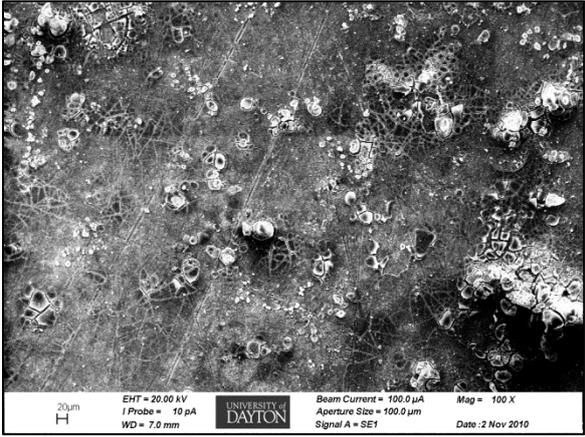


(c)



(d)

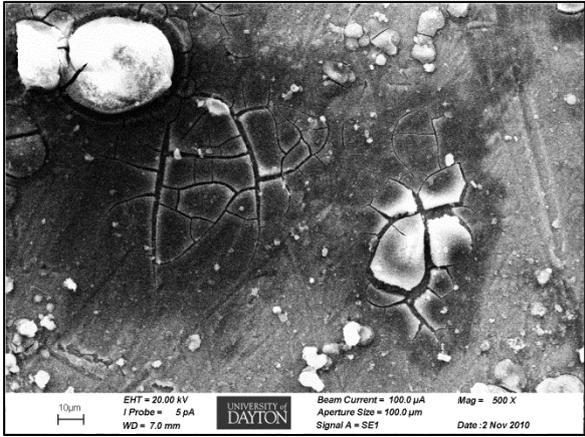
Figure F-12. SEM images of aluminum alloy 7075 sample retrieved on 15 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



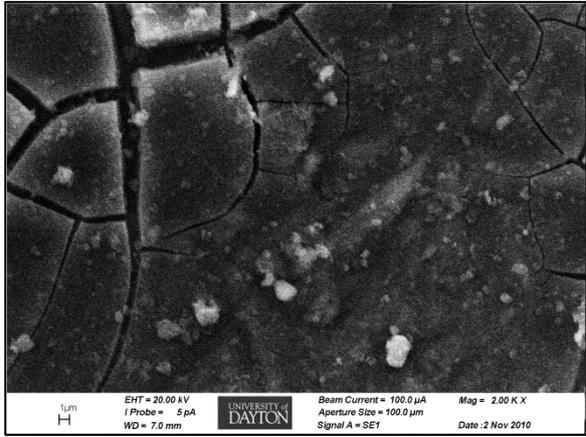
(a)



(b)

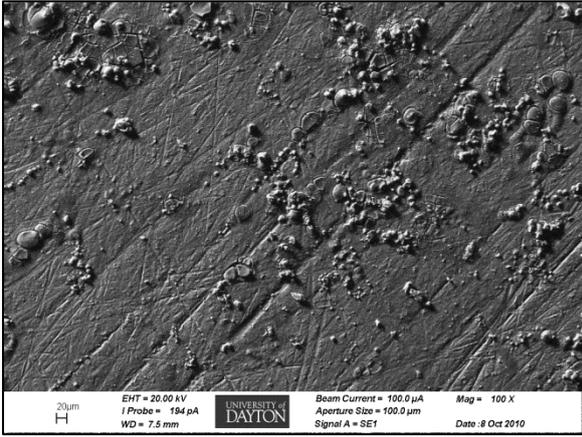


(c)

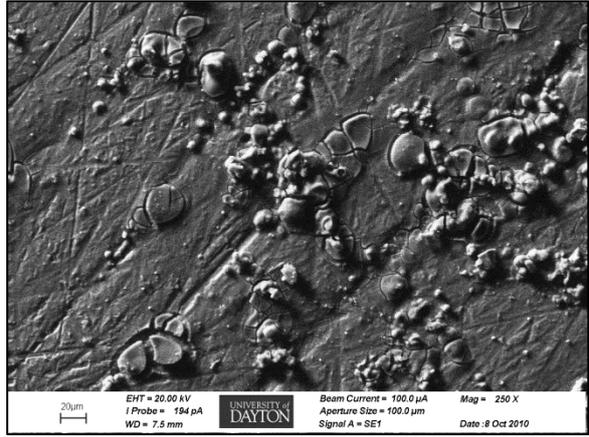


(d)

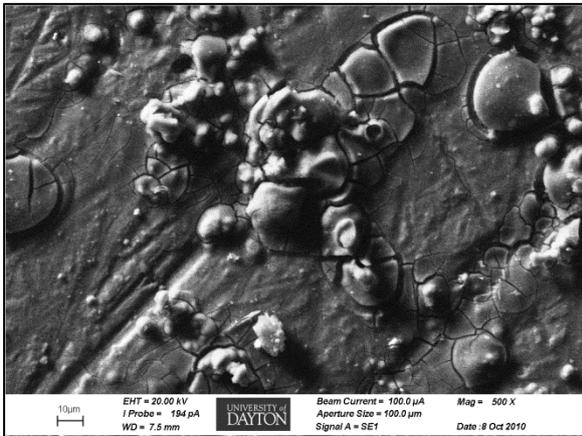
Figure F-13. SEM images of aluminum alloy 7075 sample retrieved on 12 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



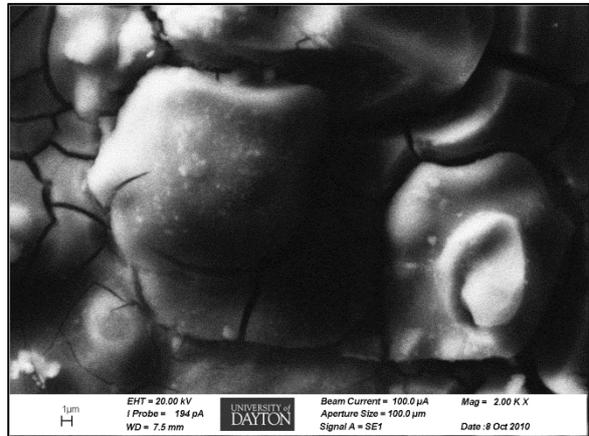
(a)



(b)

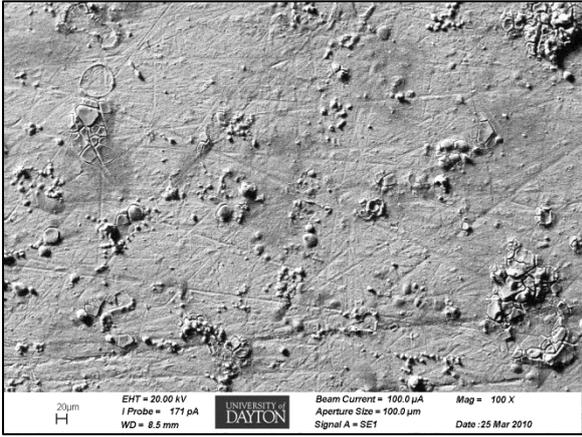


(c)

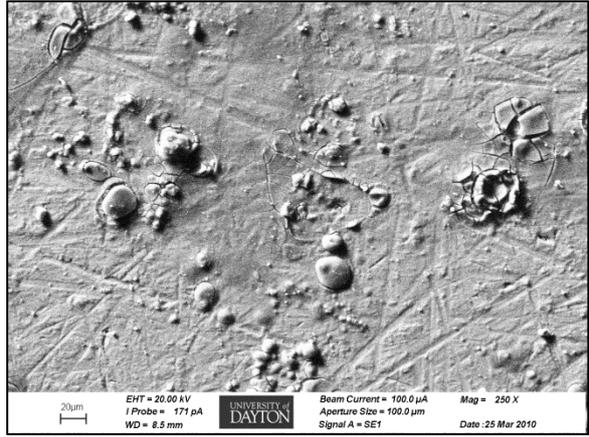


(d)

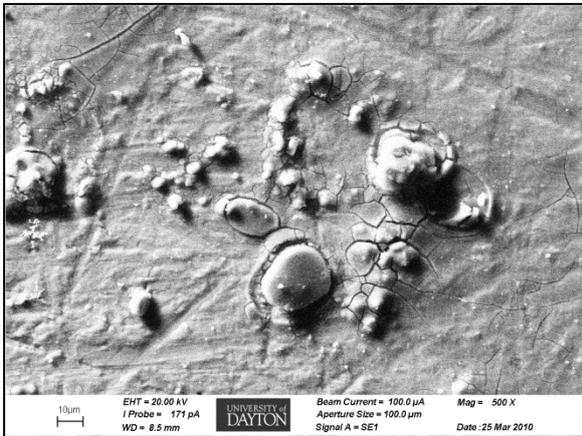
Figure F-14. SEM images of aluminum alloy 7075 sample retrieved on 9 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)



(b)



(c)

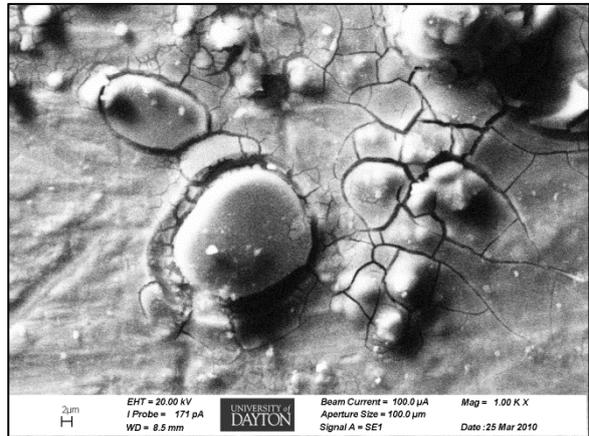
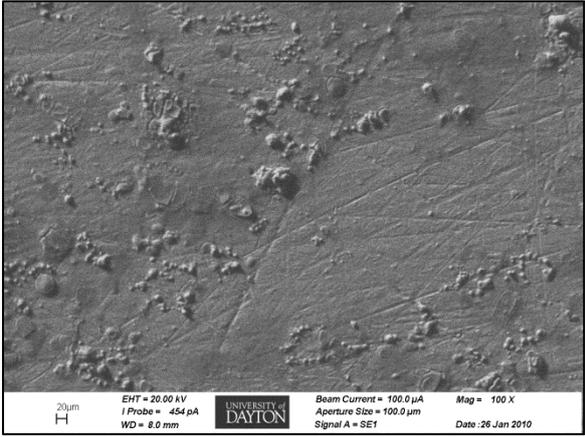
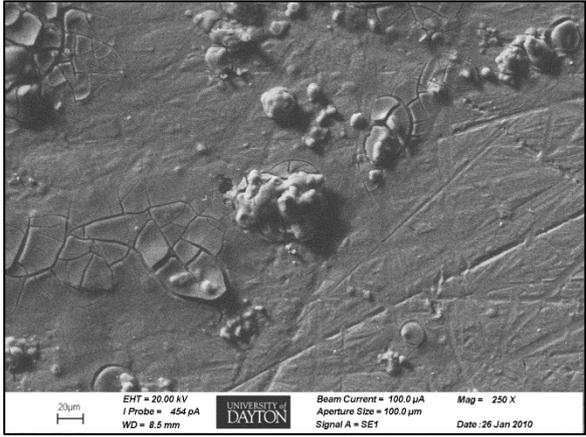


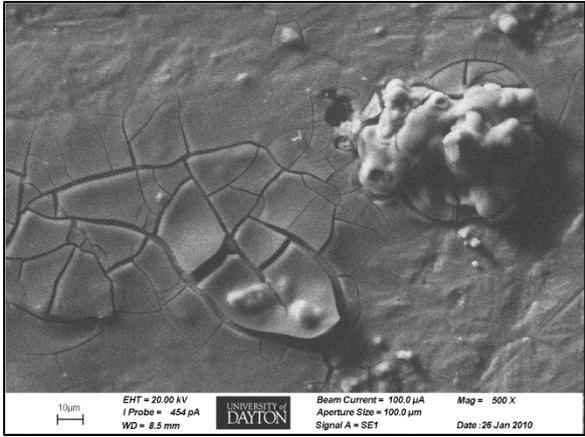
Figure F-15. SEM images of aluminum alloy 7075 sample retrieved on 6 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 100X magnification



(a)



(b)



(c)

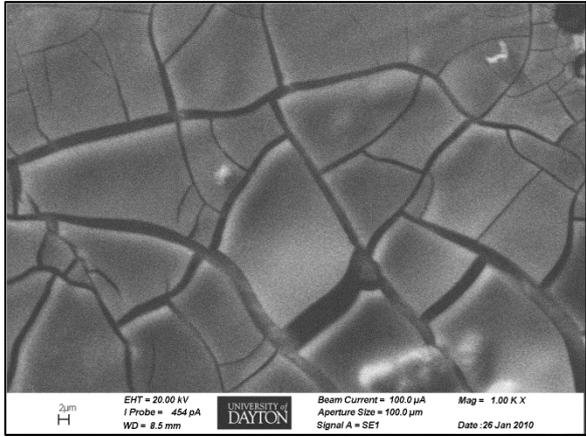
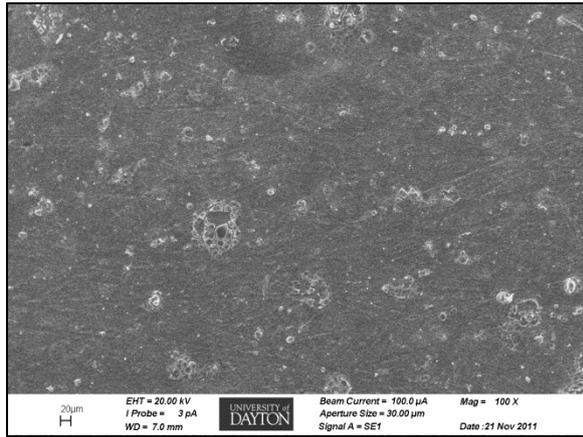
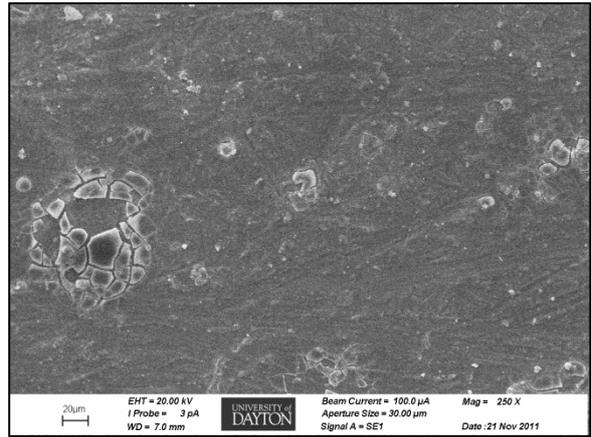


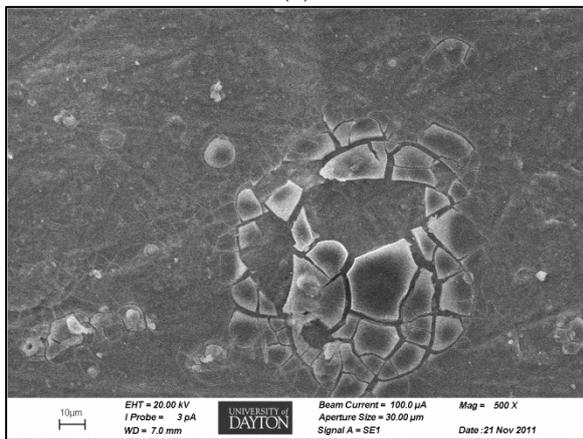
Figure F-16. SEM images of aluminum alloy 7075 sample retrieved on 3 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



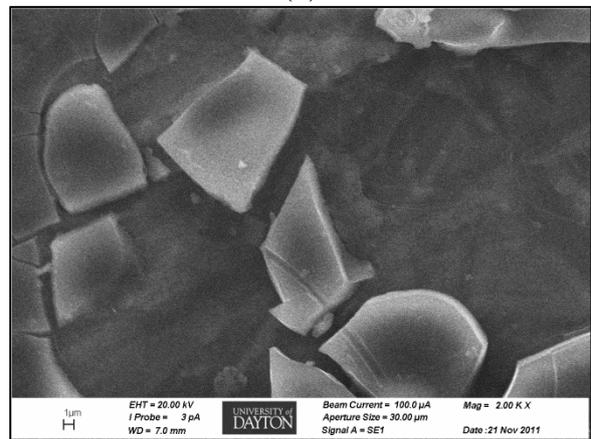
(a)



(b)

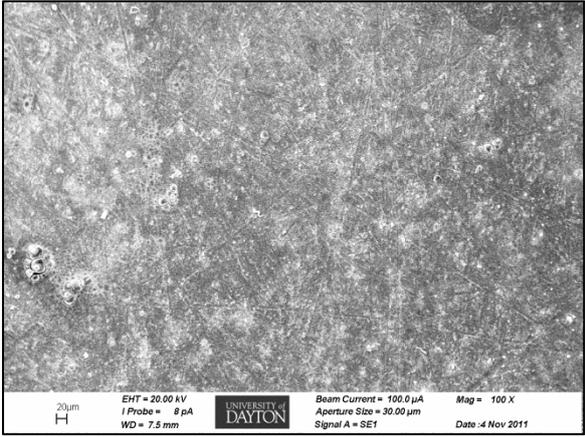


(c)

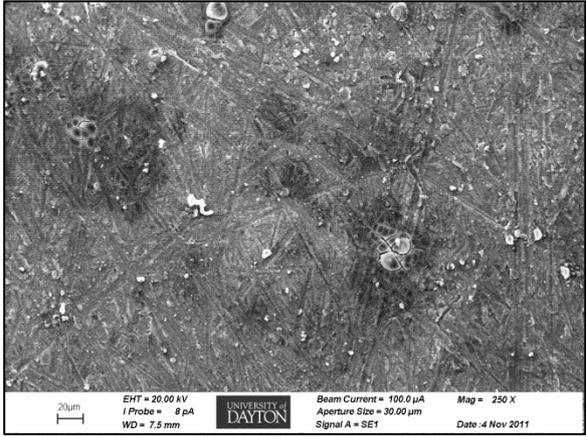


(d)

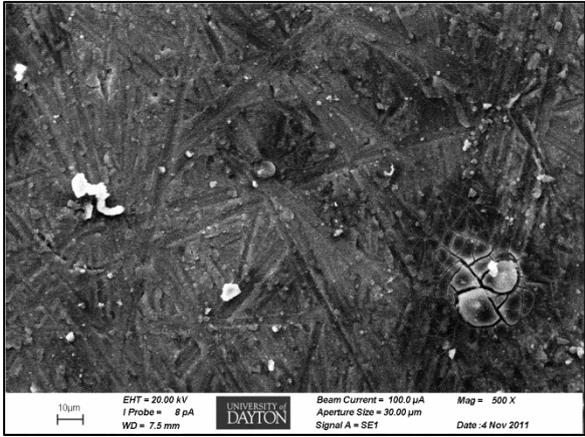
Figure F-17. SEM images of aluminum alloy 6061 sample retrieved on 24 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



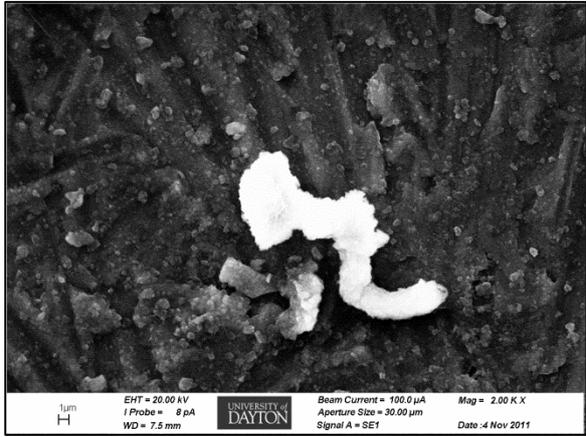
(a)



(b)

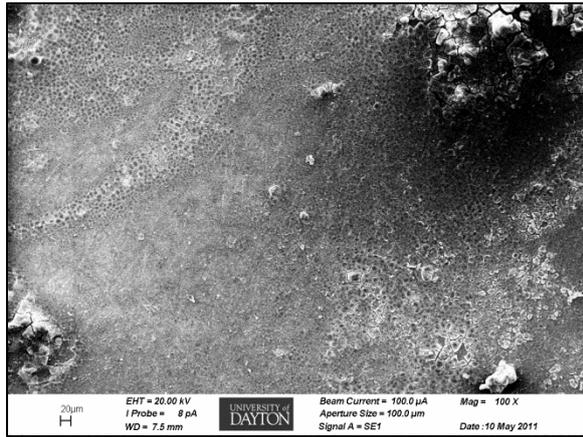


(c)

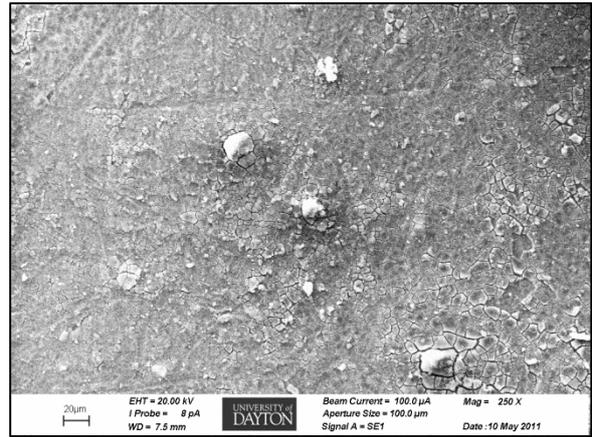


(d)

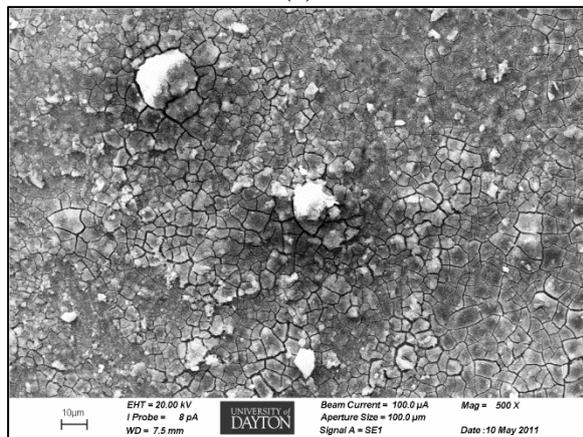
Figure F-18. SEM images of aluminum alloy 6061 sample retrieved on 21 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



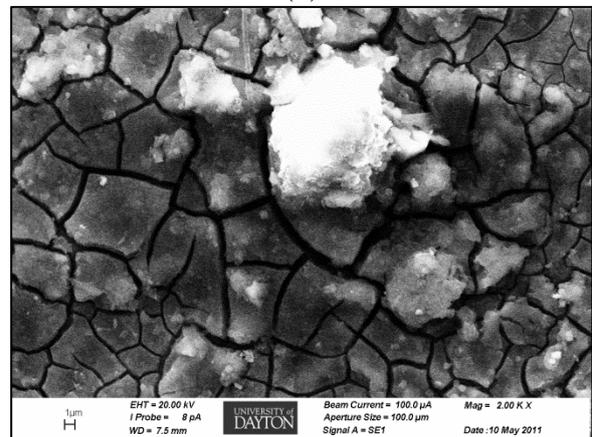
(a)



(b)

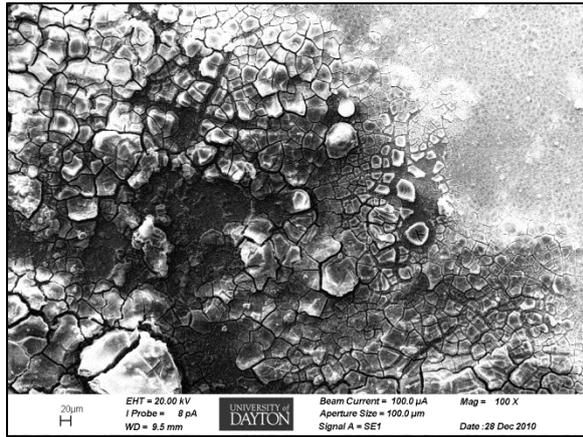


(c)

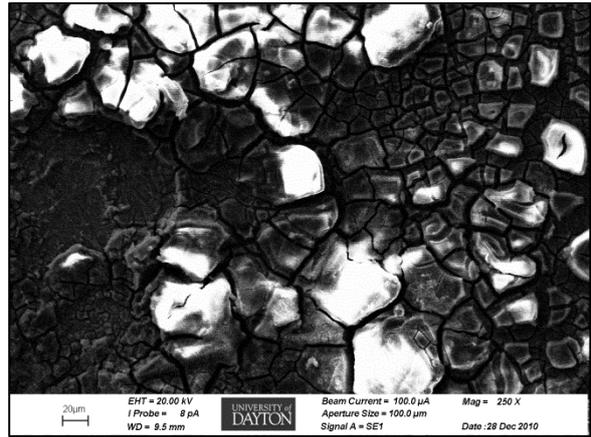


(d)

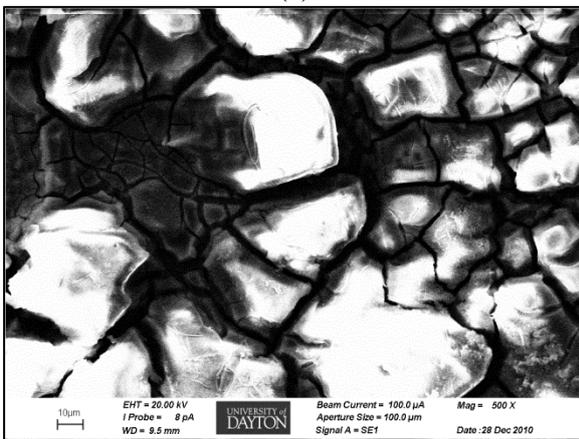
Figure F-19. SEM images of aluminum alloy 6061 sample retrieved on 18 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



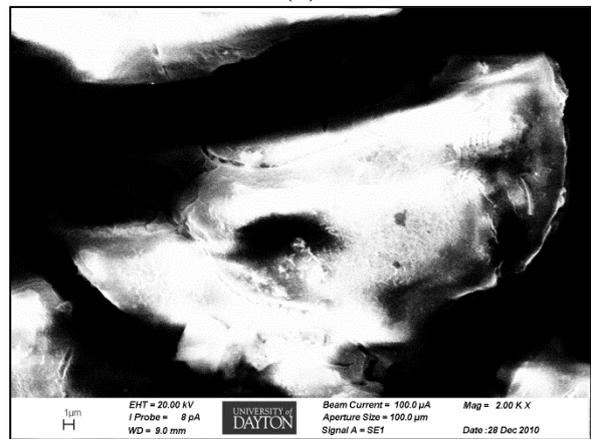
(a)



(b)

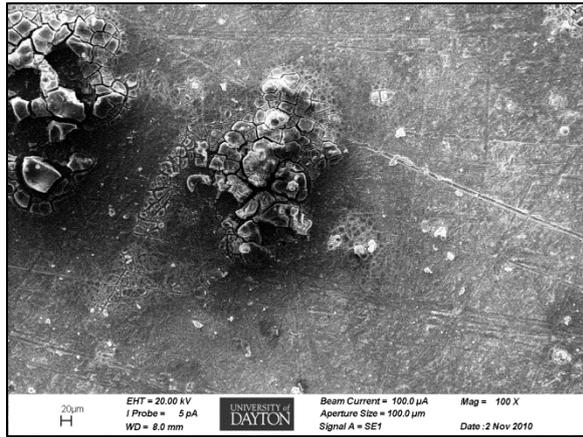


(c)

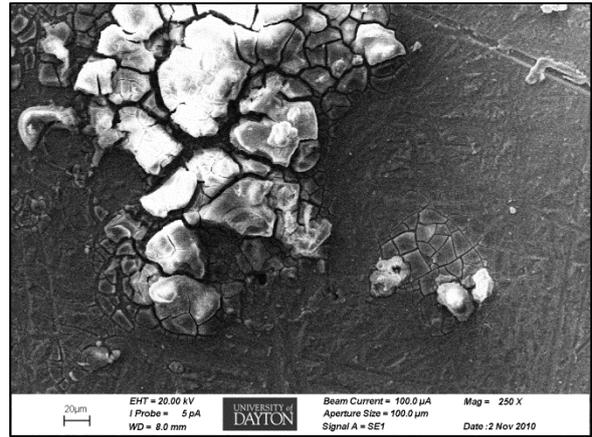


(d)

Figure F-20. SEM images of aluminum alloy 6061 sample retrieved on 15 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



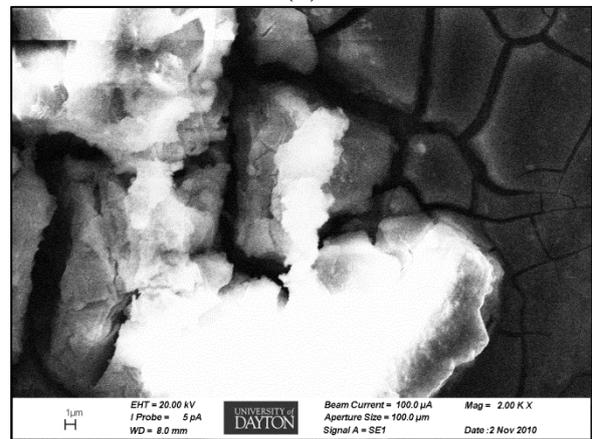
(a)



(b)

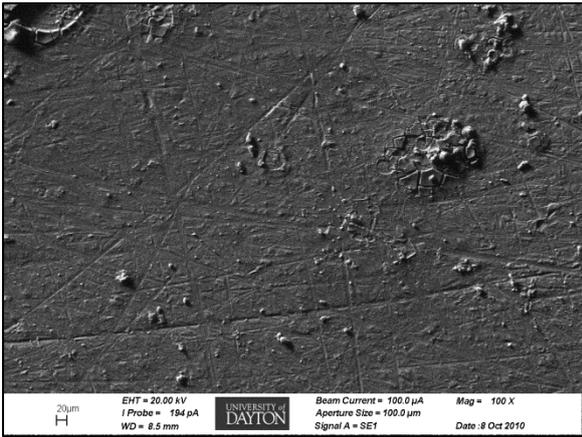


(c)

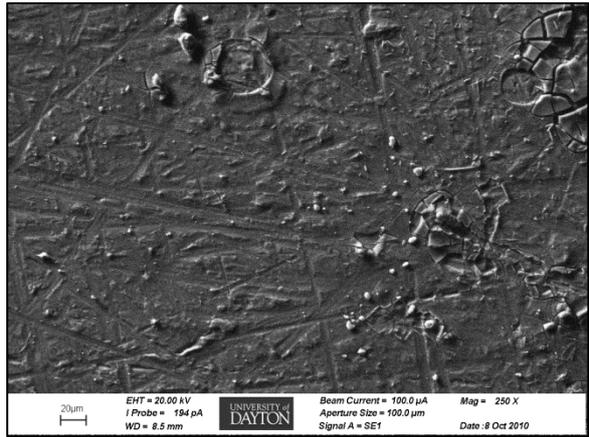


(d)

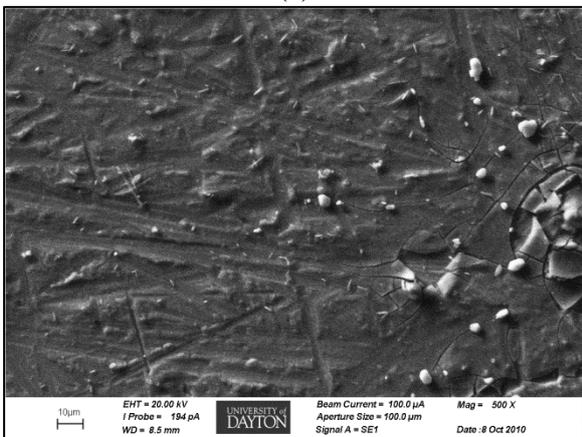
Figure F-21. SEM images of aluminum alloy 6061 sample retrieved on 12 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



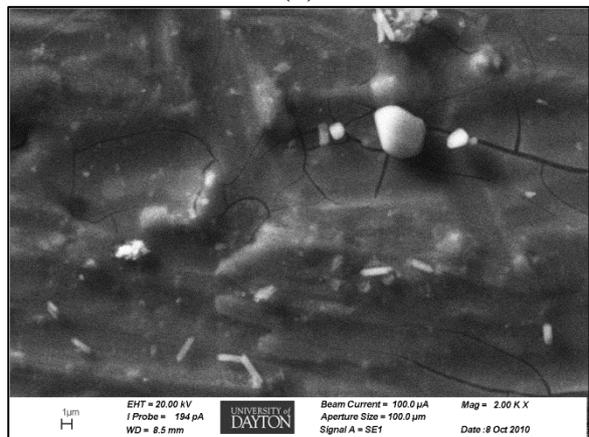
(a)



(b)

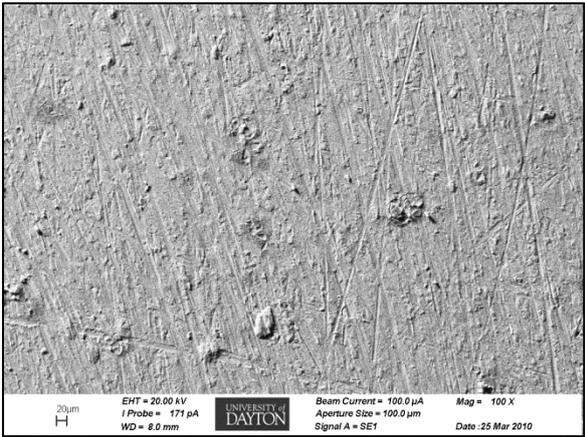


(c)

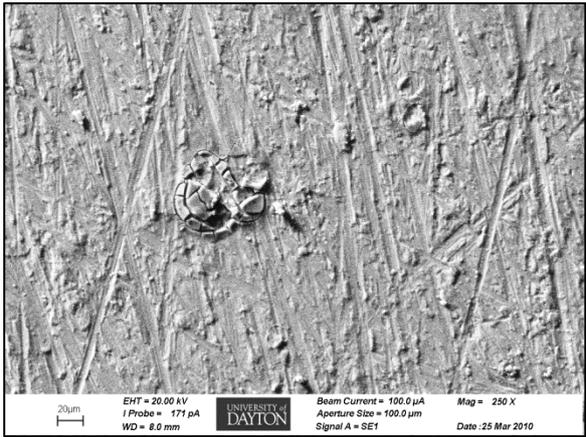


(d)

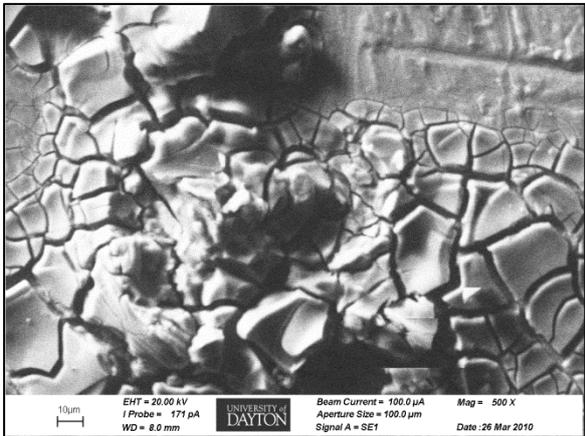
Figure F-22. SEM images of aluminum alloy 6061 sample retrieved on 9 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)



(b)



(c)

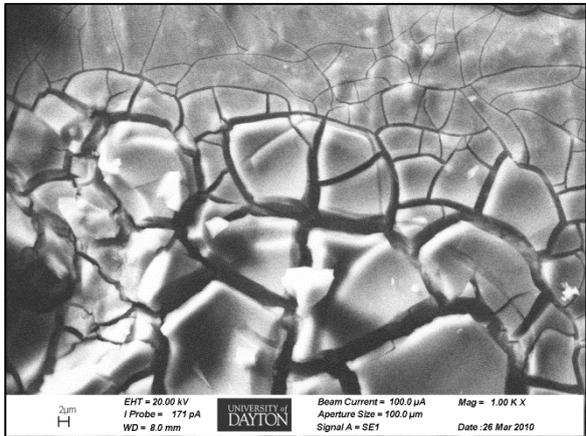
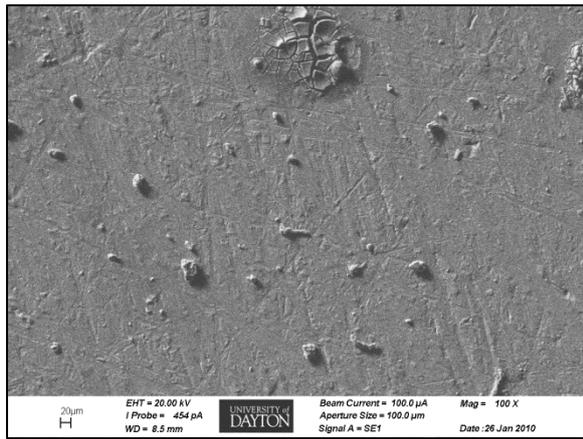
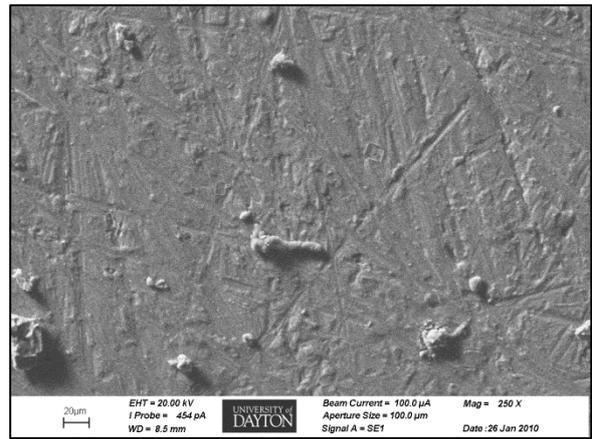


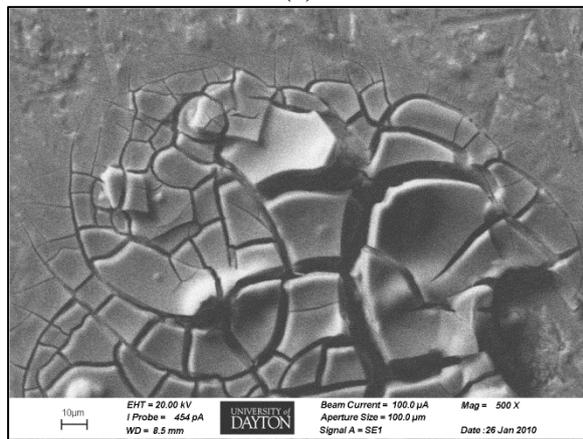
Figure F-23. SEM images of aluminum alloy 6061 sample retrieved on 6 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 1000X magnification.



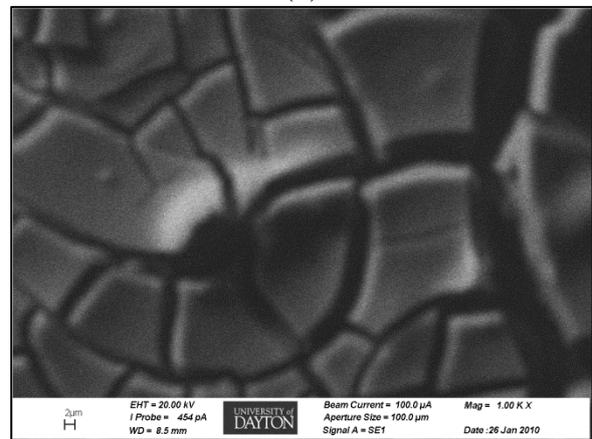
(a)



(b)

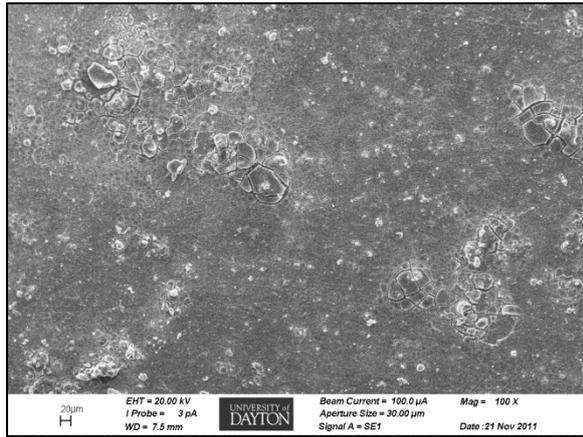


(c)

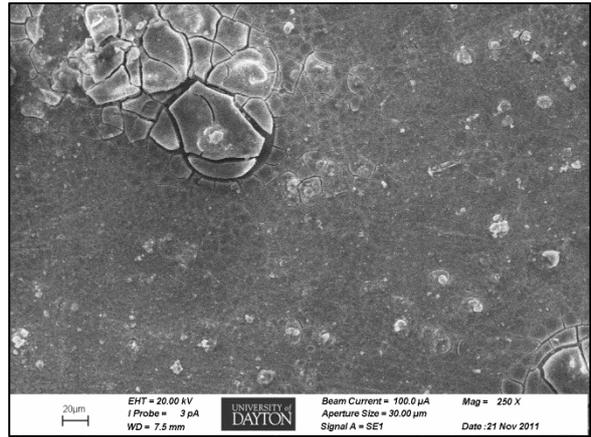


(d)

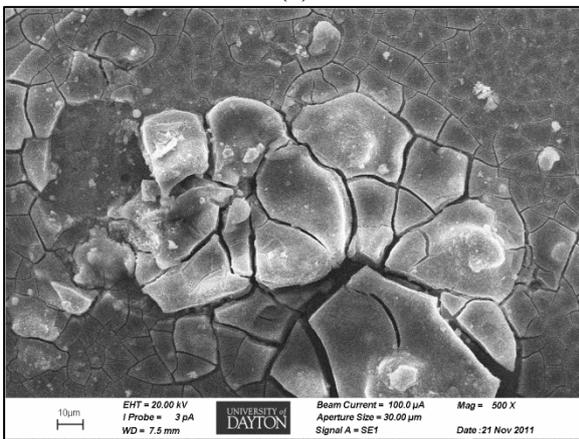
Figure F-24. SEM images of aluminum alloy 6061 sample retrieved on 3 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



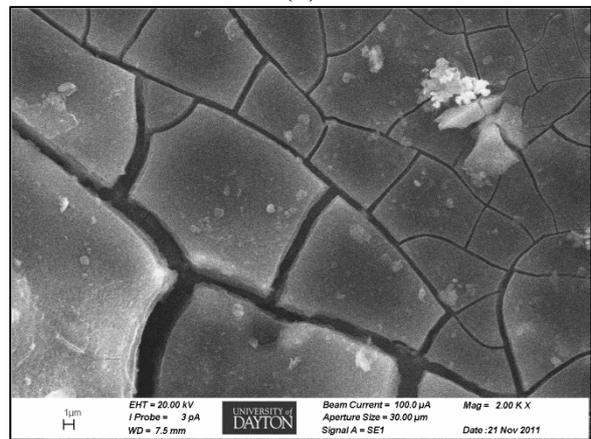
(a)



(b)

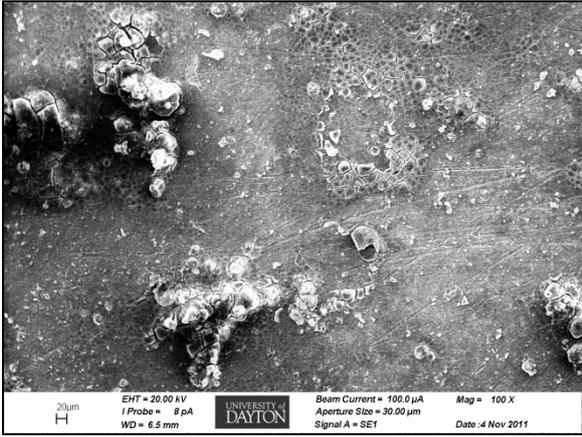


(c)

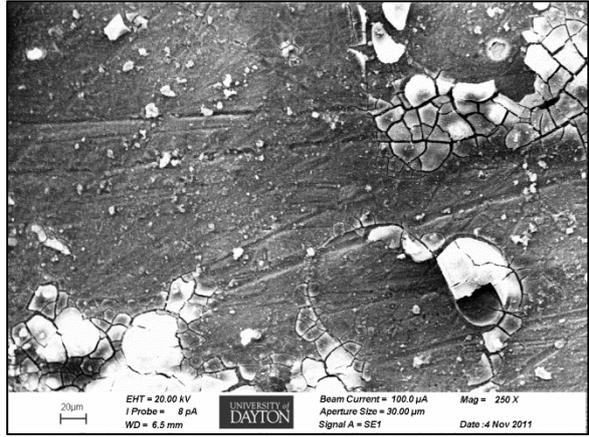


(d)

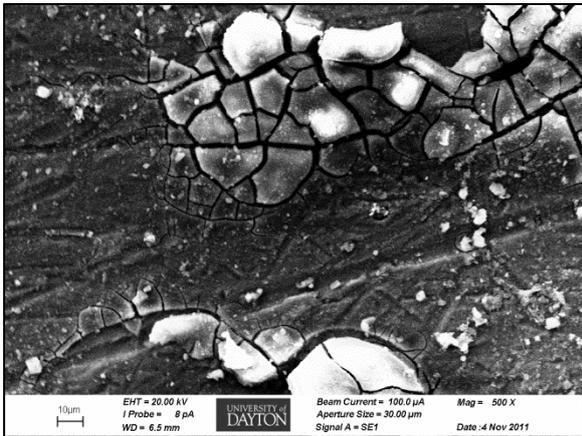
Figure F-25. SEM images of aluminum alloy 2024 sample retrieved on 24 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



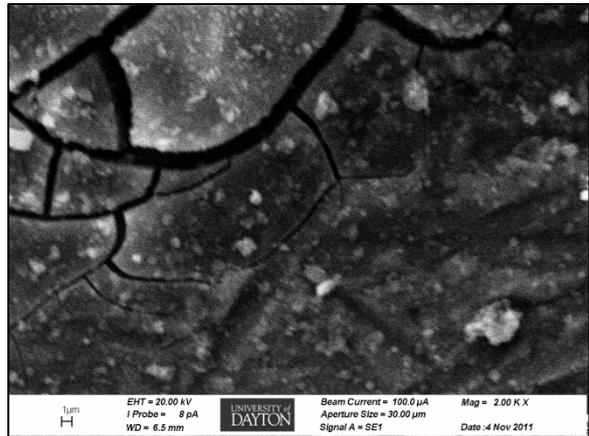
(a)



(b)

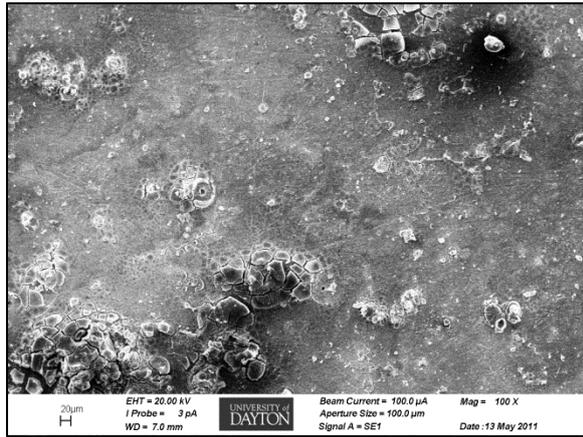


(c)

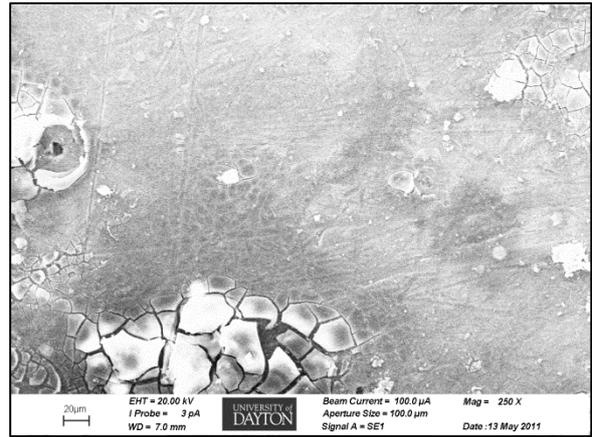


(d)

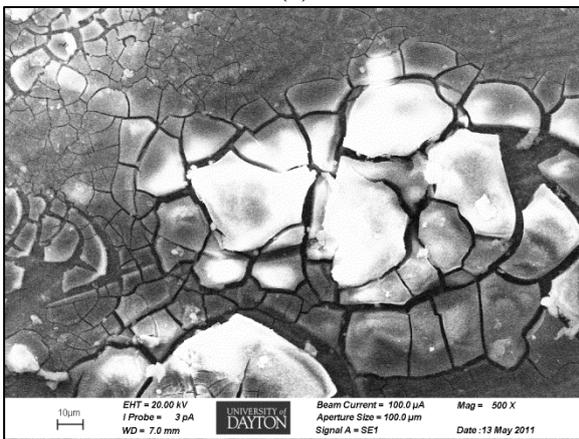
Figure F-26. SEM images of aluminum alloy 2024 sample retrieved on 21 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



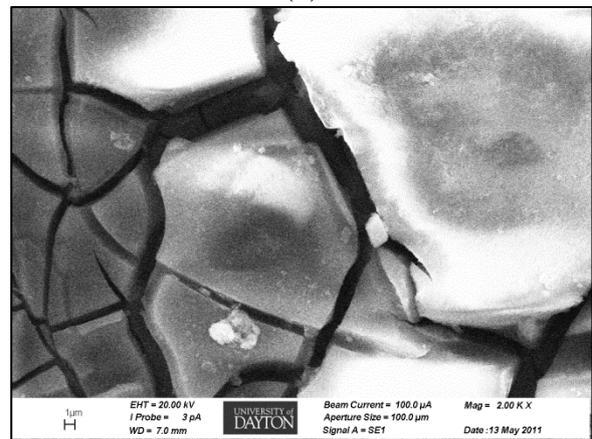
(a)



(b)

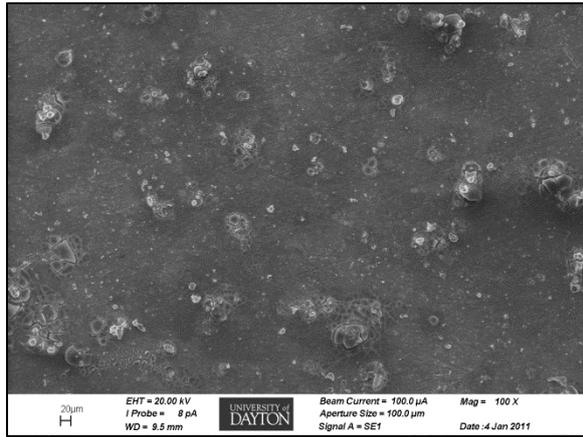


(c)

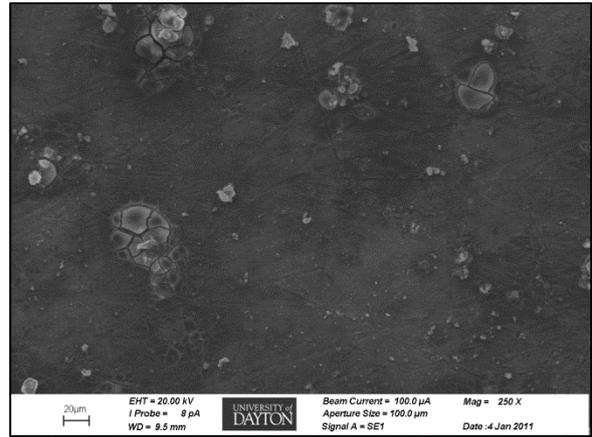


(d)

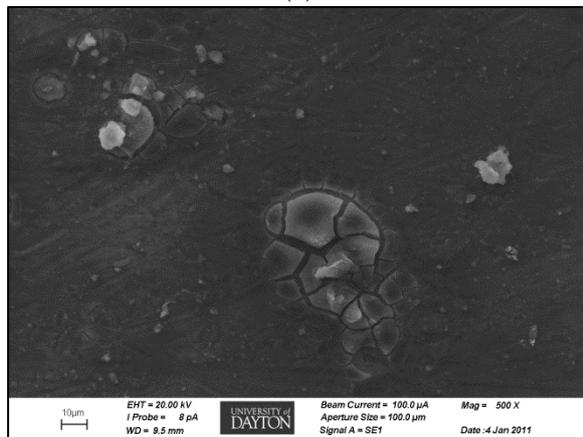
Figure F-27. SEM images of aluminum alloy 2024 sample retrieved on 18 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



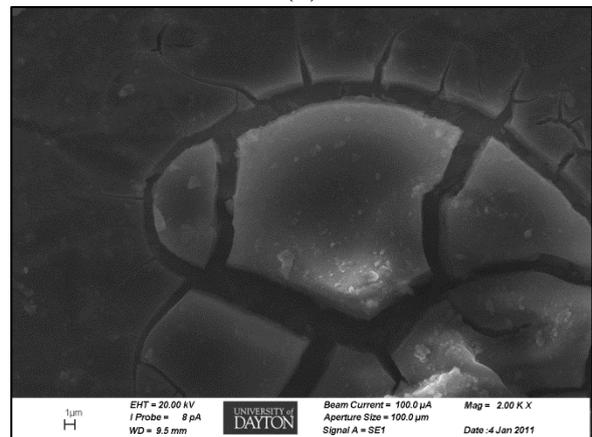
(a)



(b)

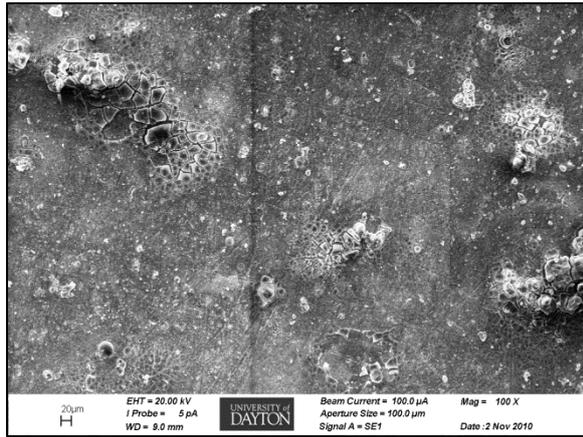


(c)



(d)

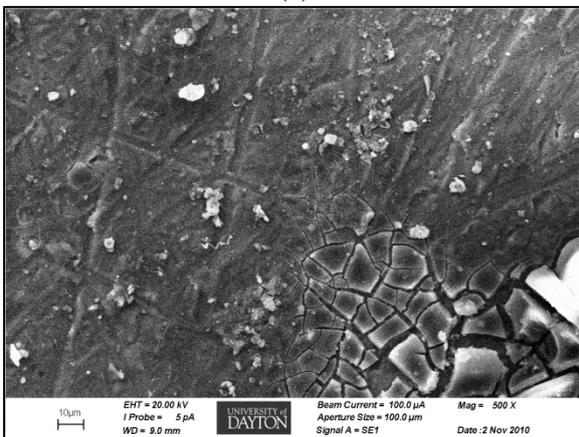
Figure F-28. SEM images of aluminum alloy 2024 sample retrieved on 15 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



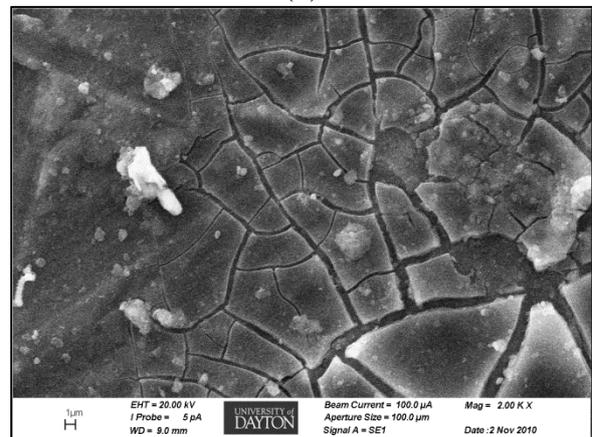
(a)



(b)

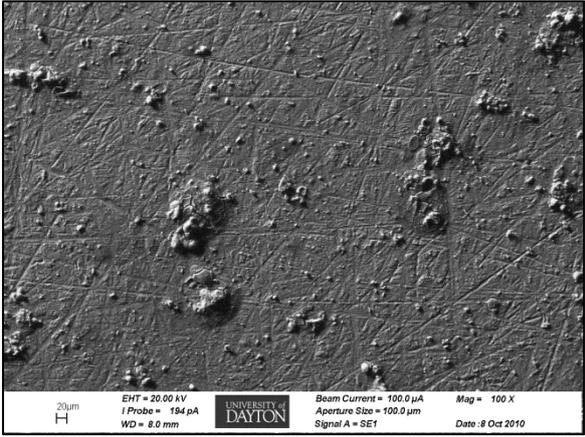


(c)

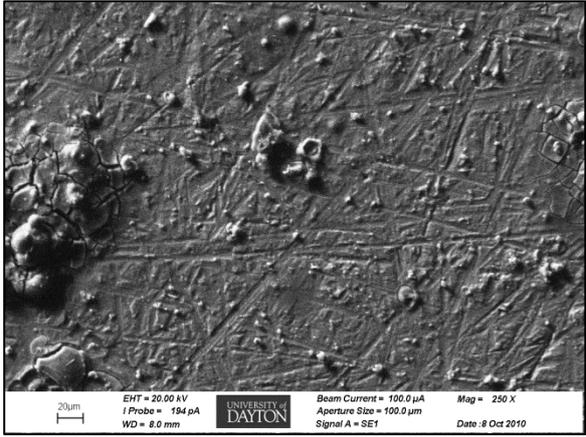


(d)

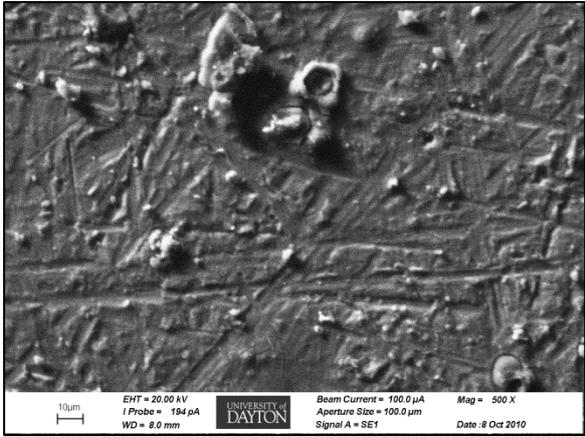
Figure F-29. SEM images of aluminum alloy 2024 sample retrieved on 12 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



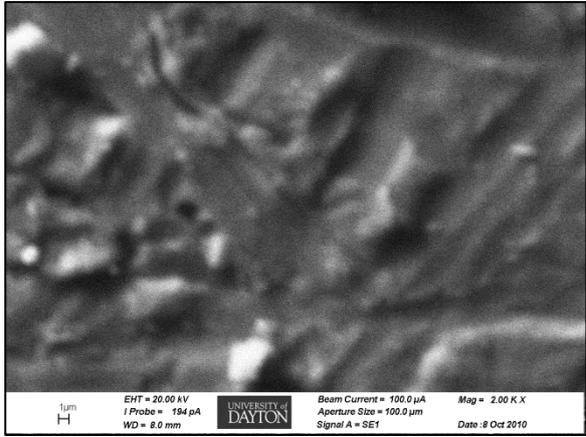
(a)



(b)

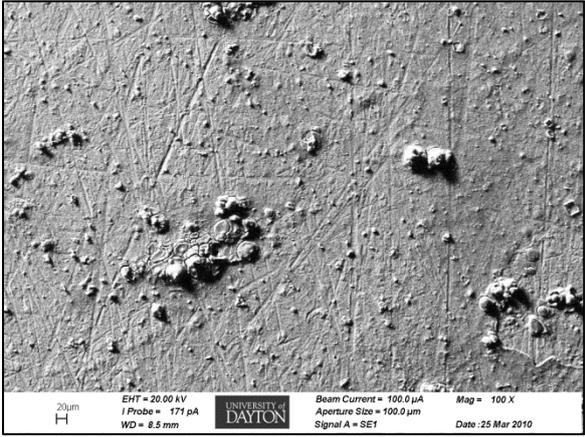


(c)

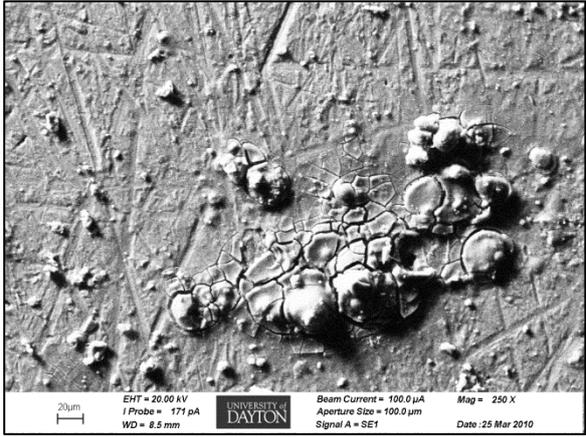


(d)

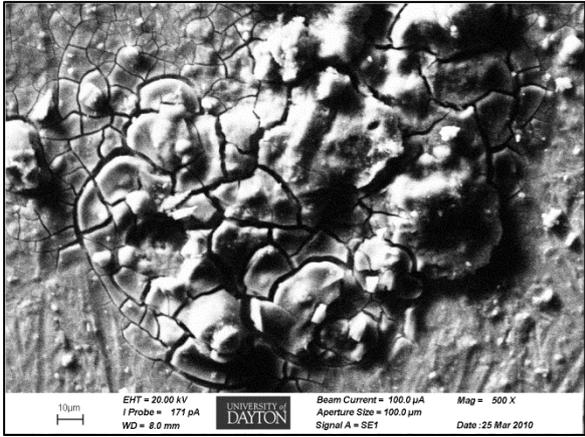
Figure F-30. SEM images of aluminum alloy 2024 sample retrieved on 9 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)



(b)



(c)

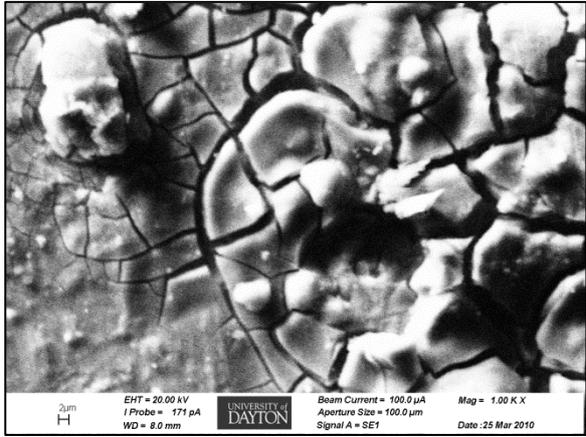
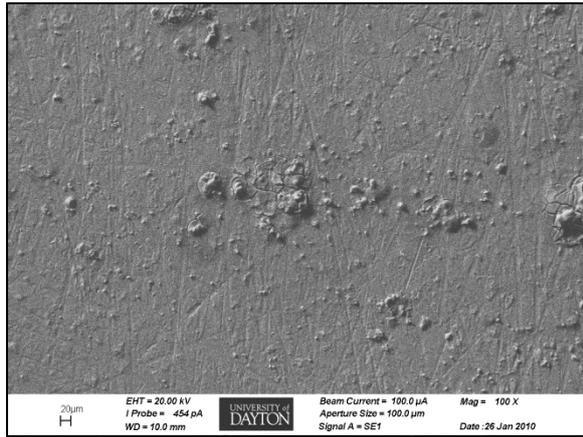
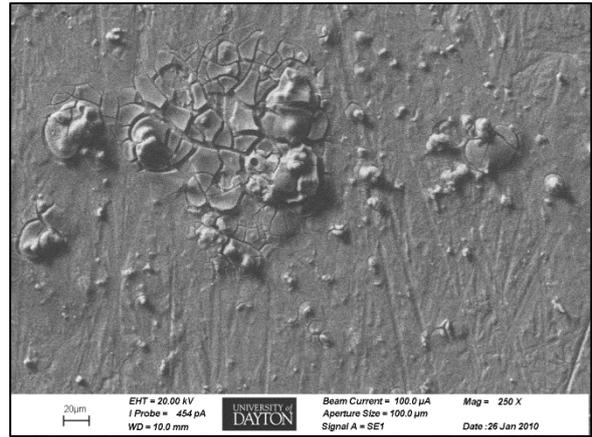


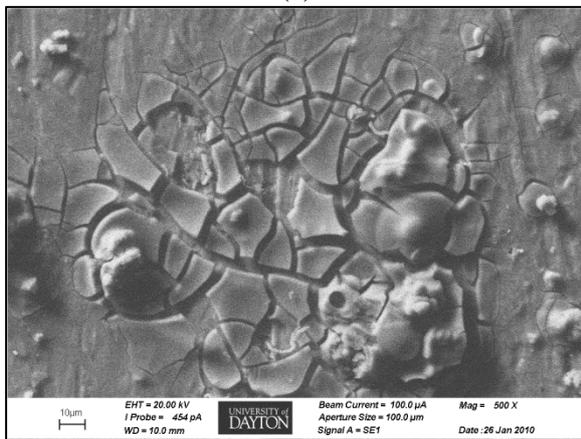
Figure F-31. SEM images of aluminum alloy 2024 sample retrieved on 6 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



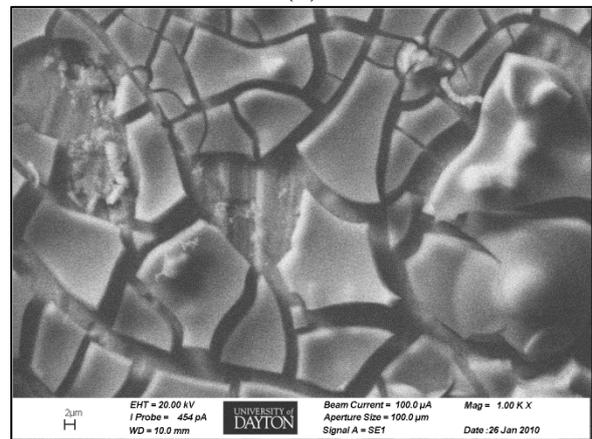
(a)



(b)

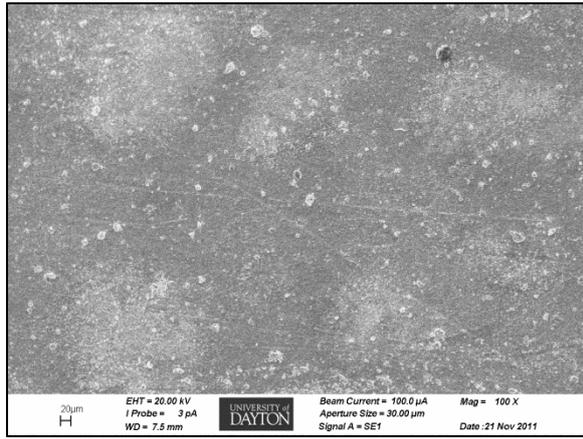


(c)

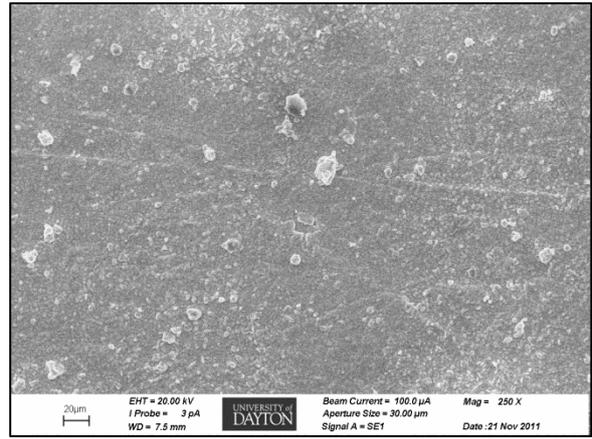


(d)

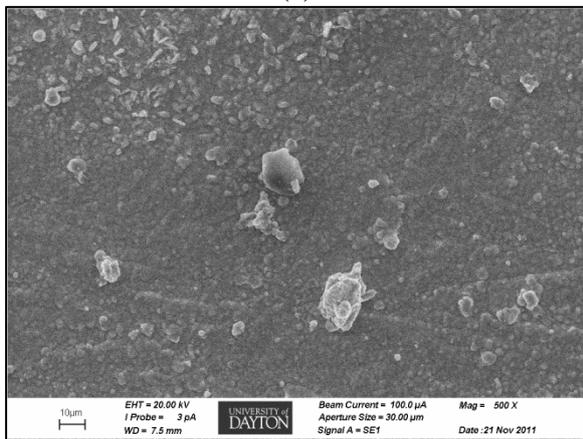
Figure F-32. SEM images of aluminum alloy 2024 sample retrieved on 3 months exposure from Hickam AFB site. (a) 100X magnification, (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



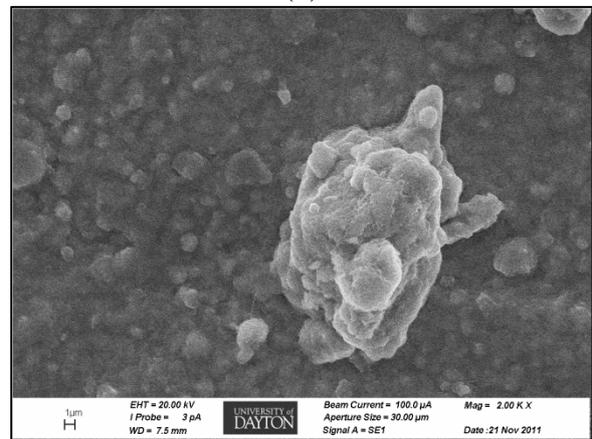
(a)



(b)

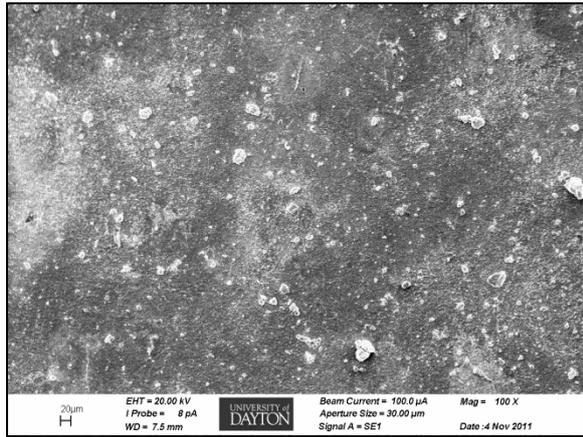


(c)

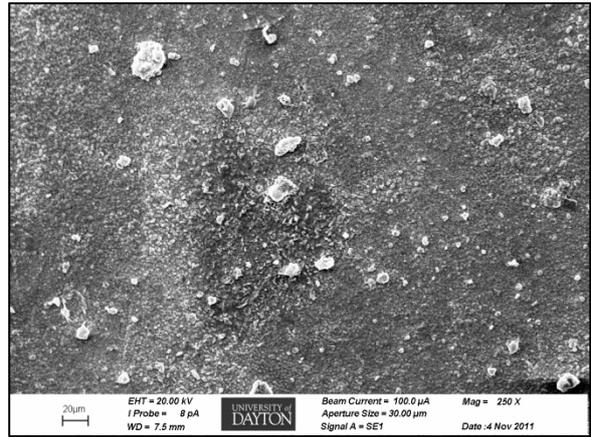


(d)

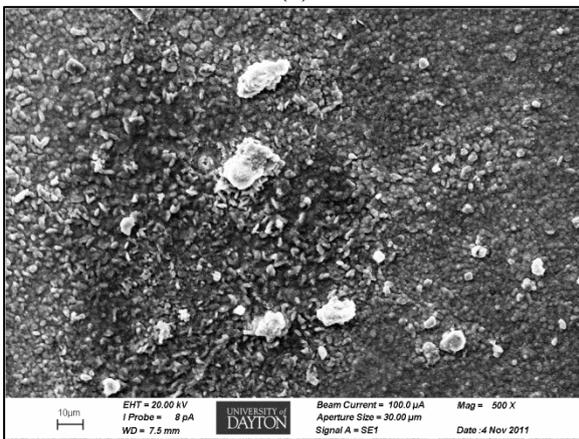
Figure F-33. SEM images of pure copper sample retrieved on 24 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



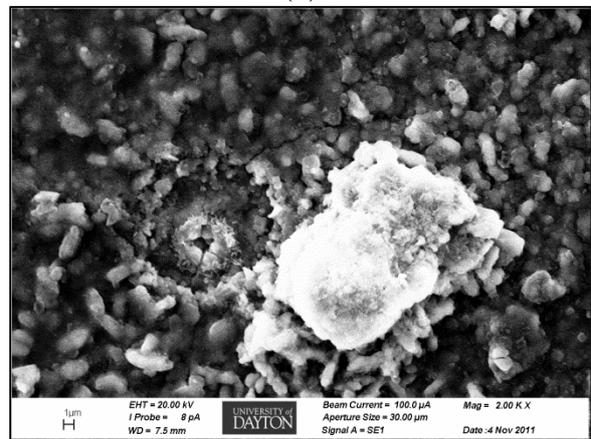
(a)



(b)

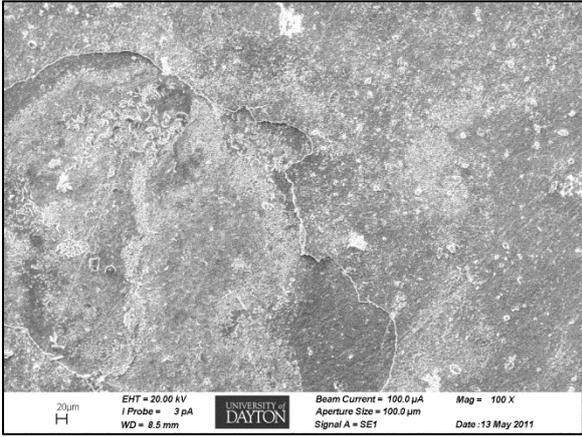


(c)

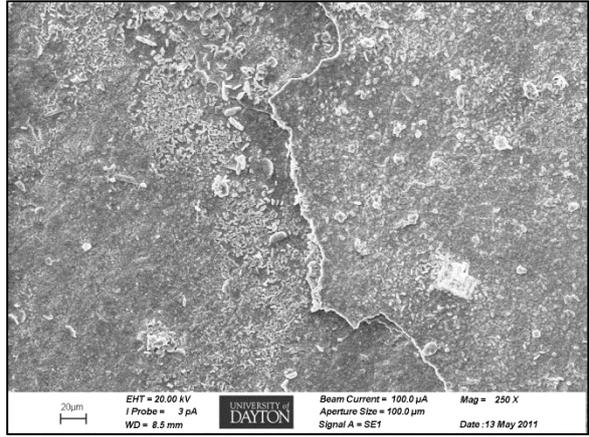


(d)

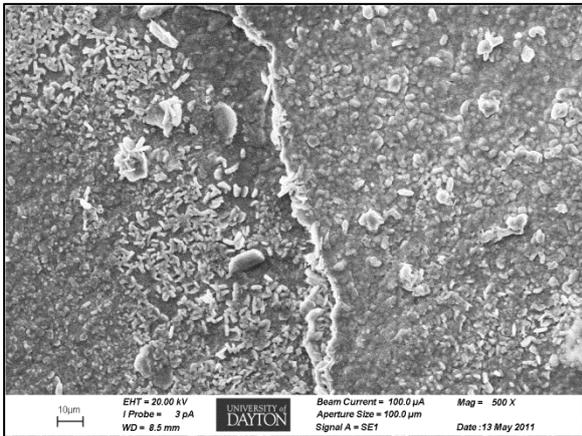
Figure F-34. SEM images of pure copper sample retrieved on 21 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



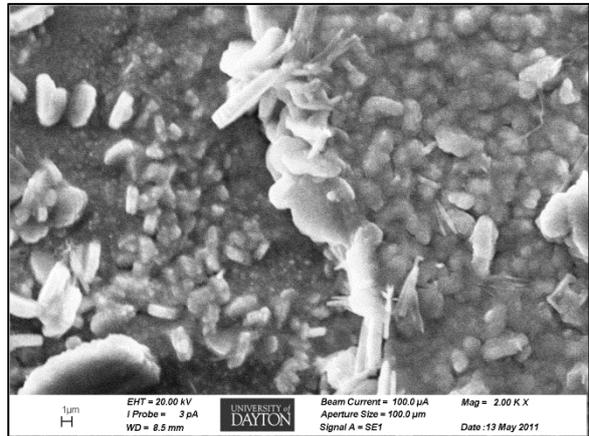
(a)



(b)

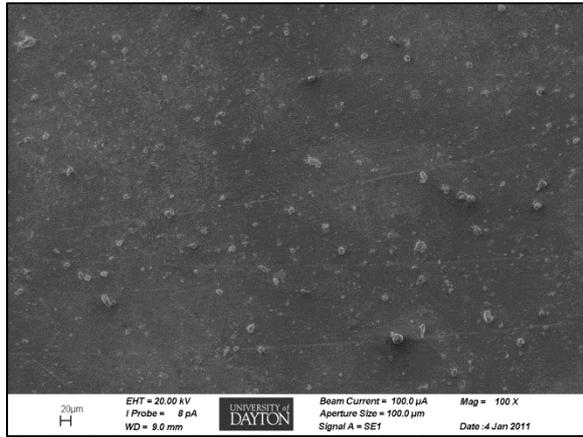


(c)

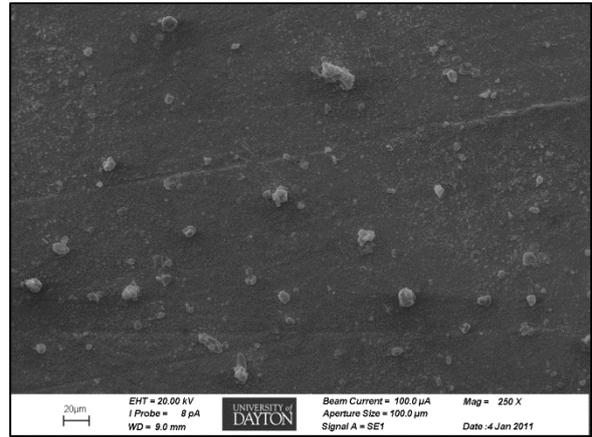


(d)

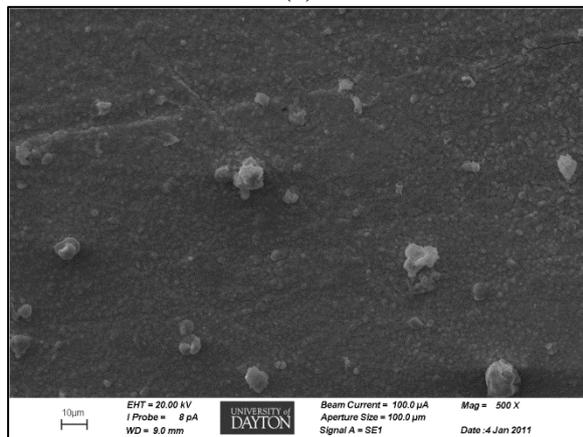
Figure F-35. SEM images of pure copper sample retrieved on 18 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



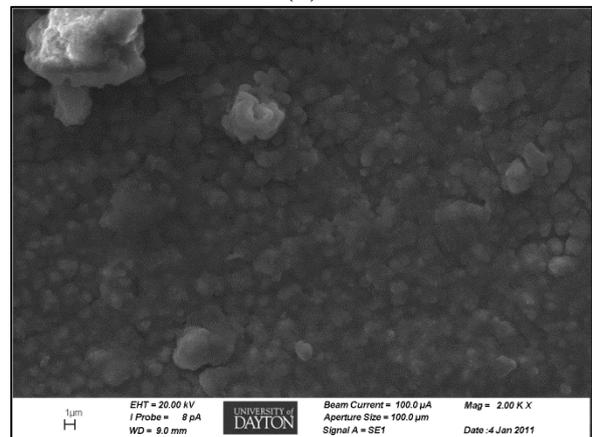
(a)



(b)

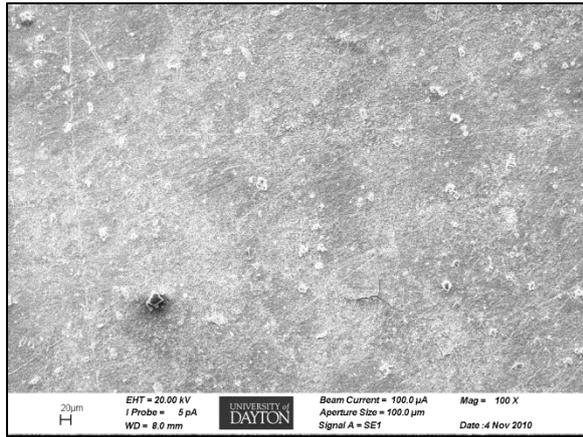


(c)

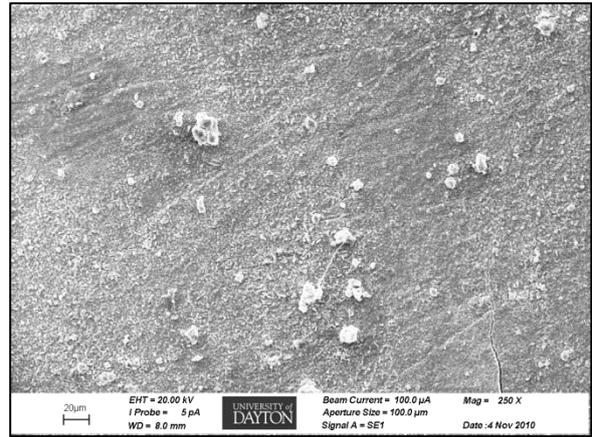


(d)

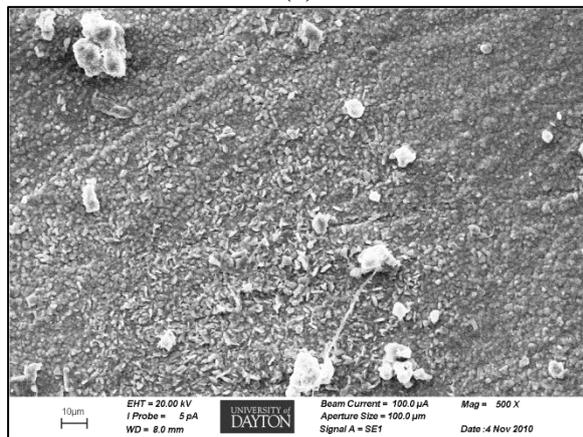
Figure F-36. SEM images of pure copper sample retrieved on 15 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



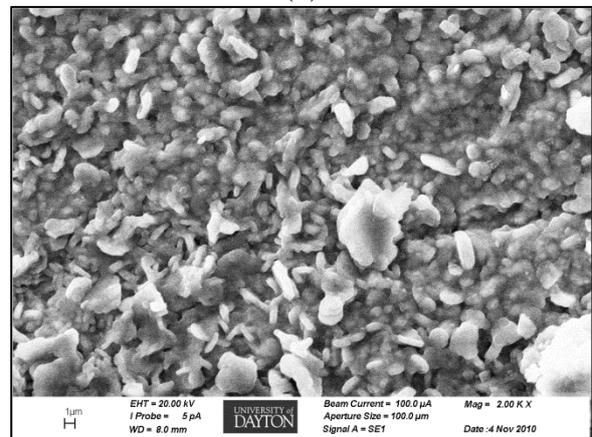
(a)



(b)

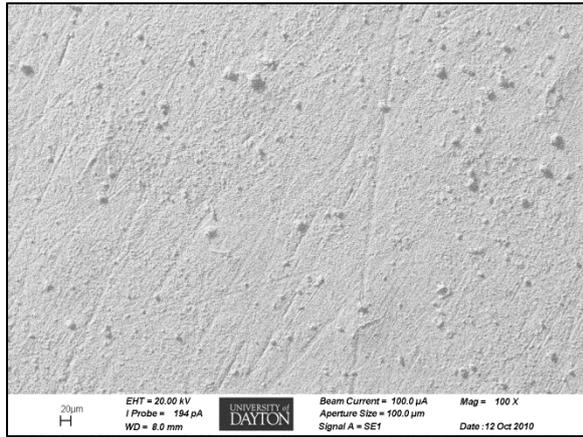


(c)

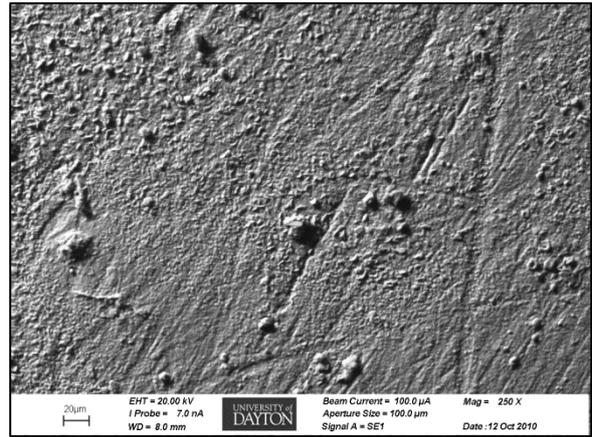


(d)

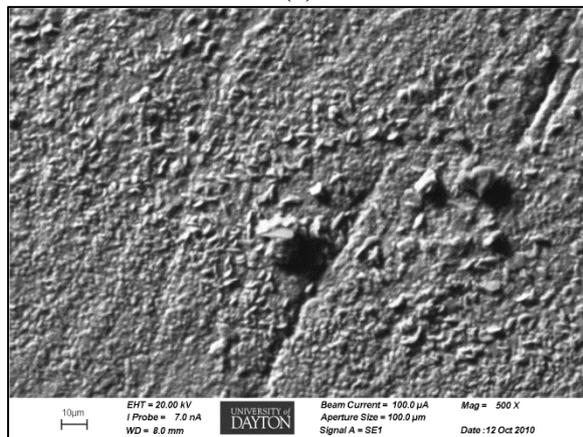
Figure F-37. SEM images of pure copper sample retrieved on 12 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



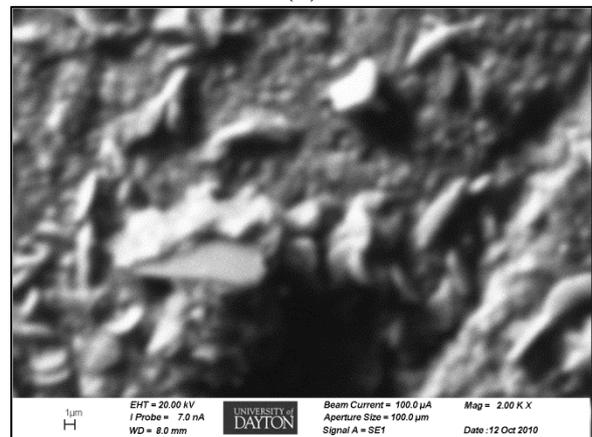
(a)



(b)

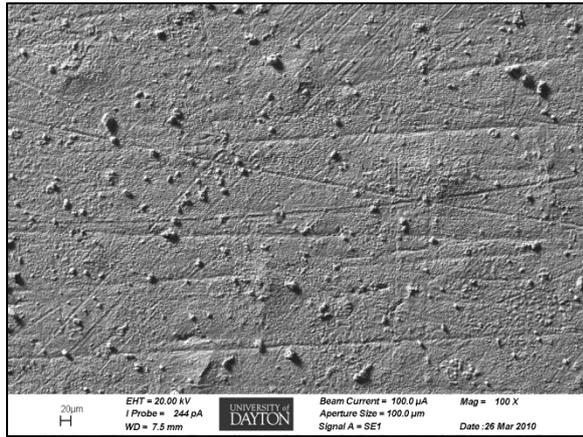


(c)

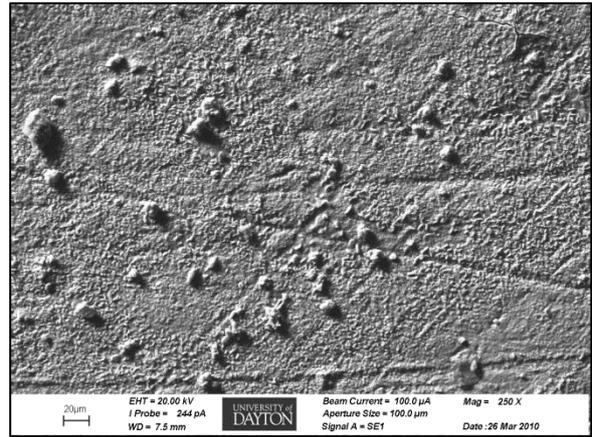


(d)

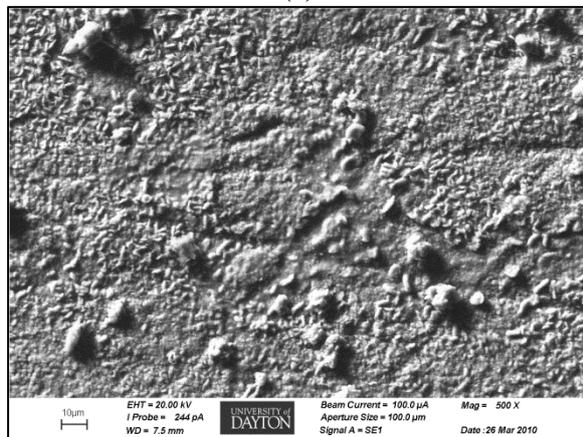
Figure F-38. SEM images of pure copper sample retrieved on 9 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)



(b)



(c)

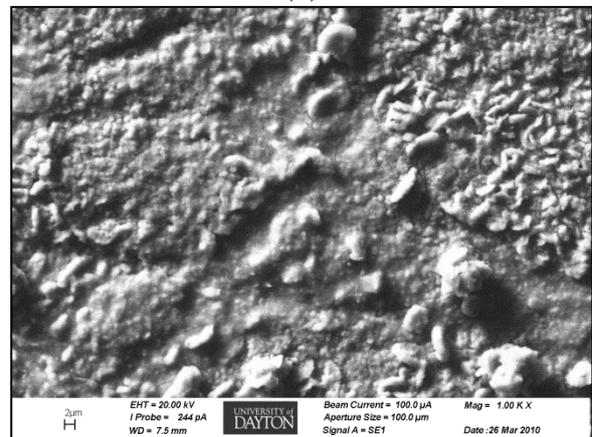
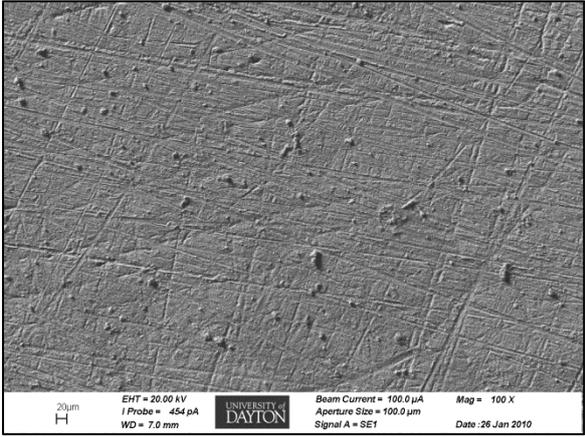
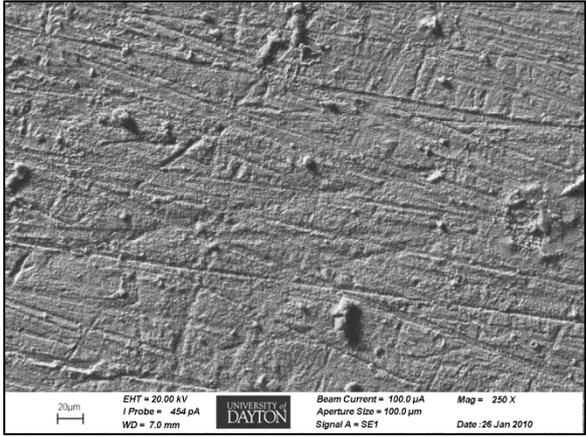


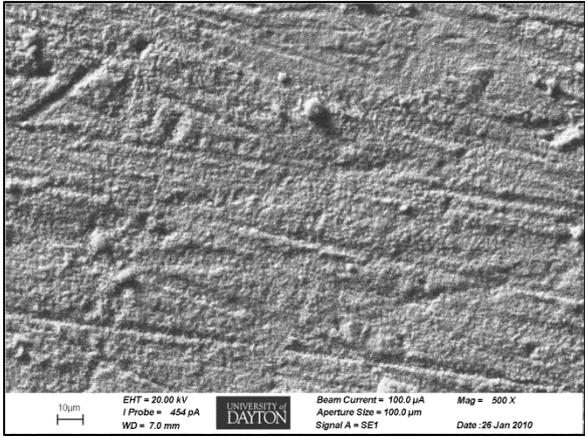
Figure F-39. SEM images of pure copper sample retrieved on 6 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



(a)



(b)



(c)

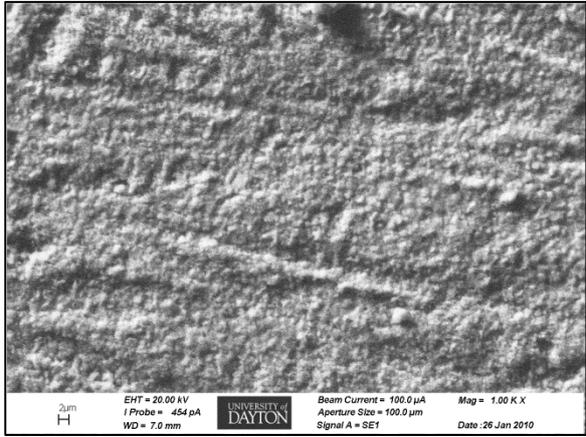
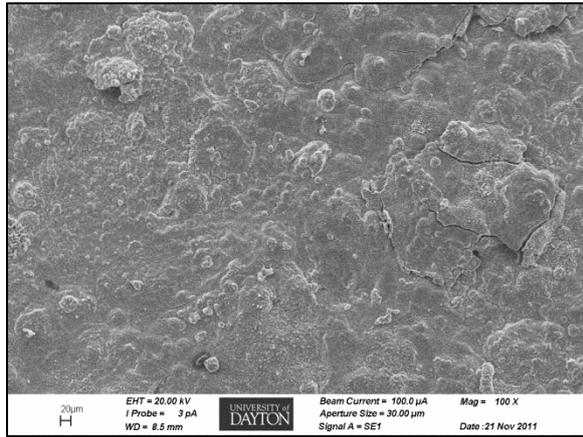
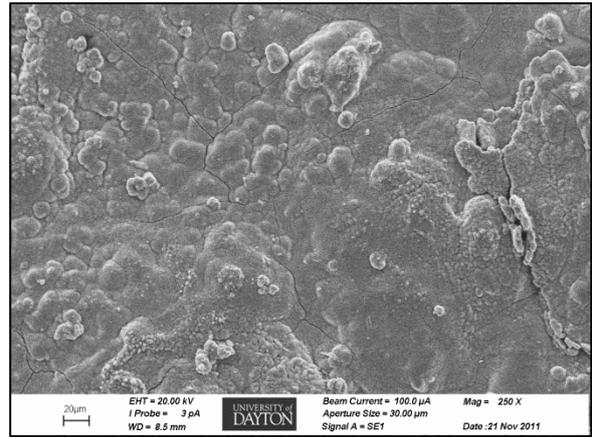


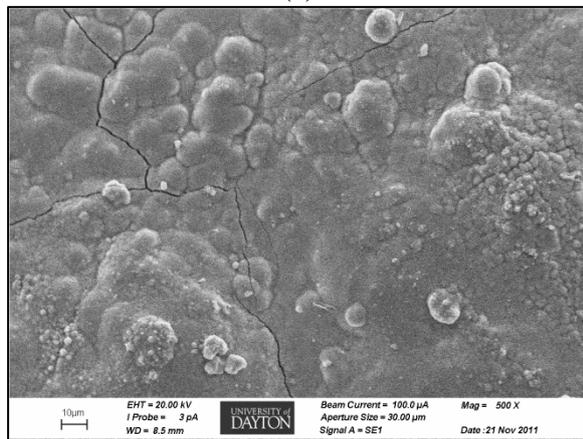
Figure F-40. SEM images of pure copper sample retrieved on 3 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



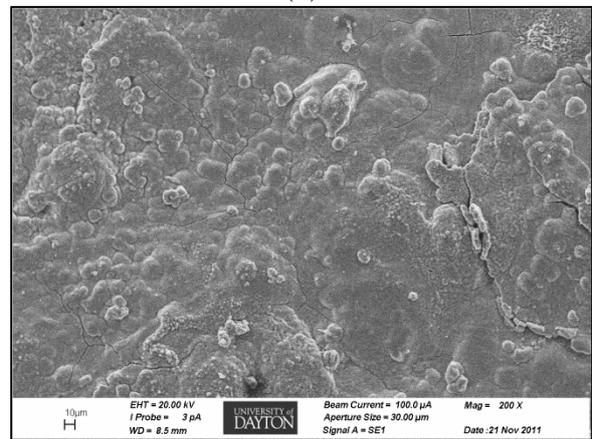
(a)



(b)

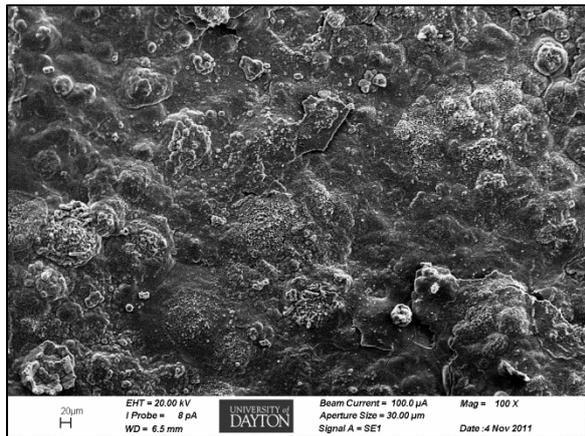


(c)

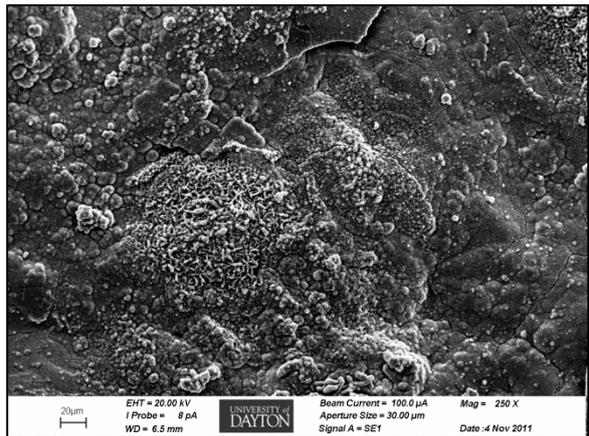


(d)

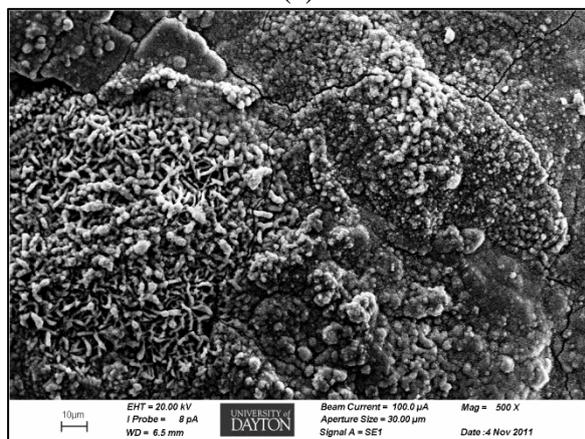
Figure F-41. SEM images of 1010 steel sample retrieved on 24 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



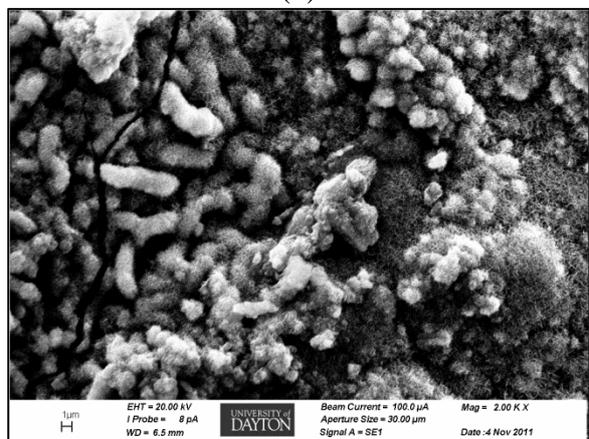
(a)



(b)

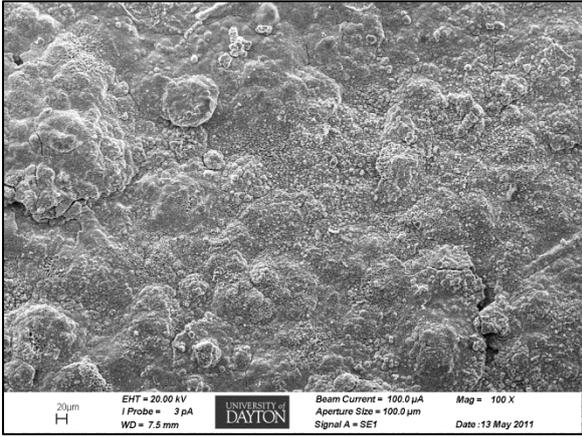


(c)

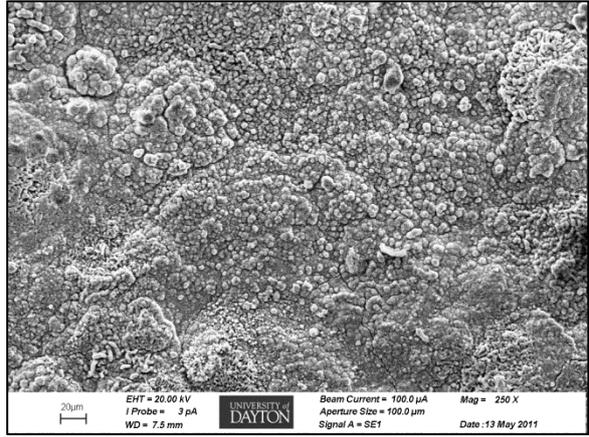


(d)

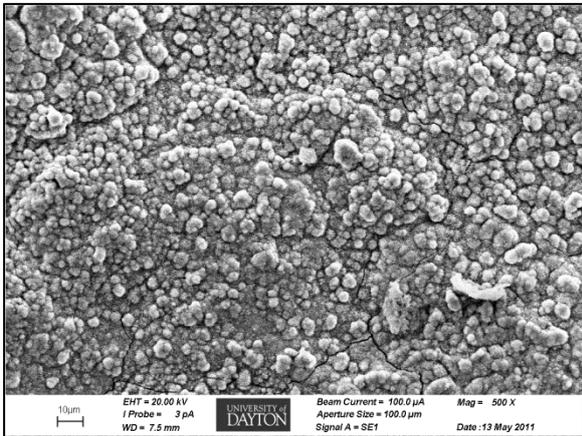
Figure F-42. SEM images of 1010 steel sample retrieved on 21 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



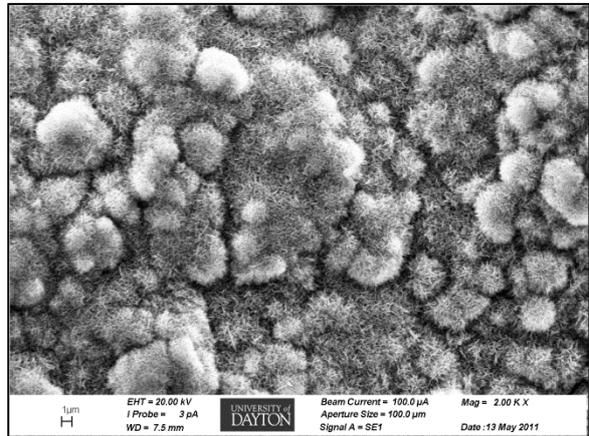
(a)



(b)

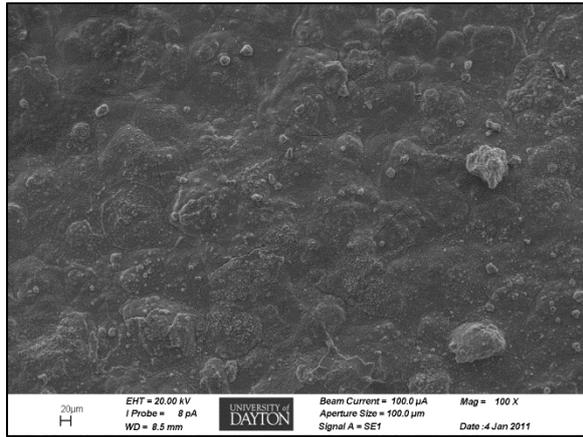


(c)

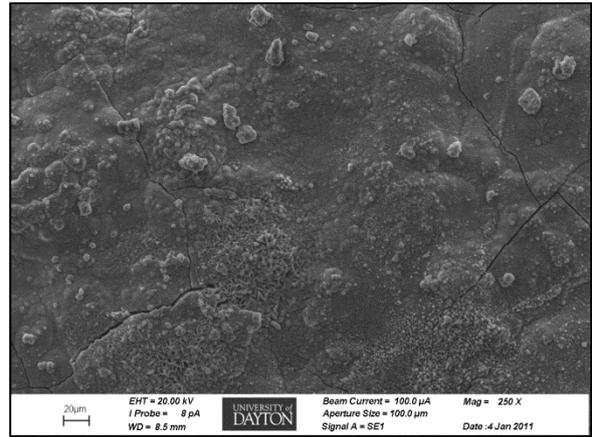


(d)

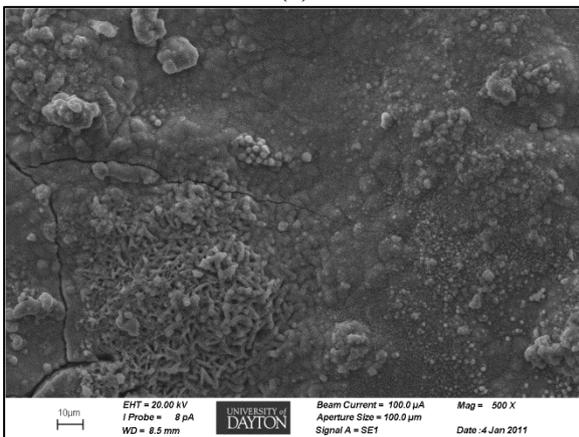
Figure F-43. SEM images of 1010 steel sample retrieved on 18 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



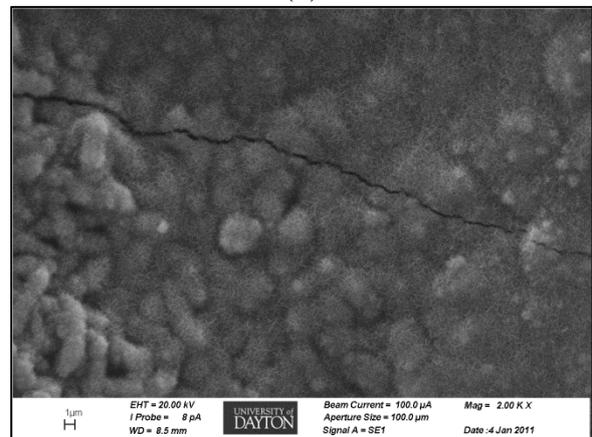
(a)



(b)

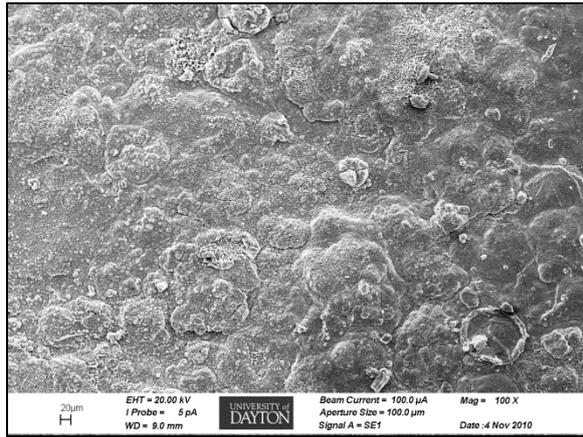


(c)

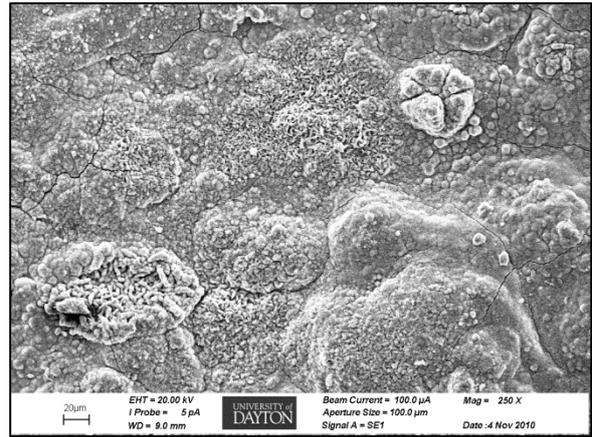


(d)

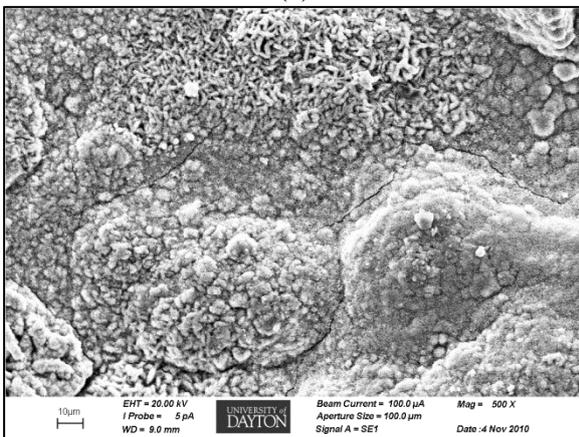
Figure F-44. SEM images of 1010 steel sample retrieved on 15 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



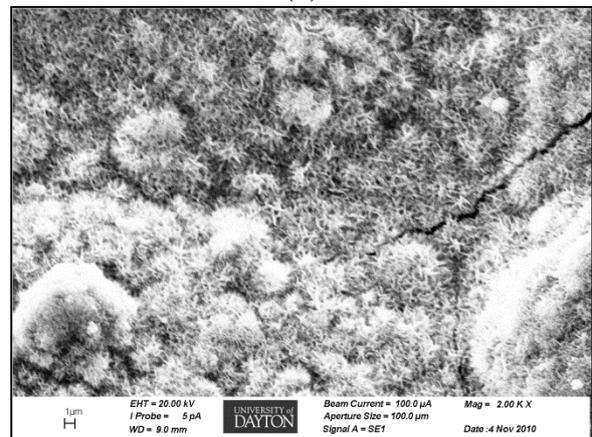
(a)



(b)

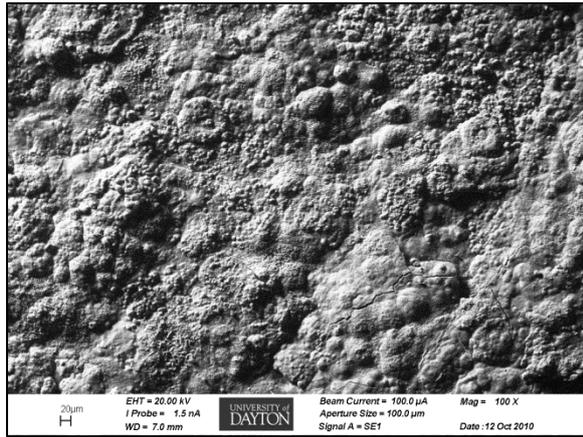


(c)

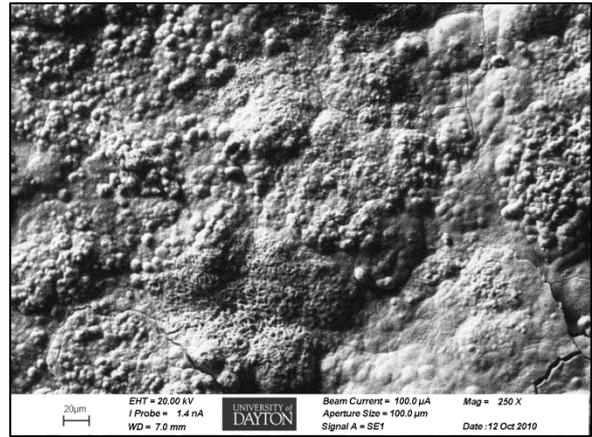


(d)

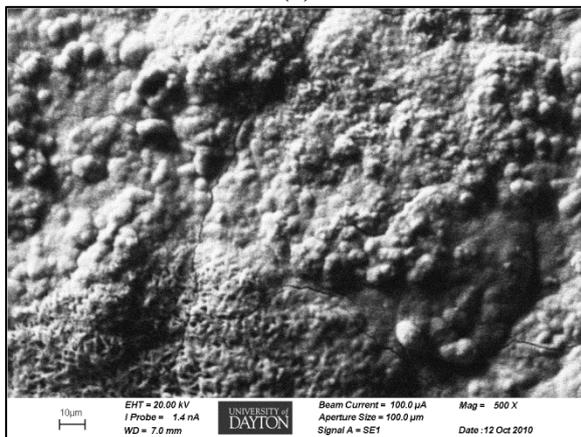
Figure F-45. SEM images of 1010 steel sample retrieved on 12 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



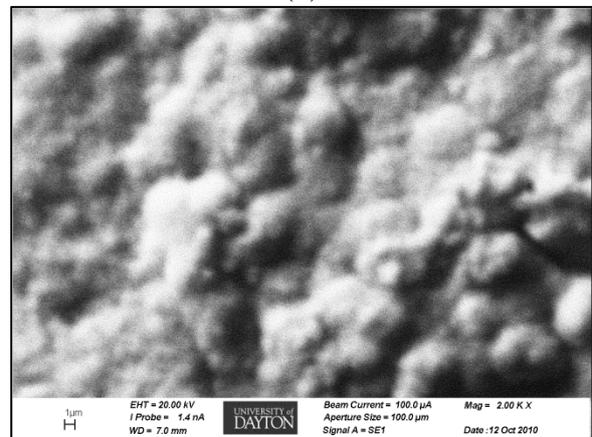
(a)



(b)

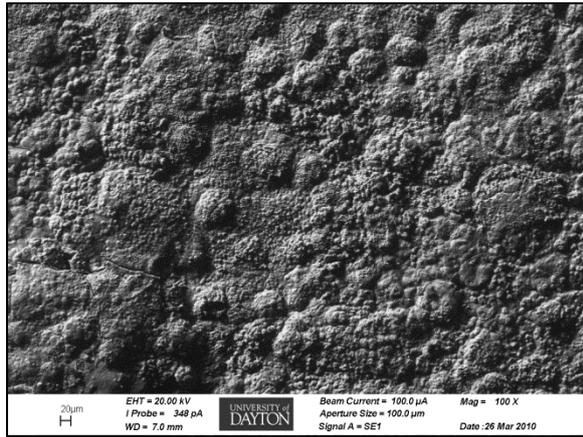


(c)

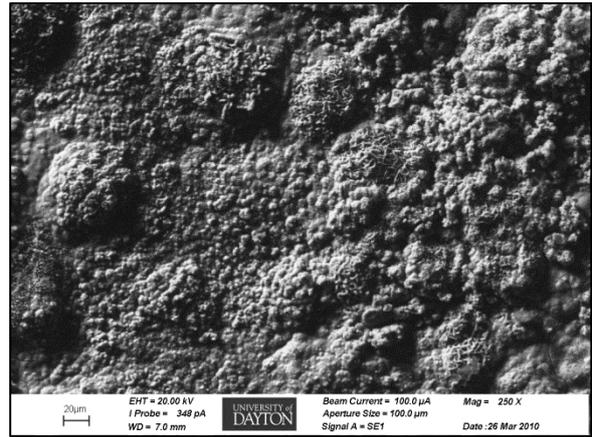


(d)

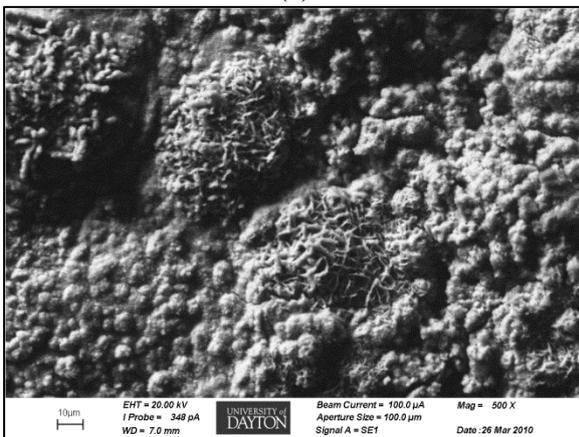
Figure F-46. SEM images of 1010 steel sample retrieved on 9 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



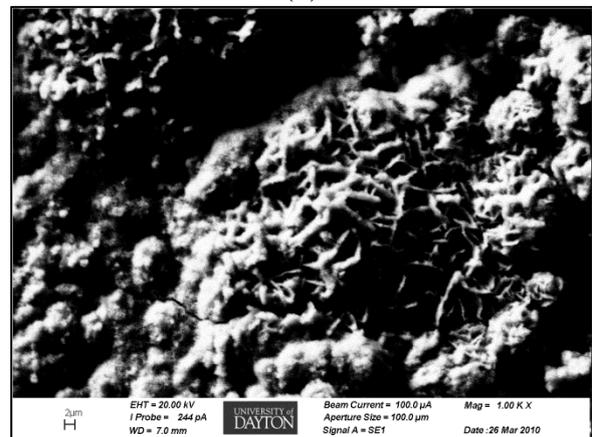
(a)



(b)

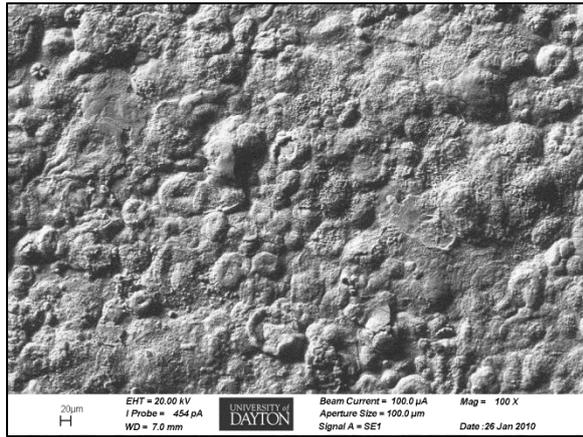


(c)

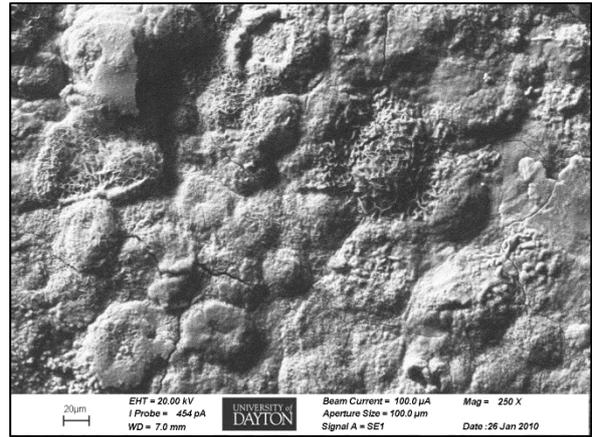


(d)

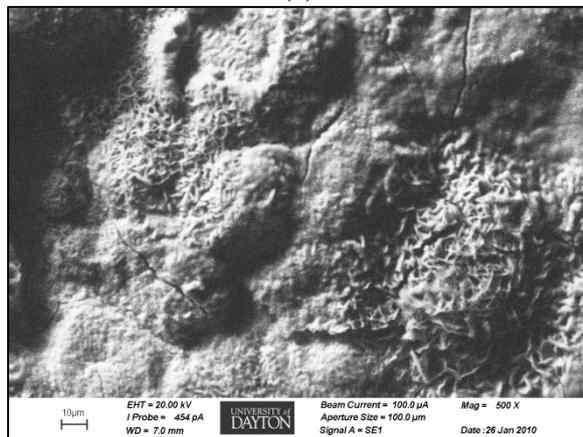
Figure F-47. SEM images of 1010 steel sample retrieved on 6 months exposure from Hickam AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



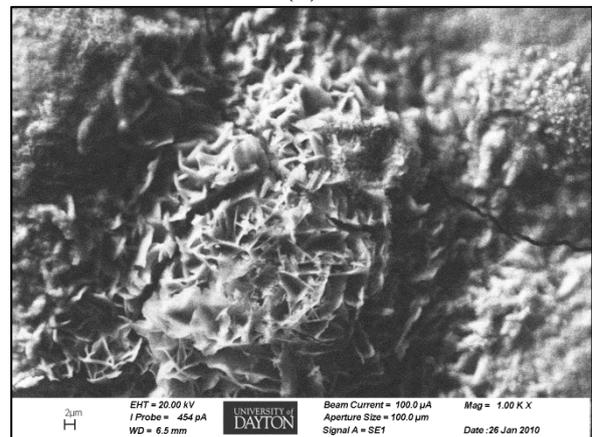
(a)



(b)



(c)



(d)

Figure F-48. SEM images of 1010 steel sample retrieved on 3 months exposure from Hickam AFB site. (a) 100X magnification, (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.

Appendix G
Scanning Electron Microscopy Images
(Tyndall AFB, FL)

FIGURES

	Page
Figure G-1. SEM images of pure silver sample retrieved on 24 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	6
Figure G-2. SEM images of pure silver sample retrieved on 21 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	7
Figure G-3. SEM images of pure silver sample retrieved on 18 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	8
Figure G-4. SEM images of pure silver sample retrieved on 15 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	9
Figure G-5. SEM images of pure silver sample retrieved on 12 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	10
Figure G-6. SEM images of pure silver sample retrieved on 9 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.	11
Figure G-7. SEM images of pure silver sample retrieved on 6 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.	12
Figure G-8. SEM images of pure silver sample retrieved on 3 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 1000X magnification.	13
Figure G-9. SEM images of aluminum alloy 7075 sample retrieved on 24 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. ...	14
Figure G-10. SEM images of aluminum alloy 7075 sample retrieved on 21 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. ...	15
Figure G-11. SEM images of aluminum alloy 7075 sample retrieved on 18 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. ...	16
Figure G-12. SEM images of aluminum alloy 7075 sample retrieved on 15 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. ...	17
Figure G-13. SEM images of aluminum alloy 7075 sample retrieved on 12 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. ...	18
Figure G-14. SEM images of aluminum alloy 7075 sample retrieved on 9 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. ...	19

Figure G-15. SEM images of aluminum alloy 7075 sample retrieved on 6 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification ... 20

Figure G-16. SEM images of aluminum alloy 7075 sample retrieved on 3 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification... 21

Figure G-17. SEM images of aluminum alloy 6061 sample retrieved on 24 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 22

Figure G-18. SEM images of aluminum alloy 6061 sample retrieved on 21 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification ... 23

Figure G-19. SEM images of aluminum alloy 6061 sample retrieved on 18 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification ... 24

Figure G-20. SEM images of aluminum alloy 6061 sample retrieved on 15 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification ... 25

Figure G-21. SEM images of aluminum alloy 6061 sample retrieved on 12 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 26

Figure G-22. SEM images of aluminum alloy 6061 sample retrieved on 9 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 27

Figure G-23. SEM images of aluminum alloy 6061 sample retrieved on 6 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 28

Figure G-24. SEM images of aluminum alloy 6061 sample retrieved on 3 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification... 29

Figure G-25. SEM images of aluminum alloy 2024 sample retrieved on 24 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 30

Figure G-26. SEM images of aluminum alloy 2024 sample retrieved on 21 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 31

Figure G-27. SEM images of aluminum alloy 2024 sample retrieved on 18 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 32

Figure G-28. SEM images of aluminum alloy 2024 sample retrieved on 15 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 33

Figure G-29. SEM images of aluminum alloy 2024 sample retrieved on 12 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 34

Figure G-30. SEM images of aluminum alloy 2024 sample retrieved on 9 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 35

Figure G-31. SEM images of aluminum alloy 2024 sample retrieved on 6 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification , and (d) 1000X magnification.. 36

Figure G-32. SEM images of aluminum alloy 2024 sample retrieved on 3 months exposure from Tyndall AFB site. (a) 100X magnification, (b) 250X magnification, (c) 500X magnification, and (d) 3000X magnification.. 37

Figure G-33. SEM images of pure copper sample retrieved on 24 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 38

Figure G-34. SEM images of pure copper sample retrieved on 21 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 39

Figure G-35. SEM images of pure copper sample retrieved on 18 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 40

Figure G-36. SEM images of pure copper sample retrieved on 15 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 41

Figure G-37. SEM images of pure copper sample retrieved on 12 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 42

Figure G-38. SEM images of pure copper sample retrieved on 9 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 43

Figure G-39. SEM images of pure copper sample retrieved on 6 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification., and (d) 1000X magnification. 44

Figure G-40. SEM images of pure copper sample retrieved on 3 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 45

Figure G-41. SEM images of 1010 steel sample retrieved on 24 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 46

Figure G-42. SEM images of 1010 steel sample retrieved on 21 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 47

Figure G-43. SEM images of 1010 steel sample retrieved on 18 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 48

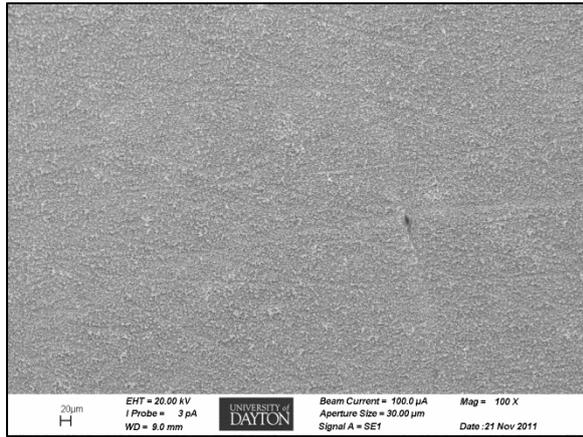
Figure G-44. SEM images of 1010 steel sample retrieved on 15 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 49

Figure G-45. SEM images of 1010 steel sample retrieved on 12 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 50

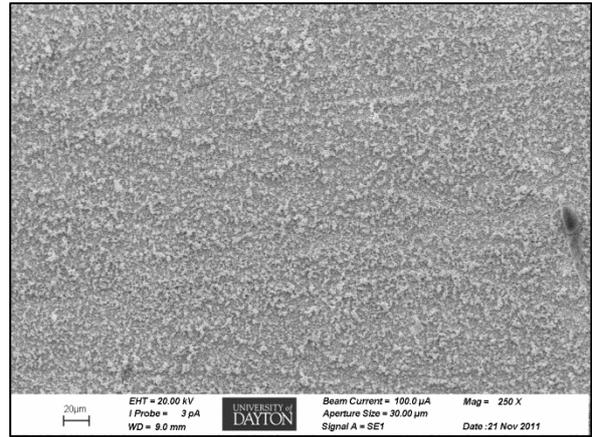
Figure G-46. SEM images of 1010 steel sample retrieved on 9 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 51

Figure G-47. SEM images of 1010 steel sample retrieved on 6 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 52

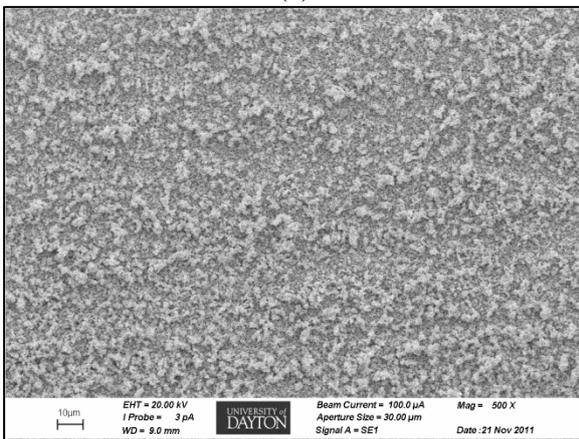
Figure G-48. SEM images of 1010 steel sample retrieved on 3 months exposure from Tyndall AFB site. (a) 100X magnification, (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 53



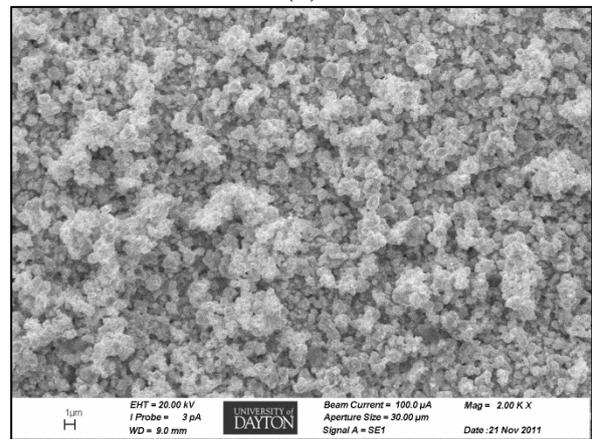
(a)



(b)

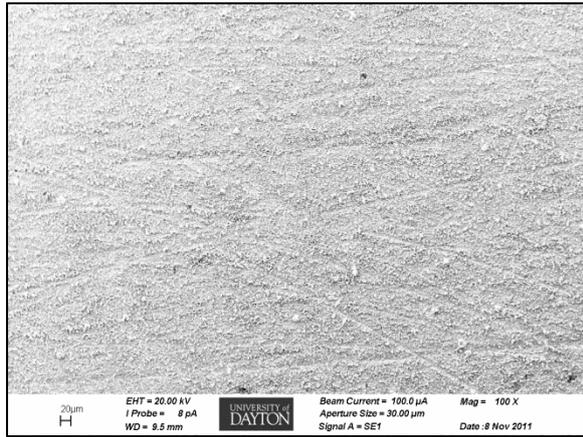


(c)

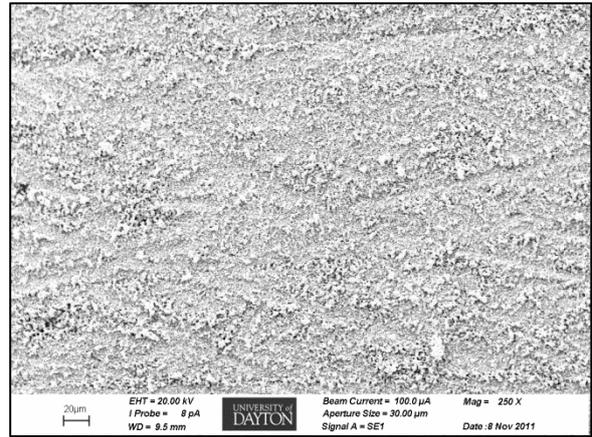


(d)

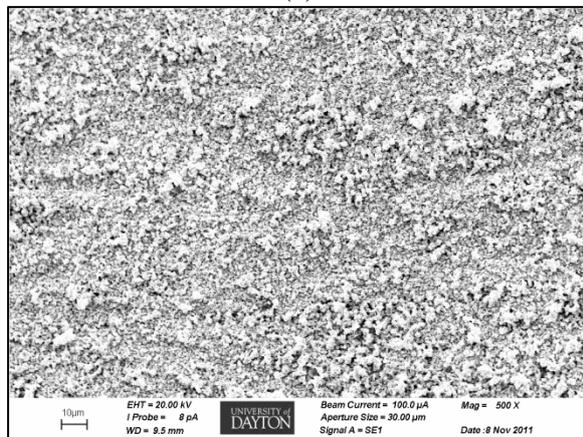
Figure G-1. SEM images of pure silver sample retrieved on 24 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



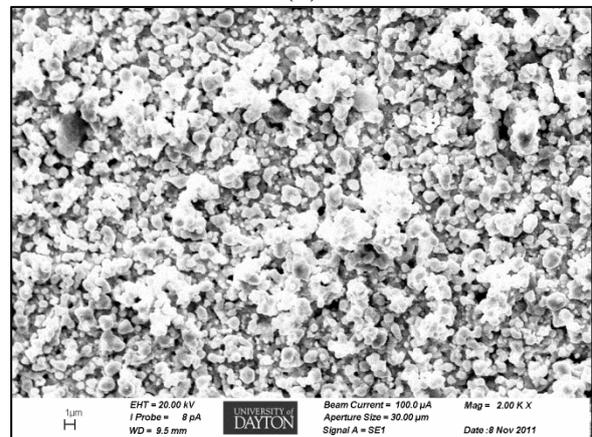
(a)



(b)

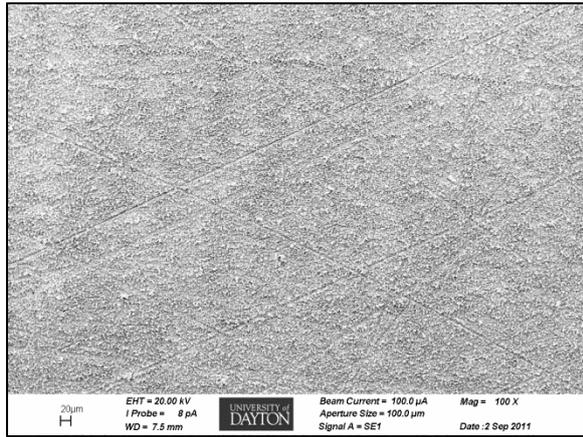


(c)

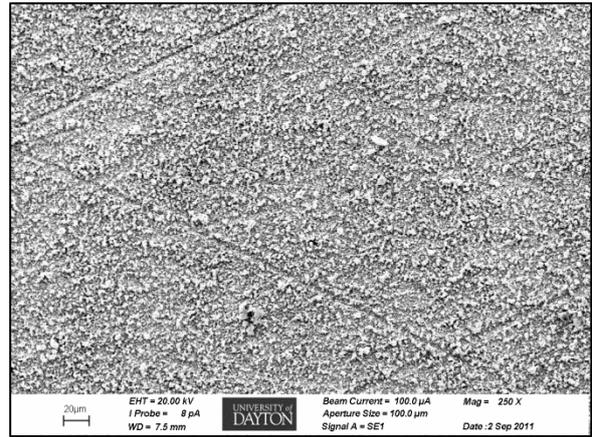


(d)

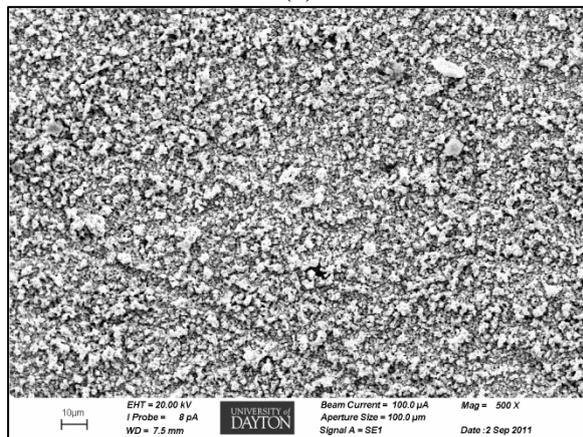
Figure G-2. SEM images of pure silver sample retrieved on 21 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



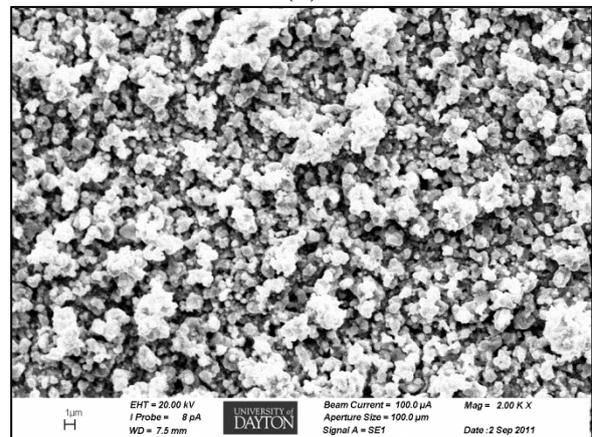
(a)



(b)

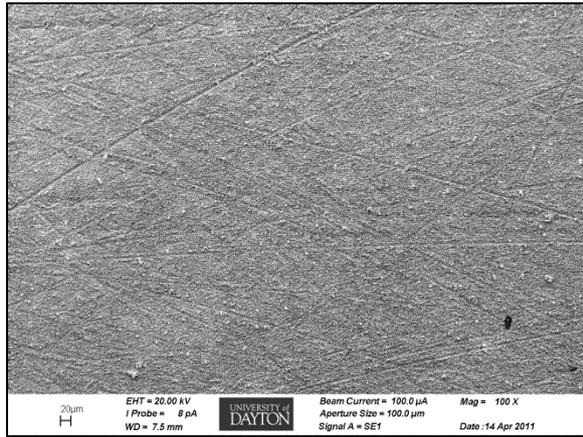


(c)

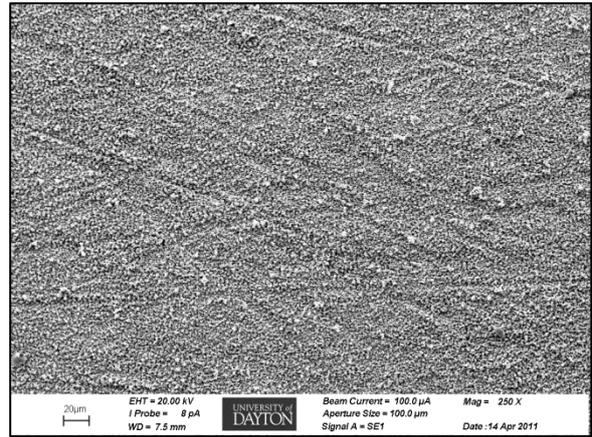


(d)

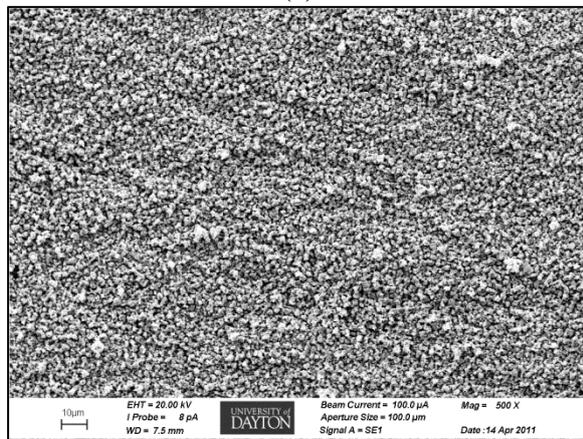
Figure G-3. SEM images of pure silver sample retrieved on 18 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



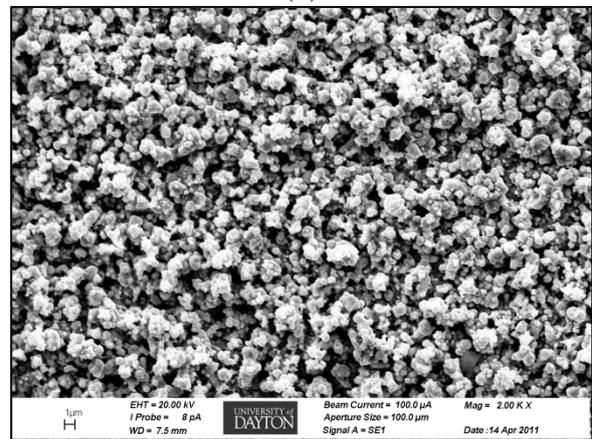
(a)



(b)

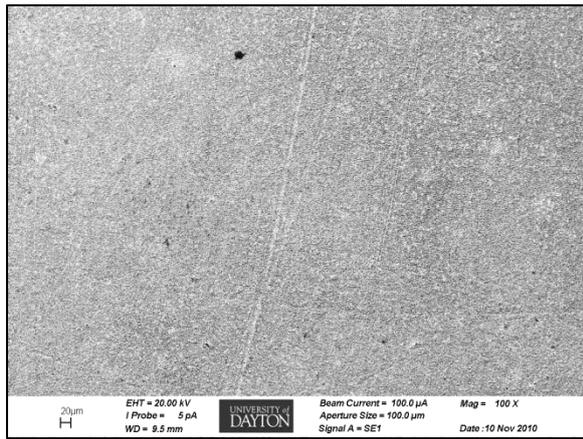


(c)

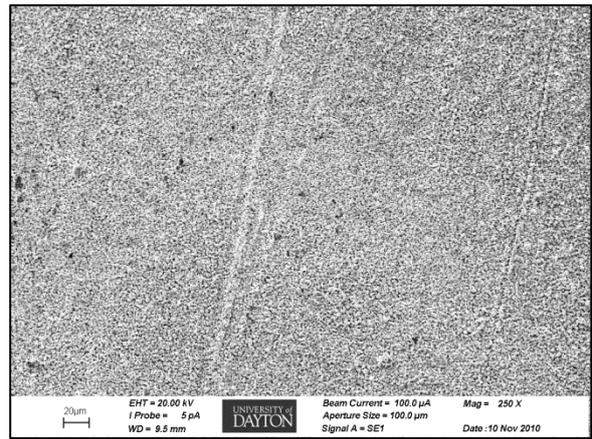


(d)

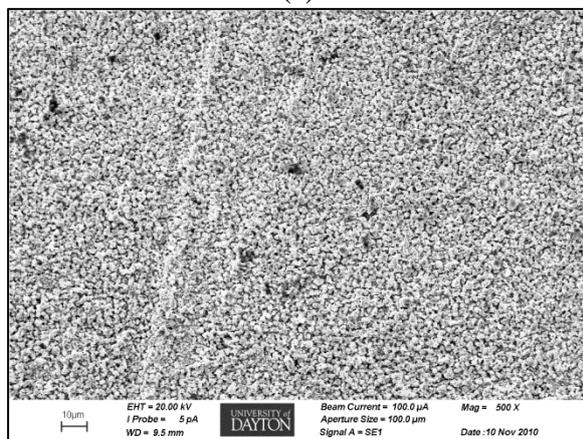
Figure G-4. SEM images of pure silver sample retrieved on 15 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



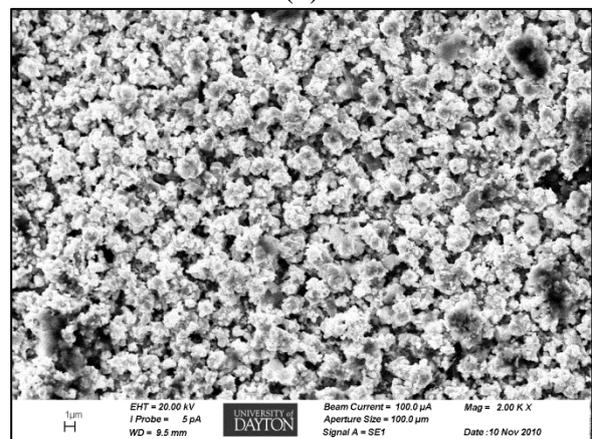
(a)



(b)

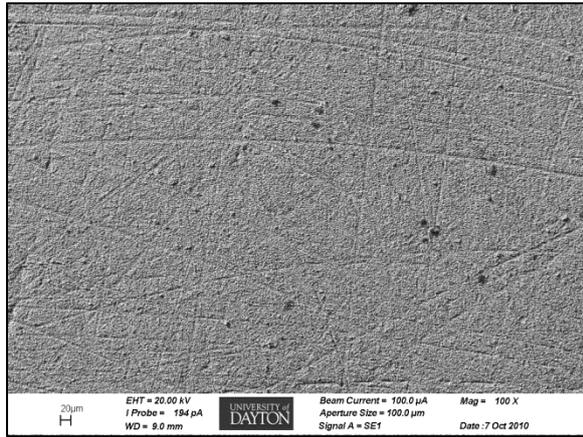


(c)

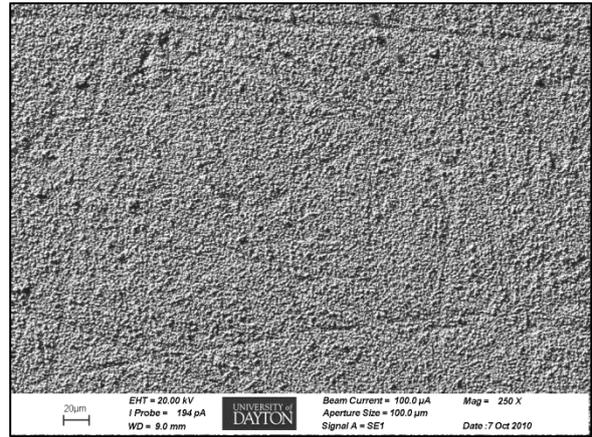


(d)

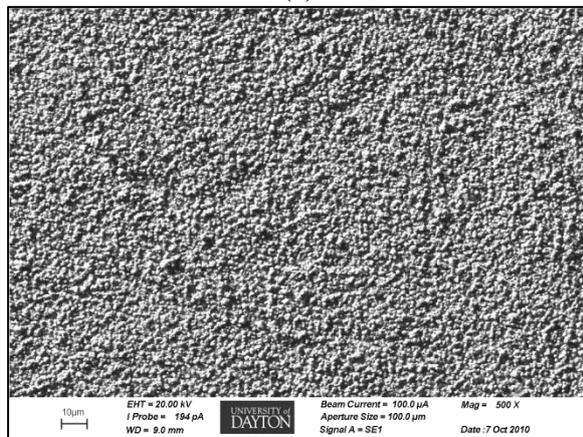
Figure G-5. SEM images of pure silver sample retrieved on 12 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



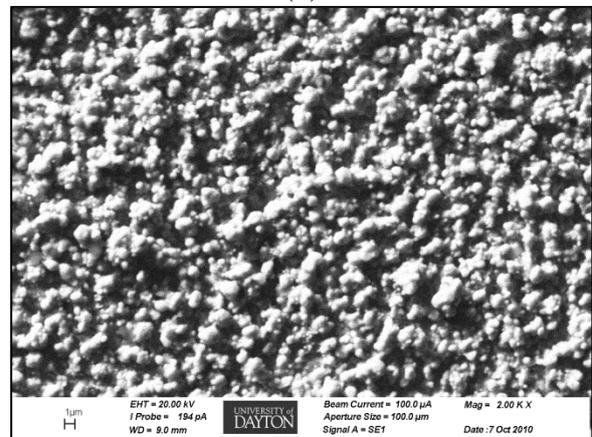
(a)



(b)

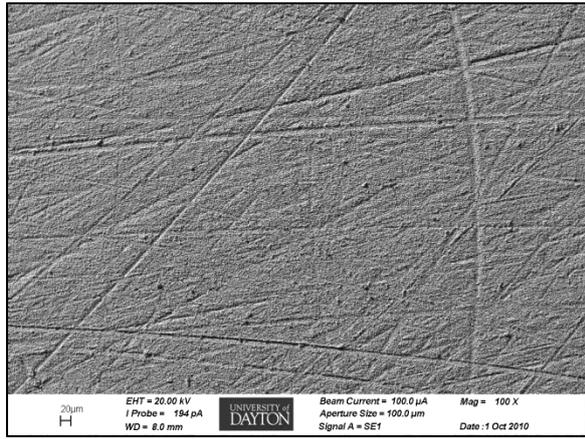


(c)

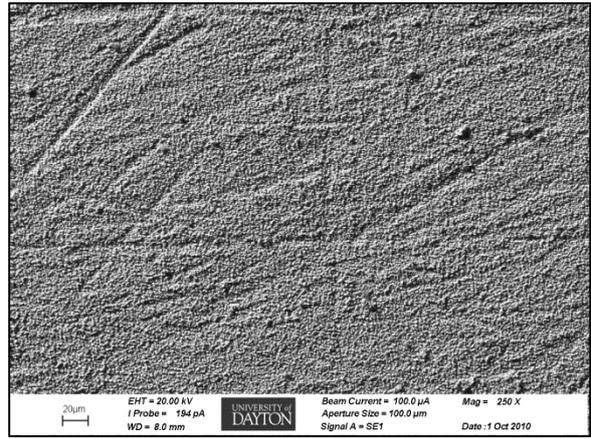


(d)

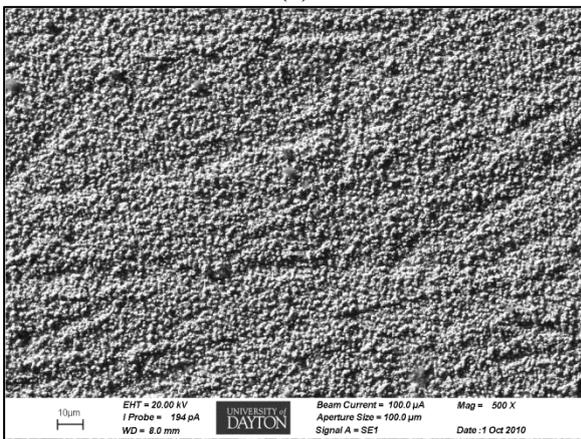
Figure G-6. SEM images of pure silver sample retrieved on 9 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



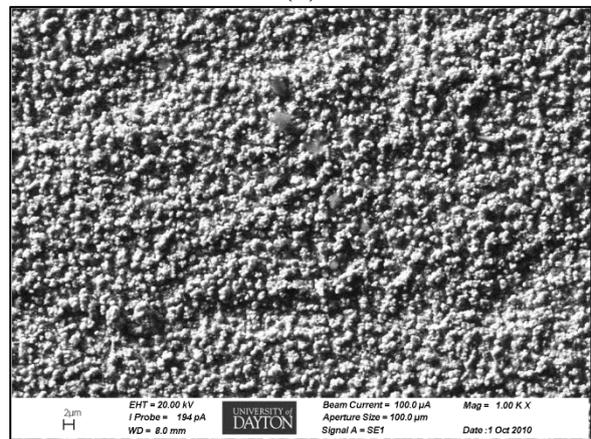
(a)



(b)

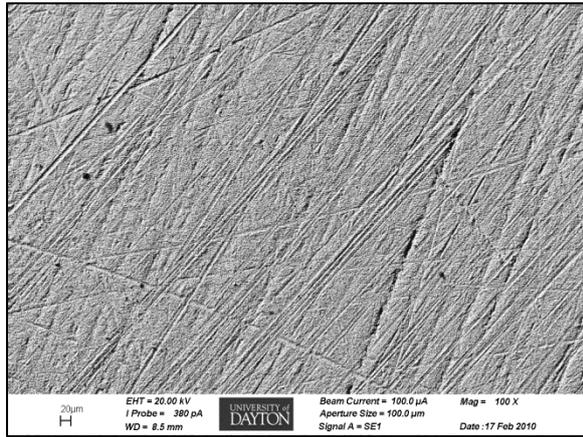


(c)

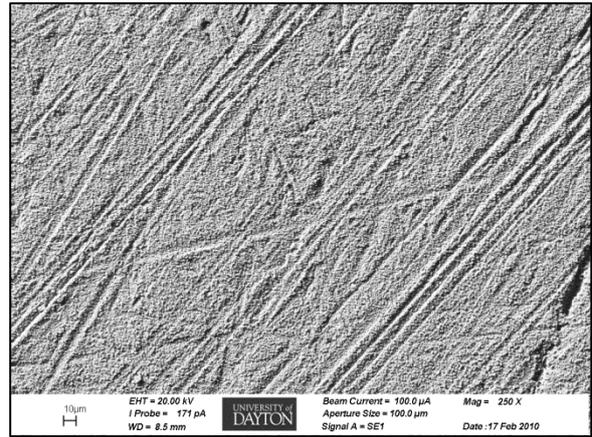


(d)

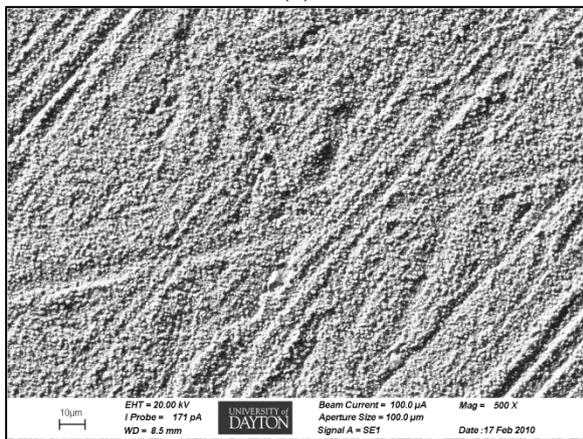
Figure G-7. SEM images of pure silver sample retrieved on 6 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



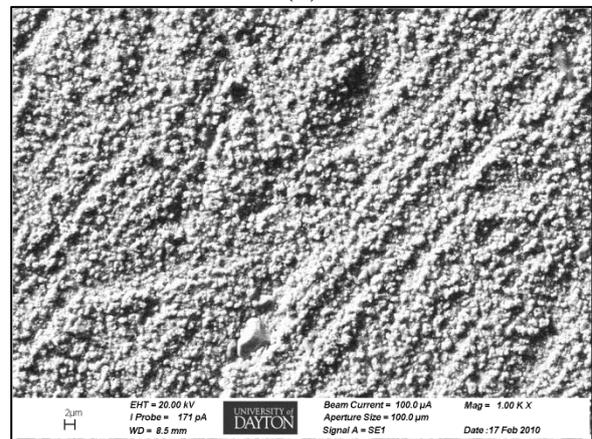
(a)



(b)

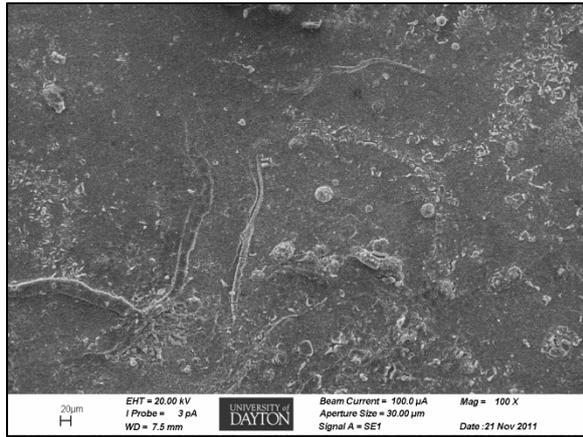


(c)



(d)

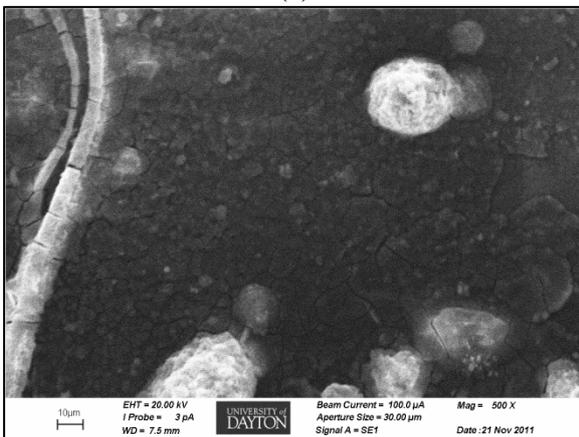
Figure G-8. SEM images of pure silver sample retrieved on 3 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 1000X magnification.



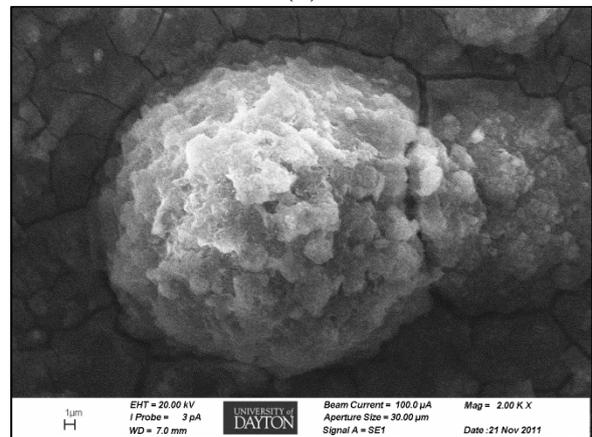
(a)



(b)

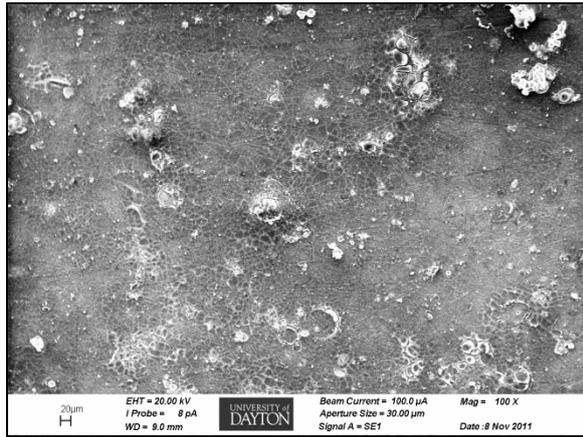


(c)

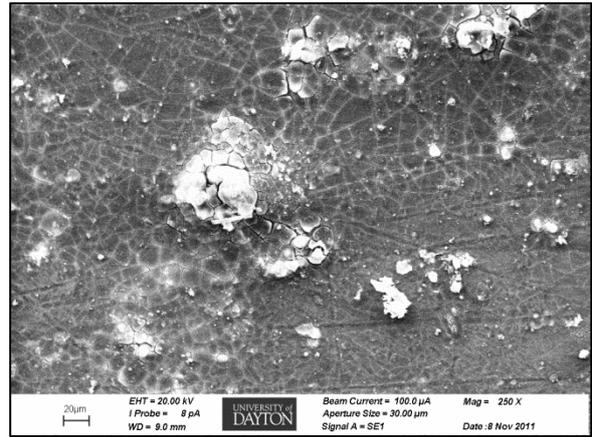


(d)

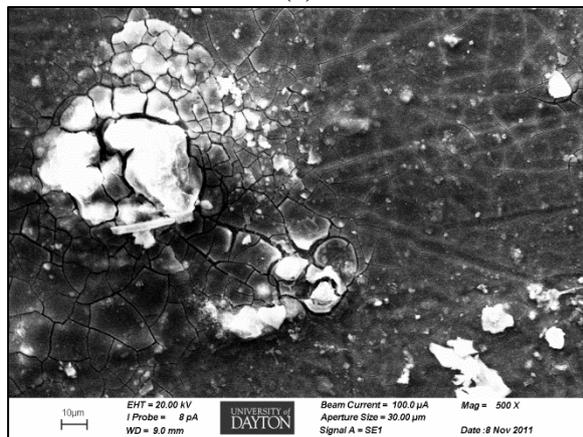
Figure G-9. SEM images of aluminum alloy 7075 sample retrieved on 24 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



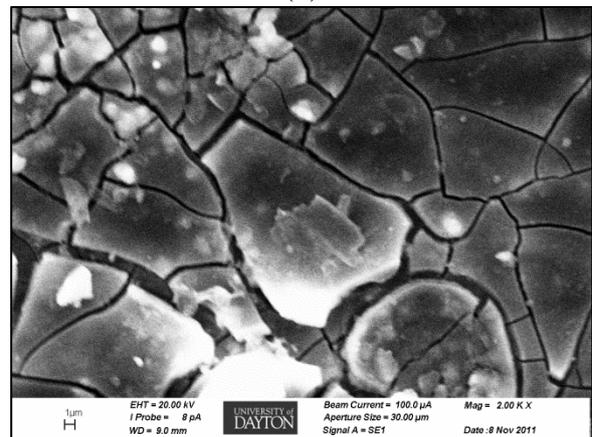
(a)



(b)

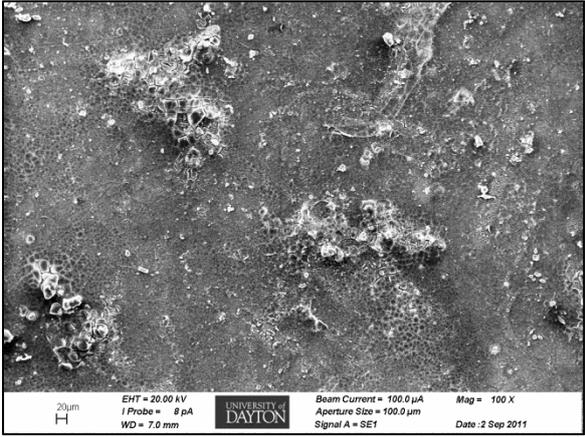


(c)

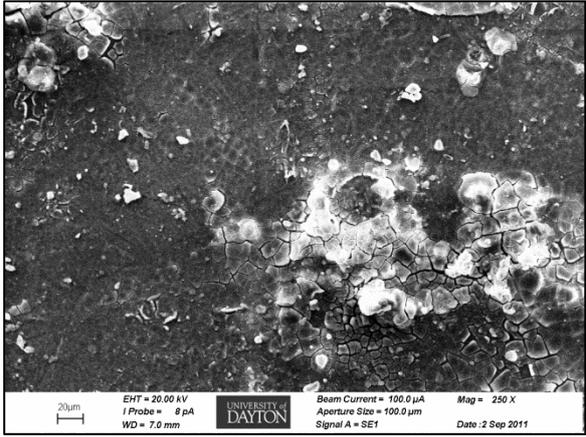


(d)

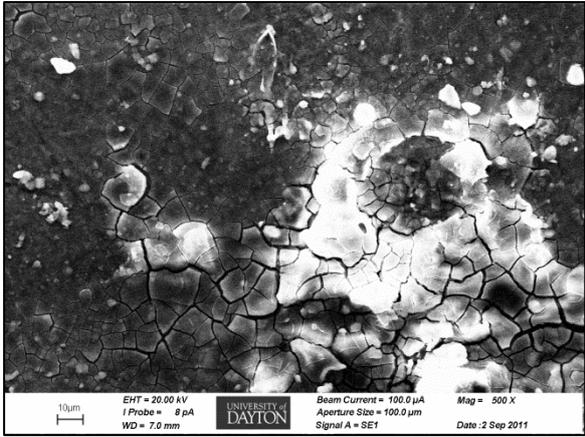
Figure G-10. SEM images of aluminum alloy 7075 sample retrieved on 21 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



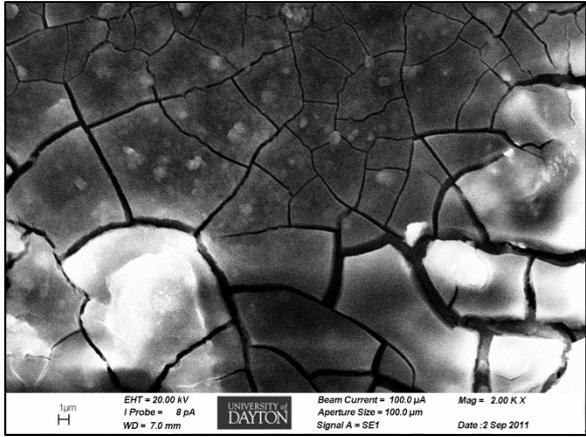
(a)



(b)

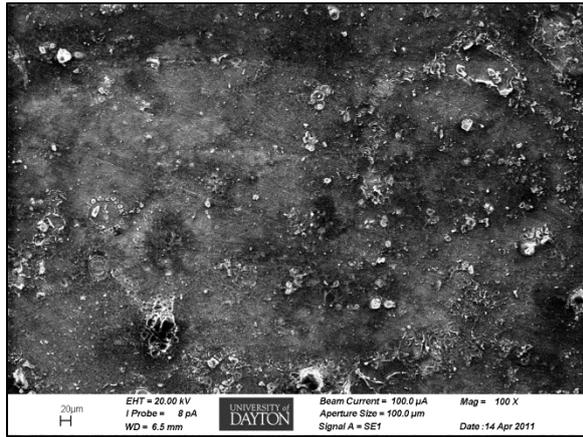


(c)

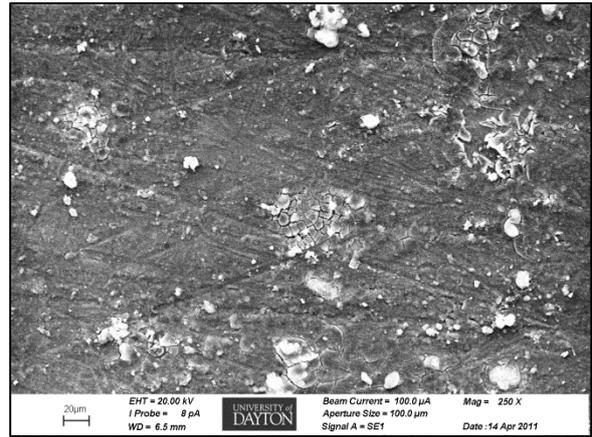


(d)

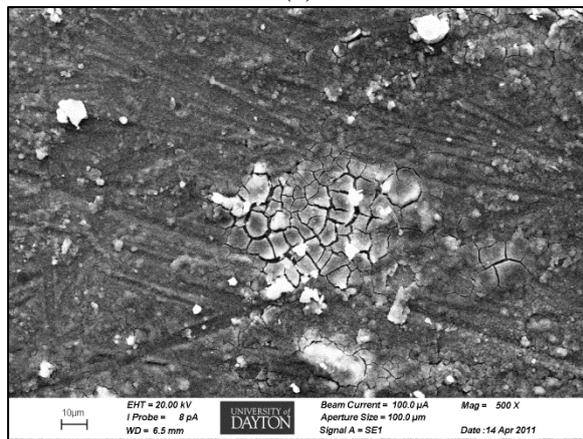
Figure G-11. SEM images of aluminum alloy 7075 sample retrieved on 18 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



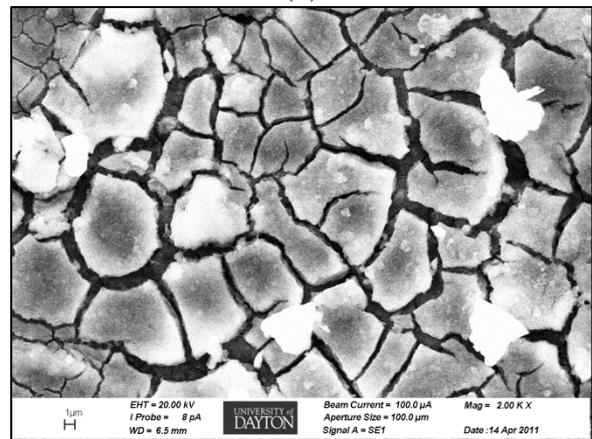
(a)



(b)

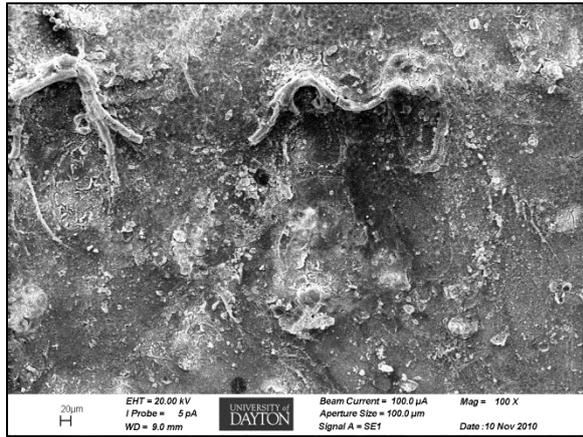


(c)

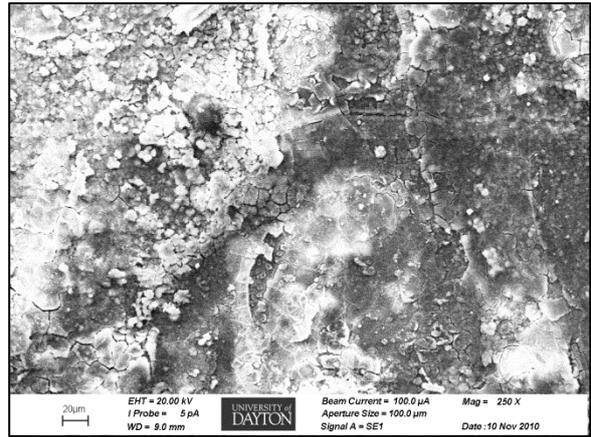


(d)

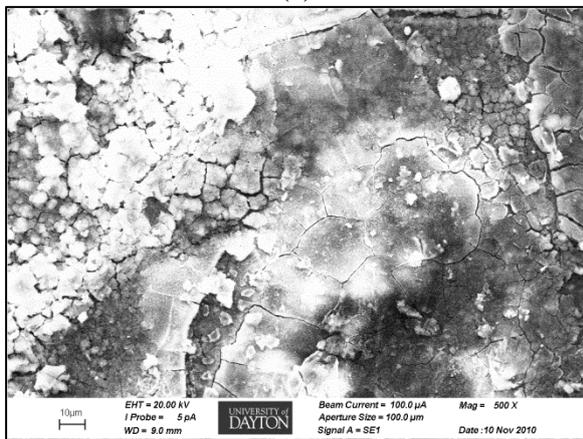
Figure G-12. SEM images of aluminum alloy 7075 sample retrieved on 15 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



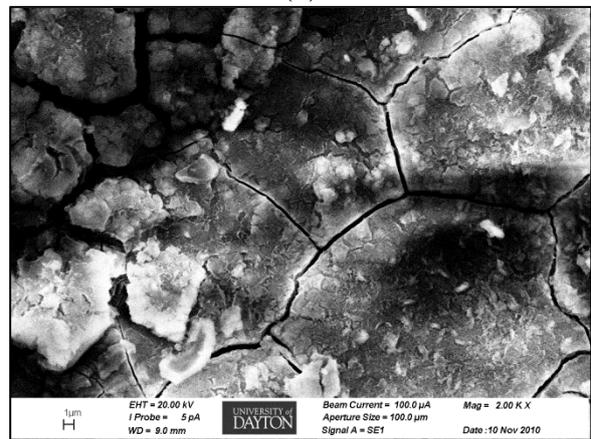
(a)



(b)

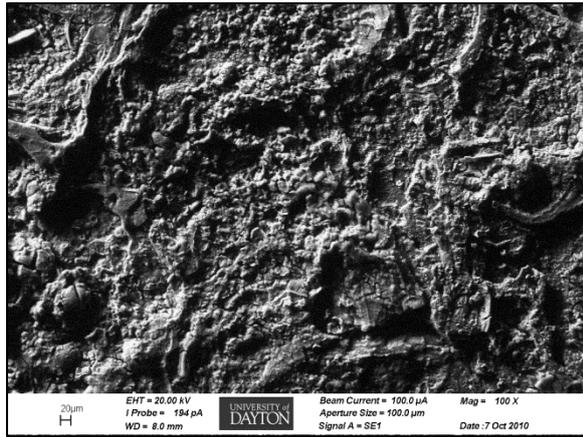


(c)

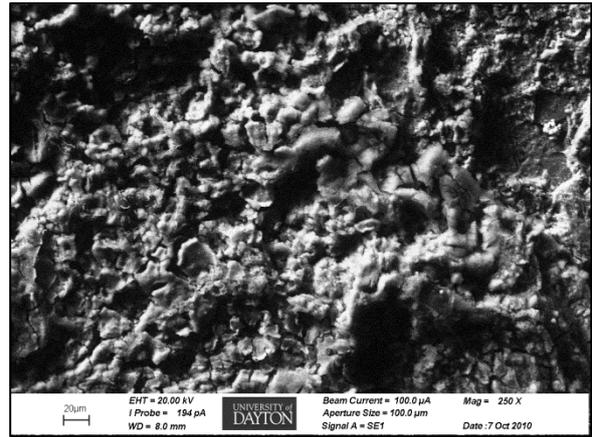


(d)

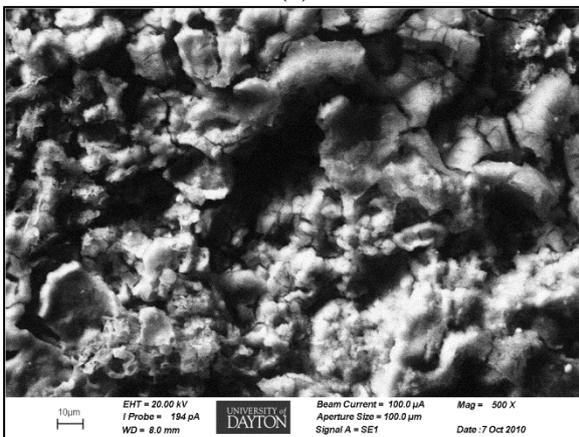
Figure G-13. SEM images of aluminum alloy 7075 sample retrieved on 12 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



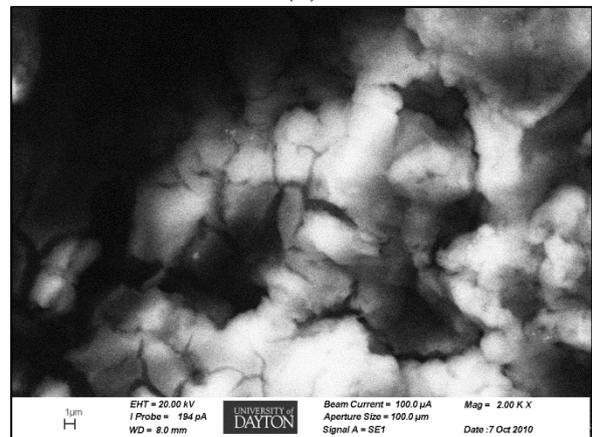
(a)



(b)

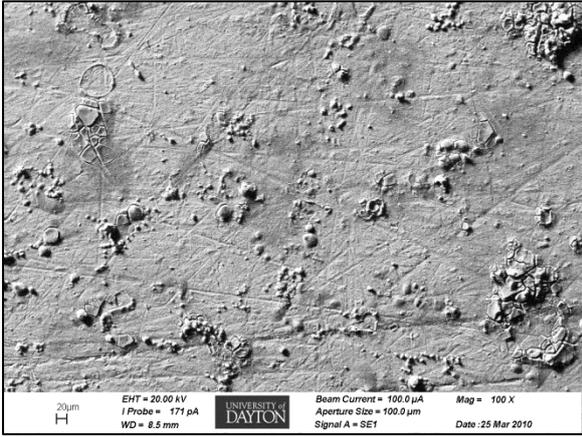


(c)

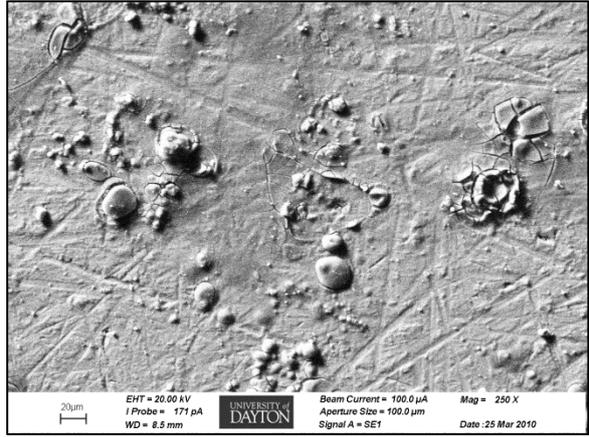


(d)

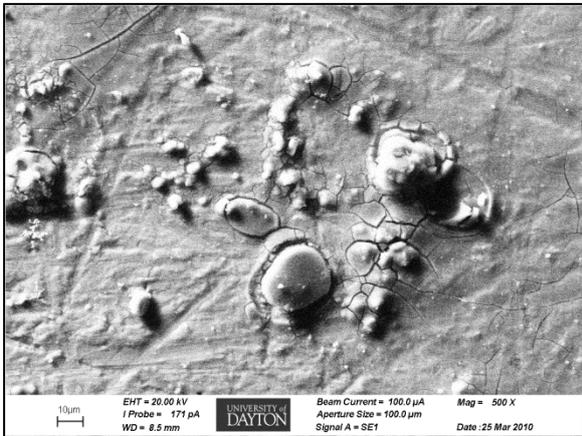
Figure G-14. SEM images of aluminum alloy 7075 sample retrieved on 9 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)



(b)



(c)

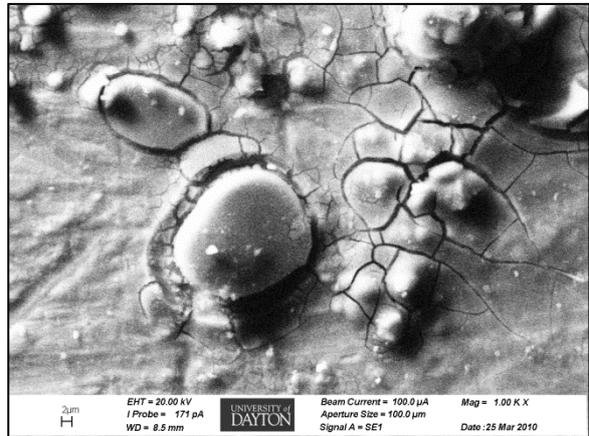
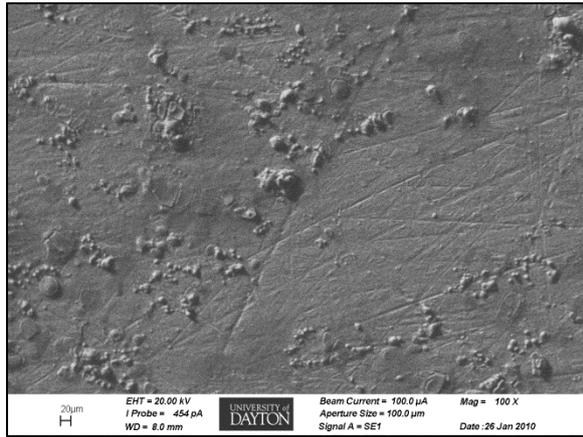
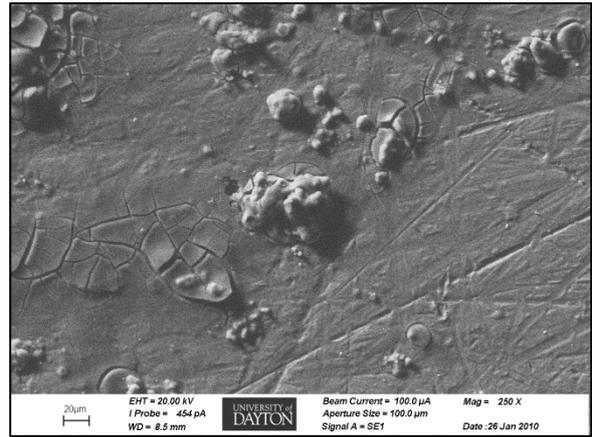


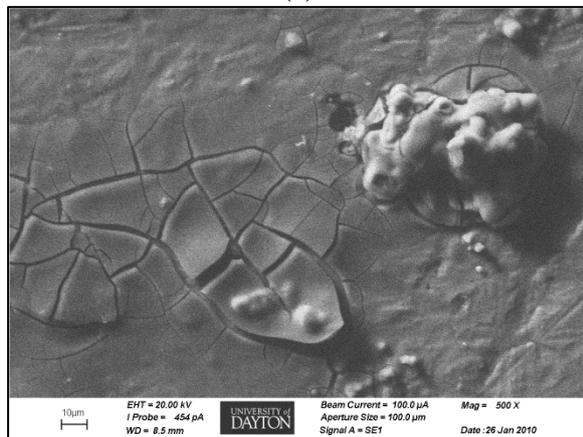
Figure G-15. SEM images of aluminum alloy 7075 sample retrieved on 6 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 100X magnification



(a)



(b)



(c)

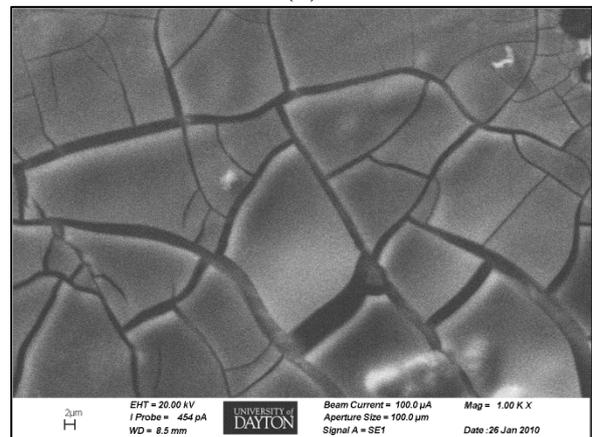
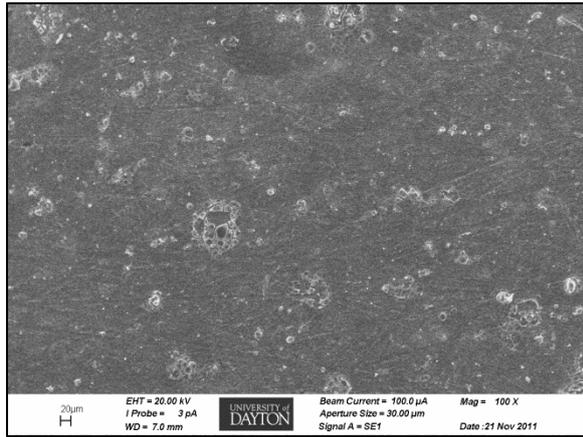
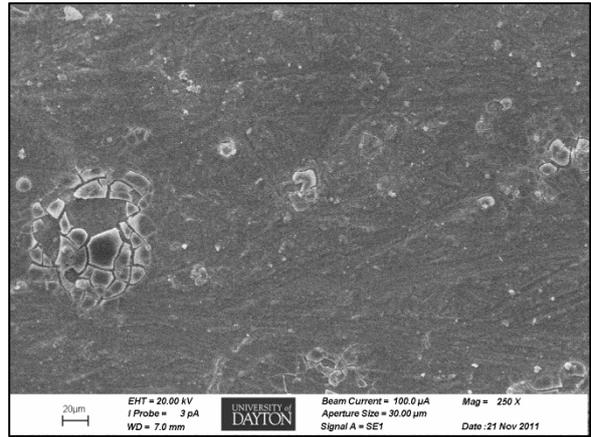


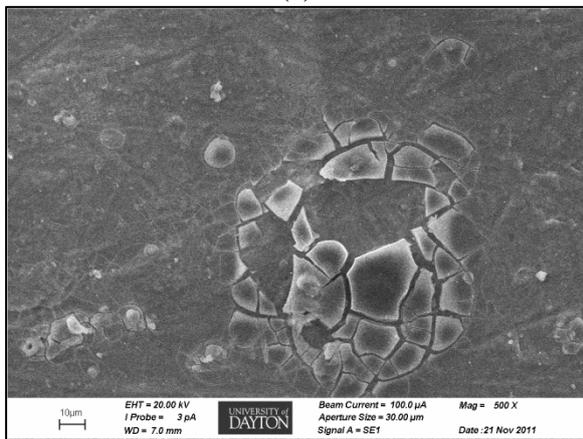
Figure G-16. SEM images of aluminum alloy 7075 sample retrieved on 3 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



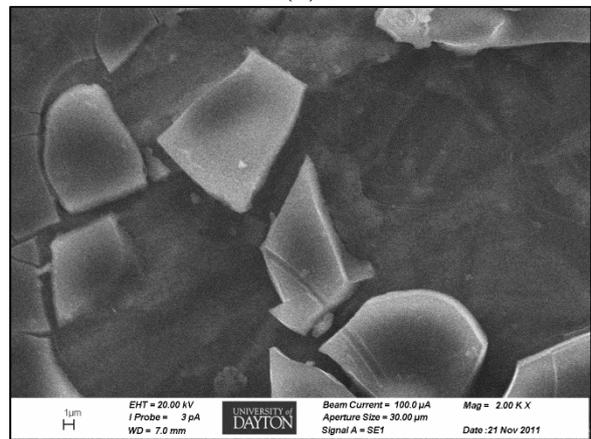
(a)



(b)

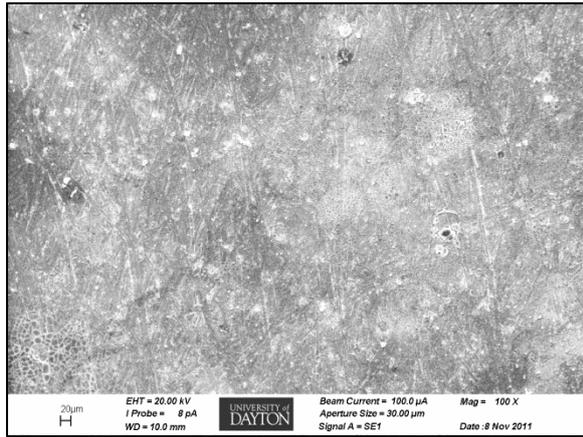


(c)

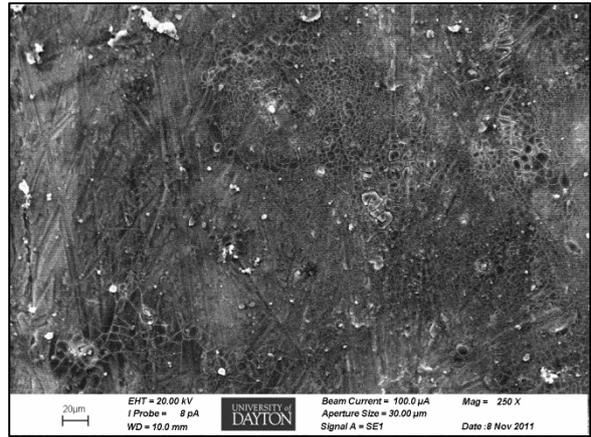


(d)

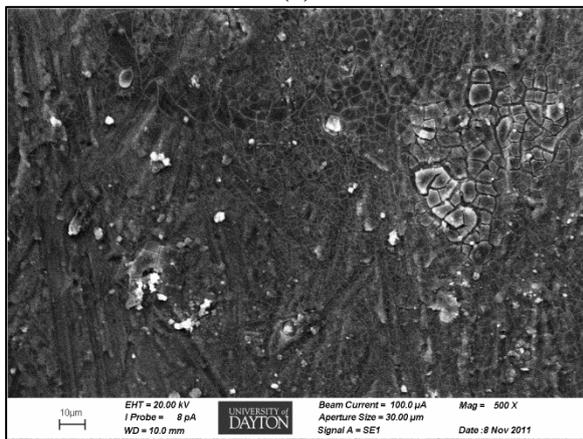
Figure G-17. SEM images of aluminum alloy 6061 sample retrieved on 24 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



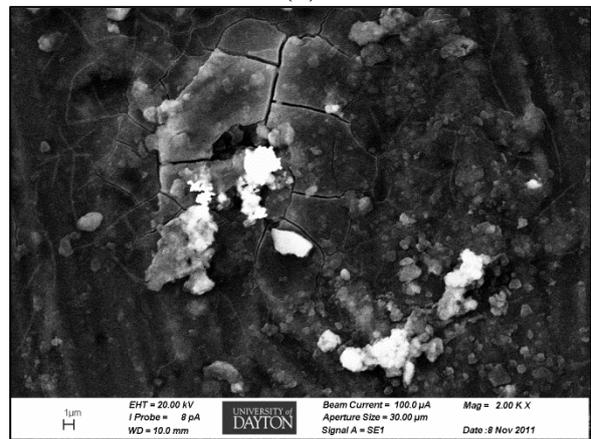
(a)



(b)

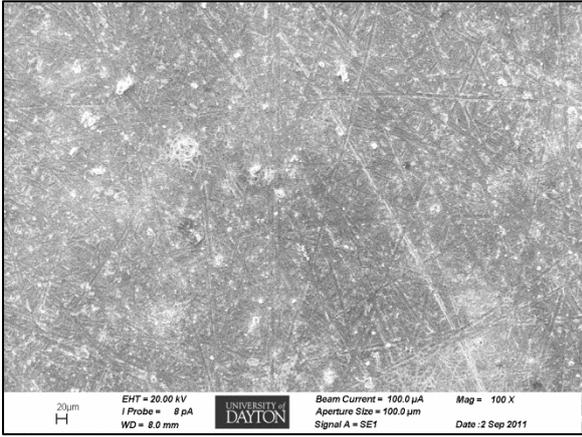


(c)

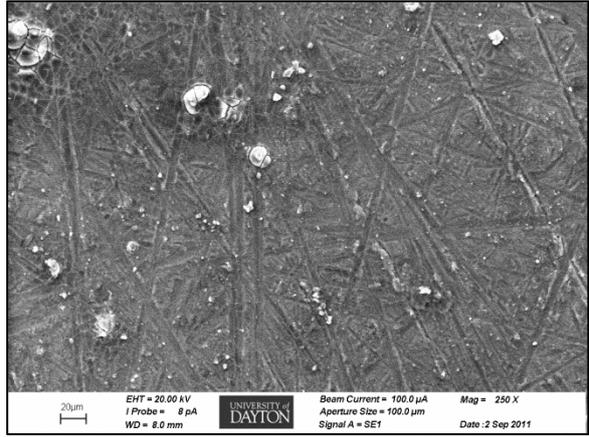


(d)

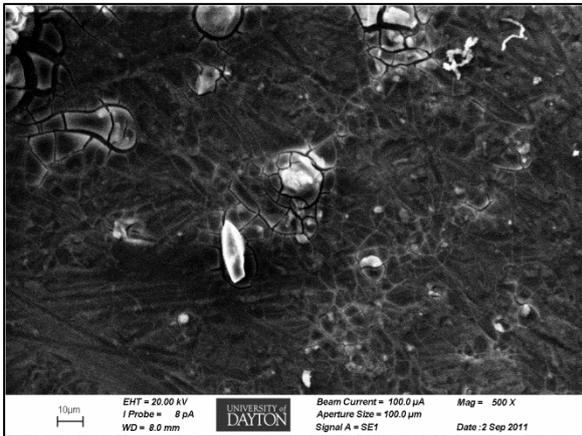
Figure G-18. SEM images of aluminum alloy 6061 sample retrieved on 21 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



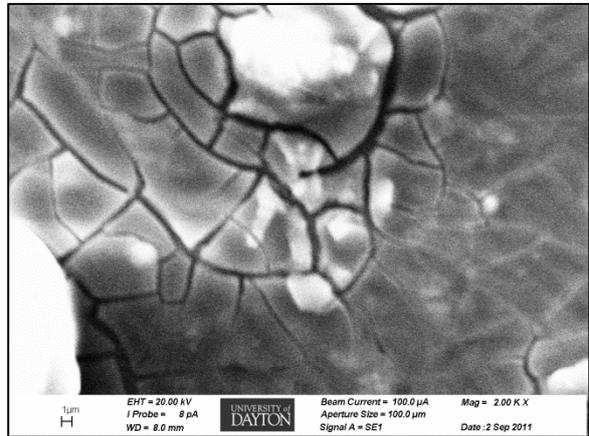
(a)



(b)

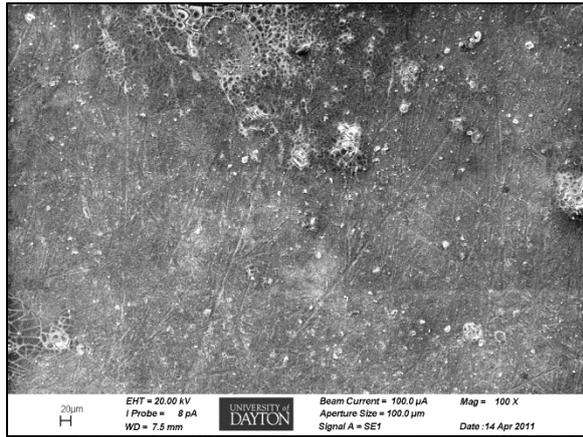


(c)

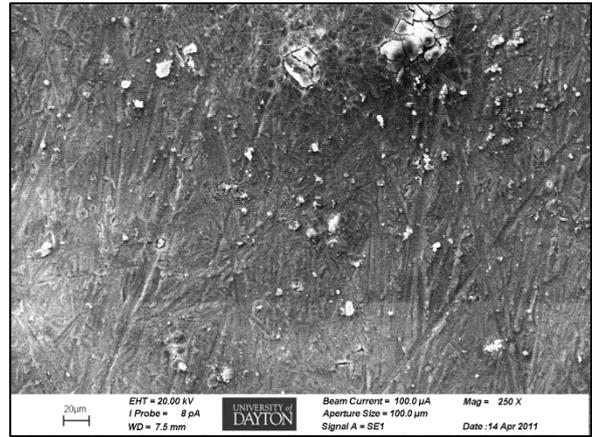


(d)

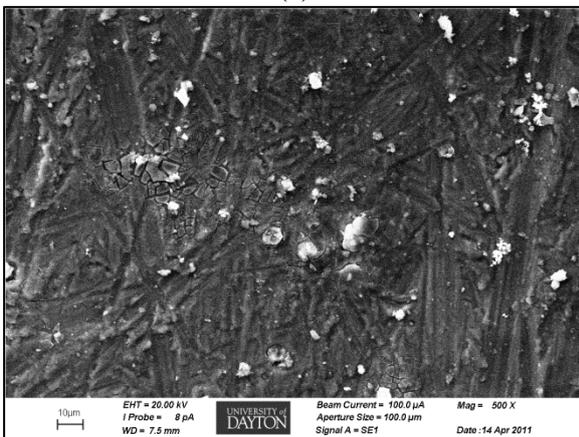
Figure G-19. SEM images of aluminum alloy 6061 sample retrieved on 18 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



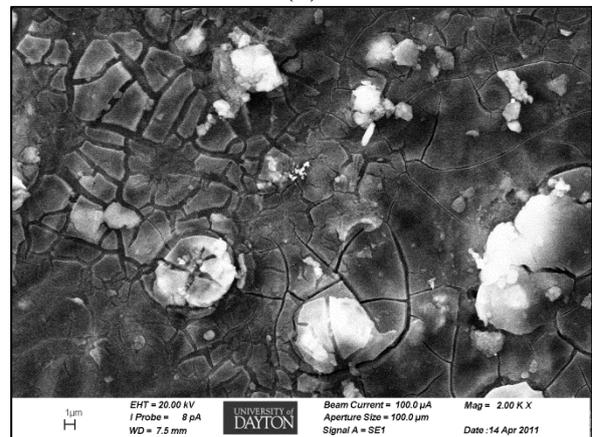
(a)



(b)

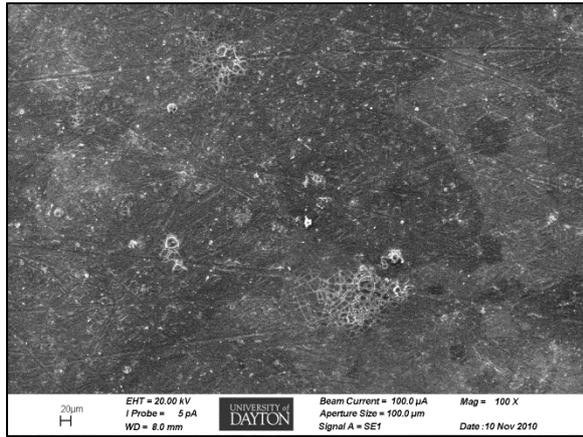


(c)

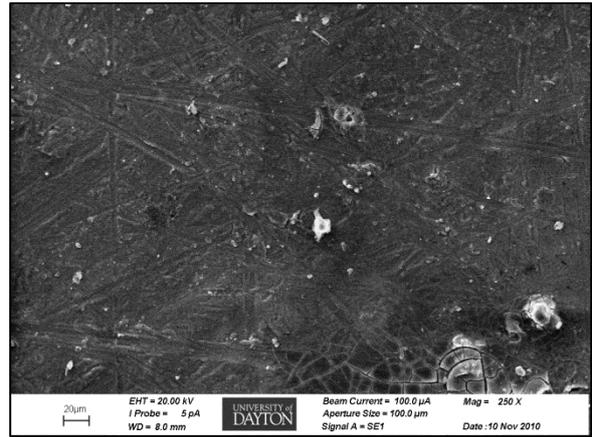


(d)

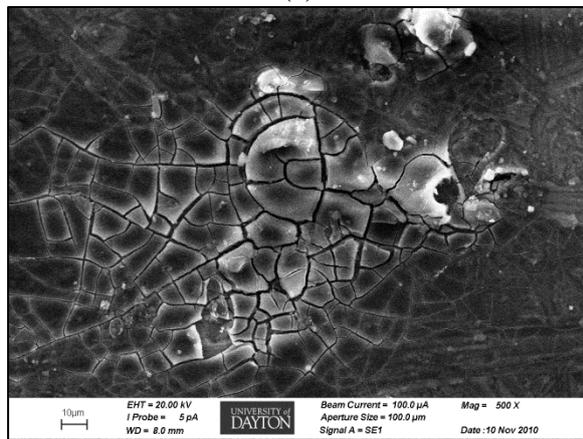
Figure G-20. SEM images of aluminum alloy 6061 sample retrieved on 15 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



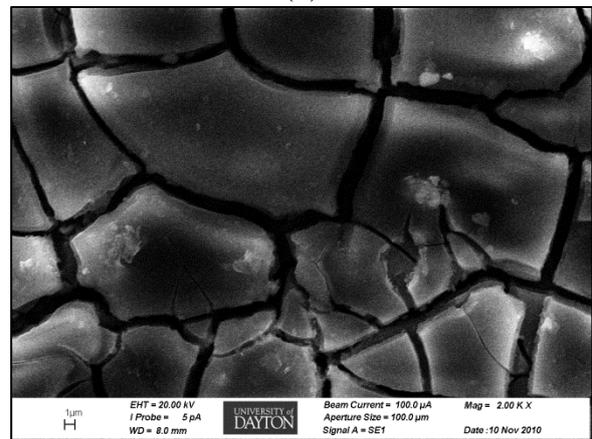
(a)



(b)

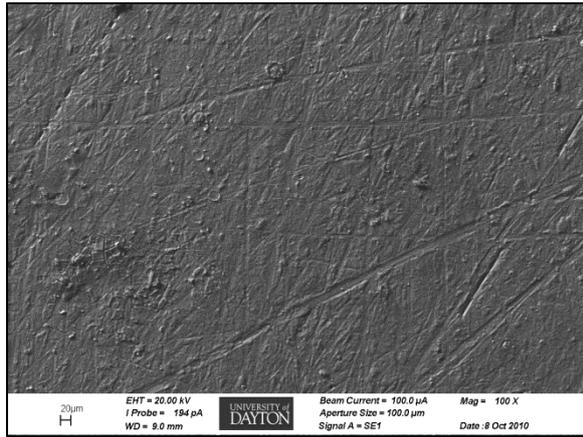


(c)

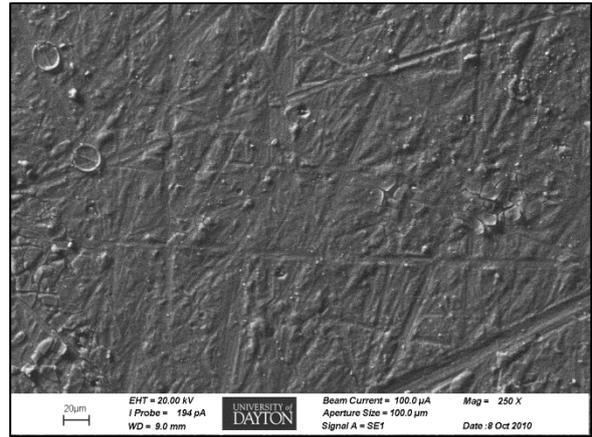


(d)

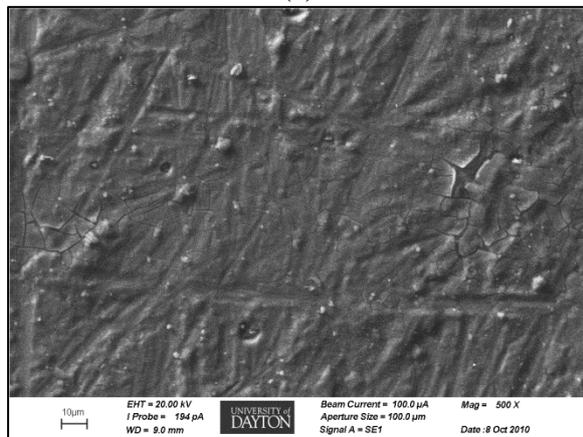
Figure G-21. SEM images of aluminum alloy 6061 sample retrieved on 12 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



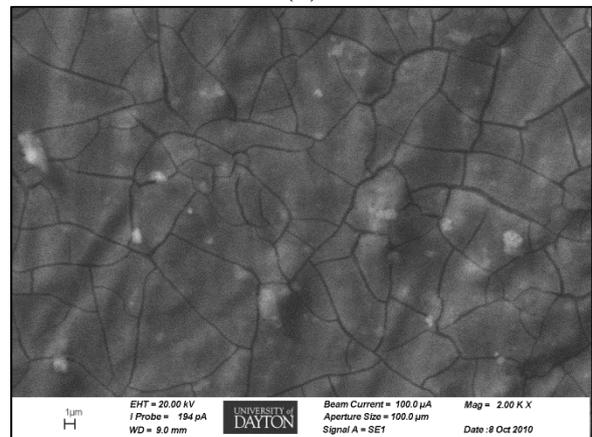
(a)



(b)

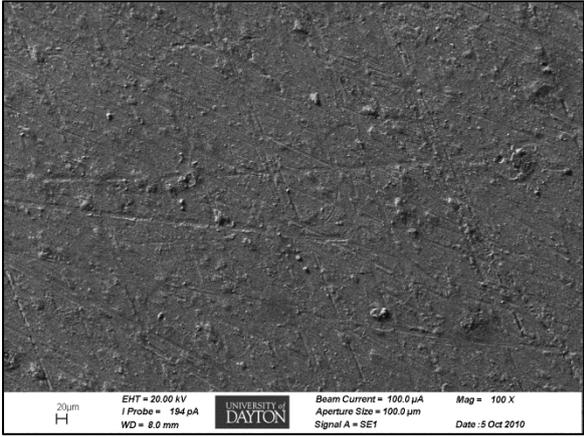


(c)

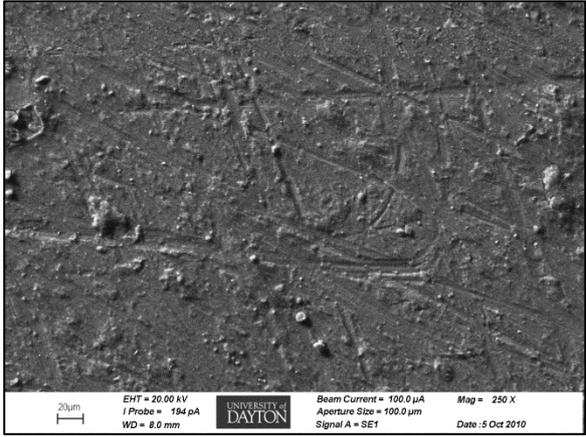


(d)

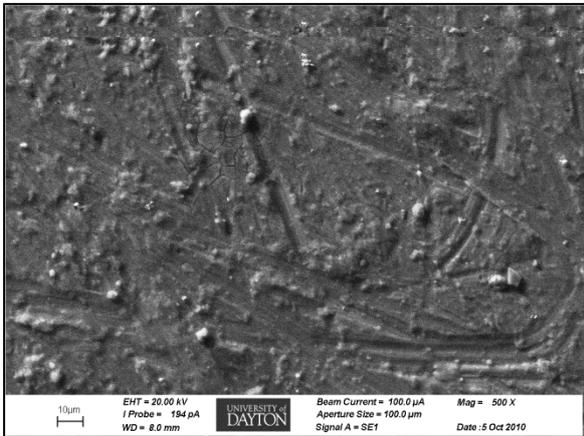
Figure G-22. SEM images of aluminum alloy 6061 sample retrieved on 9 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)



(b)



(c)

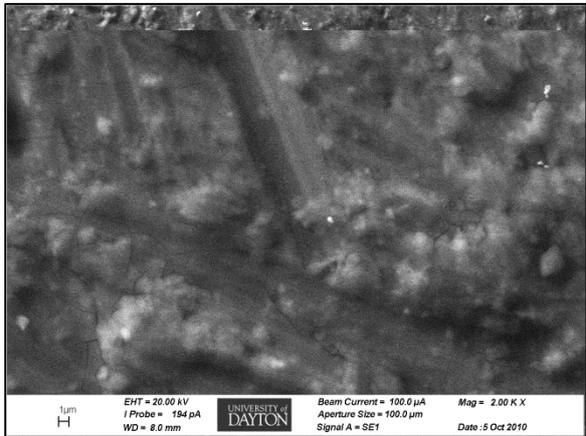
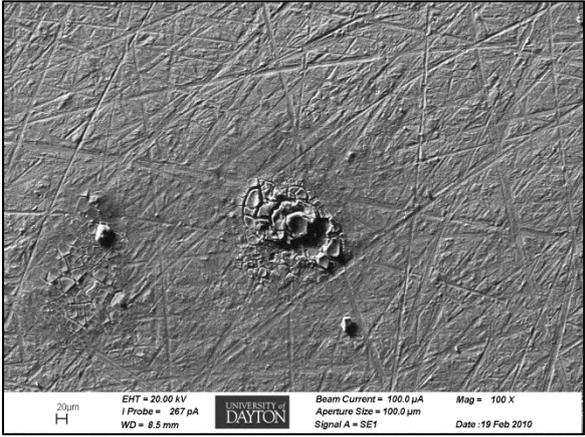
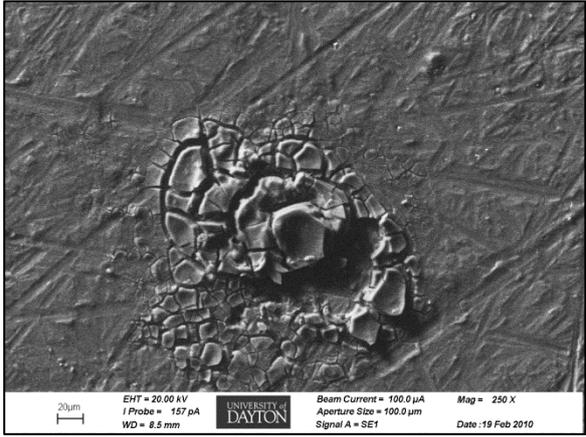


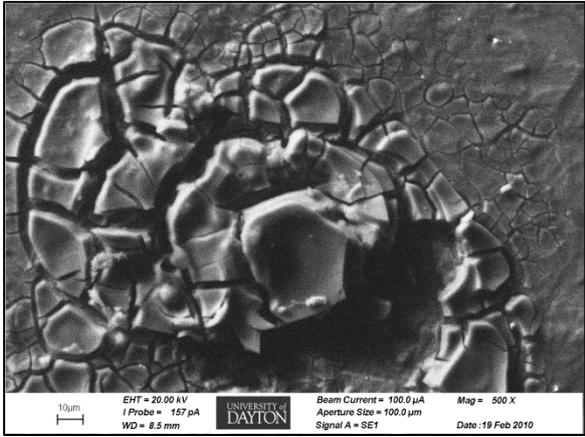
Figure G-23. SEM images of aluminum alloy 6061 sample retrieved on 6 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 1000X magnification.



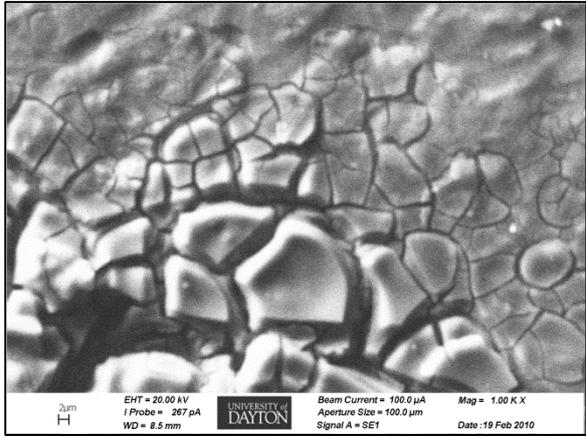
(a)



(b)

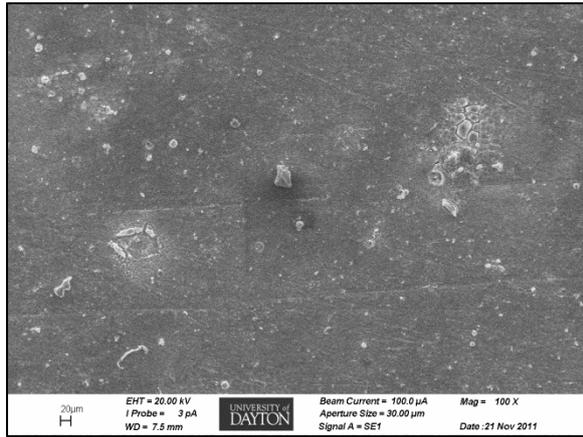


(c)

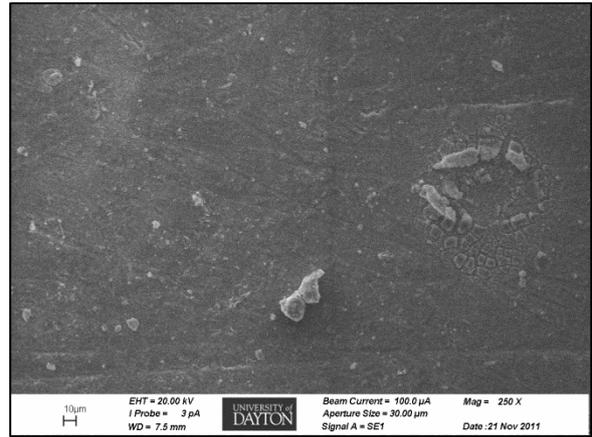


(d)

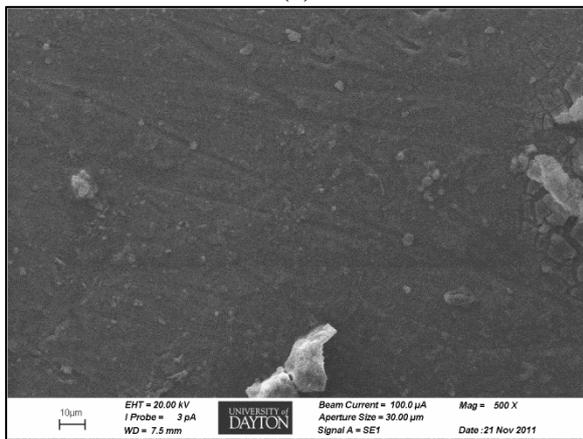
Figure G-24. SEM images of aluminum alloy 6061 sample retrieved on 3 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



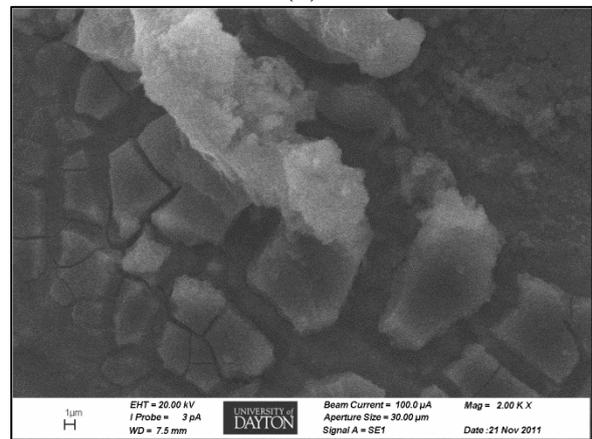
(a)



(b)

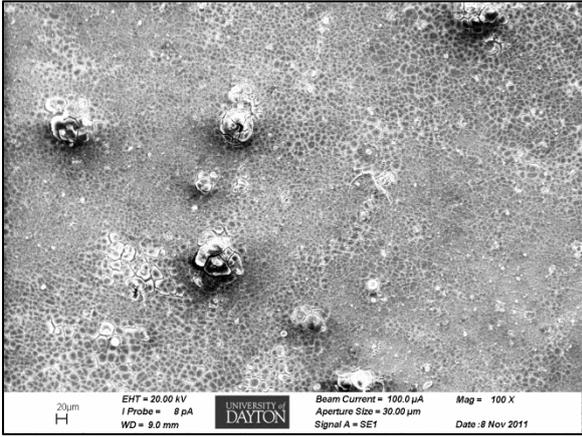


(c)

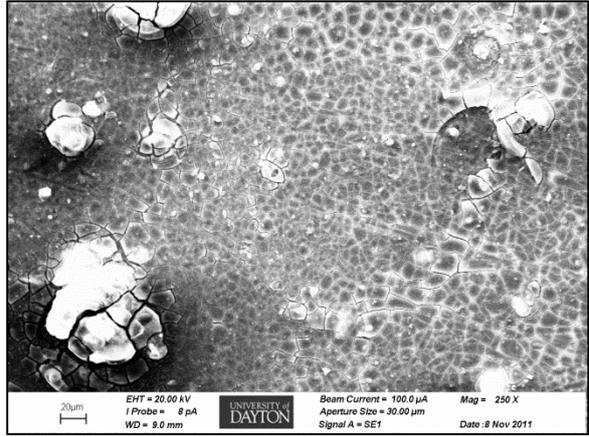


(d)

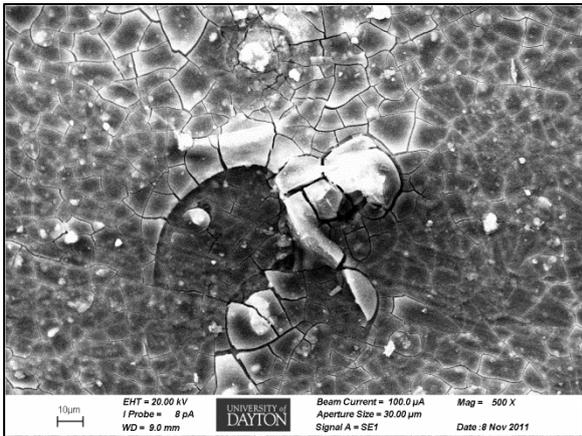
Figure G-25. SEM images of aluminum alloy 2024 sample retrieved on 24 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)



(b)

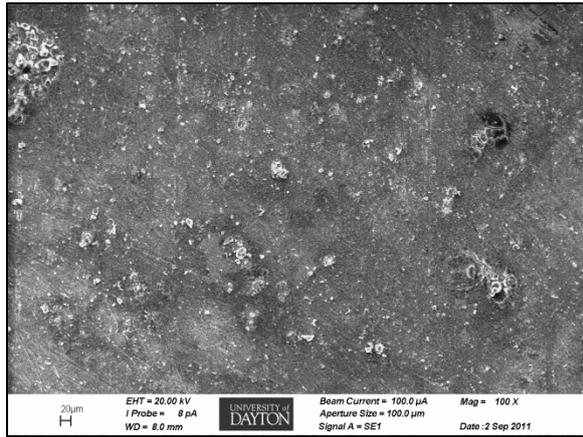


(c)

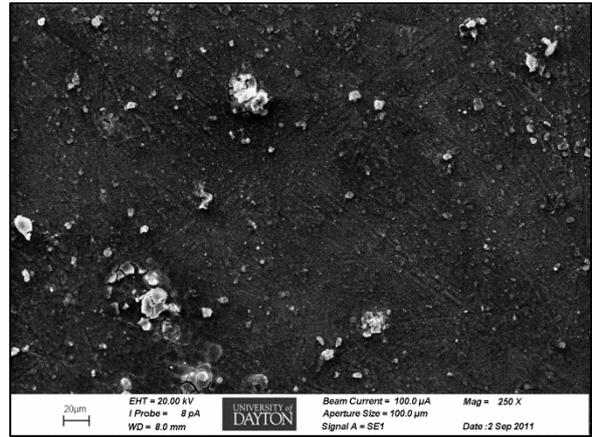


(d)

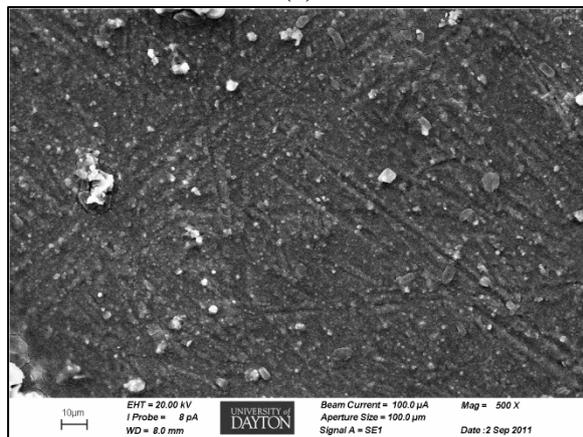
Figure G-26. SEM images of aluminum alloy 2024 sample retrieved on 21 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



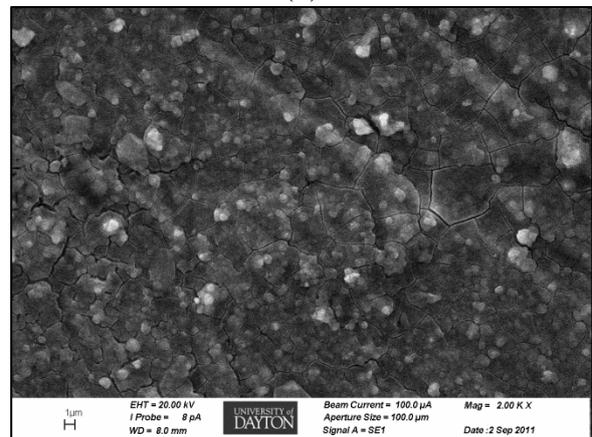
(a)



(b)

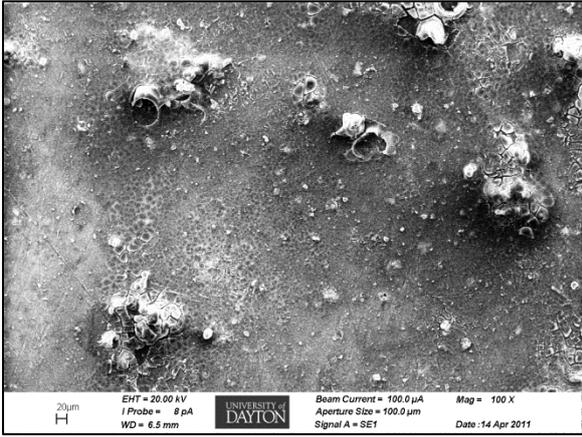


(c)

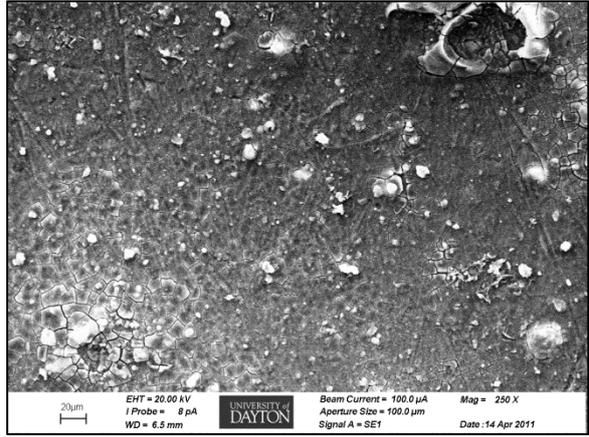


(d)

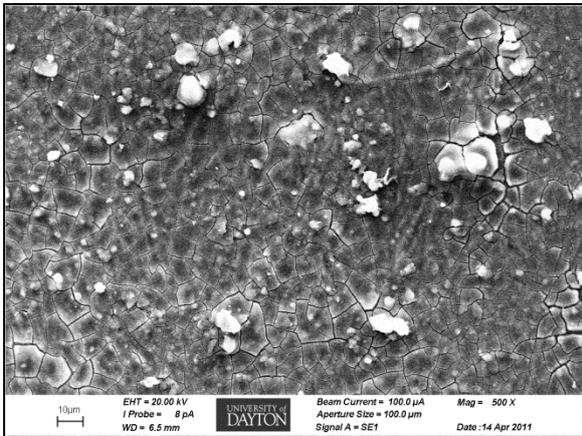
Figure G-27. SEM images of aluminum alloy 2024 sample retrieved on 18 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



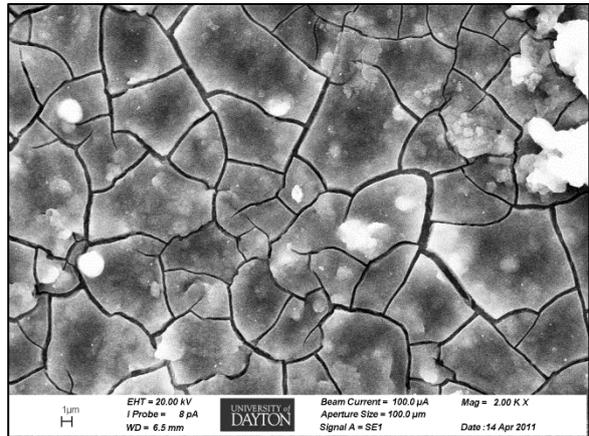
(a)



(b)

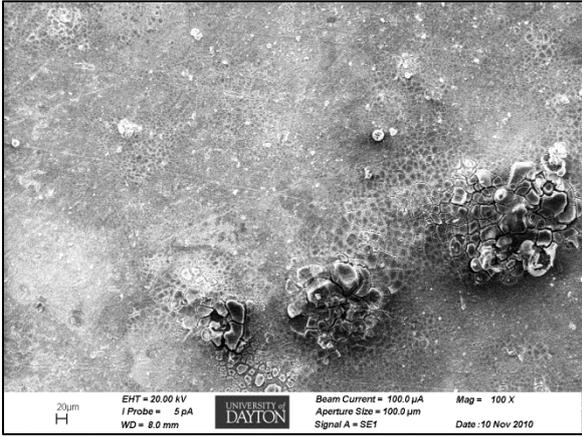


(c)

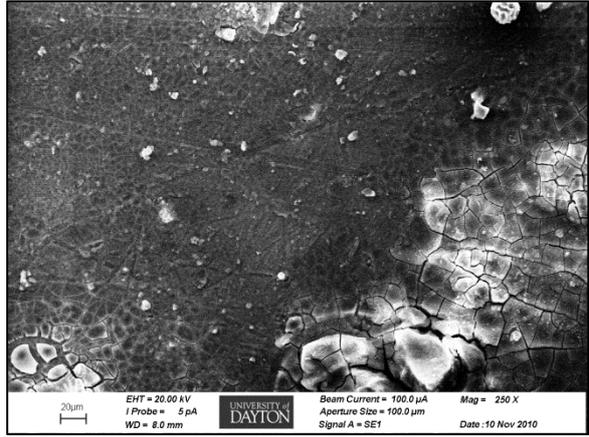


(d)

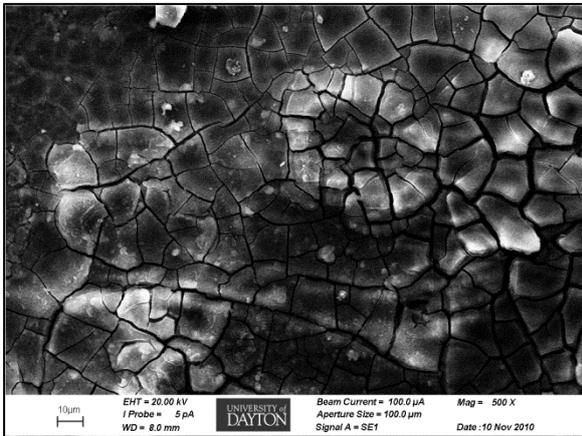
Figure G-28. SEM images of aluminum alloy 2024 sample retrieved on 15 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



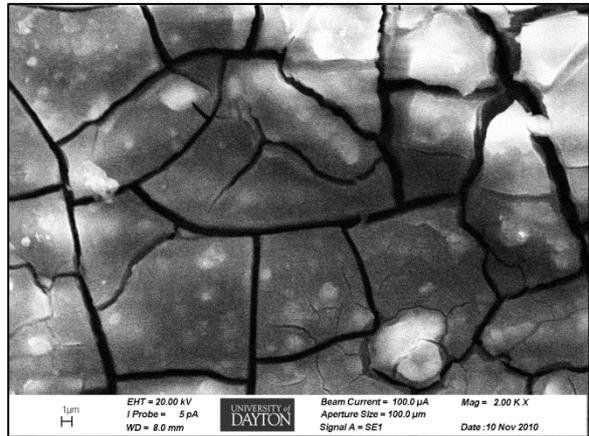
(a)



(b)

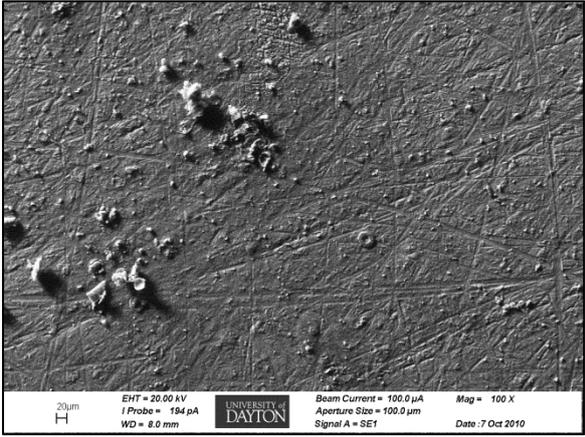


(c)

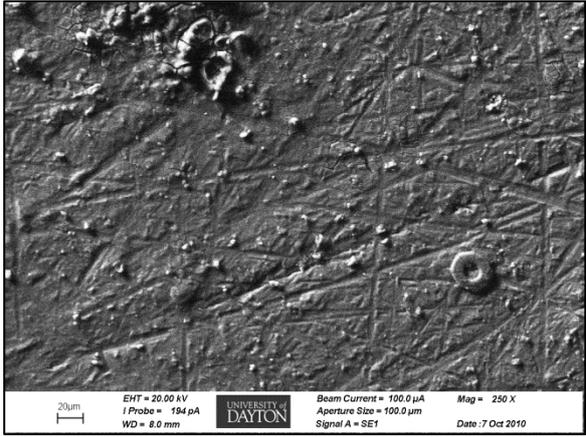


(d)

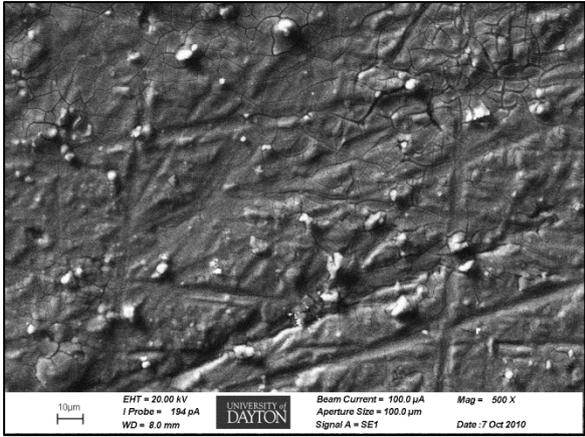
Figure G-29. SEM images of aluminum alloy 2024 sample retrieved on 12 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



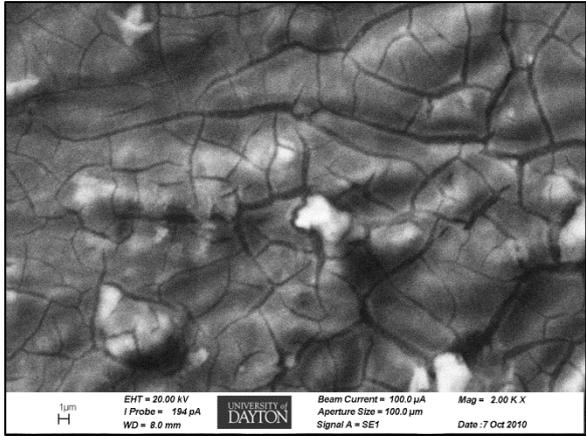
(a)



(b)

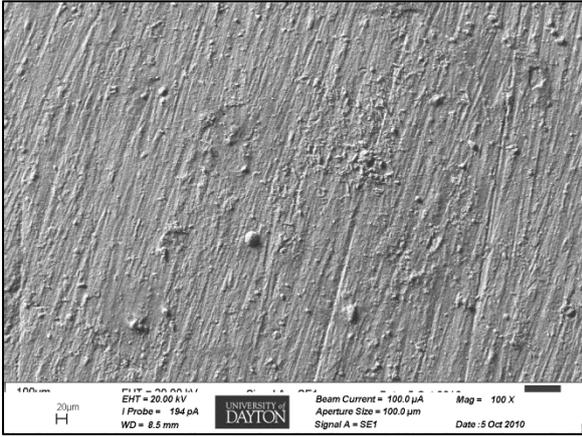


(c)

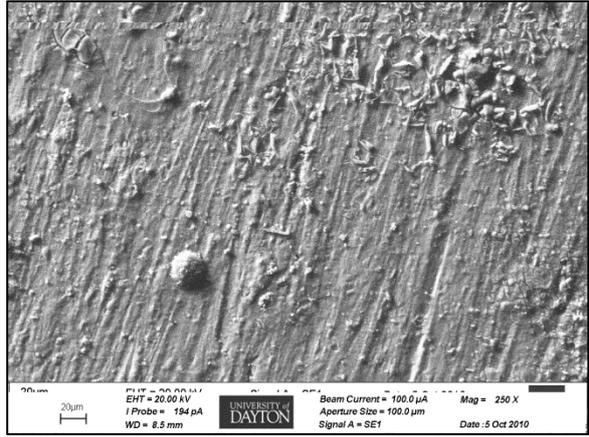


(d)

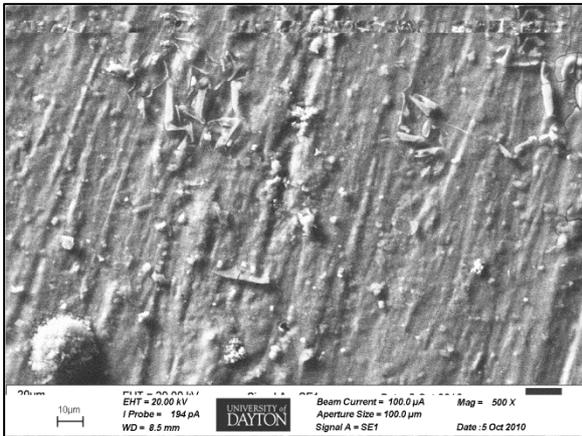
Figure G-30. SEM images of aluminum alloy 2024 sample retrieved on 9 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)



(b)



(c)

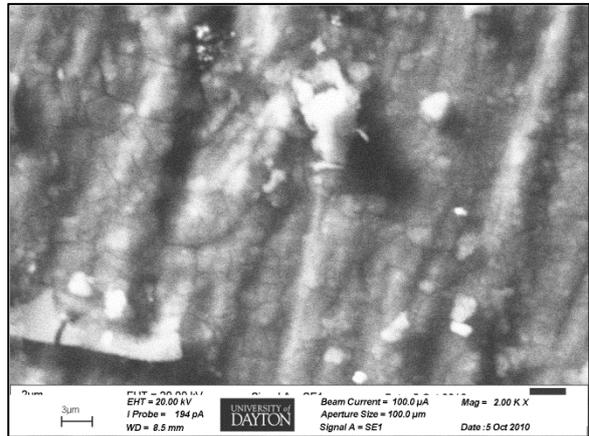
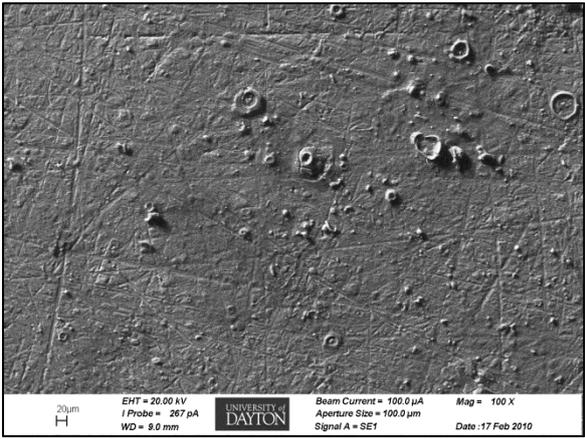
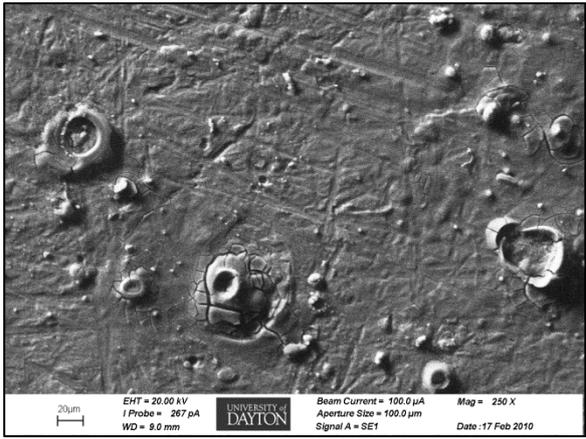


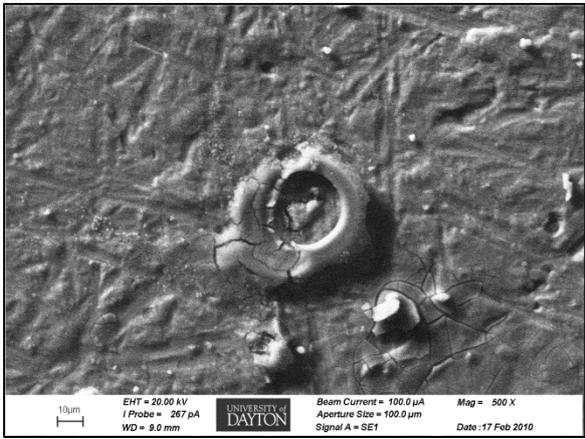
Figure G-31. SEM images of aluminum alloy 2024 sample retrieved on 6 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



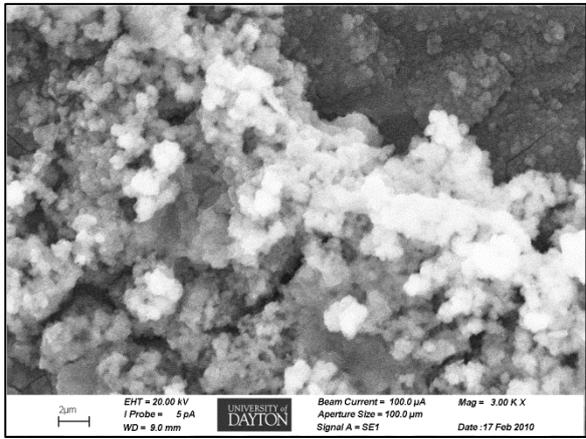
(a)



(b)

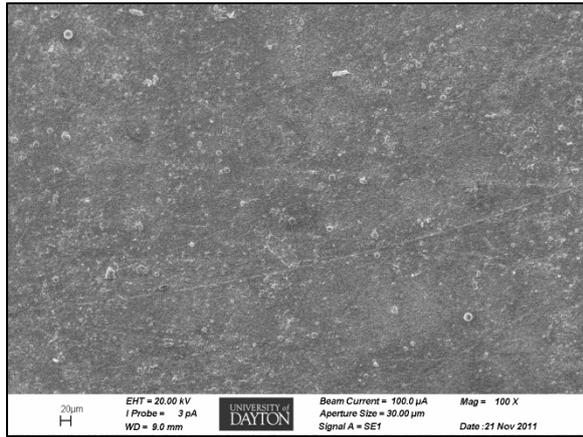


(c)

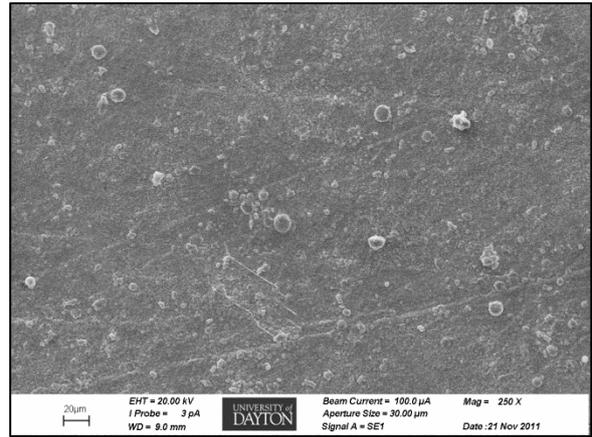


(d)

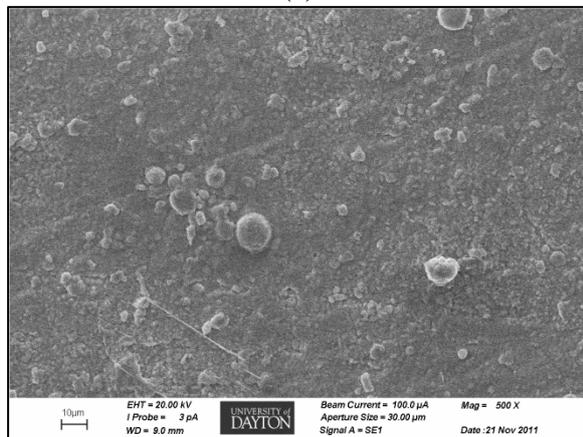
Figure G-32. SEM images of aluminum alloy 2024 sample retrieved on 3 months exposure from Tyndall AFB site. (a) 100X magnification, (b) 250X magnification, (c) 500X magnification, and (d) 3000X magnification.



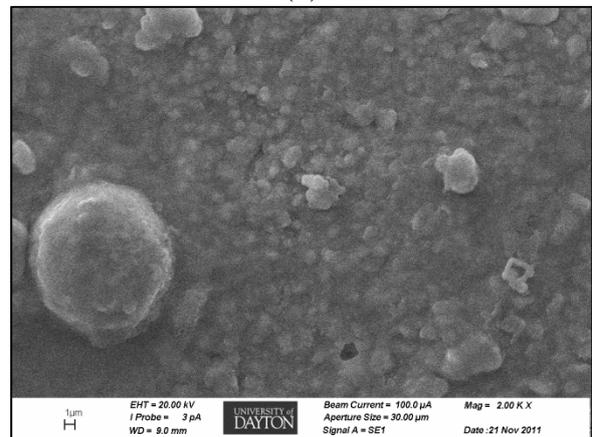
(a)



(b)

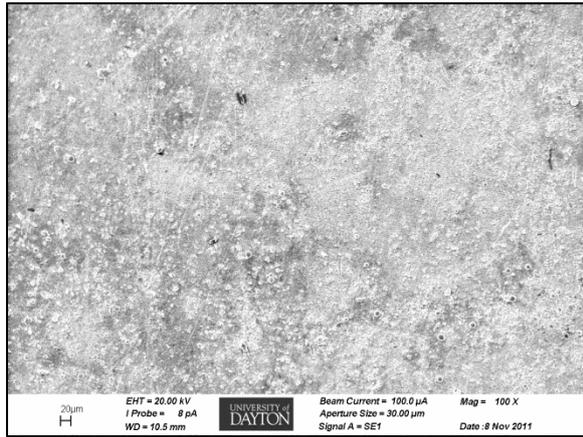


(c)

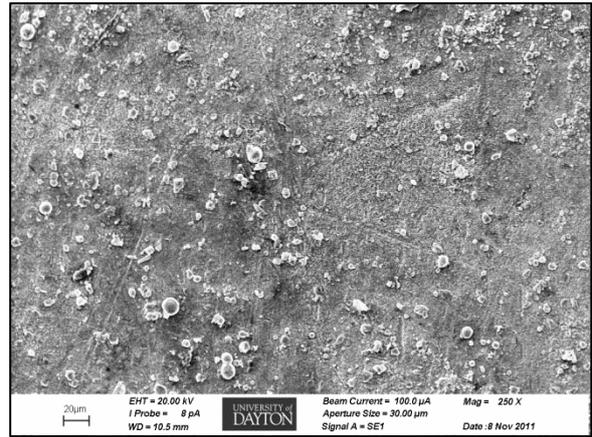


(d)

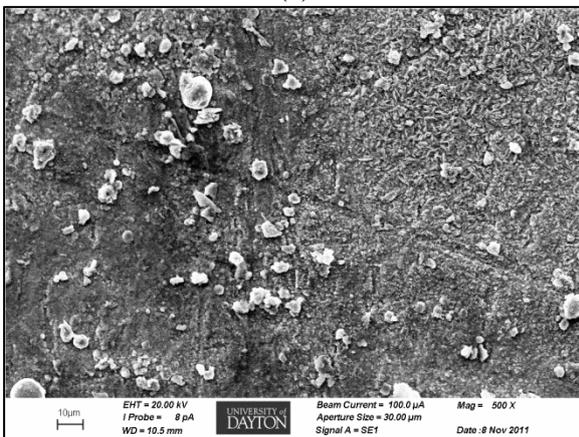
Figure G-33. SEM images of pure copper sample retrieved on 24 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



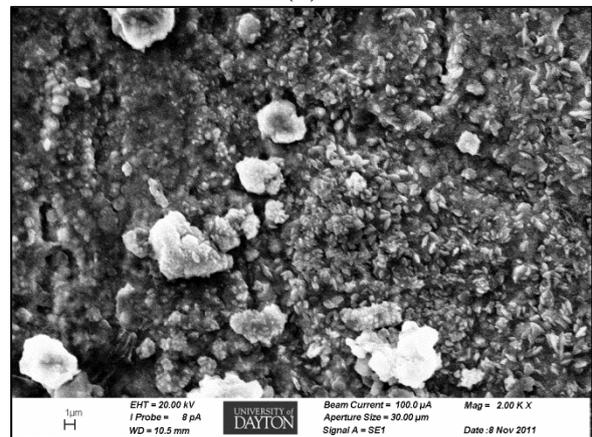
(a)



(b)

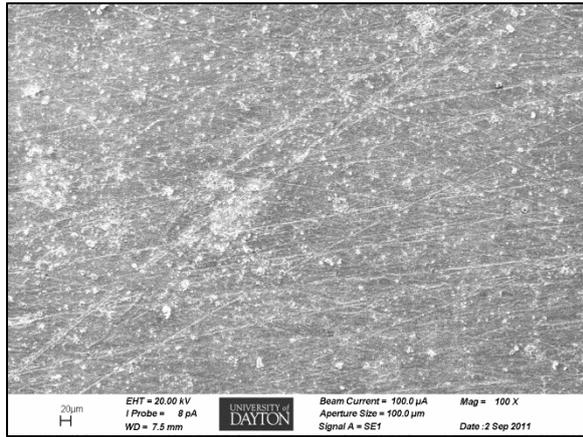


(c)

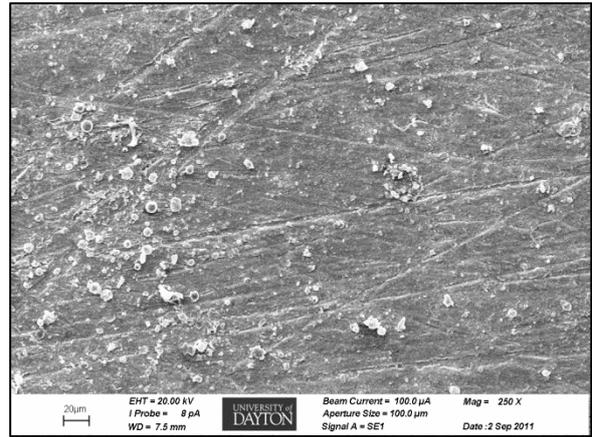


(d)

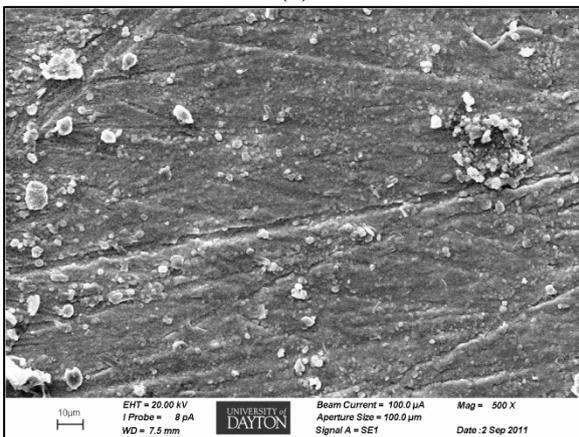
Figure G-34. SEM images of pure copper sample retrieved on 21 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



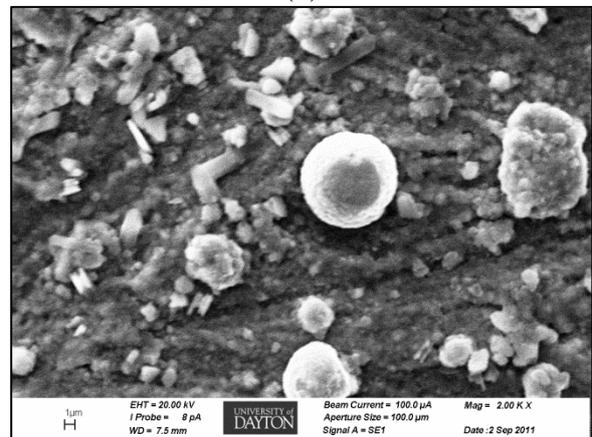
(a)



(b)

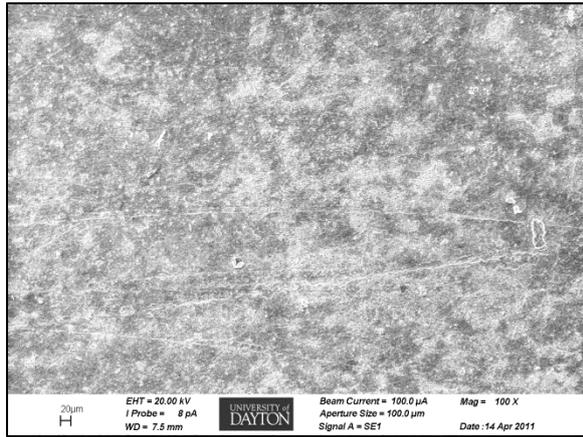


(c)

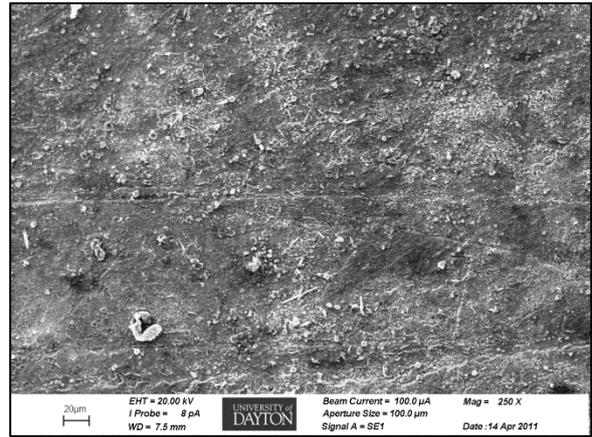


(d)

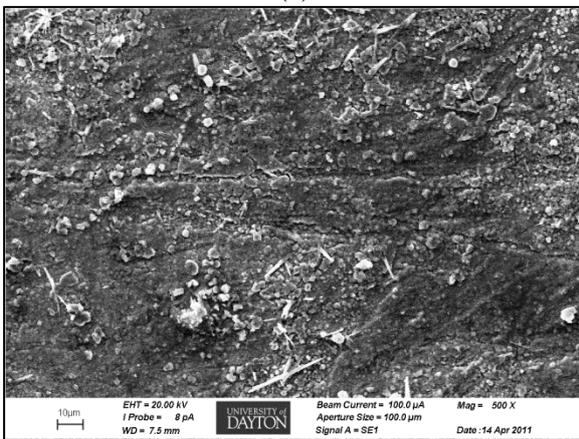
Figure G-35. SEM images of pure copper sample retrieved on 18 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



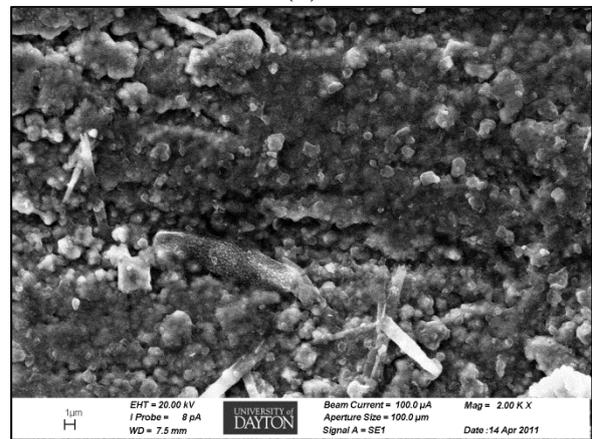
(a)



(b)

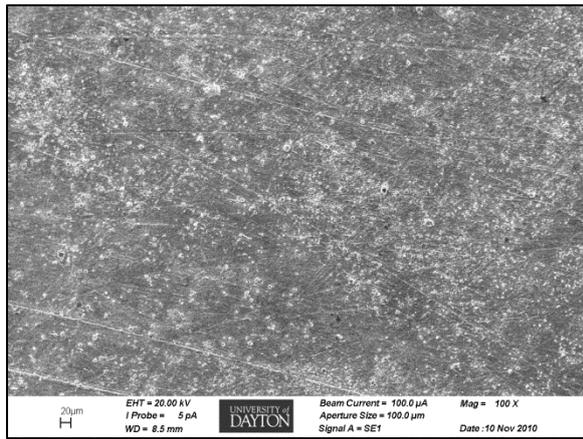


(c)

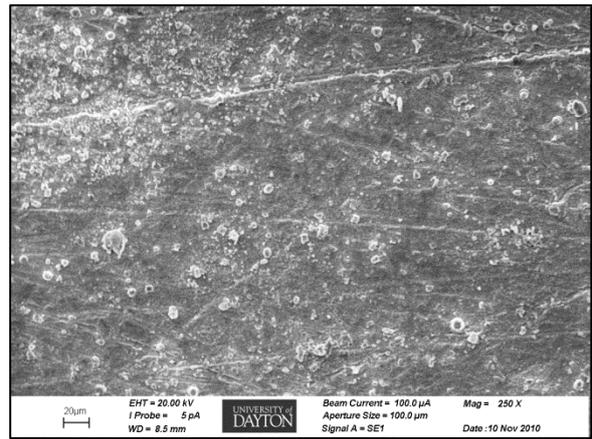


(d)

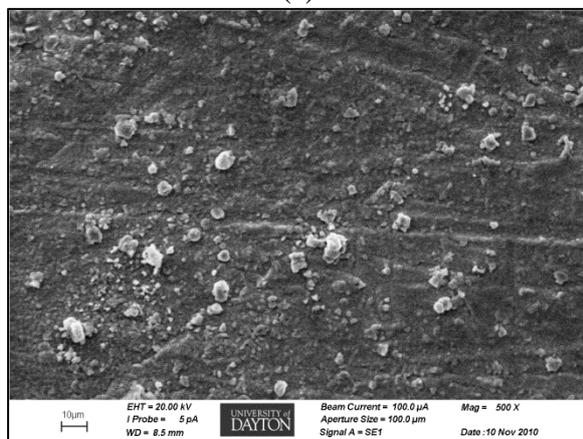
Figure G-36. SEM images of pure copper sample retrieved on 15 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



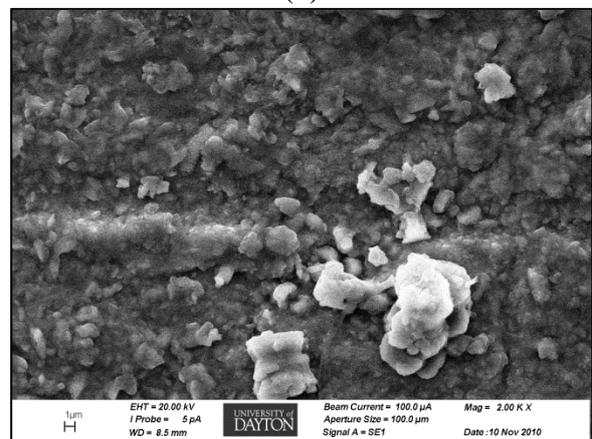
(a)



(b)

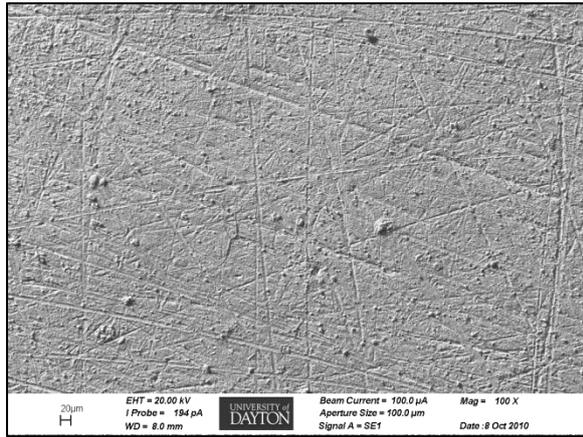


(c)

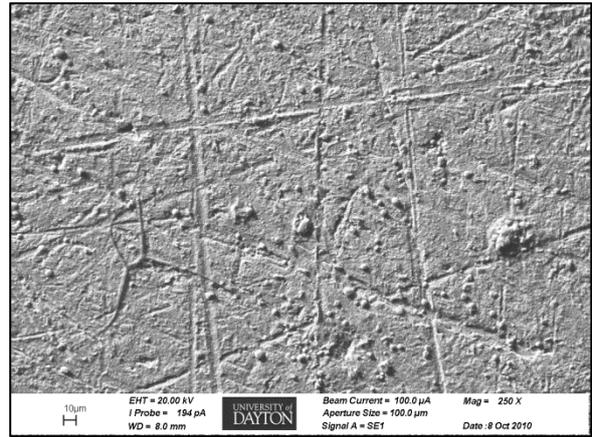


(d)

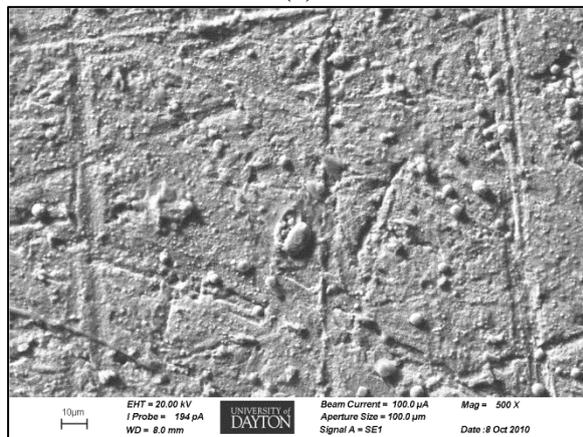
Figure G-37. SEM images of pure copper sample retrieved on 12 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



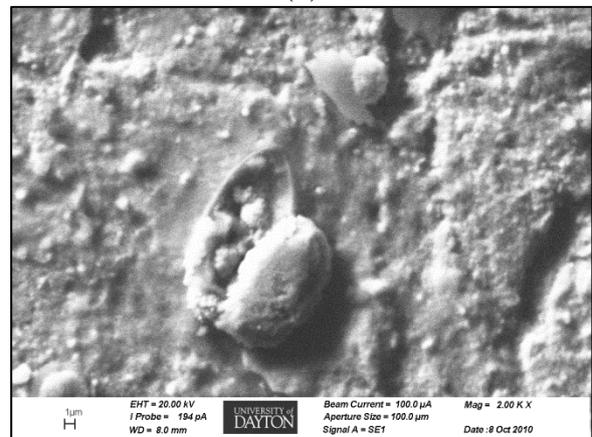
(a)



(b)



(c)



(d)

Figure G-38. SEM images of pure copper sample retrieved on 9 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.

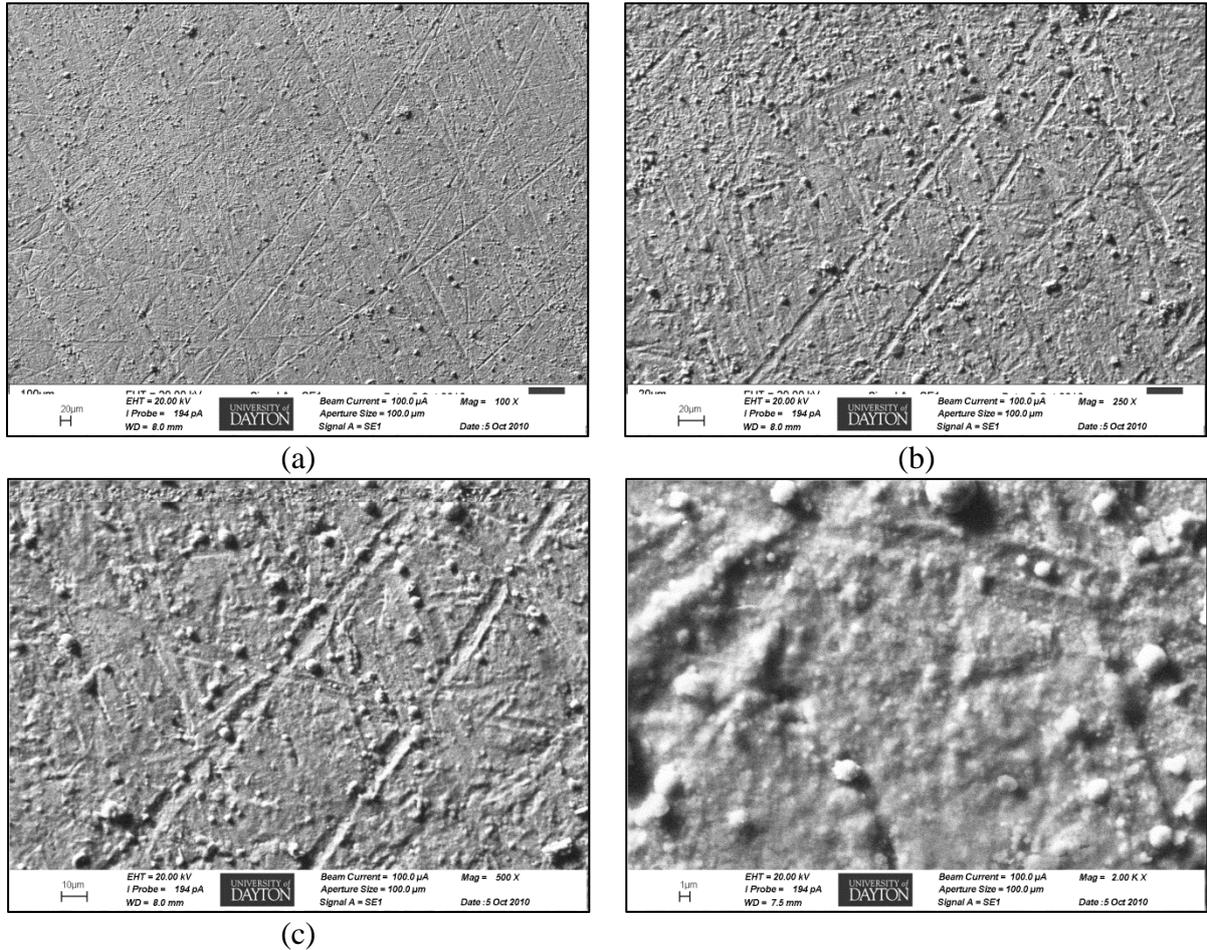
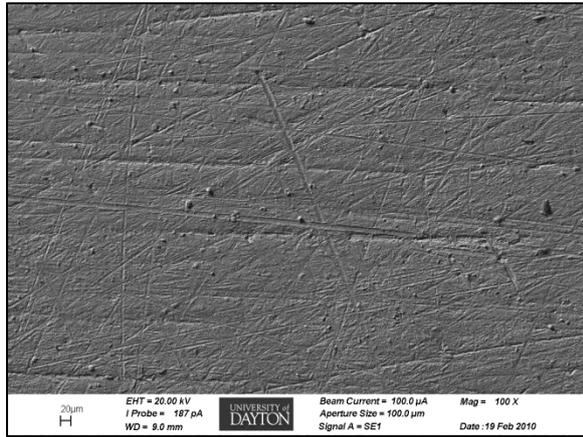
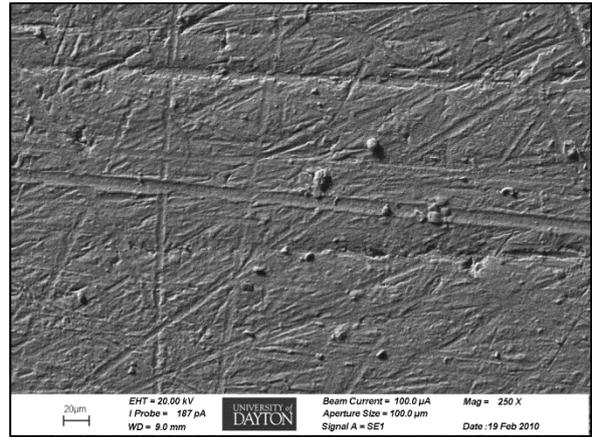


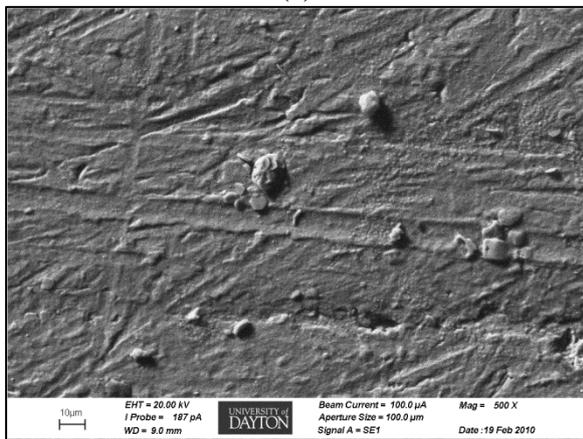
Figure G-39. SEM images of pure copper sample retrieved on 6 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



(a)



(b)



(c)

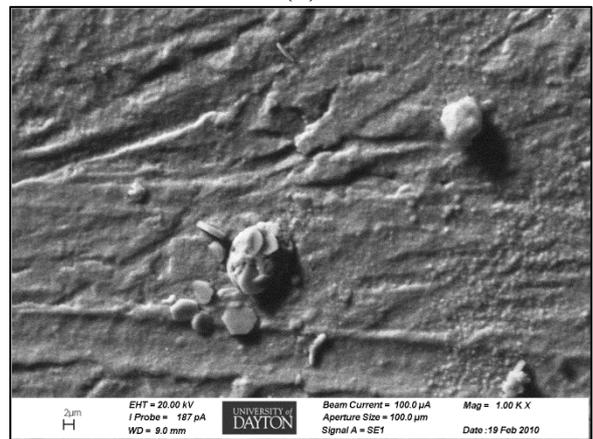
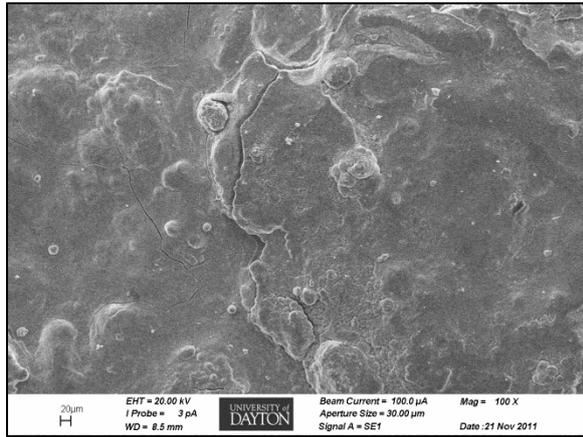
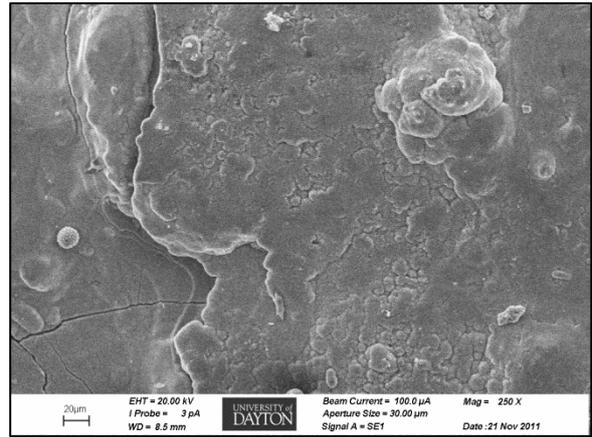


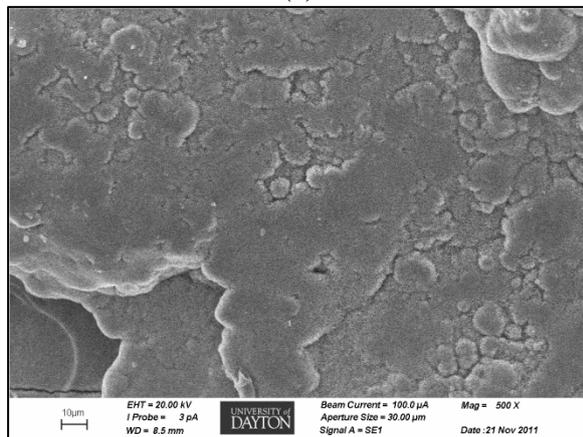
Figure G-40. SEM images of pure copper sample retrieved on 3 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



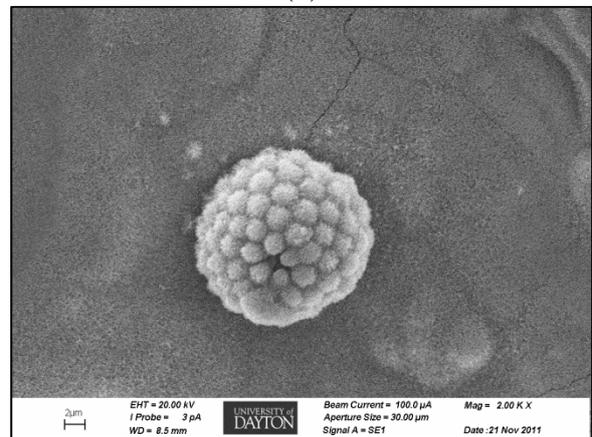
(a)



(b)

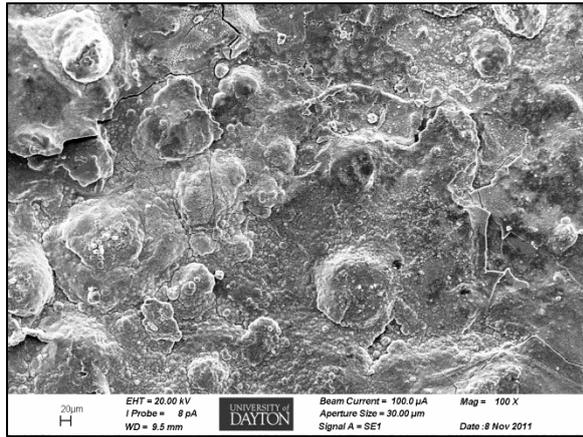


(c)

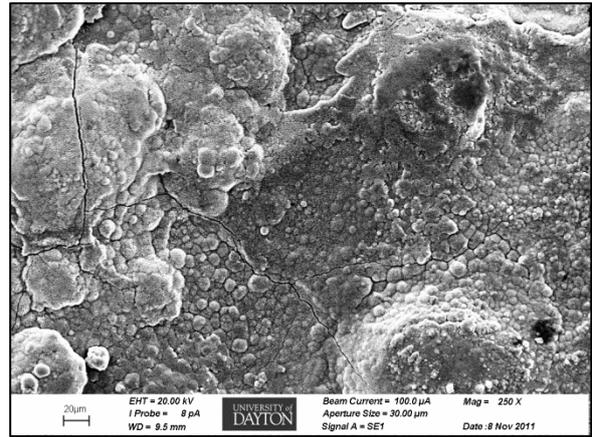


(d)

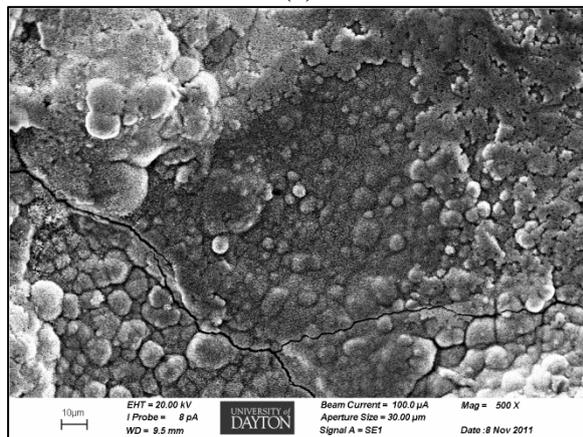
Figure G-41. SEM images of 1010 steel sample retrieved on 24 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



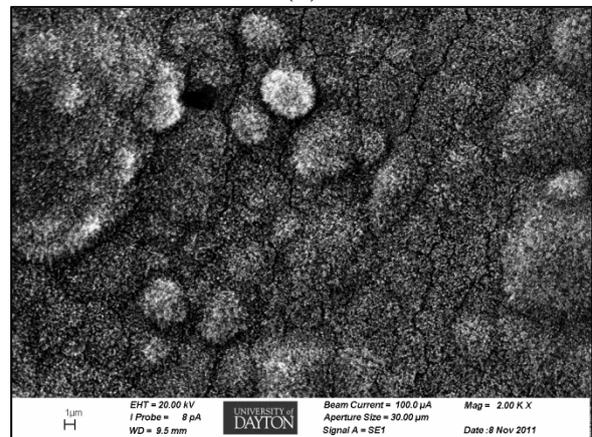
(a)



(b)

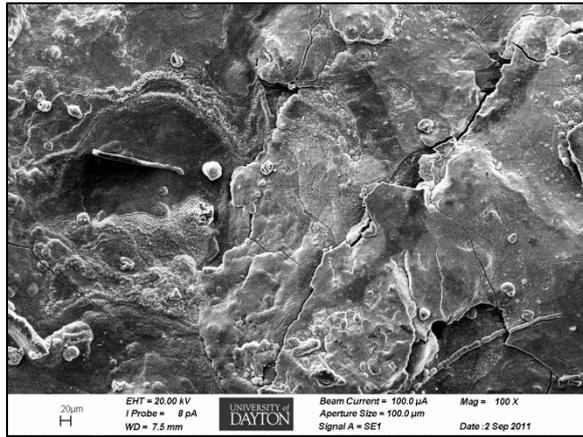


(c)

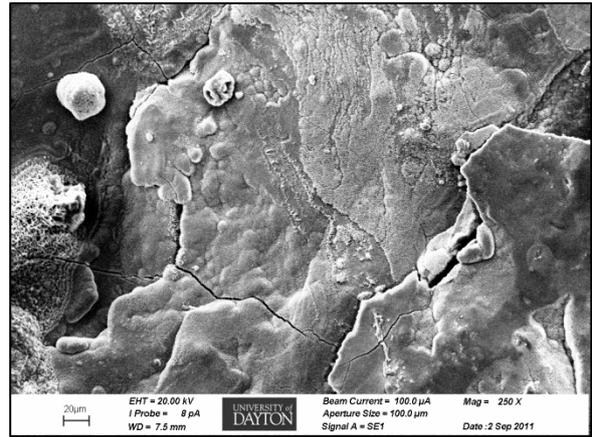


(d)

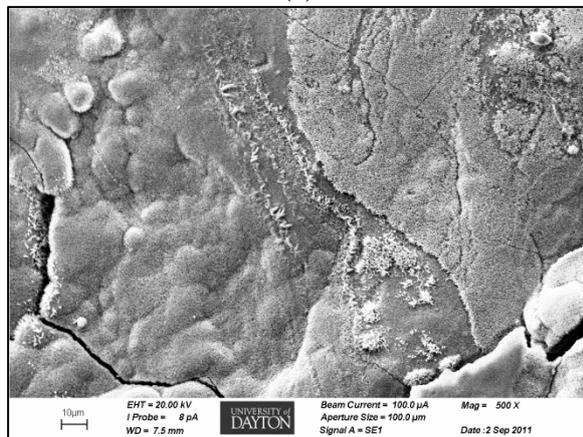
Figure G-42. SEM images of 1010 steel sample retrieved on 21 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



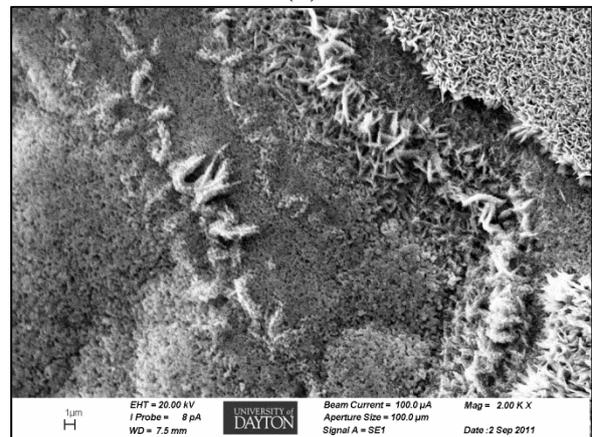
(a)



(b)

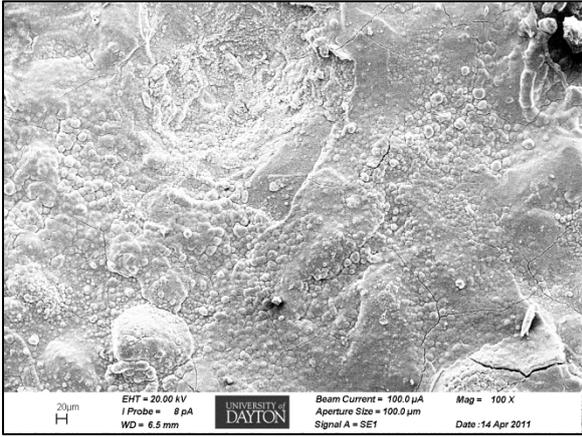


(c)

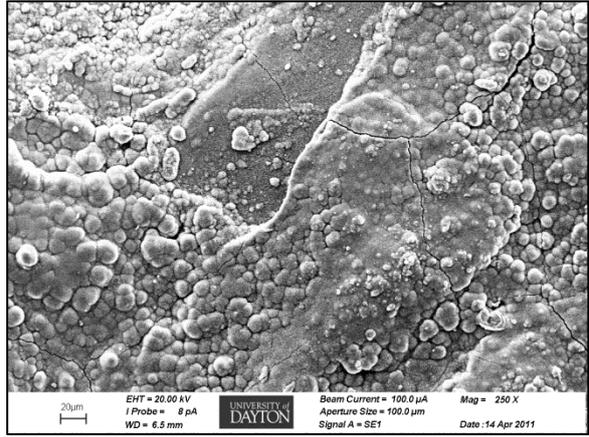


(d)

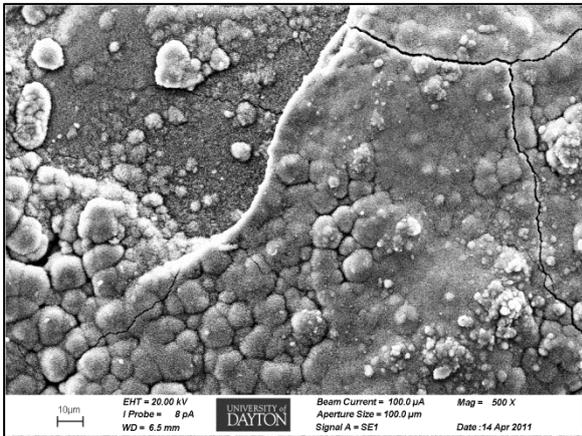
Figure G-43. SEM images of 1010 steel sample retrieved on 18 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



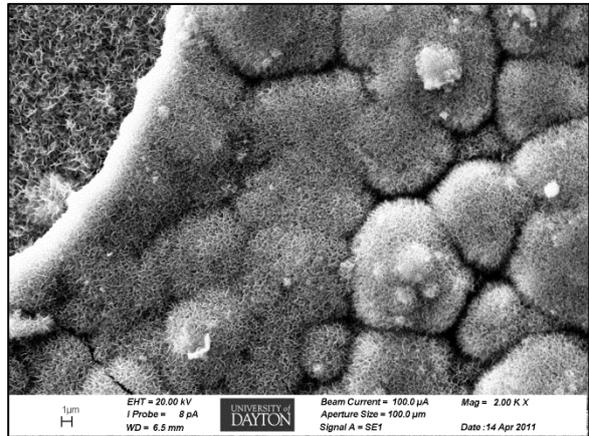
(a)



(b)

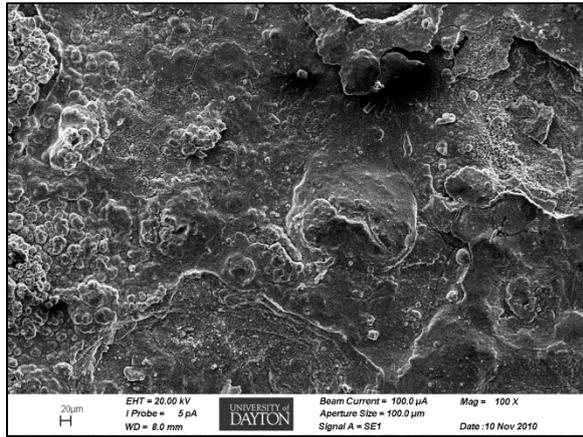


(c)

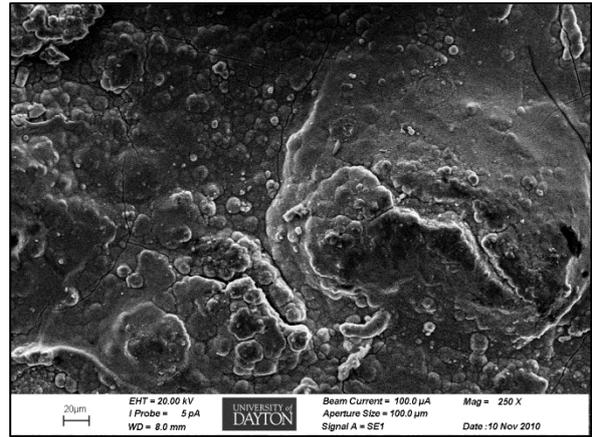


(d)

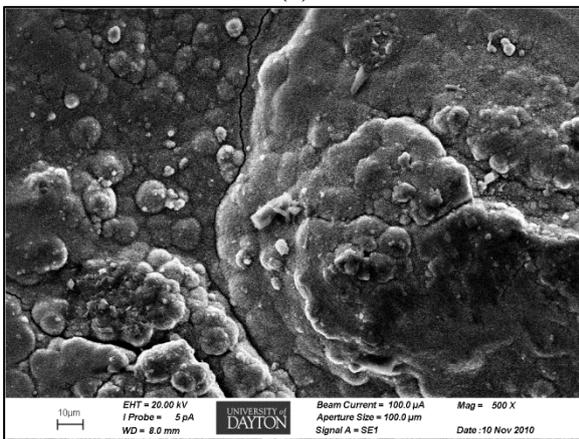
Figure G-44. SEM images of 1010 steel sample retrieved on 15 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



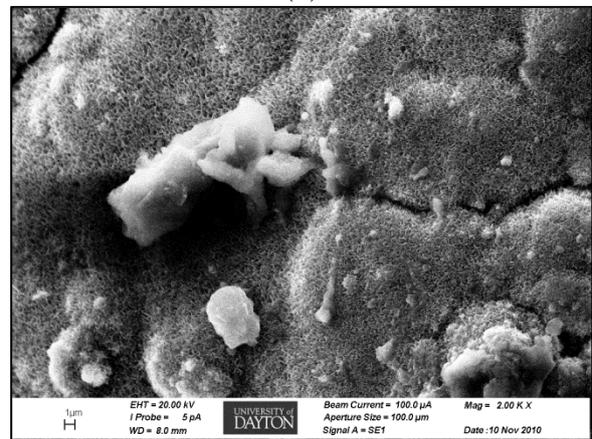
(a)



(b)

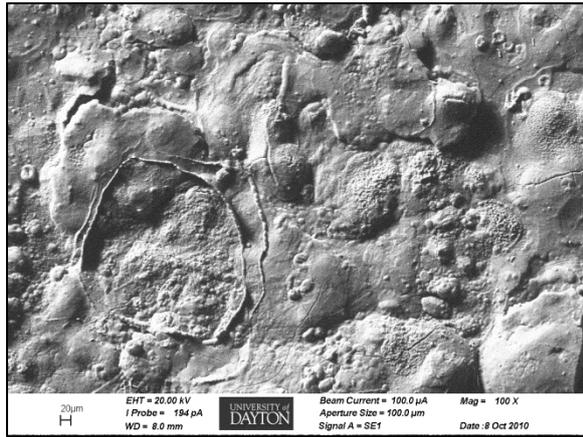


(c)

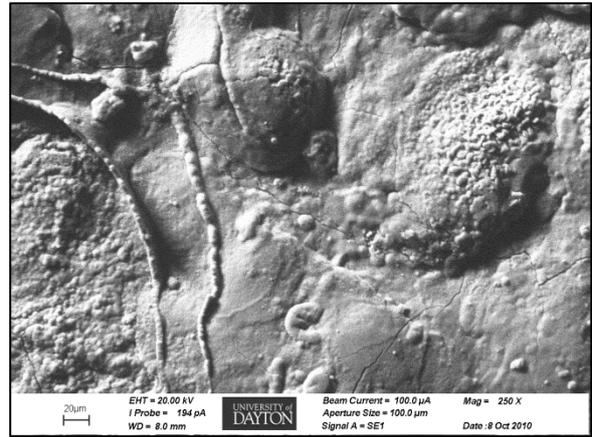


(d)

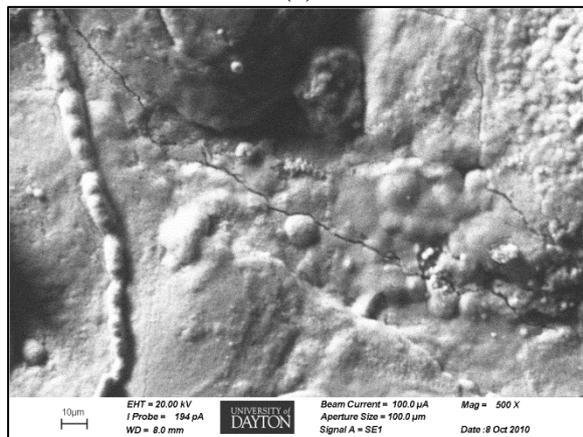
Figure G-45. SEM images of 1010 steel sample retrieved on 12 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



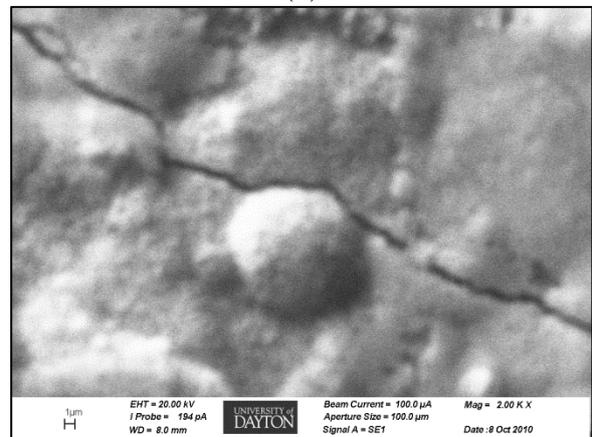
(a)



(b)

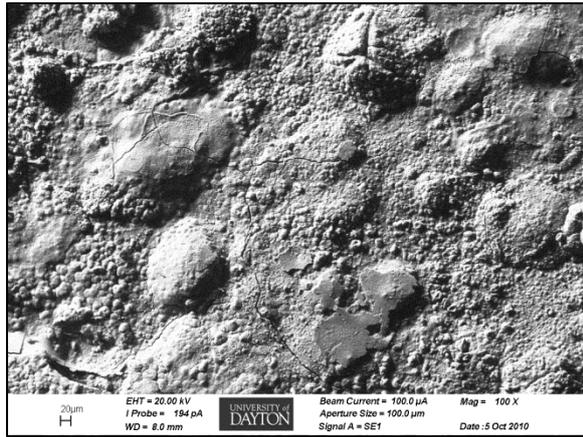


(c)

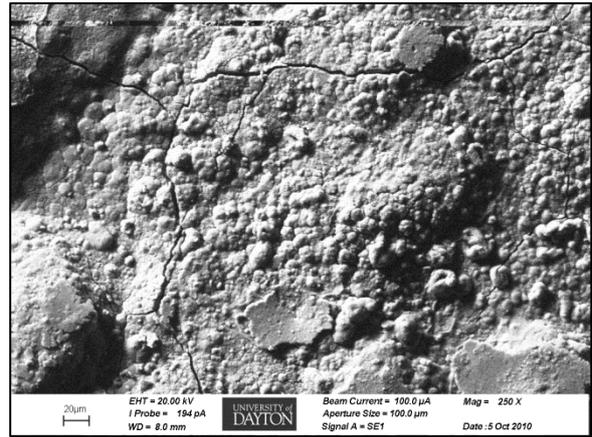


(d)

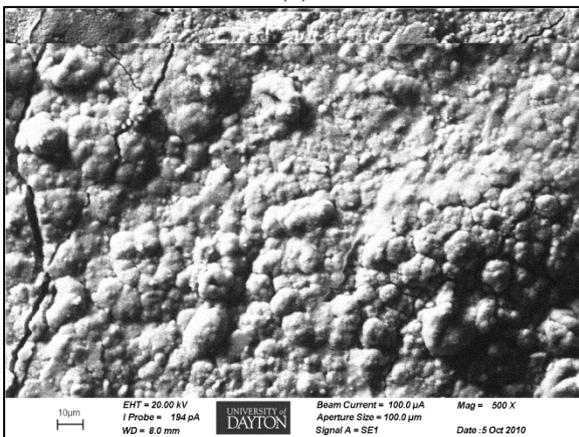
Figure G-46. SEM images of 1010 steel sample retrieved on 9 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



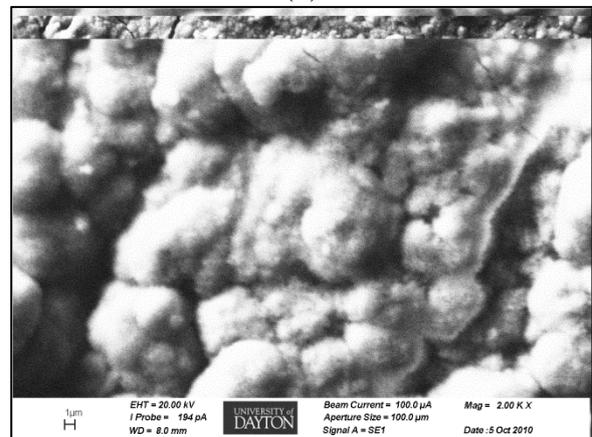
(a)



(b)

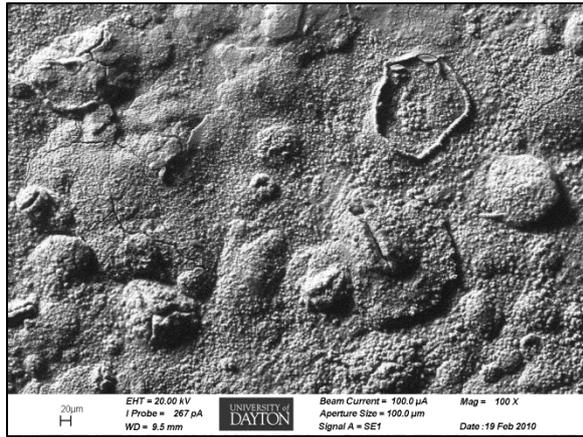


(c)

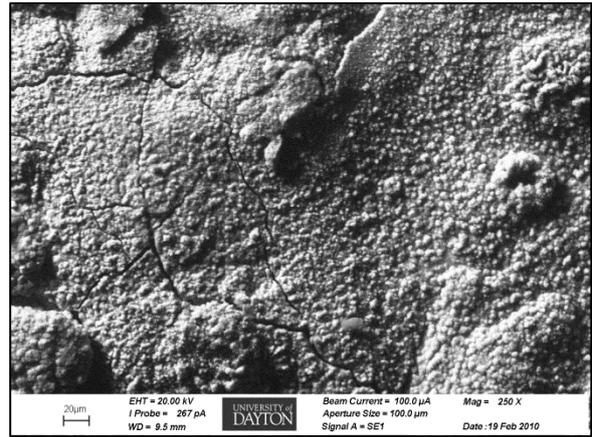


(d)

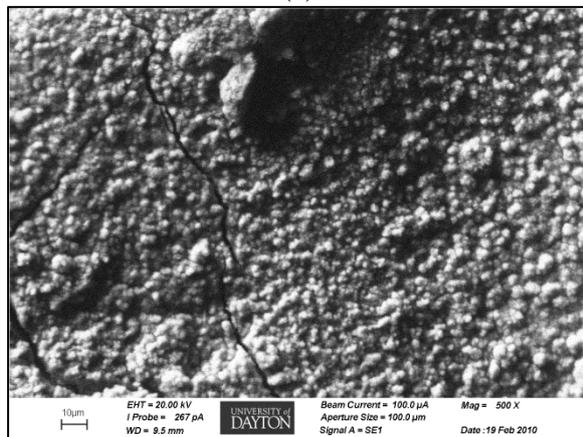
Figure G-47. SEM images of 1010 steel sample retrieved on 6 months exposure from Tyndall AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



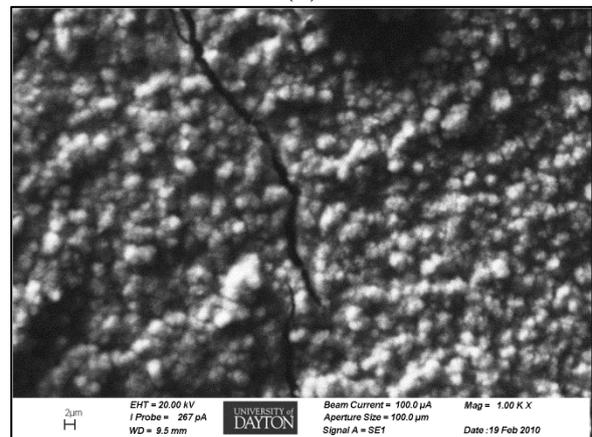
(a)



(b)



(c)



(d)

Figure G-48. SEM images of 1010 steel sample retrieved on 3 months exposure from Tyndall AFB site. (a) 100X magnification, (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.

Appendix H
Scanning Electron Microscopy Images
(Wright-Patterson AFB, OH)

FIGURES

Page

Figure H-1. SEM images of pure silver sample retrieved on 24 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 6

Figure H-2. SEM images of pure silver sample retrieved on 21 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 7

Figure H-3. SEM images of pure silver sample retrieved on 18 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 8

Figure H-4. SEM images of pure silver sample retrieved on 15 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 9

Figure H-5. SEM images of pure silver sample retrieved on 12 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 10

Figure H-6. SEM images of pure silver sample retrieved on 9 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 11

Figure H-7. SEM images of pure silver sample retrieved on 6 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 12

Figure H-8. SEM images of pure silver sample retrieved on 3 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 1000X magnification. 13

Figure H-9. SEM images of aluminum alloy 7075 sample retrieved on 24 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 14

Figure H-10. SEM images of aluminum alloy 7075 sample retrieved on 21 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 15

Figure H-11. SEM images of aluminum alloy 7075 sample retrieved on 18 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 16

Figure H-12. SEM images of aluminum alloy 7075 sample retrieved on 15 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 17

Figure H-13. SEM images of aluminum alloy 7075 sample retrieved on 12 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 18

Figure H-14. SEM images of aluminum alloy 7075 sample retrieved on 9 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 19

Figure H-15. SEM images of aluminum alloy 7075 sample retrieved on 6 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 100X magnification. 20

Figure H-16. SEM images of aluminum alloy 7075 sample retrieved on 3 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification. 21

Figure H-17. SEM images of aluminum alloy 6061 sample retrieved on 24 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 22

Figure H-18. SEM images of aluminum alloy 6061 sample retrieved on 21 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 23

Figure H-19. SEM images of aluminum alloy 6061 sample retrieved on 18 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 24

Figure H-20. SEM images of aluminum alloy 6061 sample retrieved on 15 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 25

Figure H-21. SEM images of aluminum alloy 6061 sample retrieved on 12 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 26

Figure H-22. SEM images of aluminum alloy 6061 sample retrieved on 9 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 27

Figure H-23. SEM images of aluminum alloy 6061 sample retrieved on 6 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 28

Figure H-24. SEM images of aluminum alloy 6061 sample retrieved on 3 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 29

Figure H-25. SEM images of aluminum alloy 2024 sample retrieved on 24 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 30

Figure H-26. SEM images of aluminum alloy 2024 sample retrieved on 21 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 31

Figure H-27. SEM images of aluminum alloy 2024 sample retrieved on 18 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 32

Figure H-28. SEM images of aluminum alloy 2024 sample retrieved on 15 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 33

Figure H-29. SEM images of aluminum alloy 2024 sample retrieved on 12 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 34

Figure H-30. SEM images of aluminum alloy 2024 sample retrieved on 9 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. 35

Figure H-31. SEM images of aluminum alloy 2024 sample retrieved on 6 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification , and (d) 1000X magnification. 36

Figure H-32. SEM images of aluminum alloy 2024 sample retrieved on 3 months exposure from Wright-Patterson AFB site. (a) 100X magnification, (b) 250X magnification, (c) 500X magnification, and (d) 3000X magnification. 37

Figure H-33. SEM images of pure copper sample retrieved on 24 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. ... 38

Figure H-34. SEM images of pure copper sample retrieved on 21 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. ... 39

Figure H-35. SEM images of pure copper sample retrieved on 18 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification. ... 40

Figure H-36. SEM images of pure copper sample retrieved on 15 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 41

Figure H-37. SEM images of pure copper sample retrieved on 12 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 42

Figure H-38. SEM images of pure copper sample retrieved on 9 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 43

Figure H-39. SEM images of pure copper sample retrieved on 6 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification., and (d) 2000X magnification.. 44

Figure H-40. SEM images of pure copper sample retrieved on 3 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 45

Figure H-41. SEM images of 1010 steel sample retrieved on 24 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 46

Figure H-42. SEM images of 1010 steel sample retrieved on 21 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 47

Figure H-43. SEM images of 1010 steel sample retrieved on 18 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 48

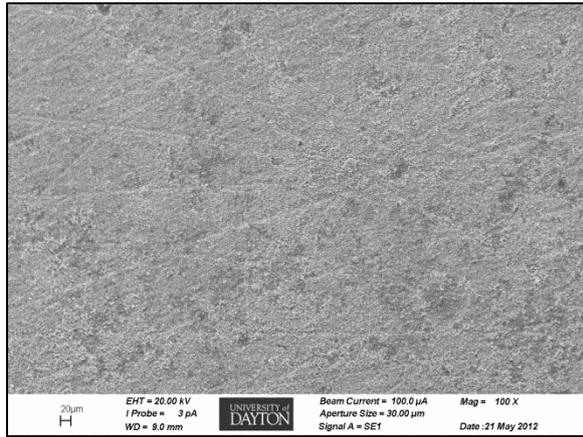
Figure H-44. SEM images of 1010 steel sample retrieved on 15 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 49

Figure H-45. SEM images of 1010 steel sample retrieved on 12 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification... 50

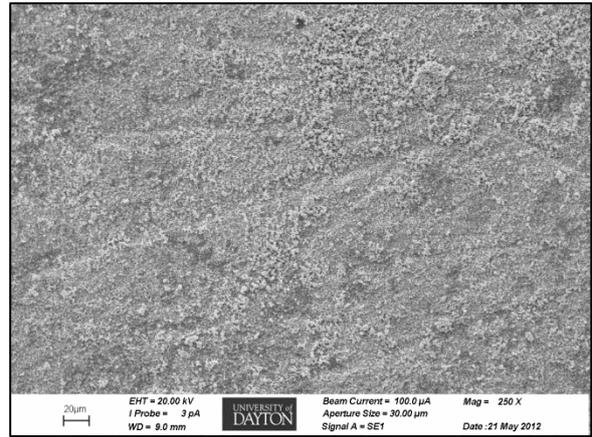
Figure H-46. SEM images of 1010 steel sample retrieved on 9 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification..... 51

Figure H-47. SEM images of 1010 steel sample retrieved on 6 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification..... 52

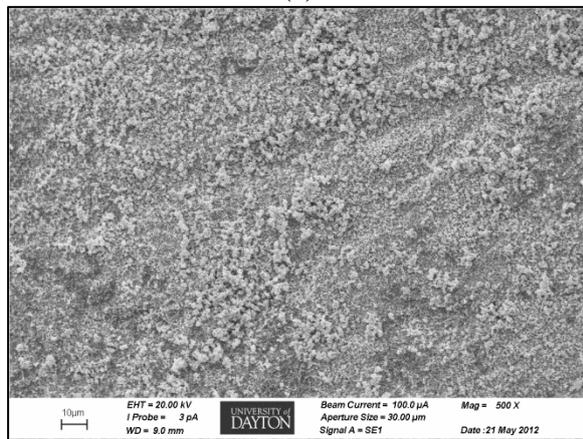
Figure H-48. SEM images of 1010 steel sample retrieved on 3 months exposure from Wright-Patterson AFB site. (a) 100X magnification, (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification..... 53



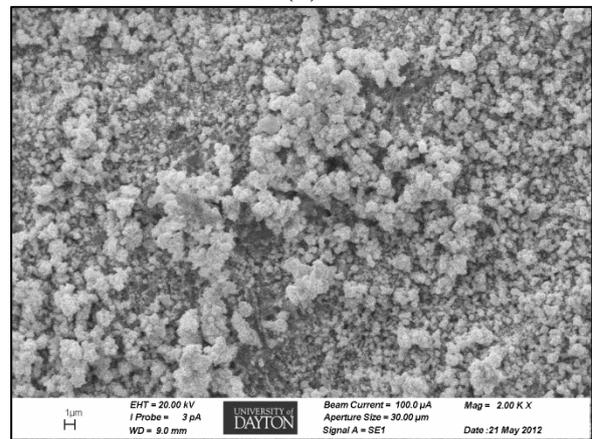
(a)



(b)

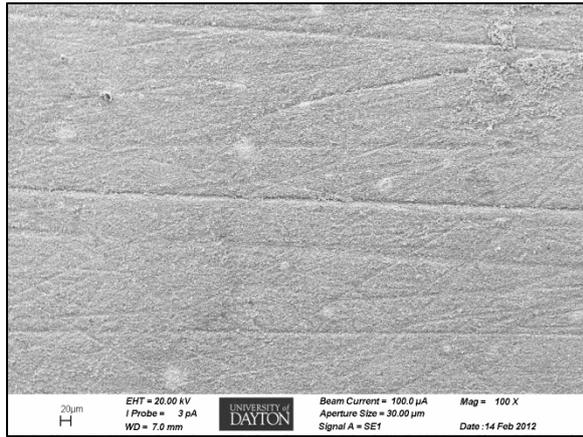


(c)

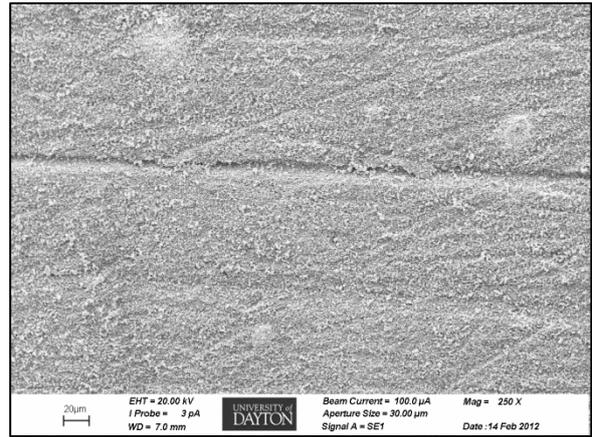


(d)

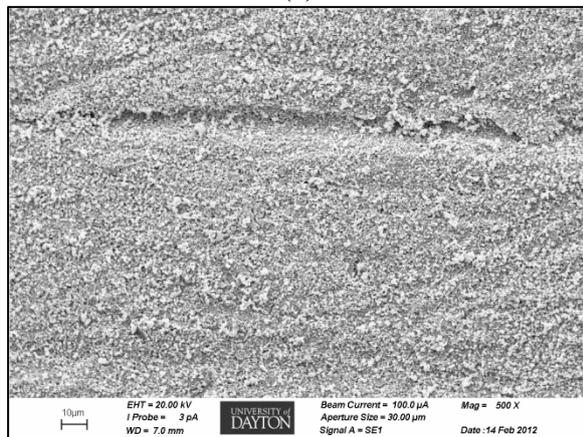
Figure H-1. SEM images of pure silver sample retrieved on 24 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



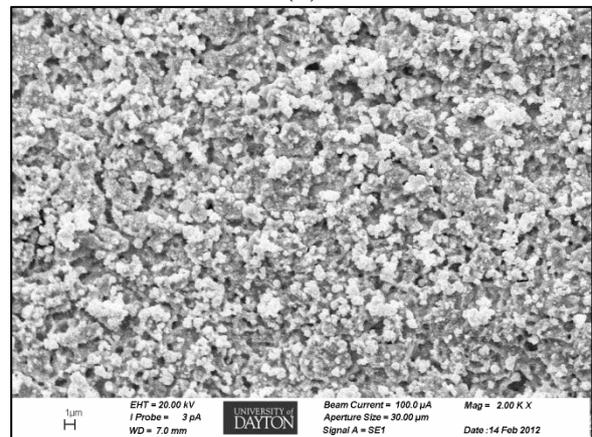
(a)



(b)

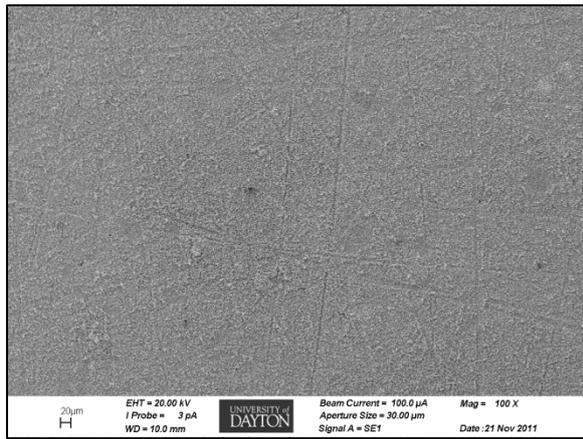


(c)

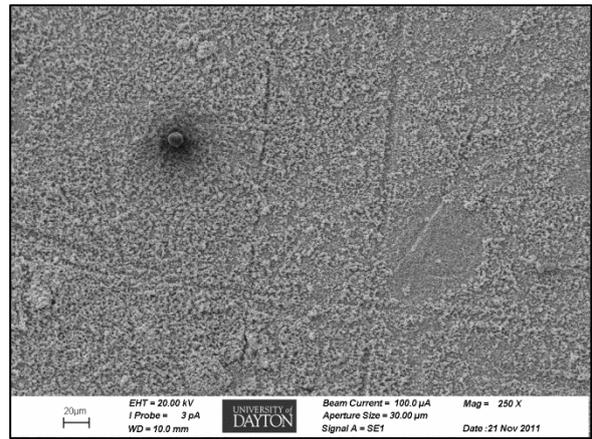


(d)

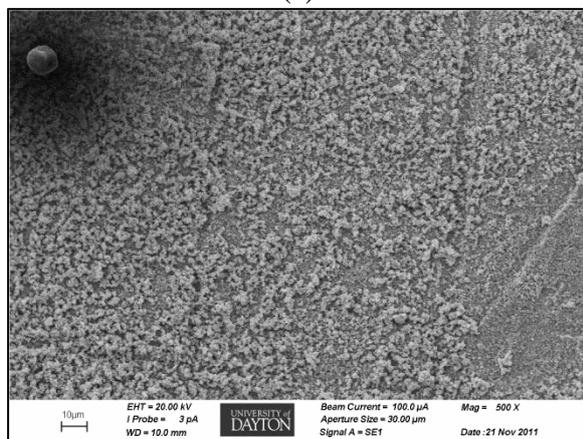
Figure H-2. SEM images of pure silver sample retrieved on 21 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



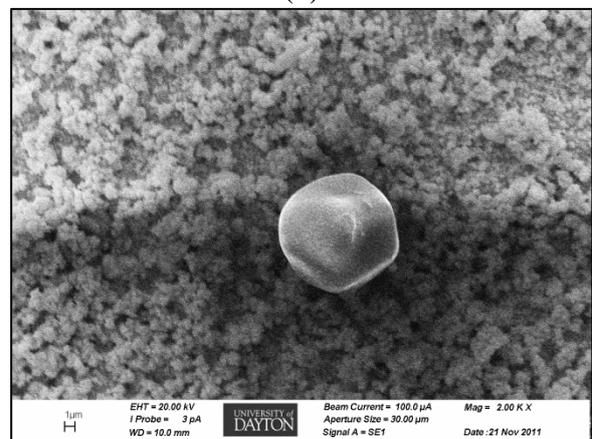
(a)



(b)

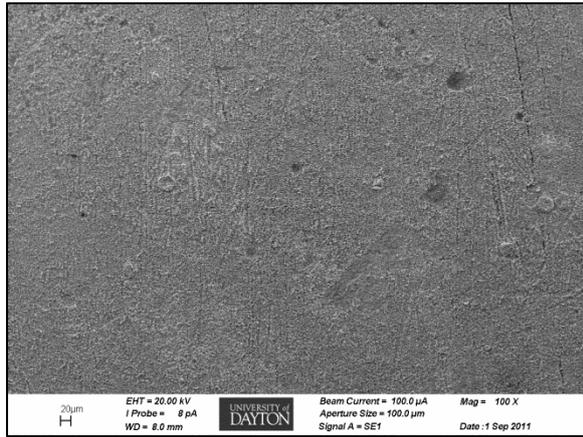


(c)

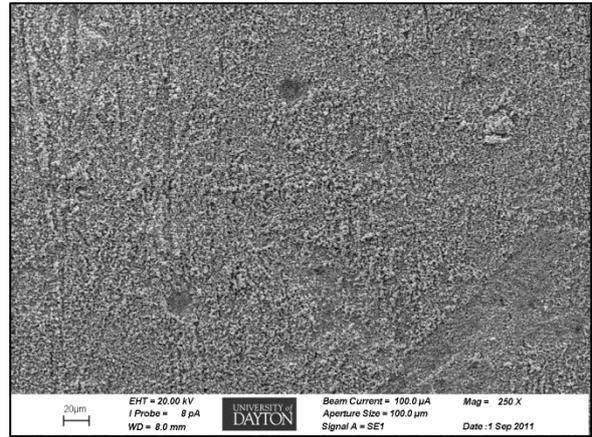


(d)

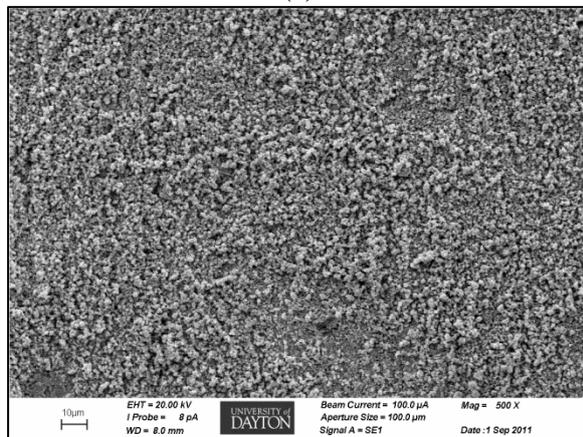
Figure H-3. SEM images of pure silver sample retrieved on 18 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



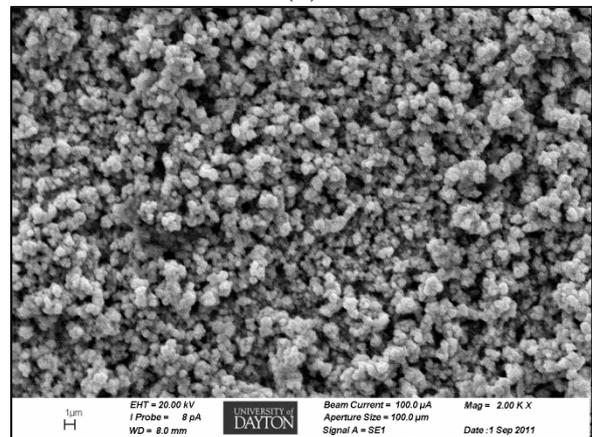
(a)



(b)

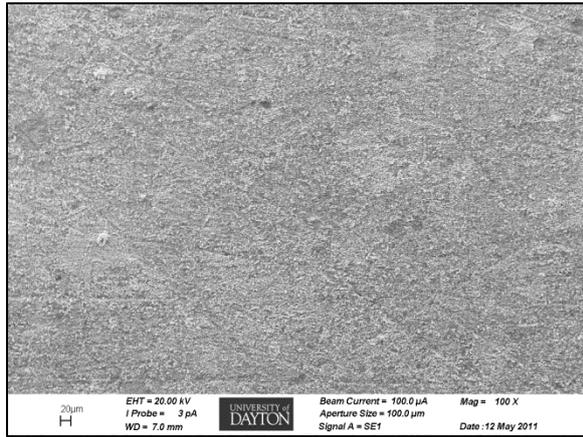


(c)

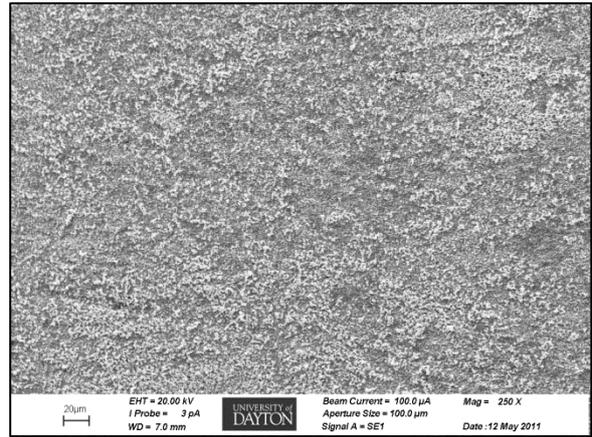


(d)

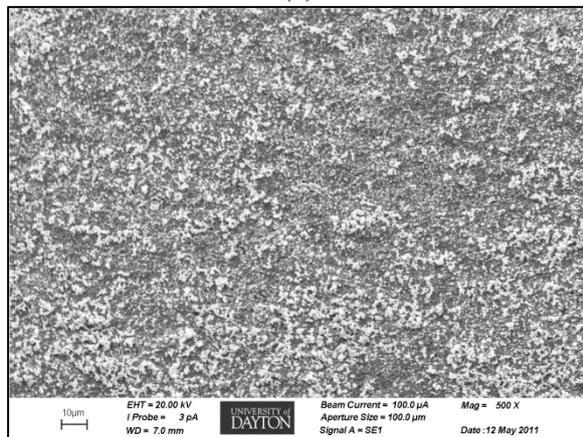
Figure H-4. SEM images of pure silver sample retrieved on 15 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



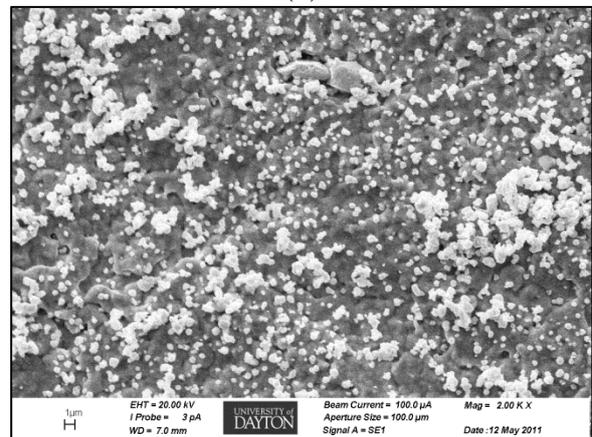
(a)



(b)

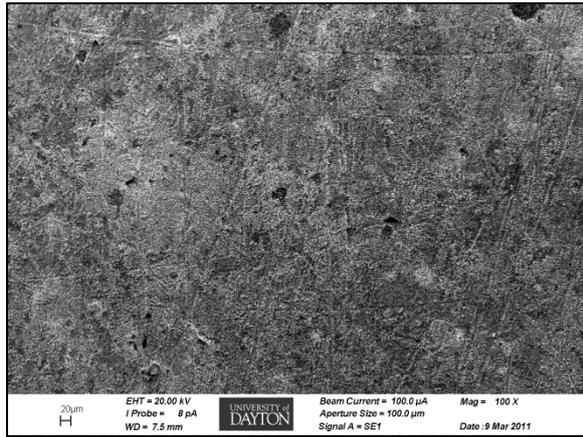


(c)

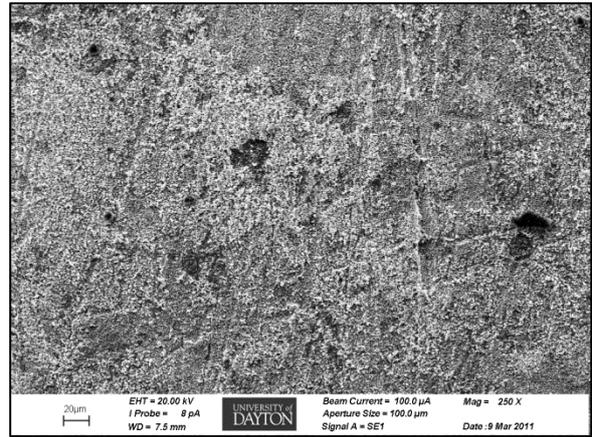


(d)

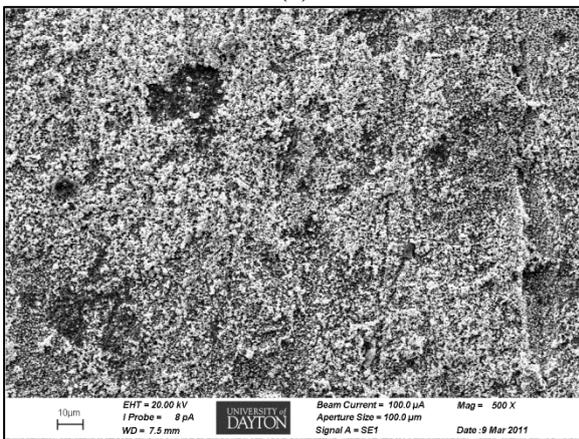
Figure H-5. SEM images of pure silver sample retrieved on 12 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



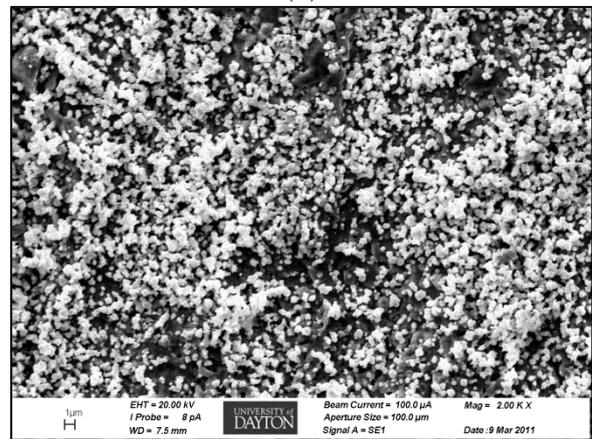
(a)



(b)

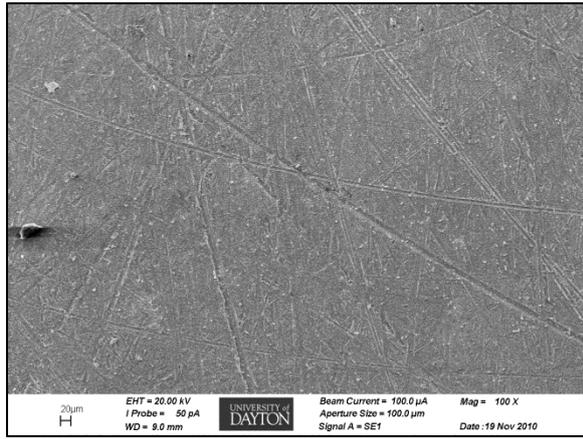


(c)

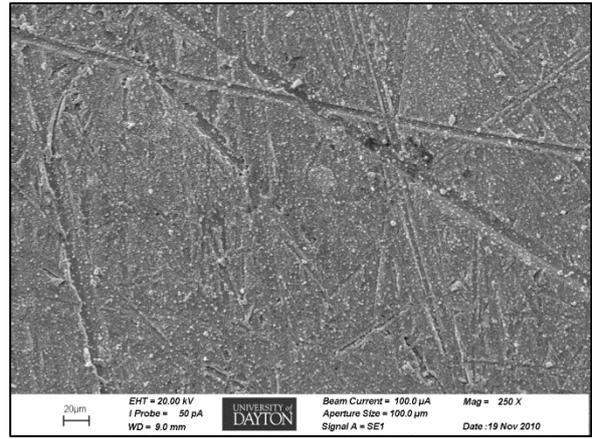


(d)

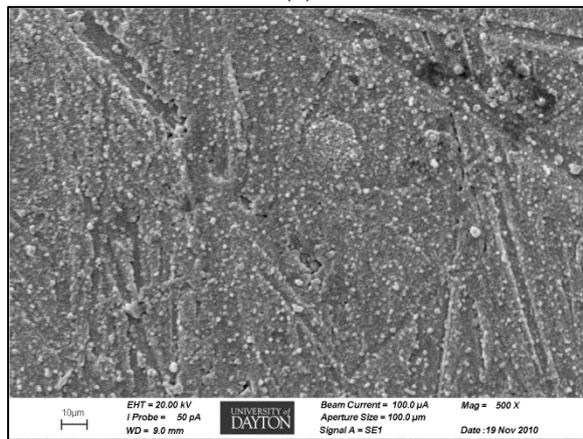
Figure H-6. SEM images of pure silver sample retrieved on 9 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



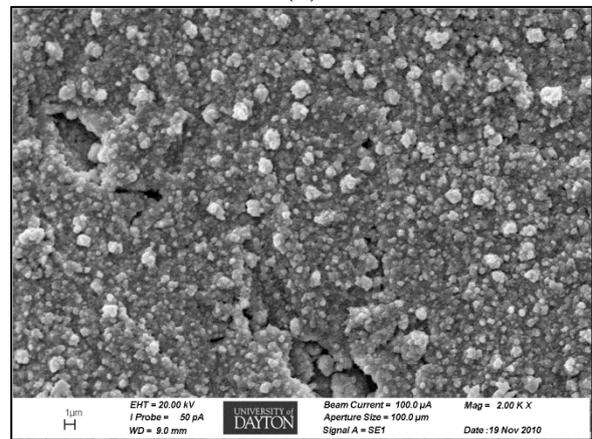
(a)



(b)

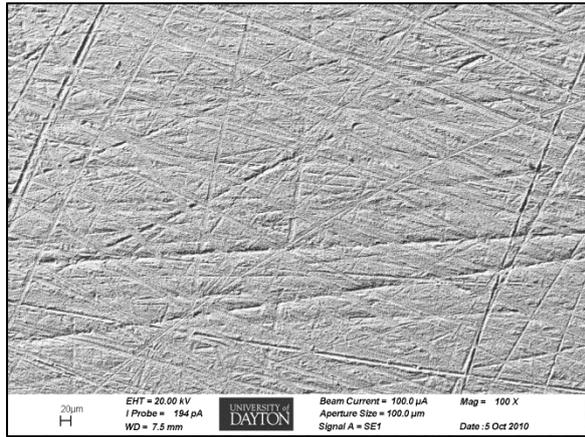


(c)

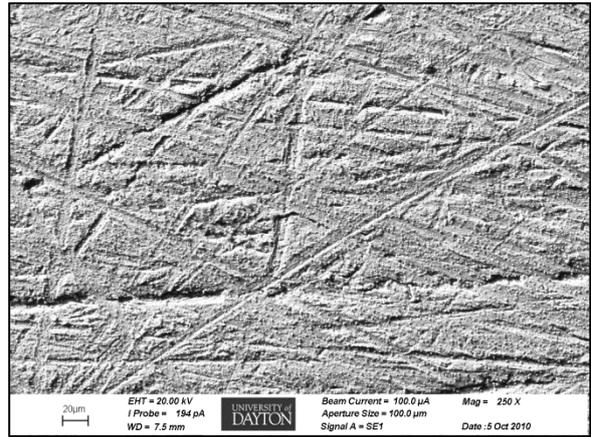


(d)

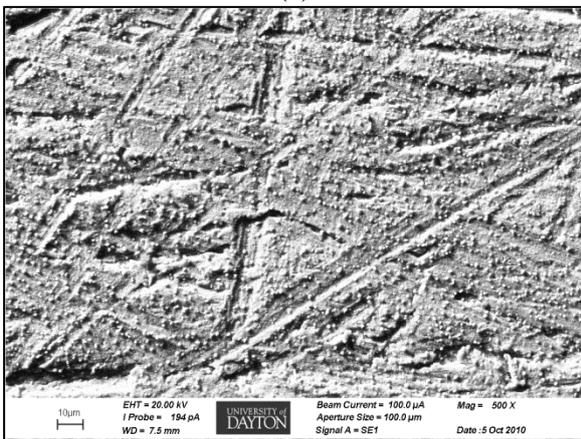
Figure H-7. SEM images of pure silver sample retrieved on 6 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



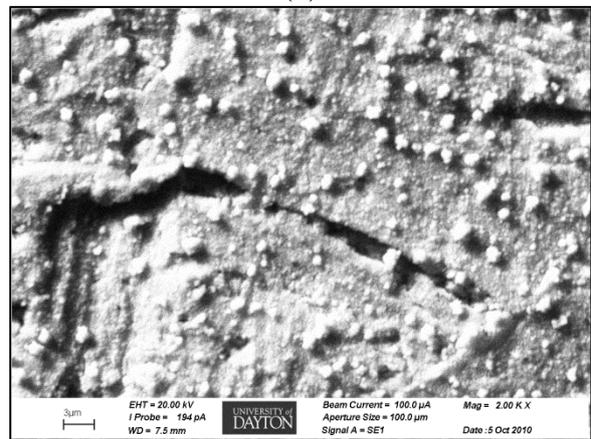
(a)



(b)

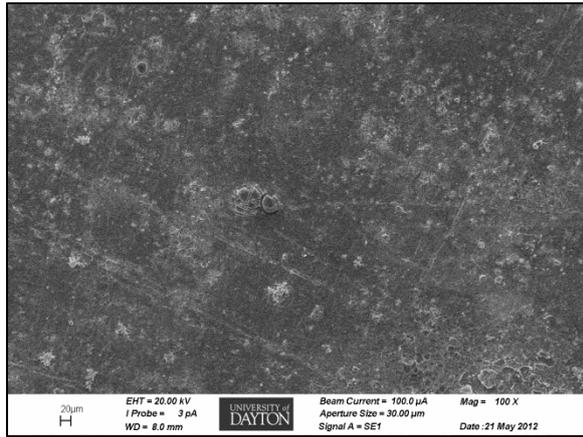


(c)

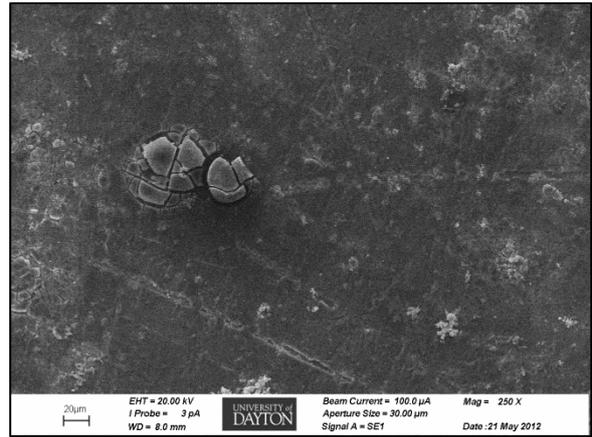


(d)

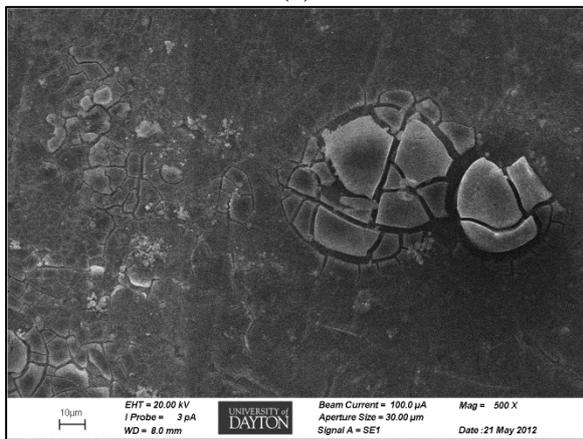
Figure H-8. SEM images of pure silver sample retrieved on 3 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 1000X magnification.



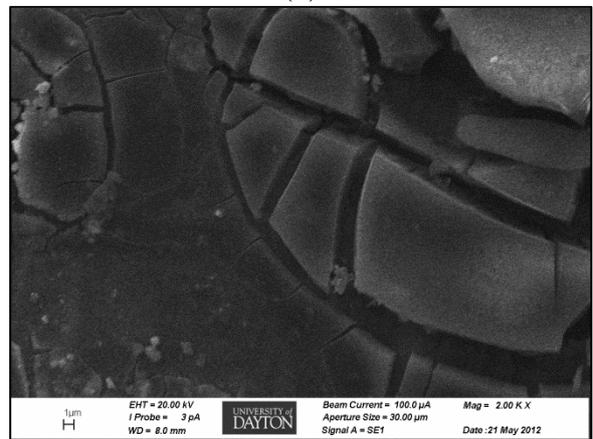
(a)



(b)

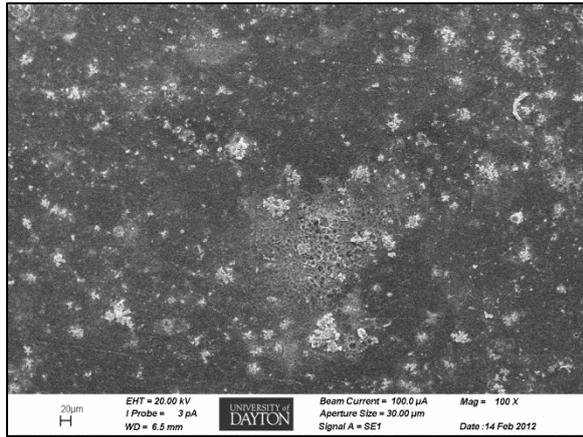


(c)

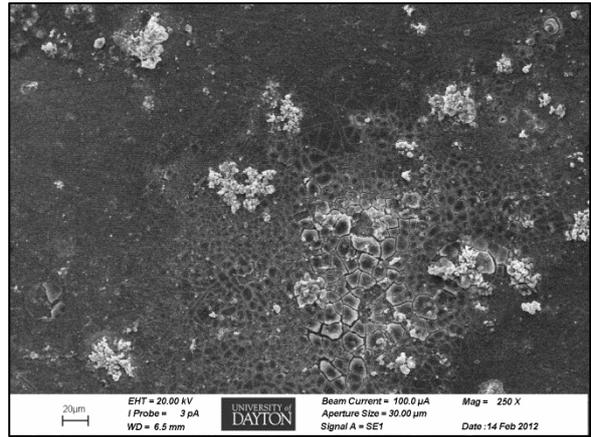


(d)

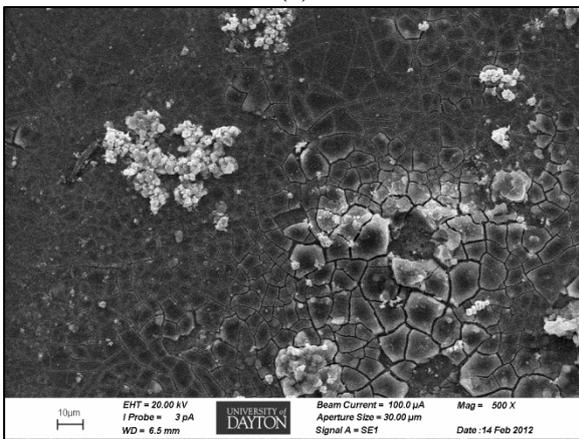
Figure H-9. SEM images of aluminum alloy 7075 sample retrieved on 24 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



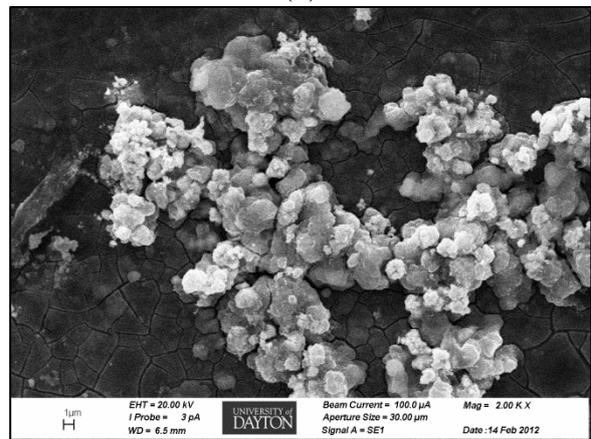
(a)



(b)

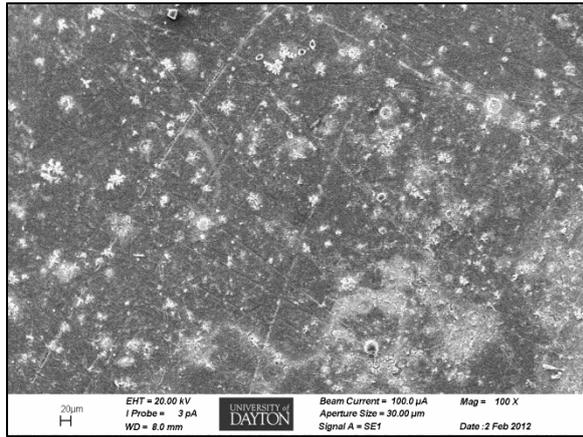


(c)

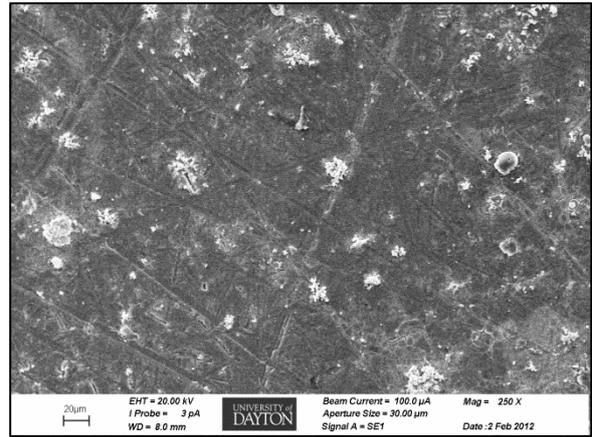


(d)

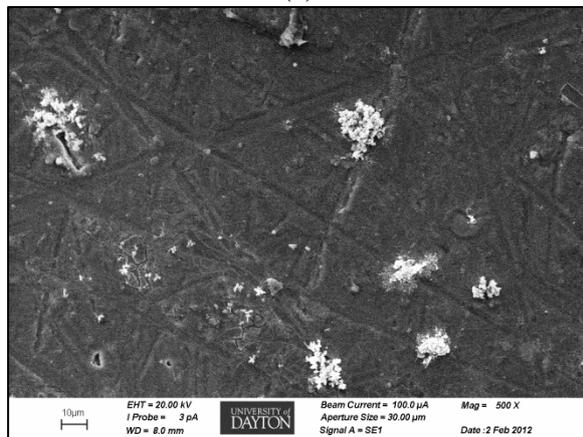
Figure H-10. SEM images of aluminum alloy 7075 sample retrieved on 21 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



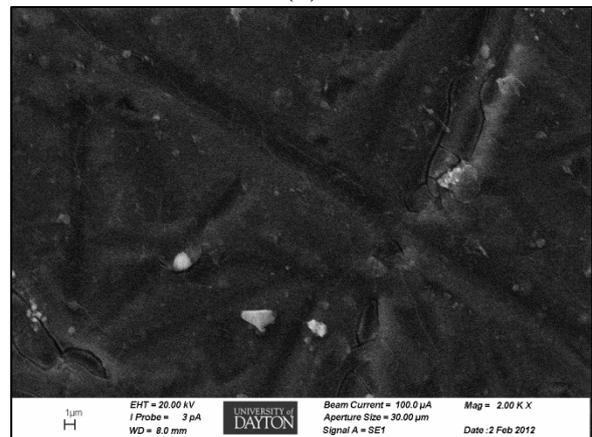
(a)



(b)

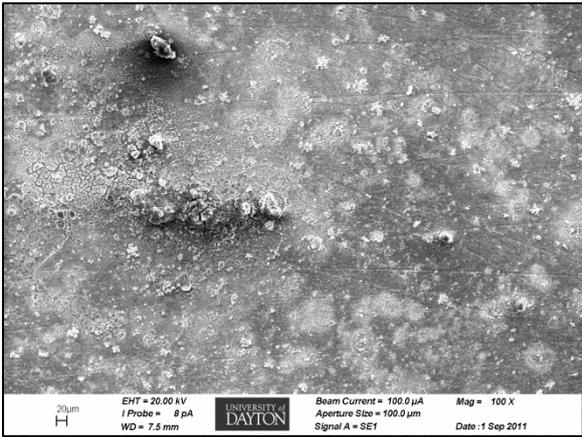


(c)

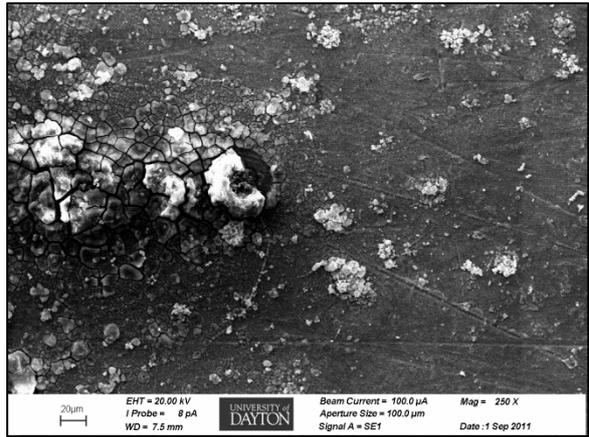


(d)

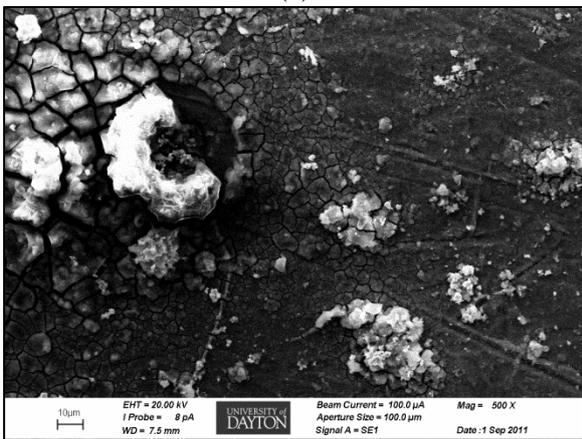
Figure H-11. SEM images of aluminum alloy 7075 sample retrieved on 18 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



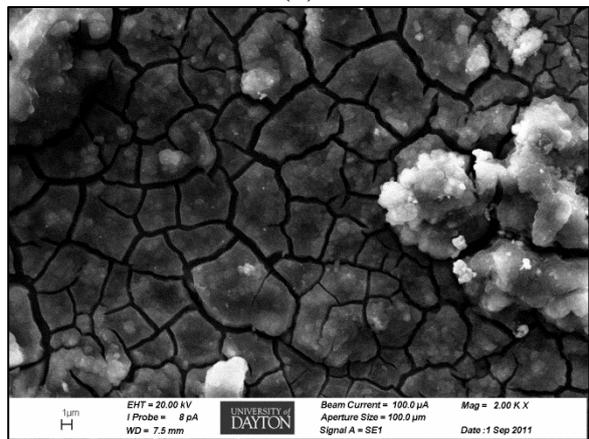
(a)



(b)

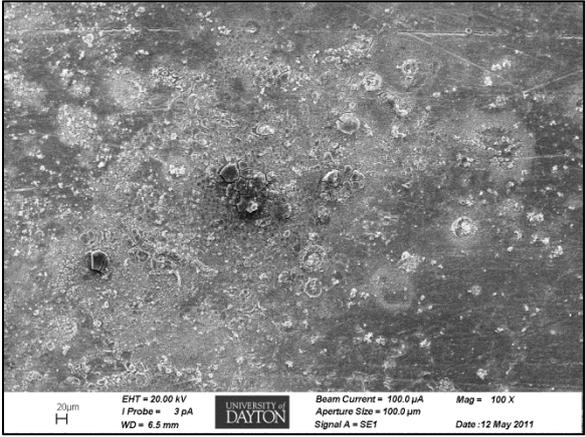


(c)

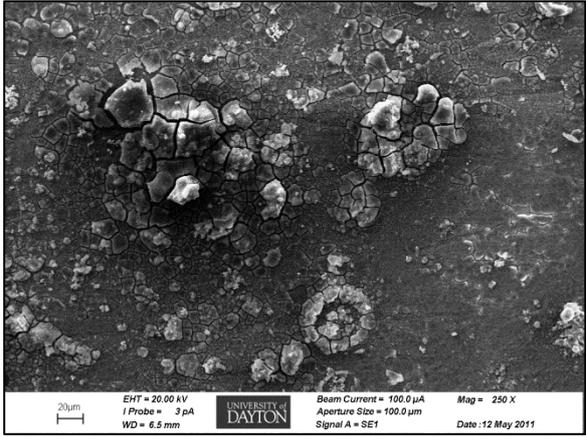


(d)

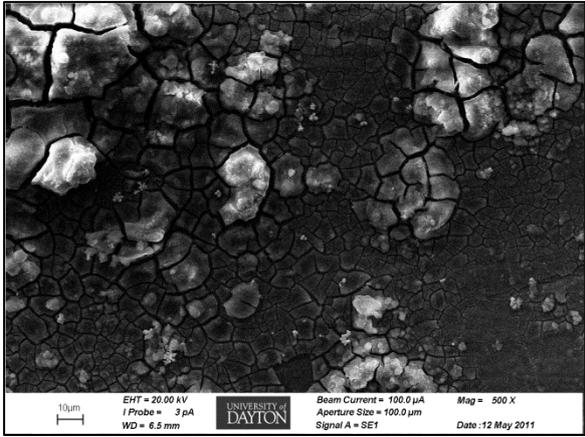
Figure H-12. SEM images of aluminum alloy 7075 sample retrieved on 15 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



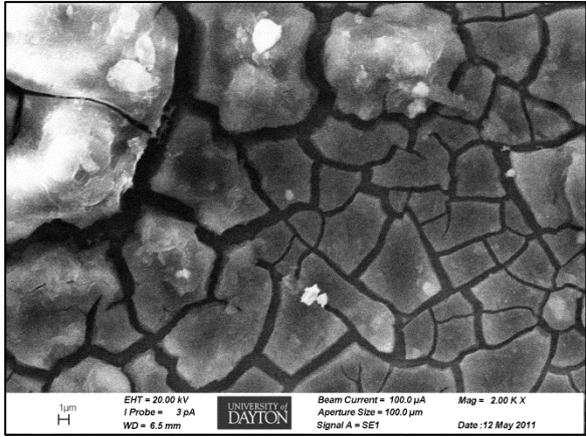
(a)



(b)

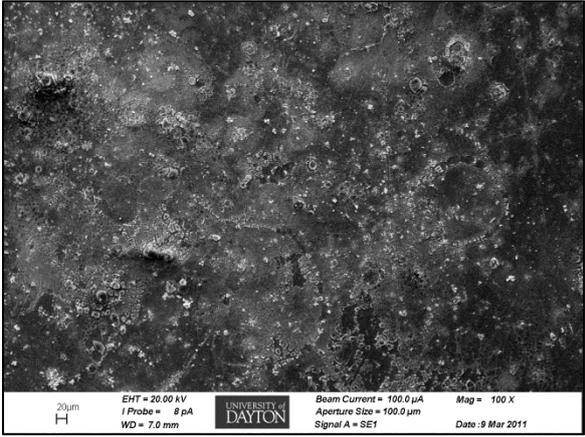


(c)

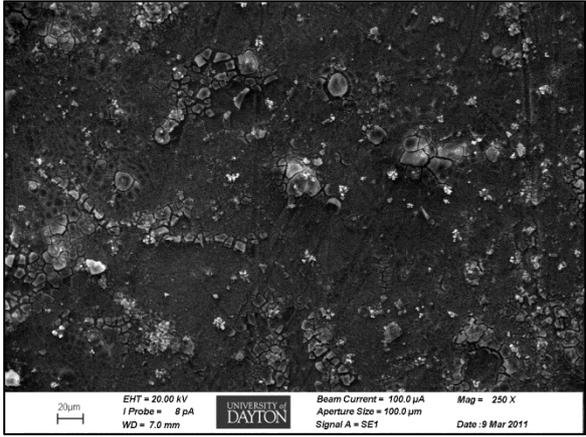


(d)

Figure H-13. SEM images of aluminum alloy 7075 sample retrieved on 12 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



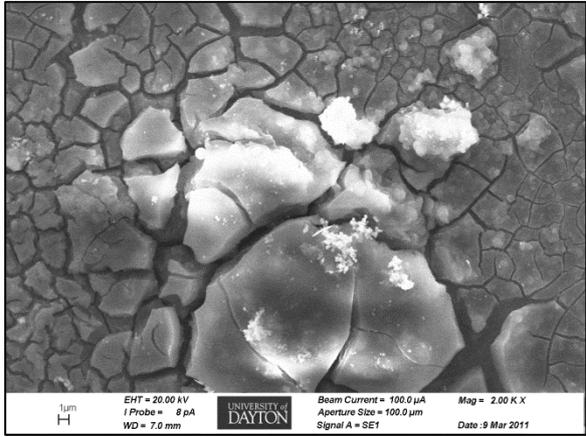
(a)



(b)

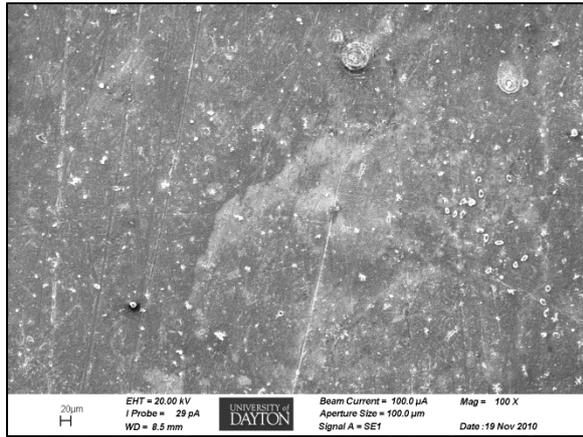


(c)

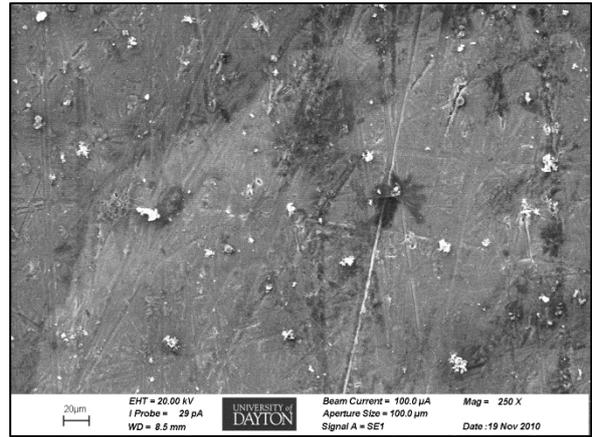


(d)

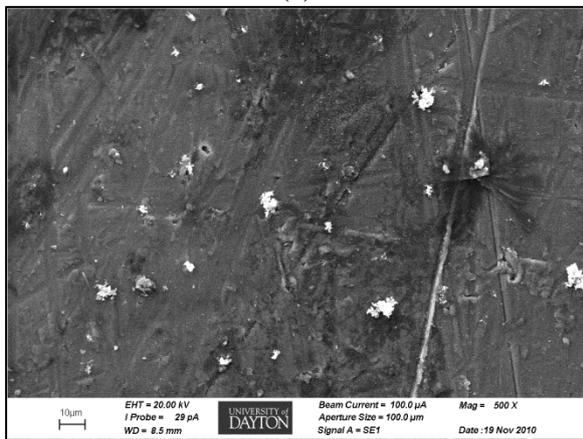
Figure H-14. SEM images of aluminum alloy 7075 sample retrieved on 9 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)



(b)



(c)

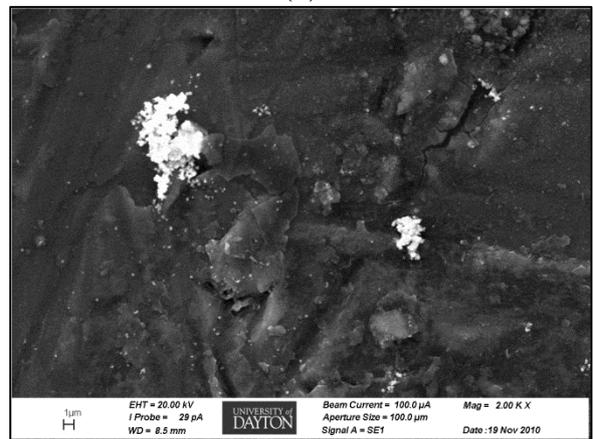
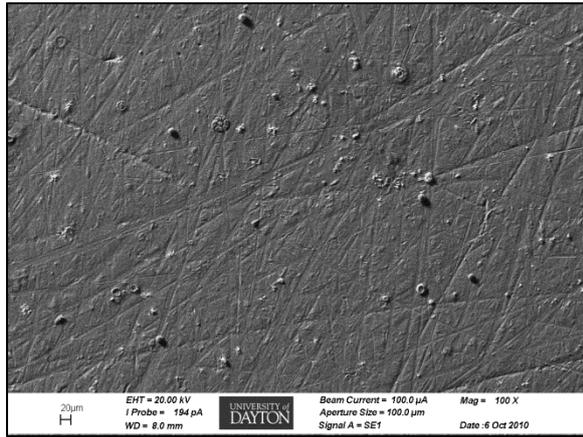
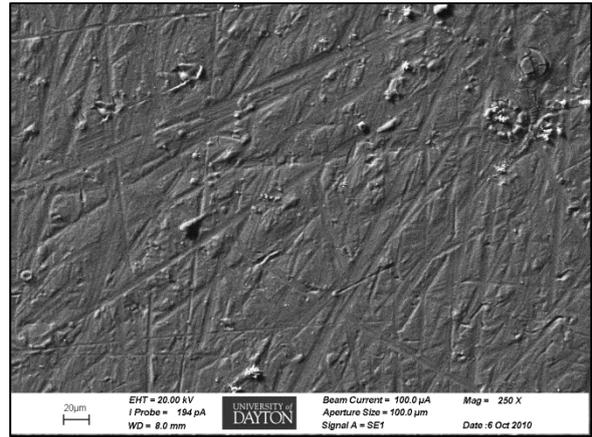


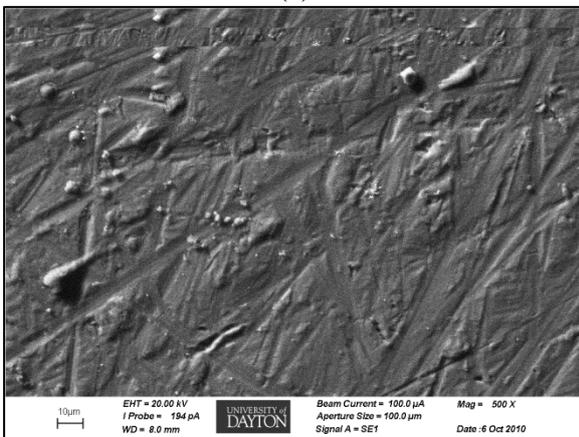
Figure H-15. SEM images of aluminum alloy 7075 sample retrieved on 6 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 100X magnification



(a)



(b)



(c)

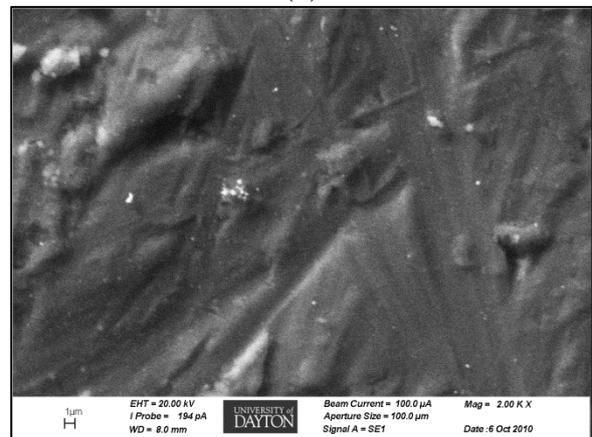
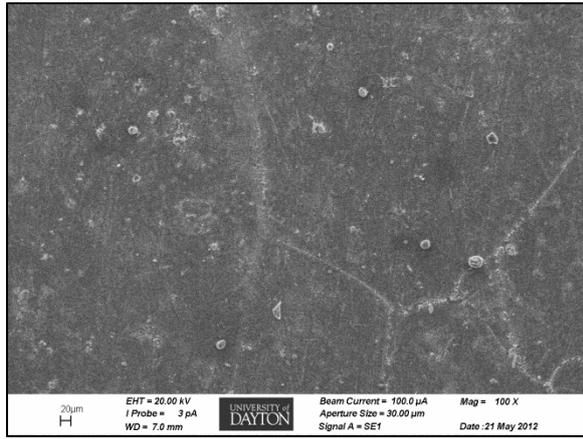
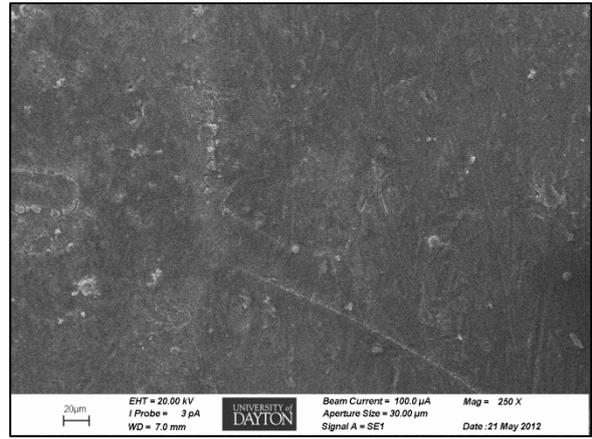


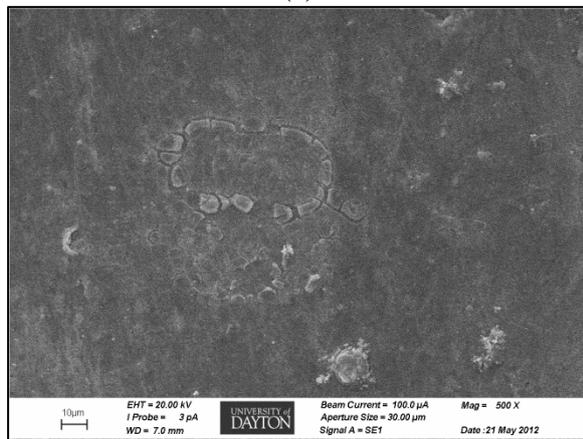
Figure H-16. SEM images of aluminum alloy 7075 sample retrieved on 3 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



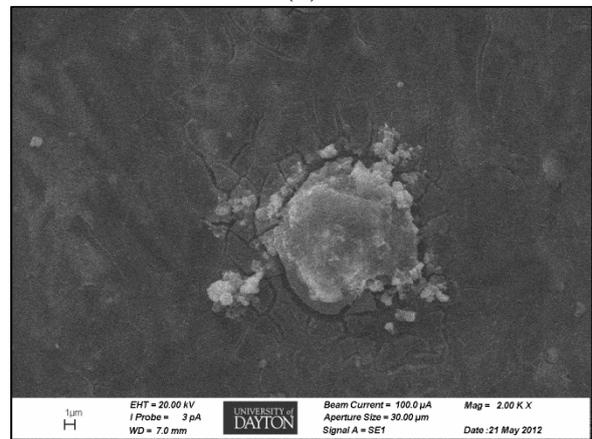
(a)



(b)

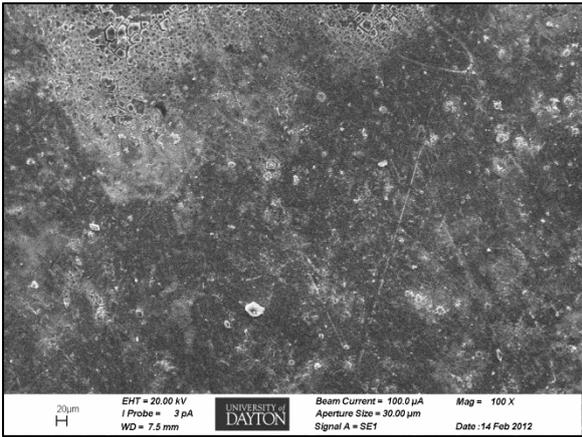


(c)

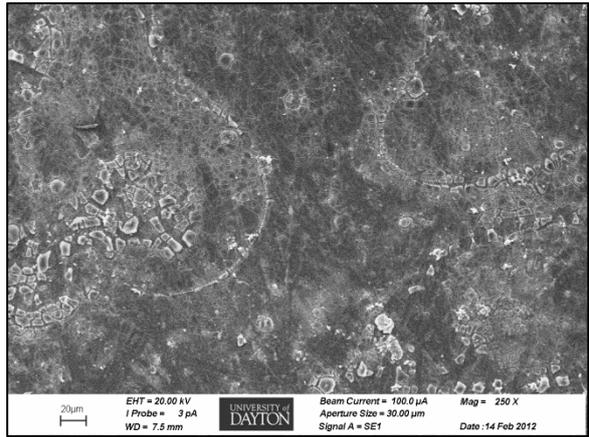


(d)

Figure H-17. SEM images of aluminum alloy 6061 sample retrieved on 24 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



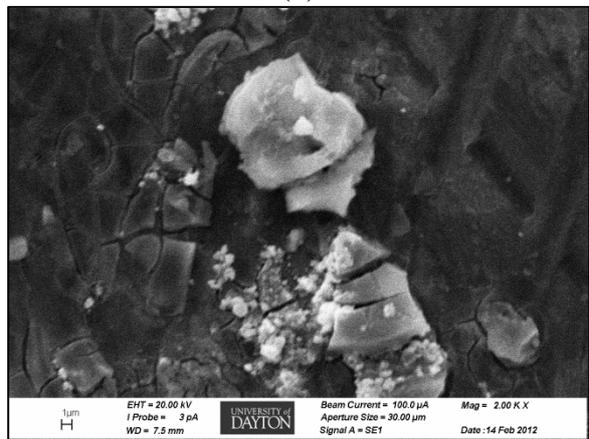
(a)



(b)

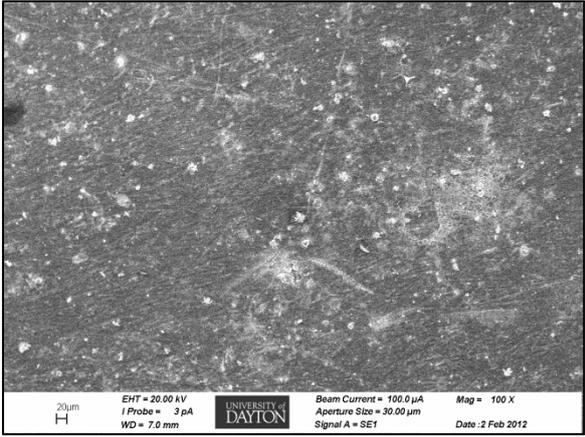


(c)

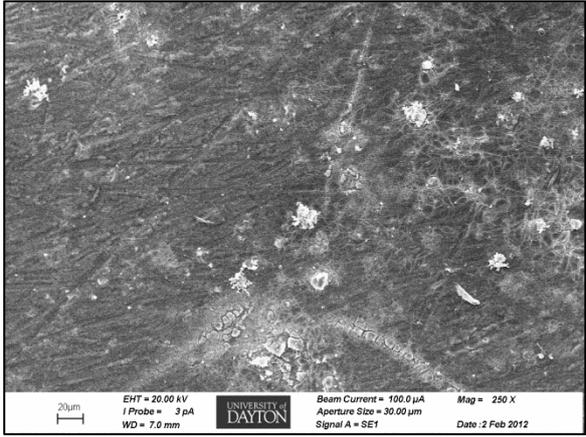


(d)

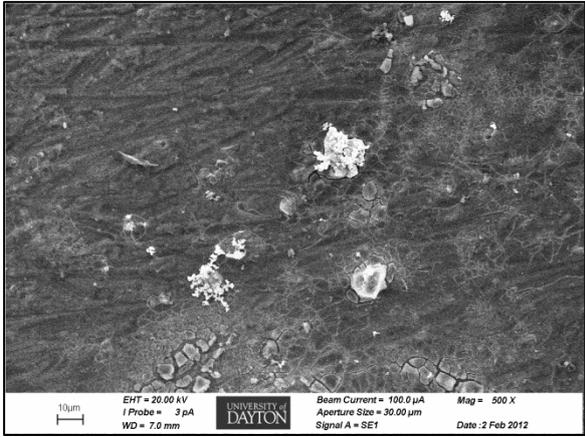
Figure H-18. SEM images of aluminum alloy 6061 sample retrieved on 21 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



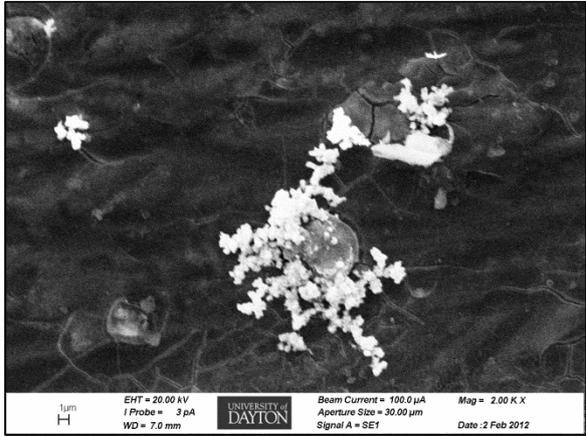
(a)



(b)

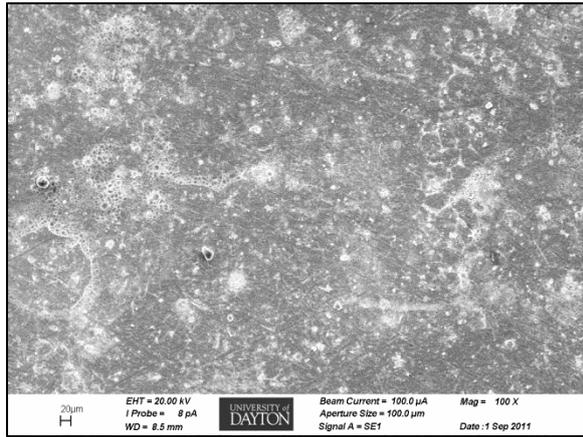


(c)

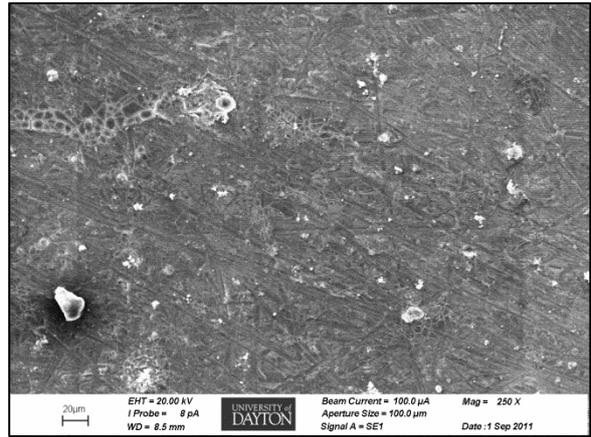


(d)

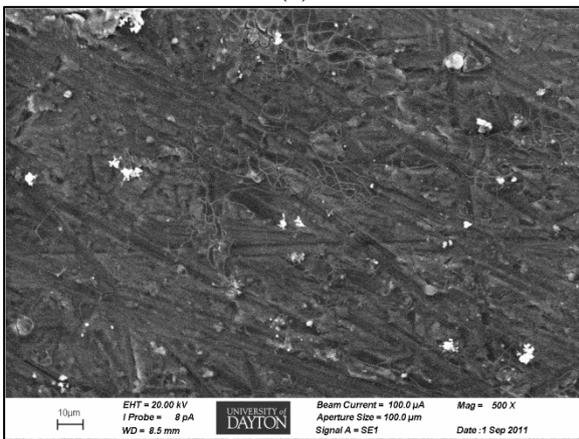
Figure H-19. SEM images of aluminum alloy 6061 sample retrieved on 18 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



(a)



(b)

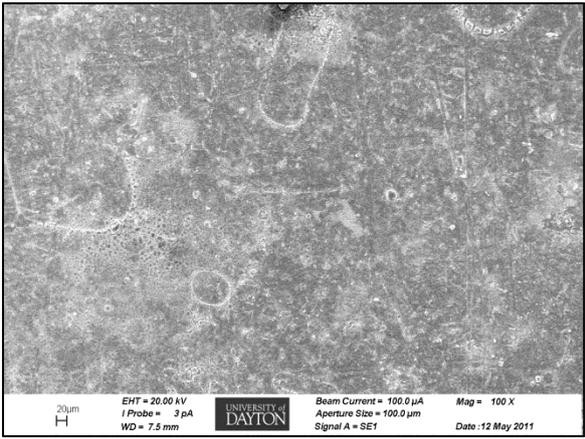


(c)

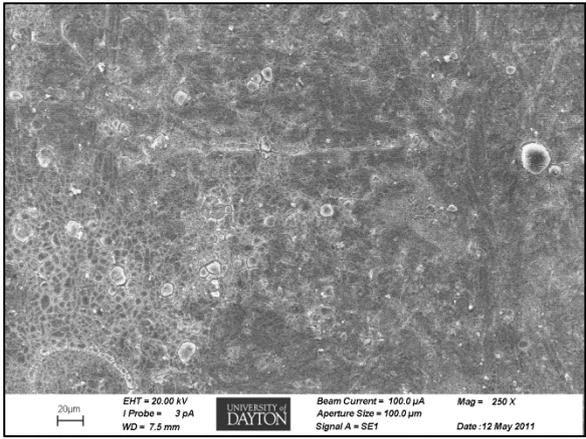


(d)

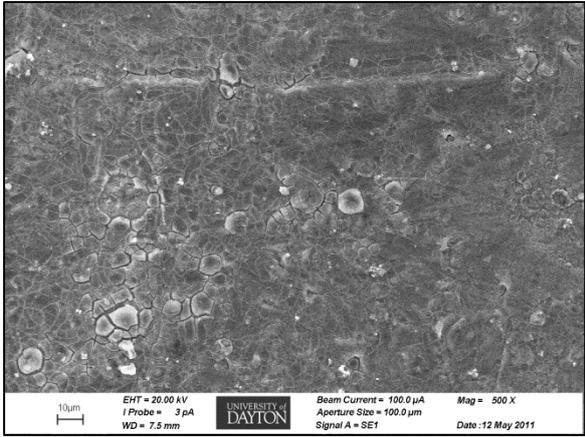
Figure H-20. SEM images of aluminum alloy 6061 sample retrieved on 15 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification



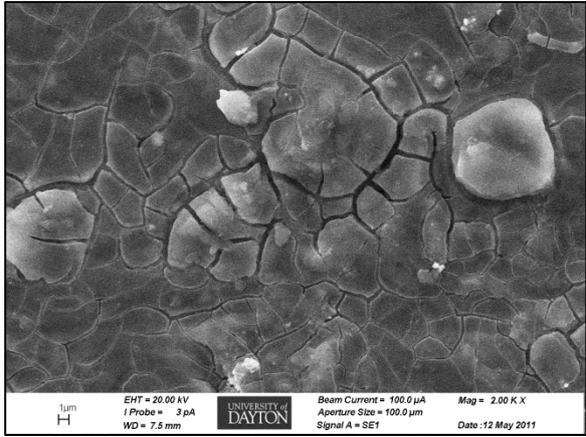
(a)



(b)

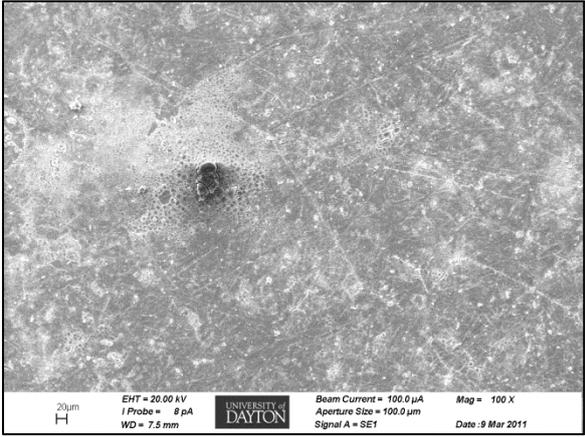


(c)

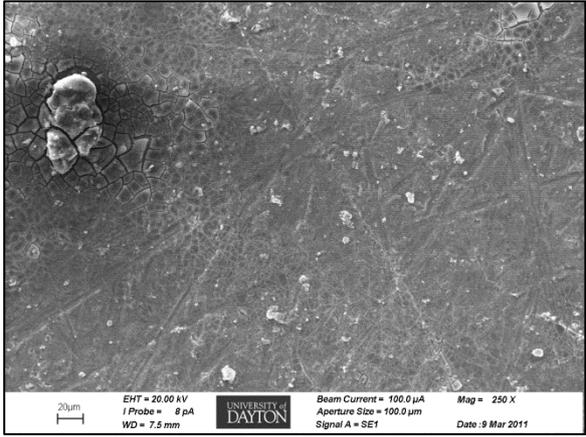


(d)

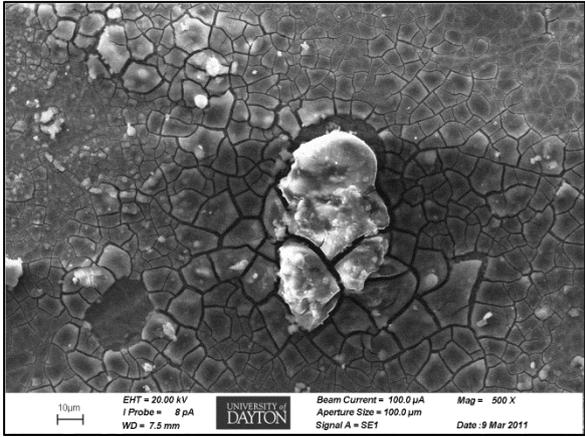
Figure H-21. SEM images of aluminum alloy 6061 sample retrieved on 12 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



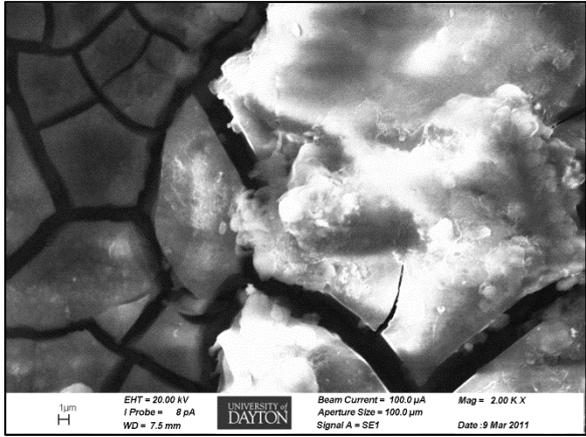
(a)



(b)

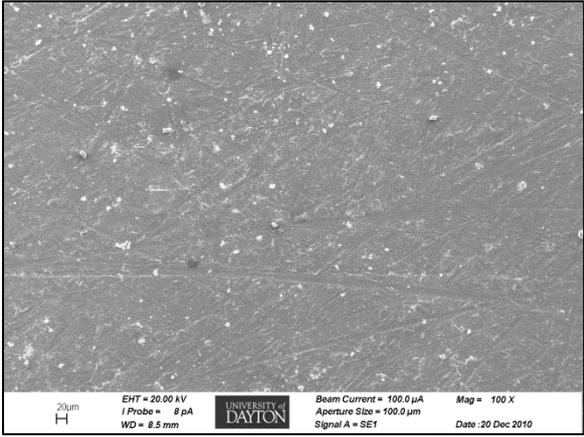


(c)

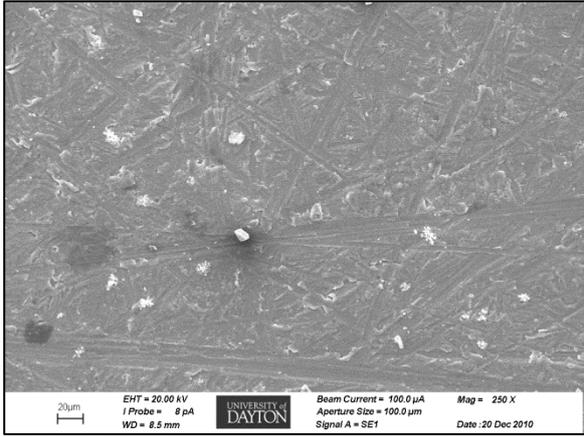


(d)

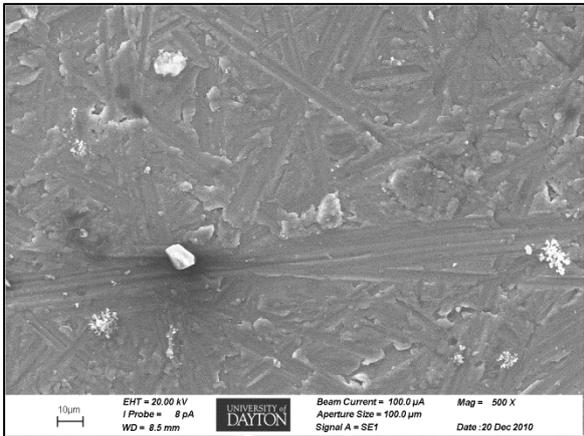
Figure H-22. SEM images of aluminum alloy 6061 sample retrieved on 9 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)



(b)



(c)

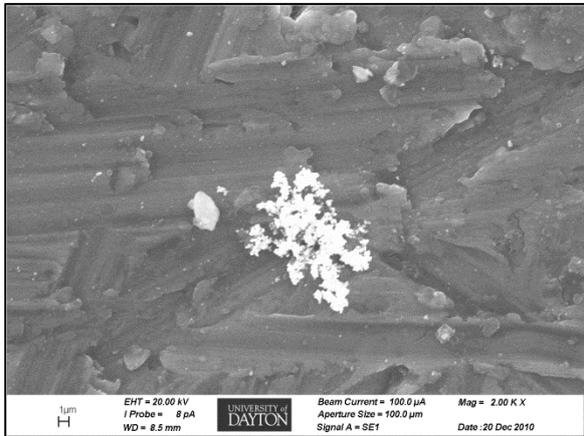
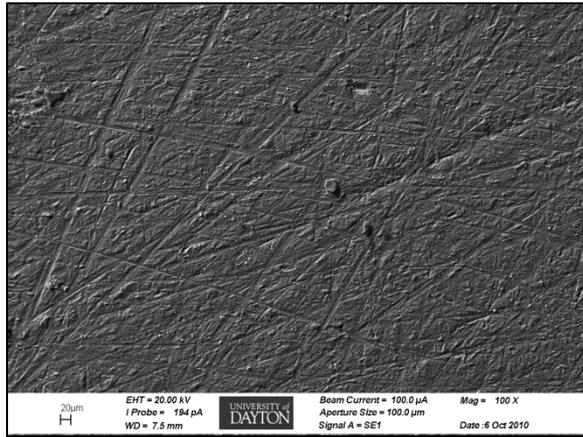
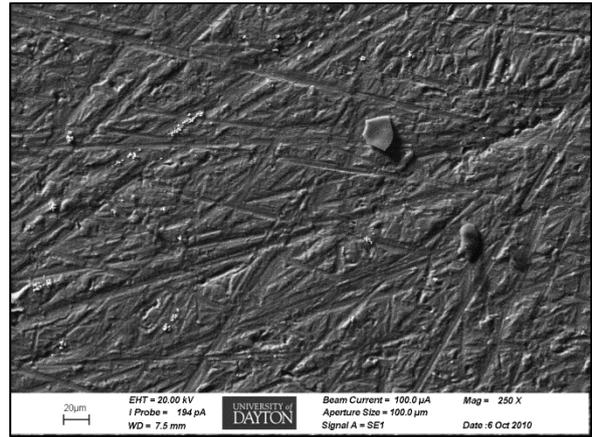


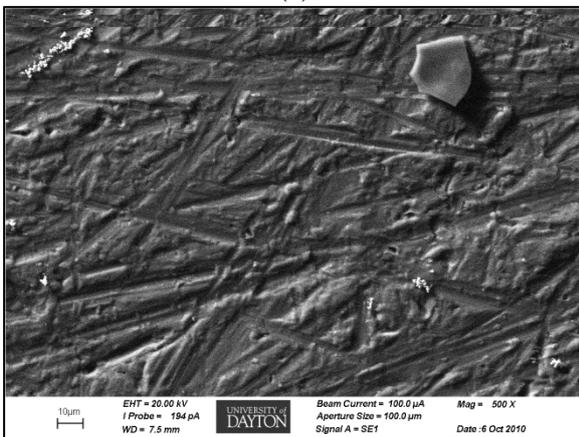
Figure H-23. SEM images of aluminum alloy 6061 sample retrieved on 6 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification and (d) 2000X magnification.



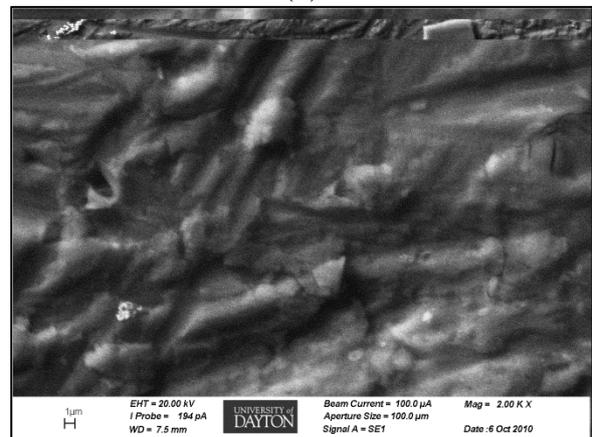
(a)



(b)

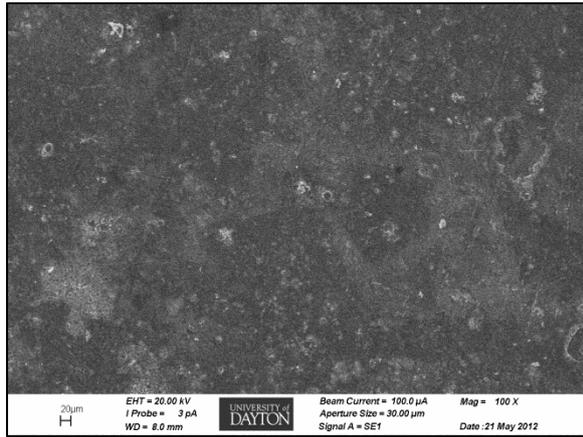


(c)

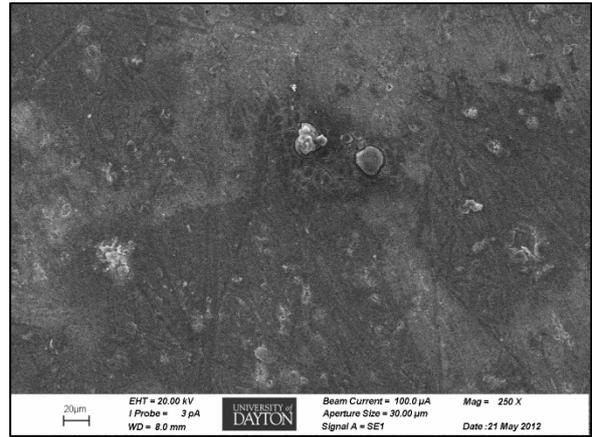


(d)

Figure H-24. SEM images of aluminum alloy 6061 sample retrieved on 3 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



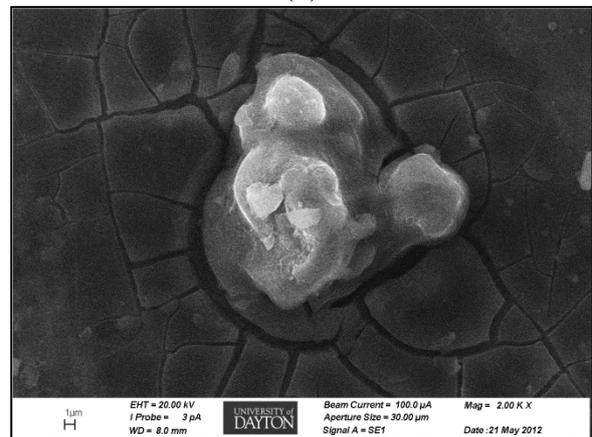
(a)



(b)

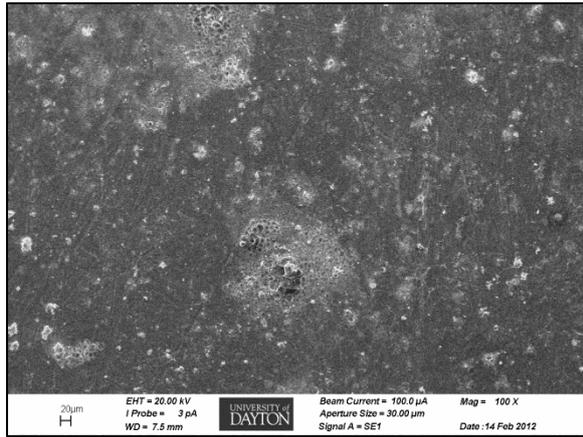


(c)

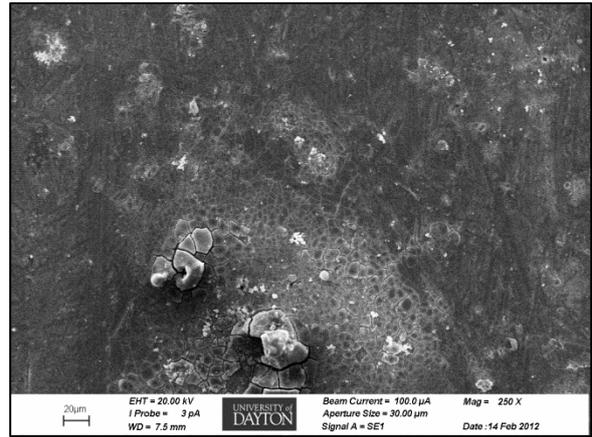


(d)

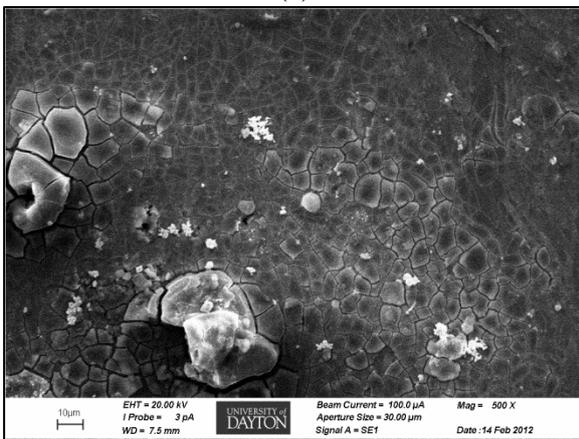
Figure H-25. SEM images of aluminum alloy 2024 sample retrieved on 24 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



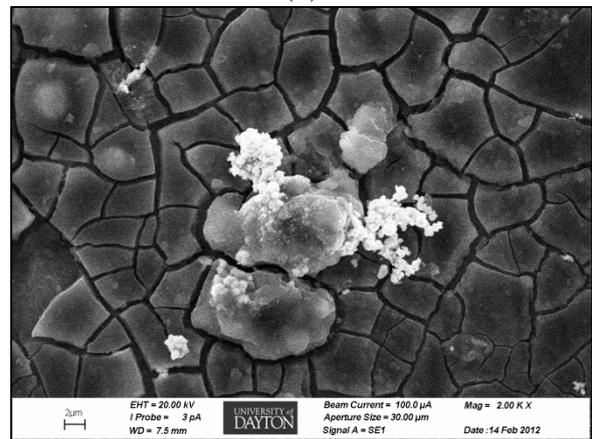
(a)



(b)

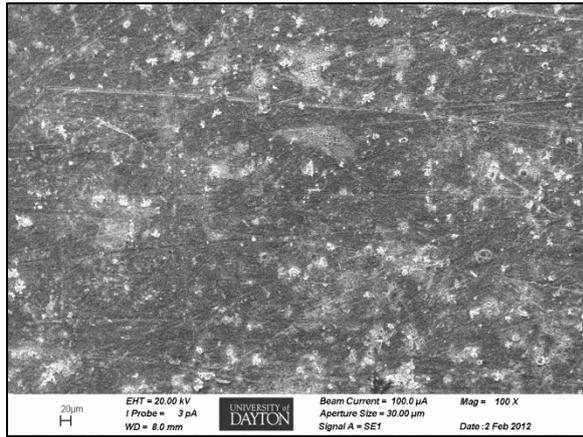


(c)

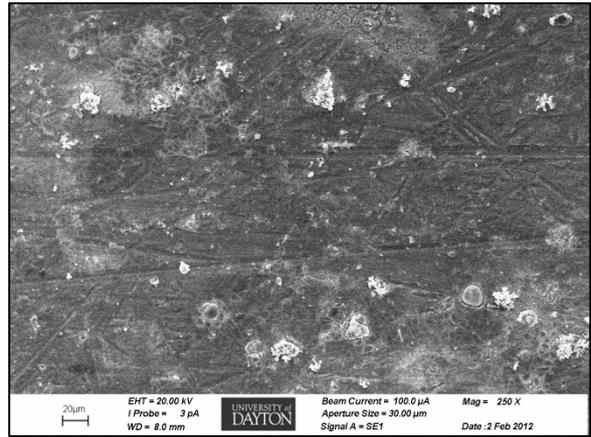


(d)

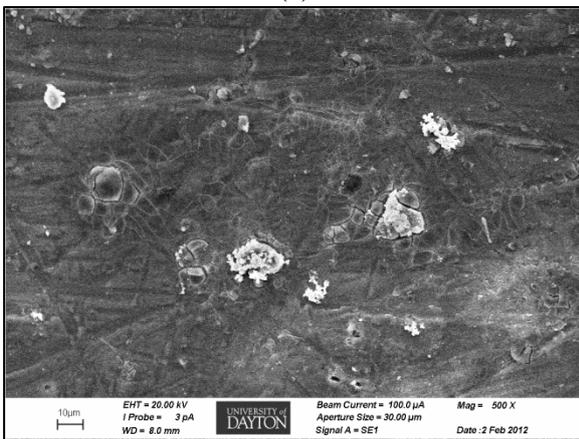
Figure H-26. SEM images of aluminum alloy 2024 sample retrieved on 21 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



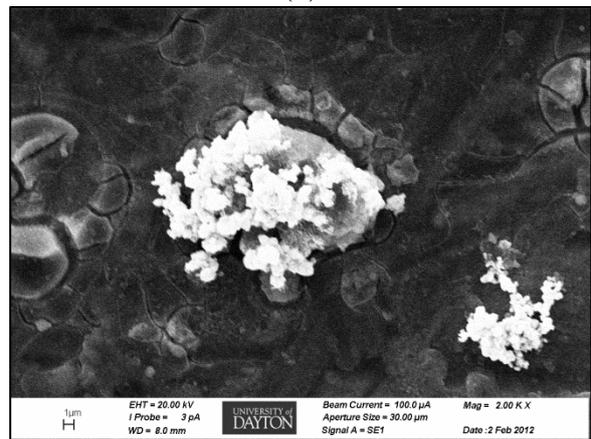
(a)



(b)

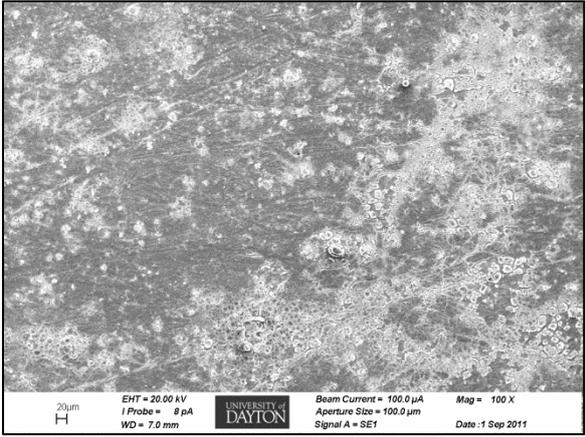


(c)

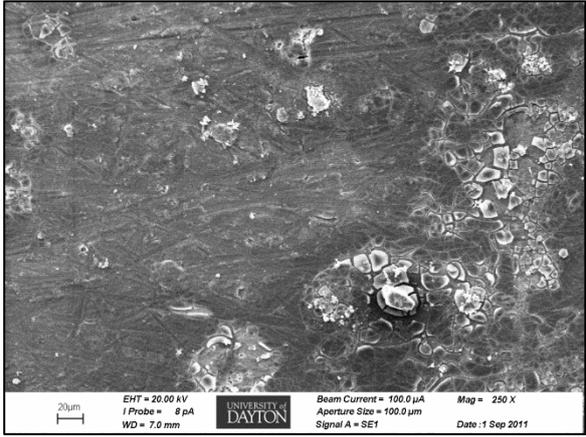


(d)

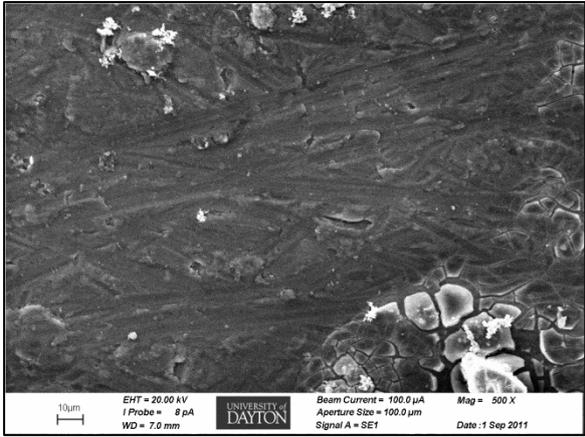
Figure H-27. SEM images of aluminum alloy 2024 sample retrieved on 18 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



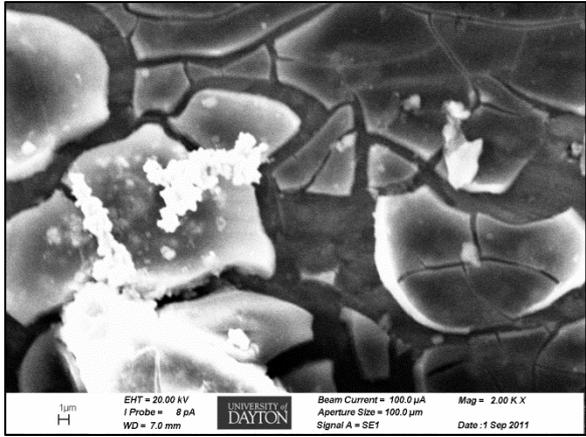
(a)



(b)

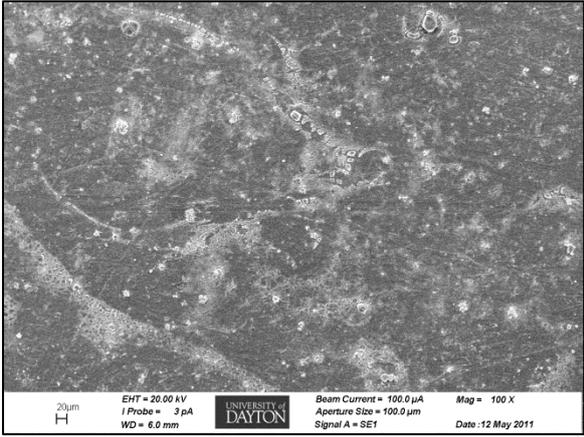


(c)

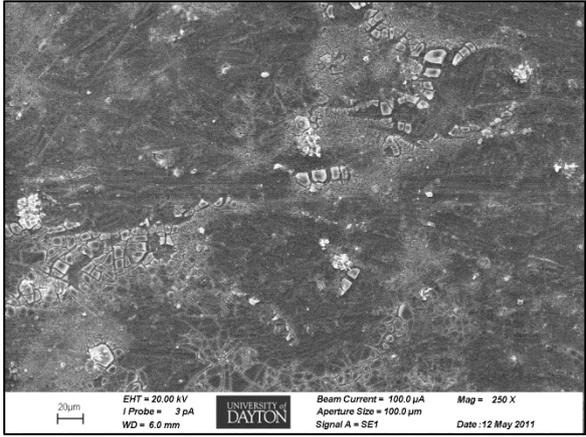


(d)

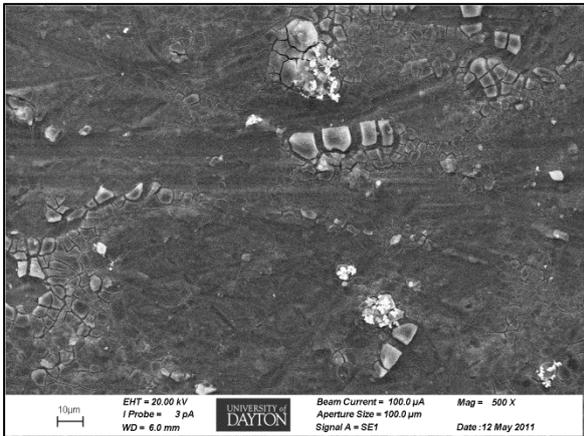
Figure H-28. SEM images of aluminum alloy 2024 sample retrieved on 15 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



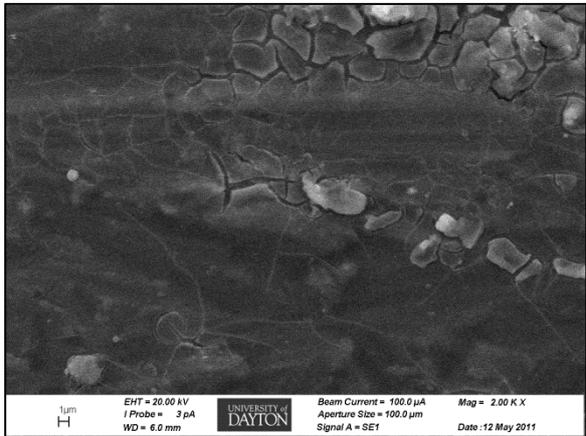
(a)



(b)

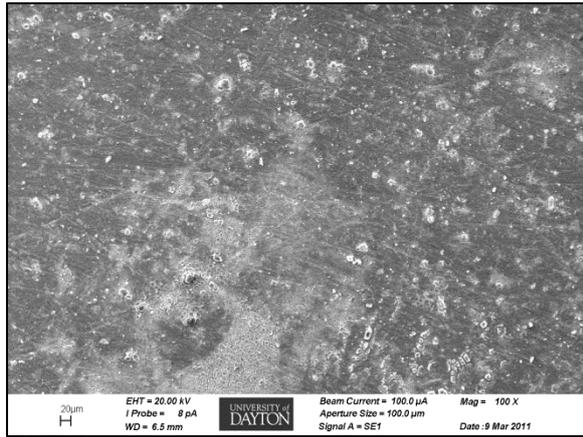


(c)

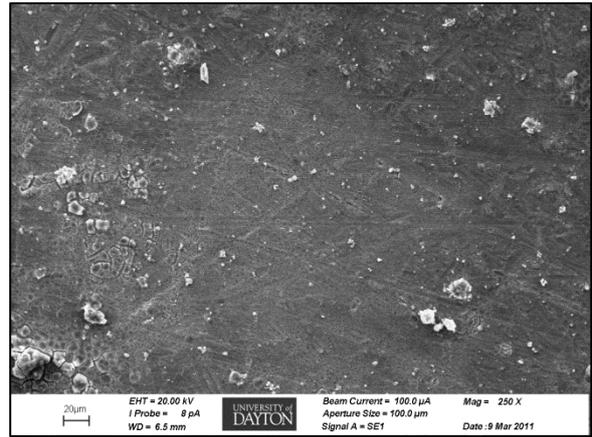


(d)

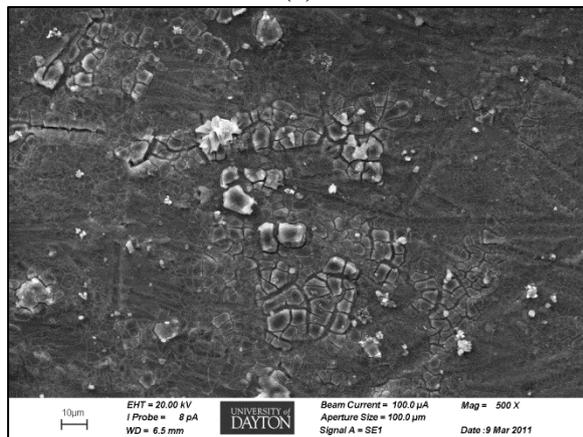
Figure H-29. SEM images of aluminum alloy 2024 sample retrieved on 12 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



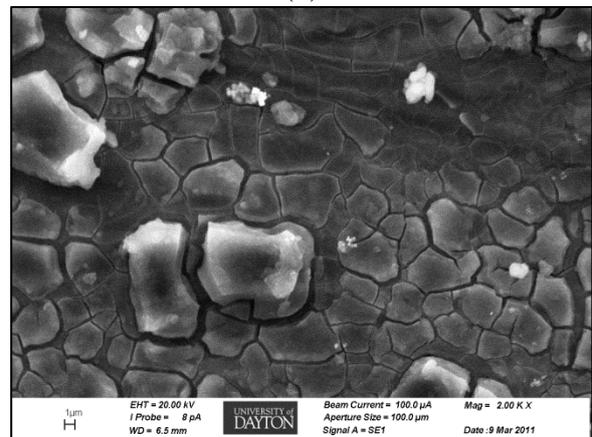
(a)



(b)

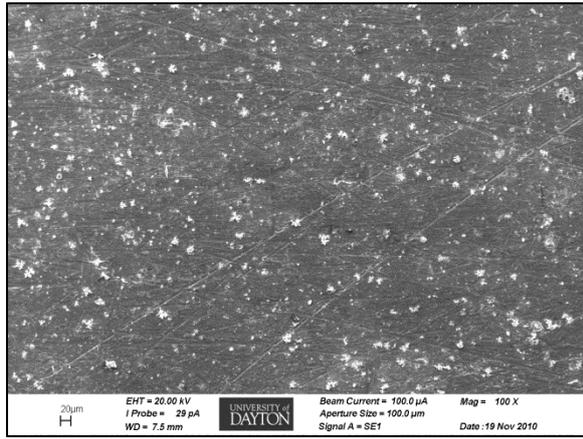


(c)

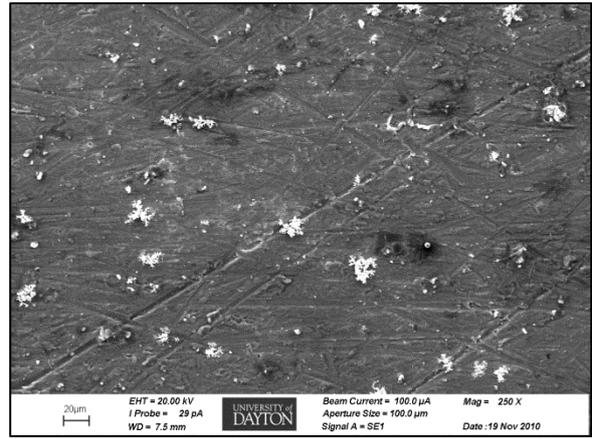


(d)

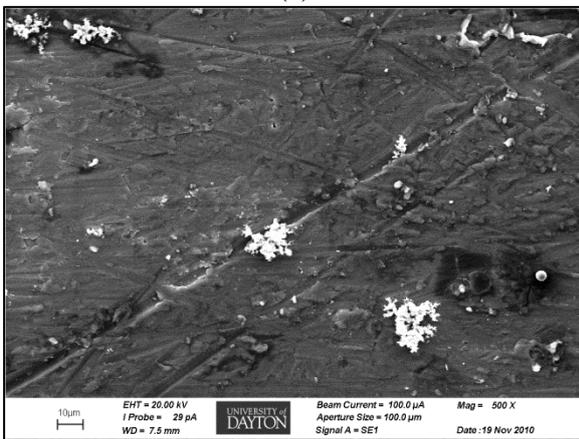
Figure H-30. SEM images of aluminum alloy 2024 sample retrieved on 9 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



(a)



(b)



(c)

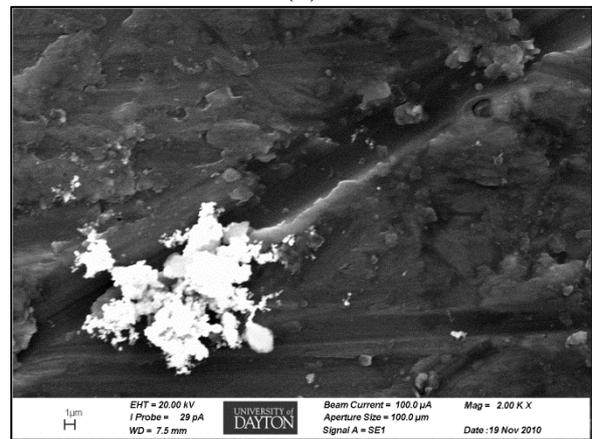
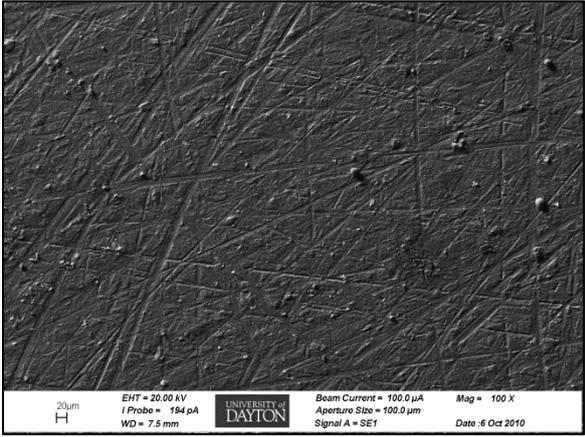
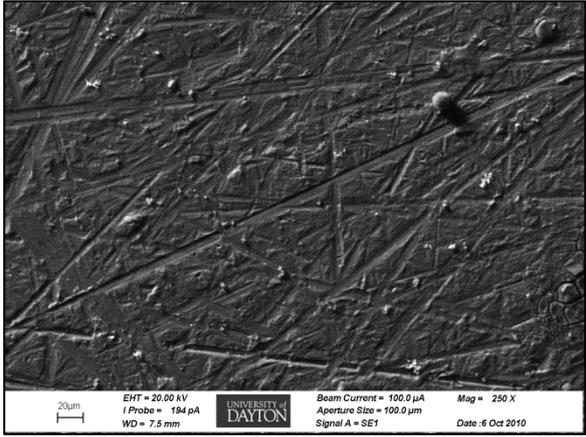


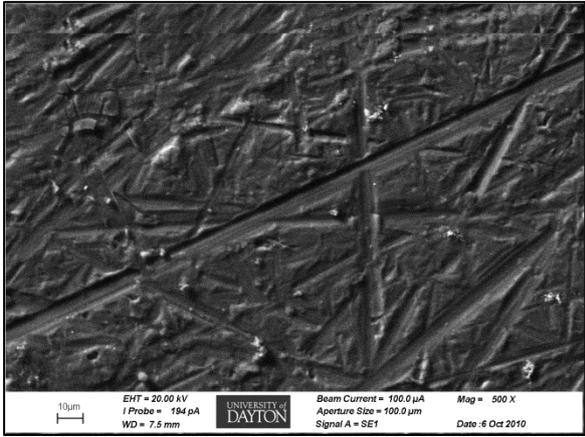
Figure H-31. SEM images of aluminum alloy 2024 sample retrieved on 6 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 1000X magnification.



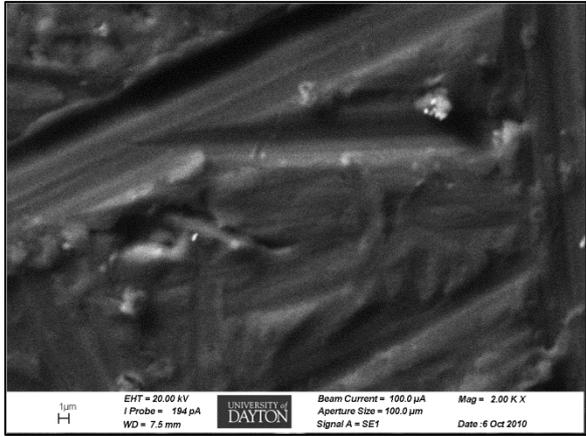
(a)



(b)

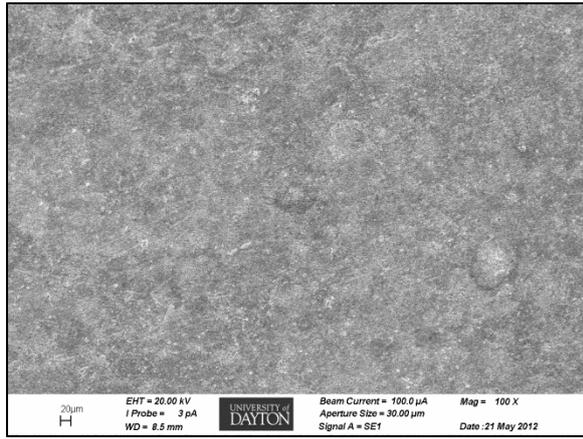


(c)

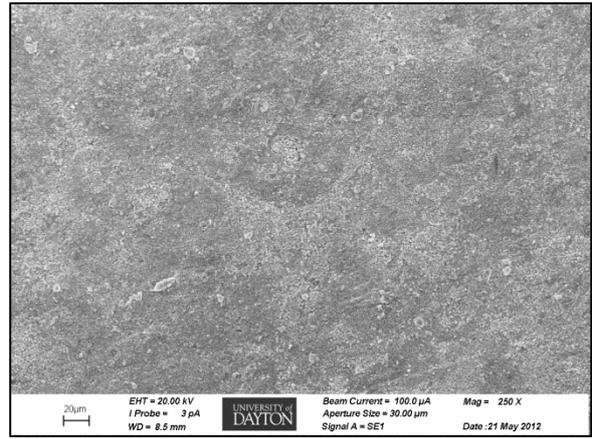


(d)

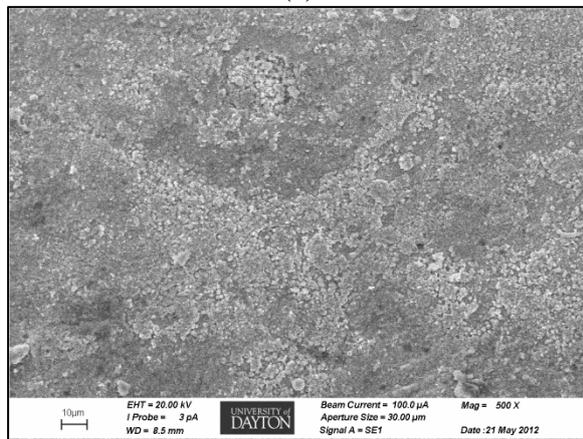
Figure H-32. SEM images of aluminum alloy 2024 sample retrieved on 3 months exposure from Wright-Patterson AFB site. (a) 100X magnification, (b) 250X magnification, (c) 500X magnification, and (d) 3000X magnification.



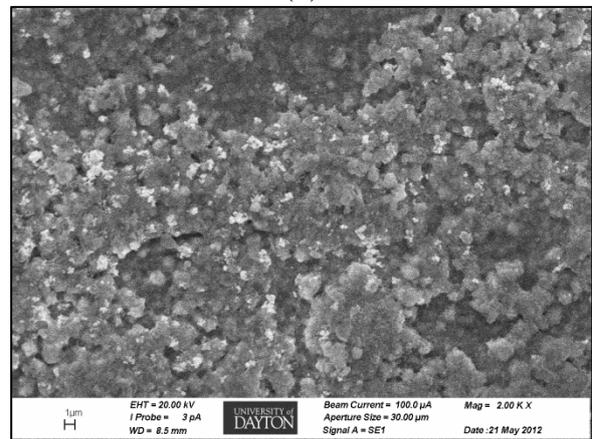
(a)



(b)

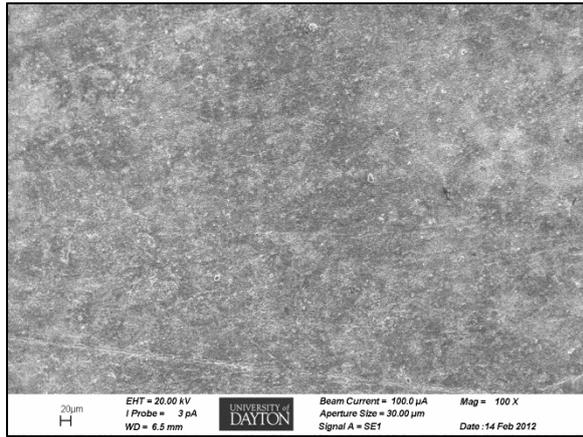


(c)

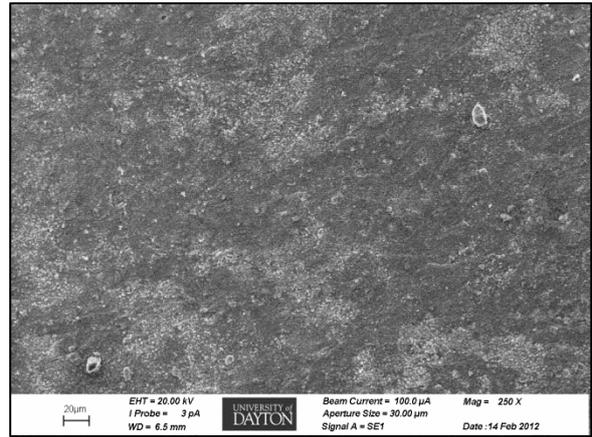


(d)

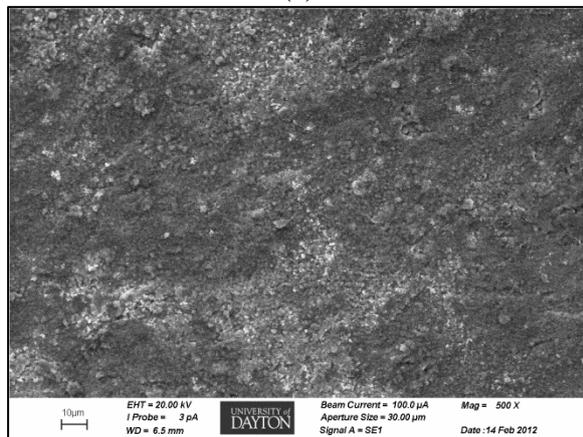
Figure H-33. SEM images of pure copper sample retrieved on 24 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



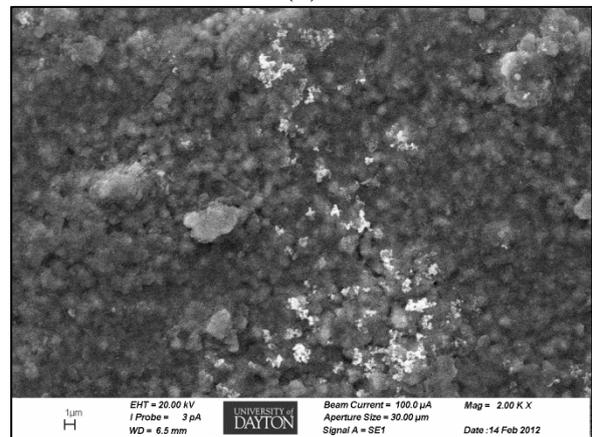
(a)



(b)

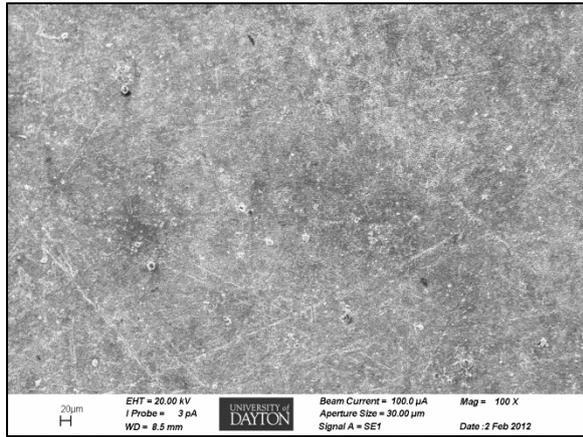


(c)

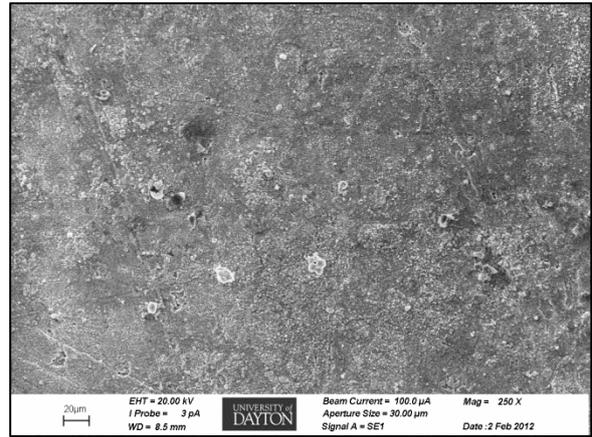


(d)

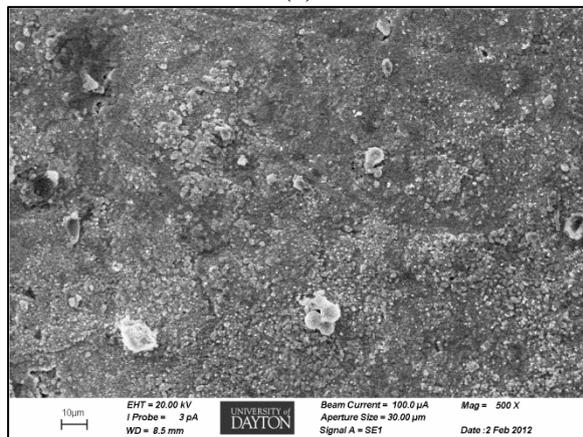
Figure H-34. SEM images of pure copper sample retrieved on 21 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



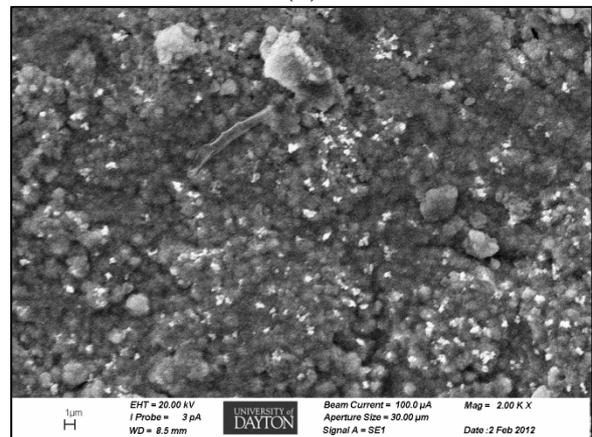
(a)



(b)

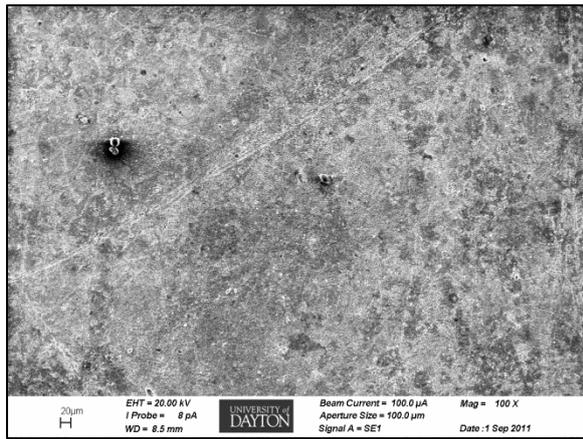


(c)

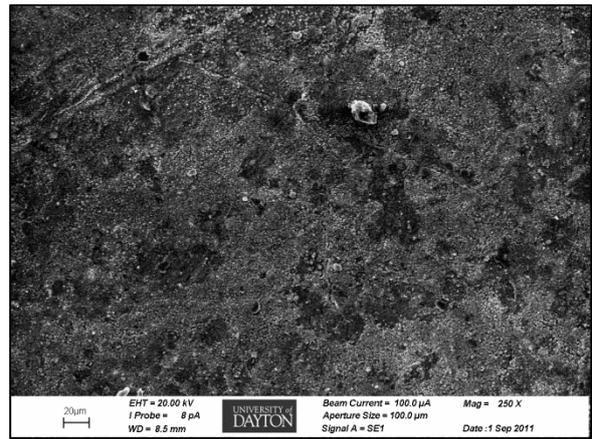


(d)

Figure H-35. SEM images of pure copper sample retrieved on 18 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



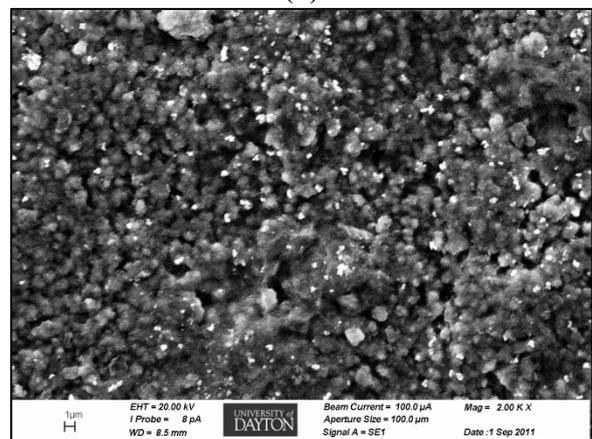
(a)



(b)

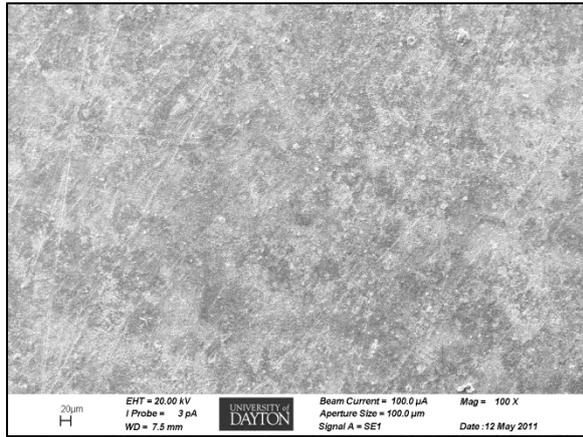


(c)

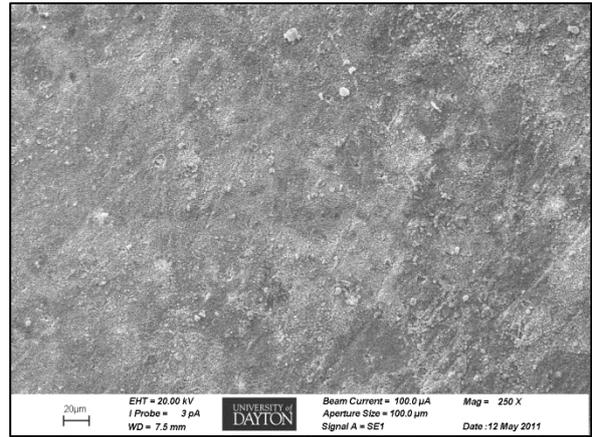


(d)

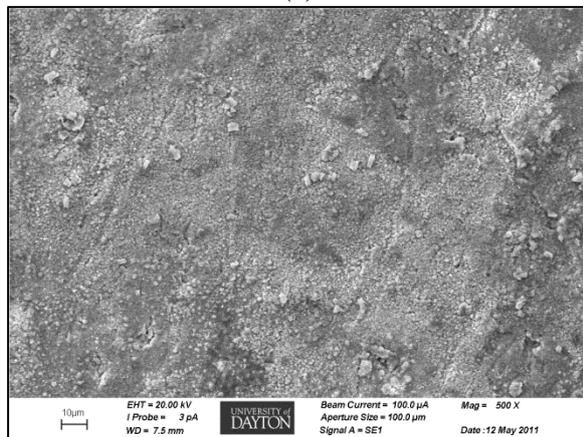
Figure H-36. SEM images of pure copper sample retrieved on 15 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



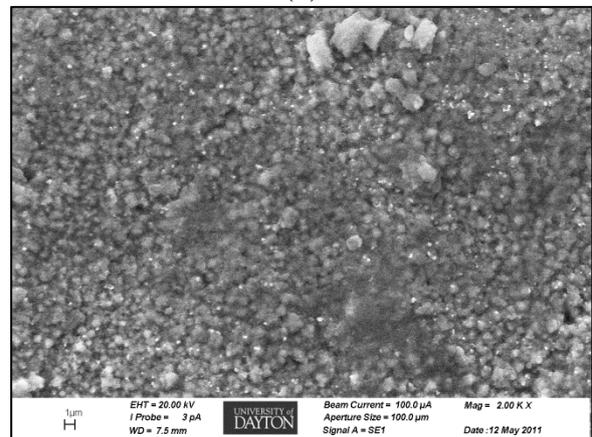
(a)



(b)

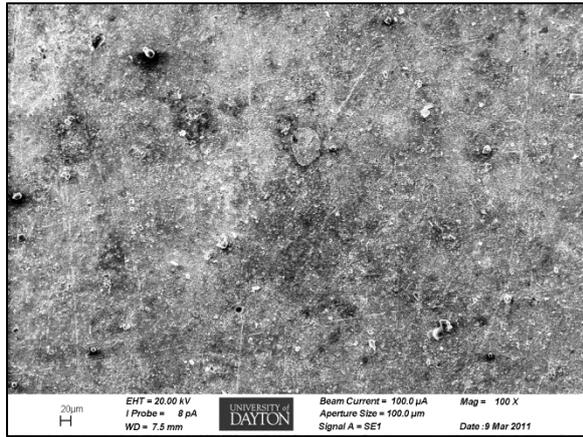


(c)

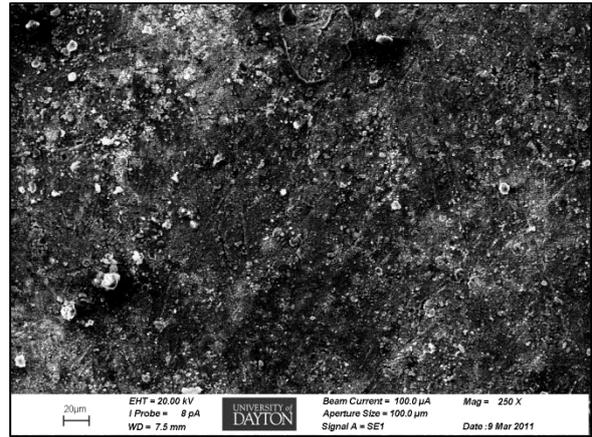


(d)

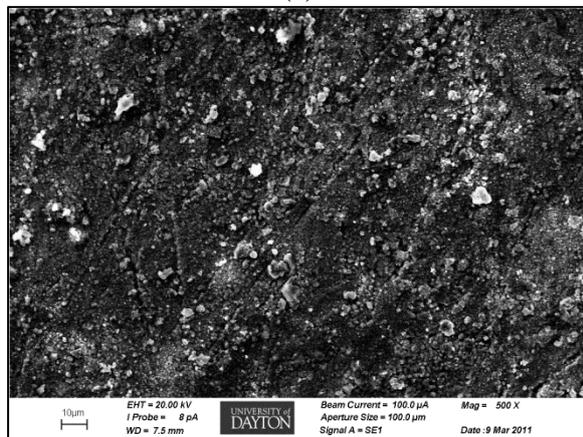
Figure H-37. SEM images of pure copper sample retrieved on 12 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



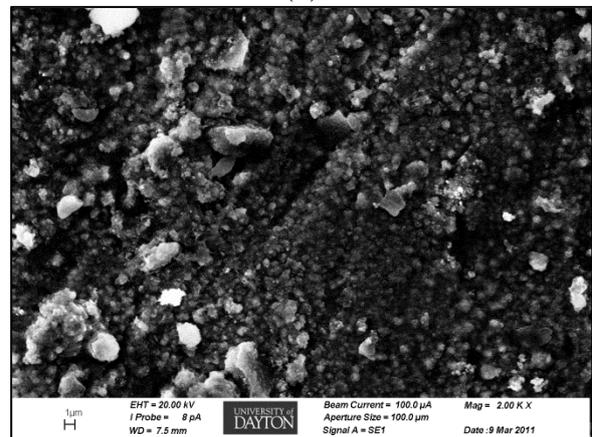
(a)



(b)



(c)



(d)

Figure H-38. SEM images of pure copper sample retrieved on 9 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.

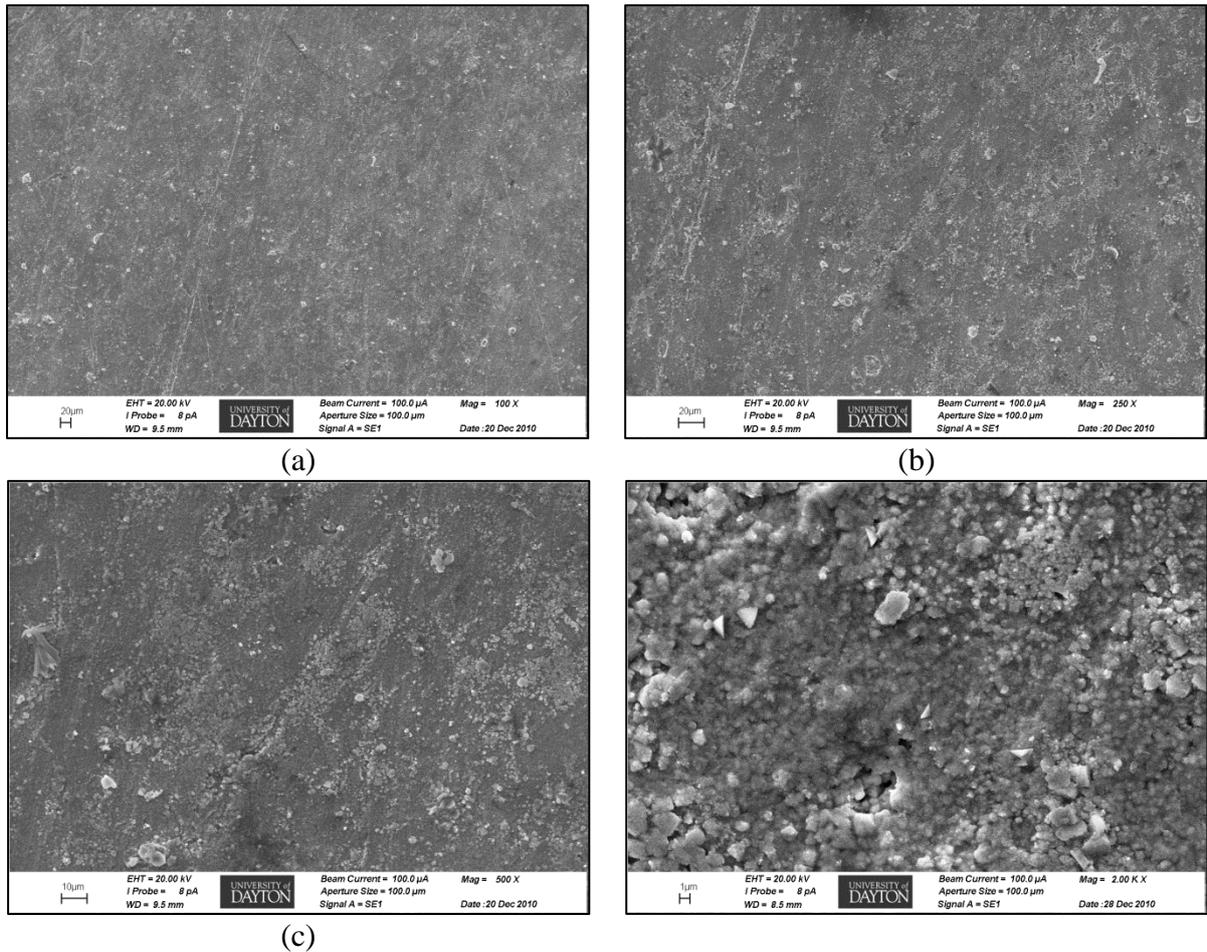
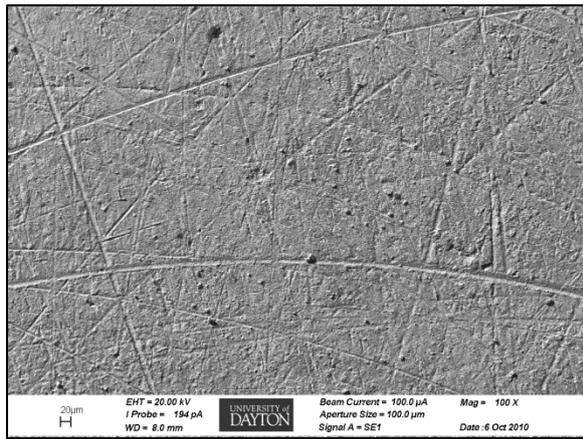
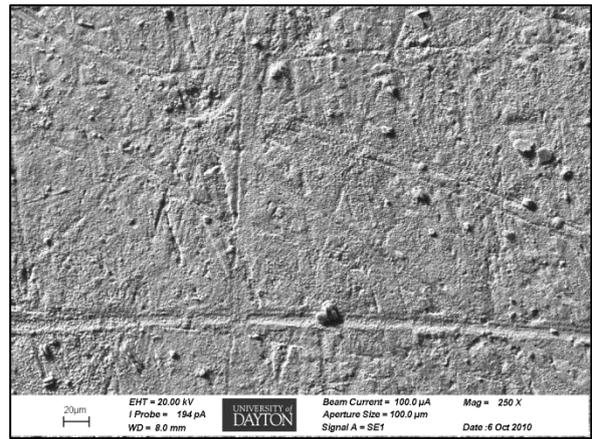


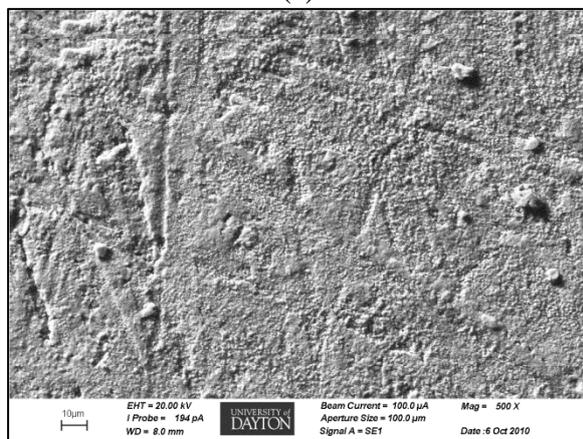
Figure H-39. SEM images of pure copper sample retrieved on 6 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification., and (d) 2000X magnification.



(a)



(b)



(c)

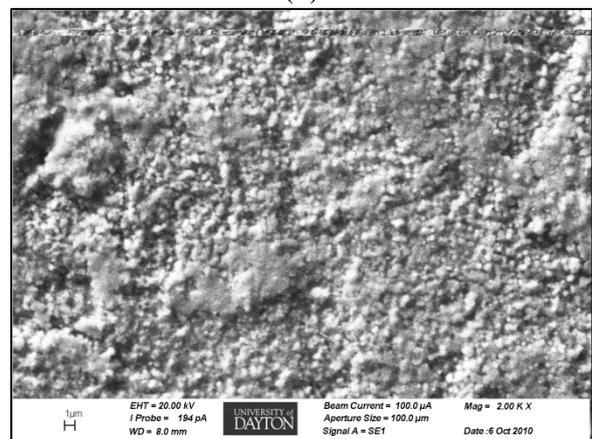
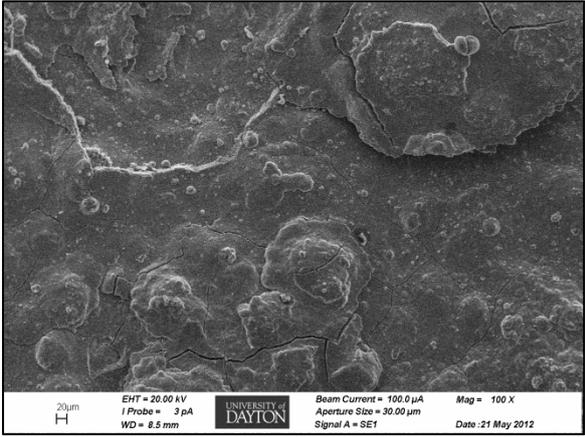
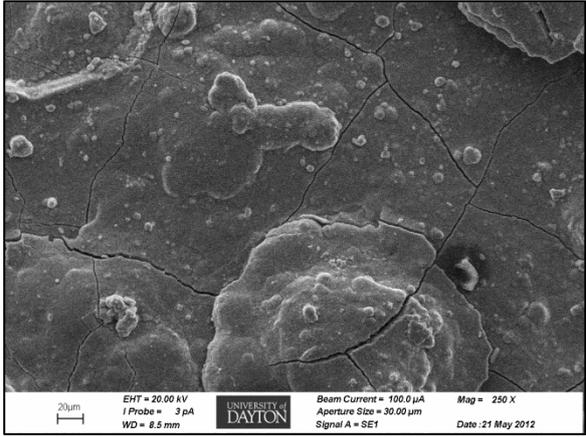


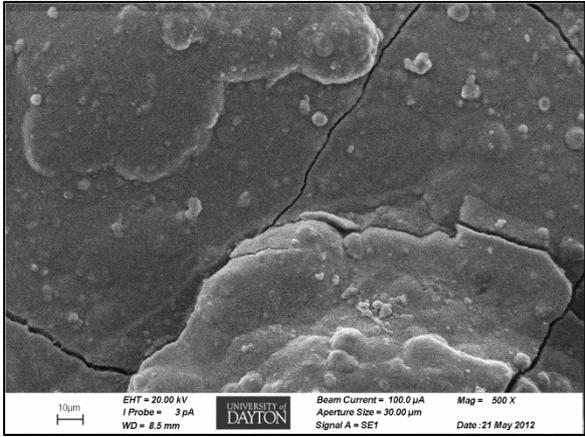
Figure H-40. SEM images of pure copper sample retrieved on 3 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



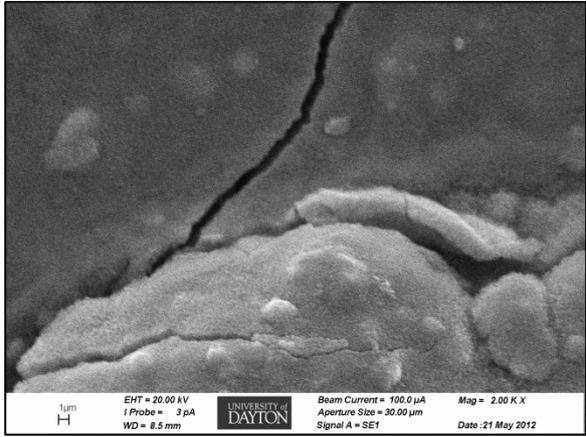
(a)



(b)

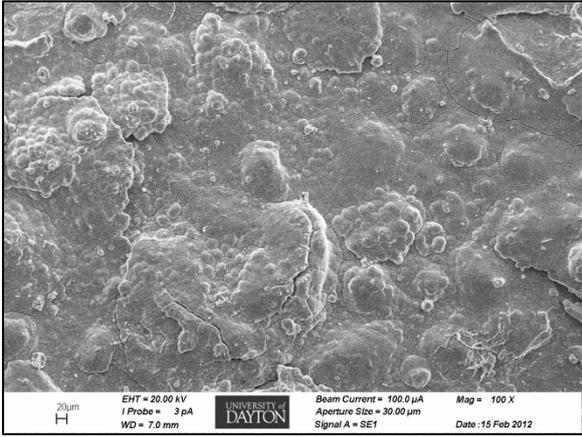


(c)

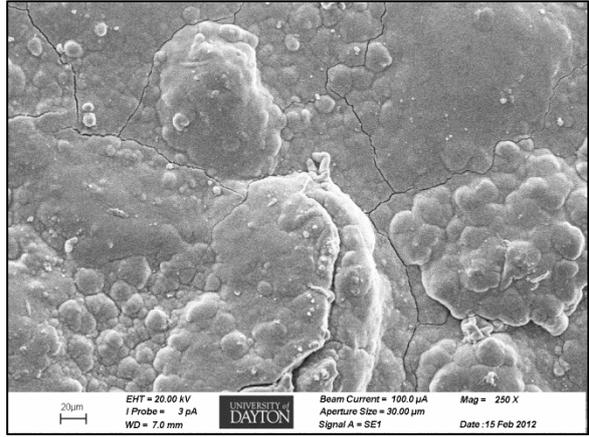


(d)

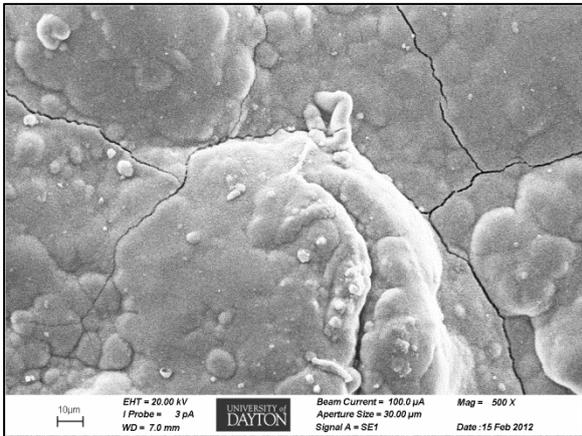
Figure H-41. SEM images of 1010 steel sample retrieved on 24 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



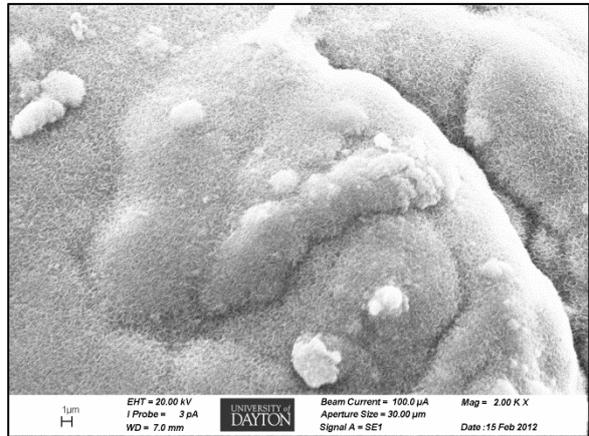
(a)



(b)

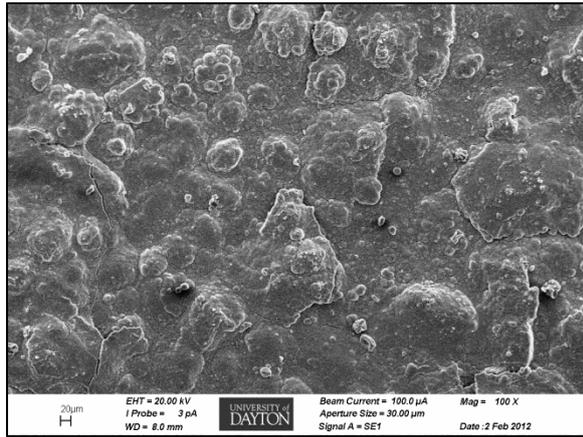


(c)

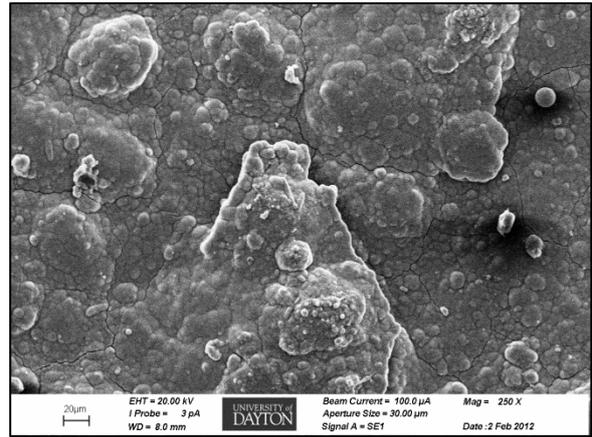


(d)

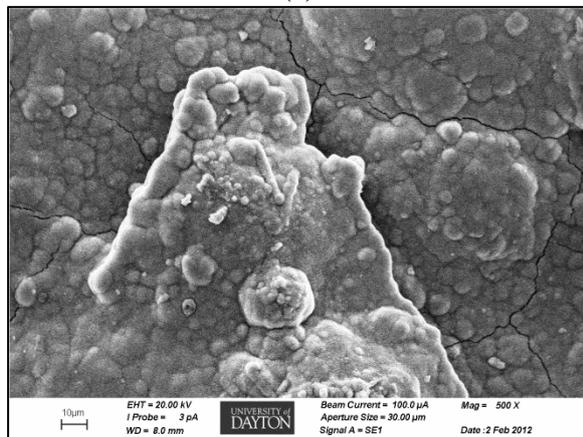
Figure H-42. SEM images of 1010 steel sample retrieved on 21 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



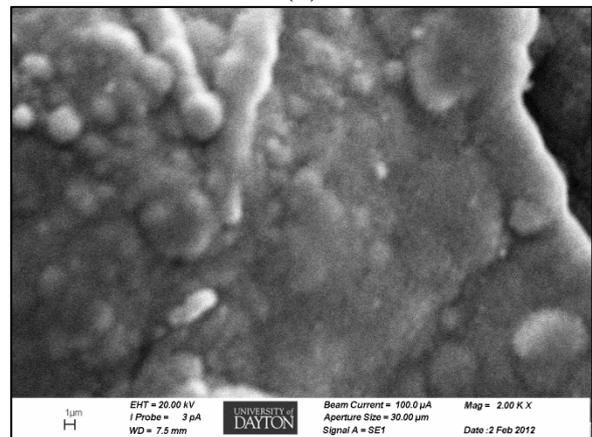
(a)



(b)

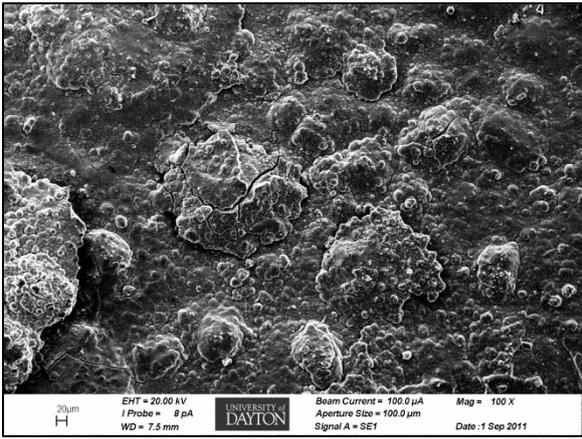


(c)

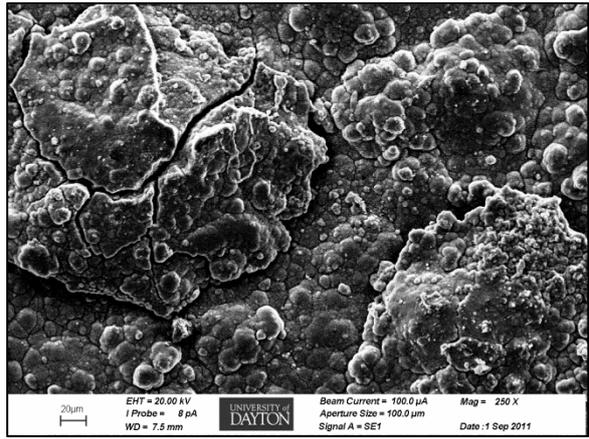


(d)

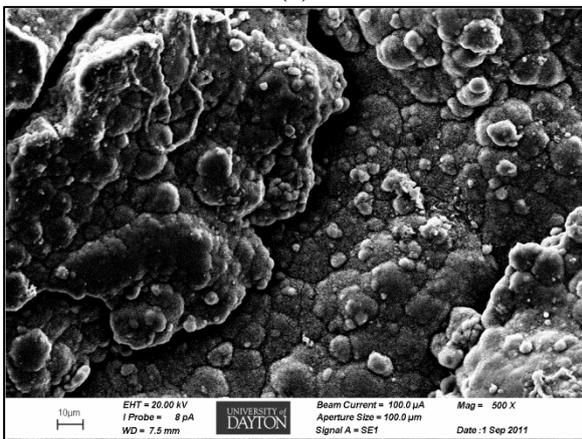
Figure H-43. SEM images of 1010 steel sample retrieved on 18 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



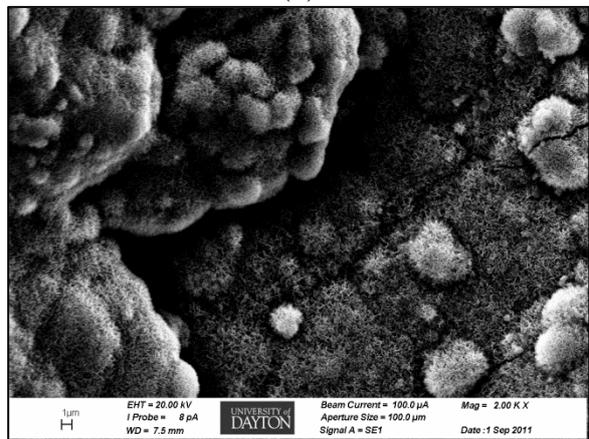
(a)



(b)

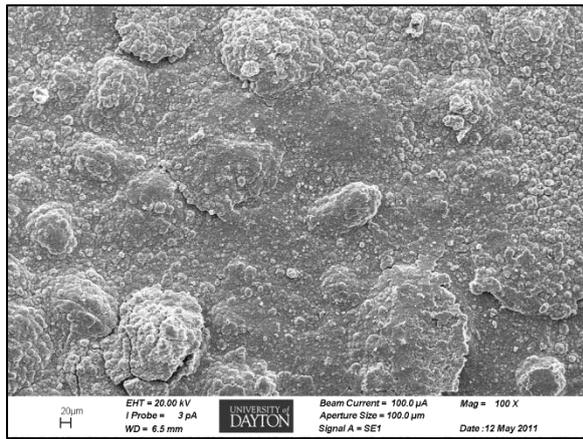


(c)

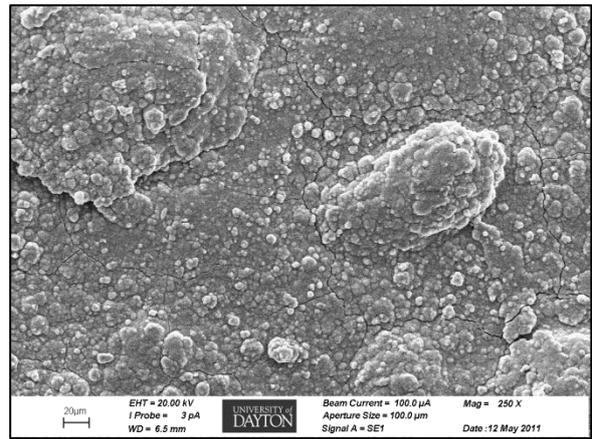


(d)

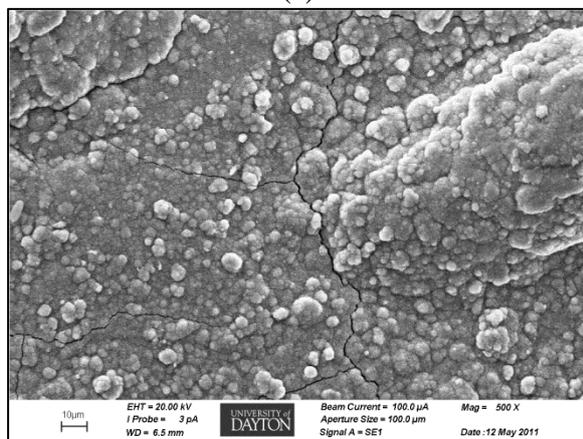
Figure H-44. SEM images of 1010 steel sample retrieved on 15 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



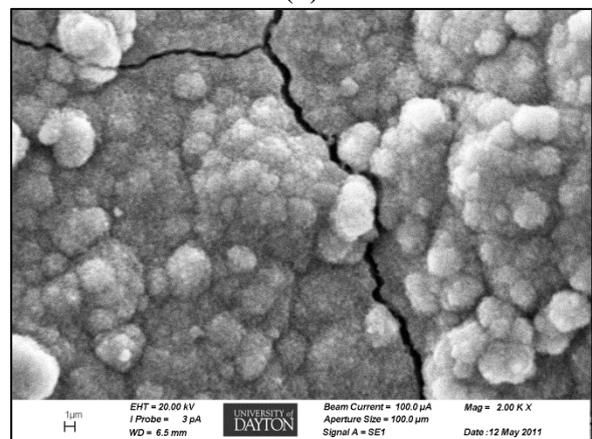
(a)



(b)

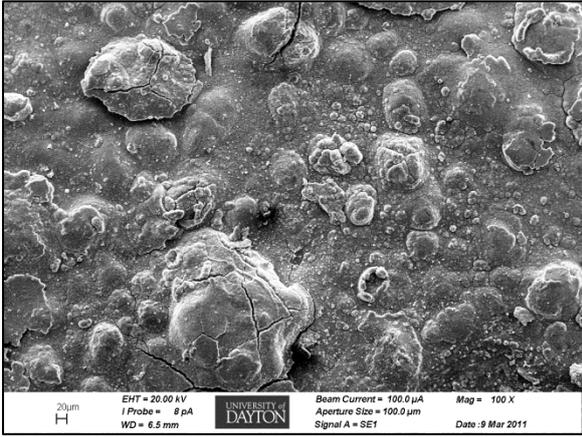


(c)

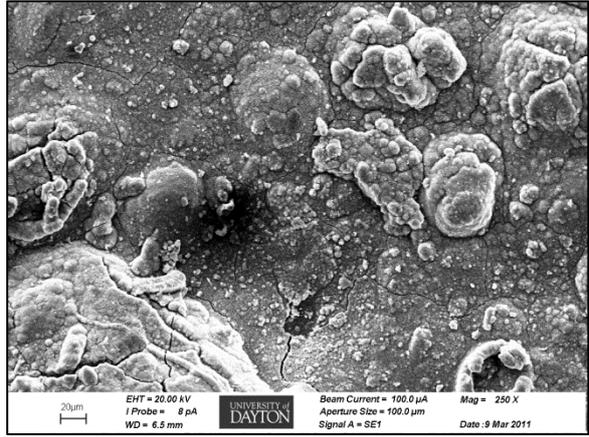


(d)

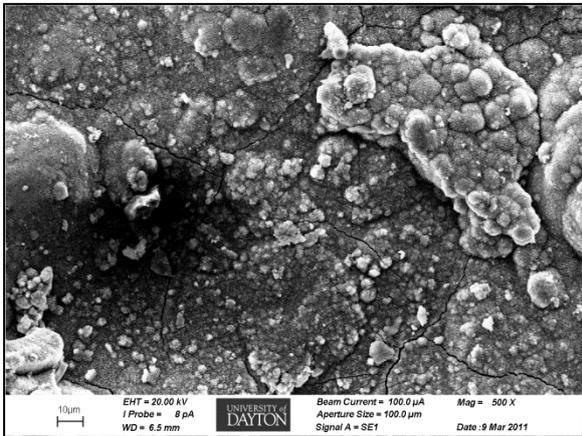
Figure H-45. SEM images of 1010 steel sample retrieved on 12 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



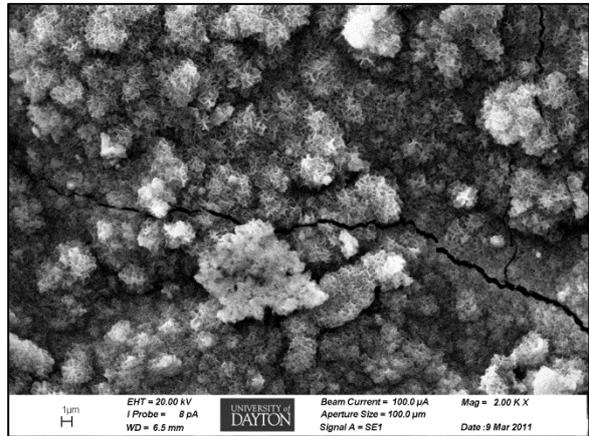
(a)



(b)

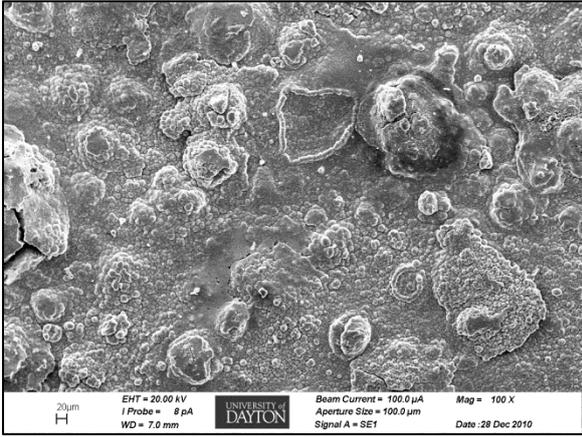


(c)

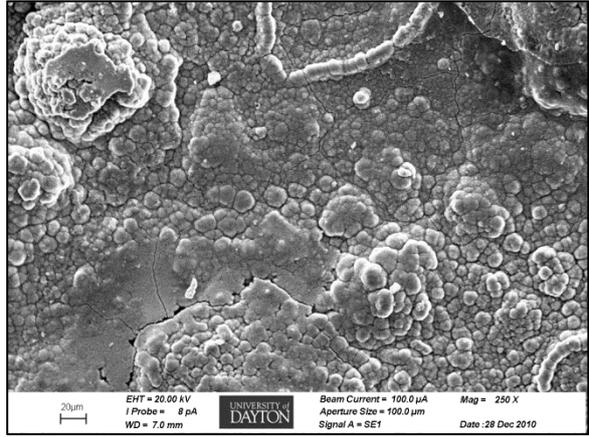


(d)

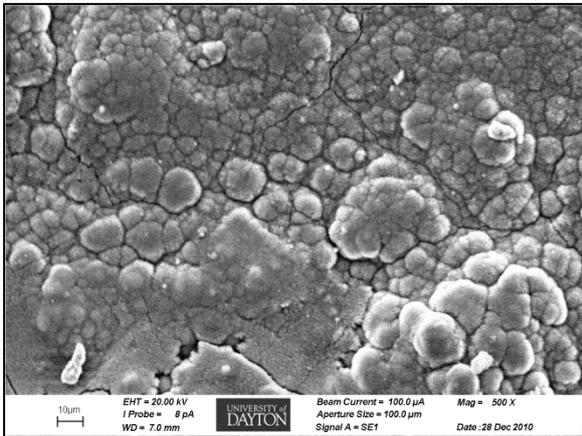
Figure H-46. SEM images of 1010 steel sample retrieved on 9 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



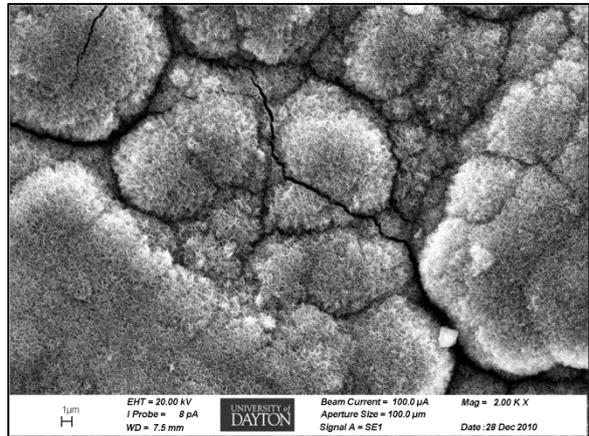
(a)



(b)

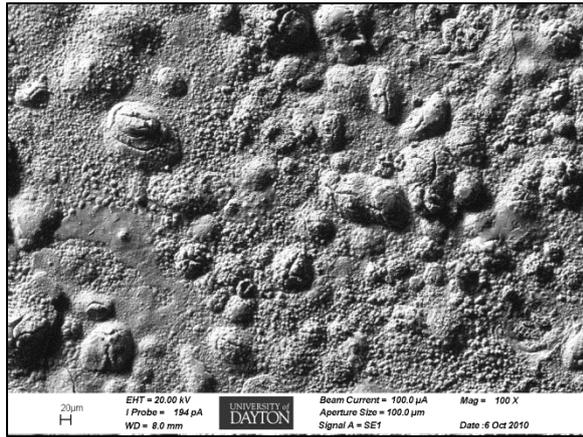


(c)

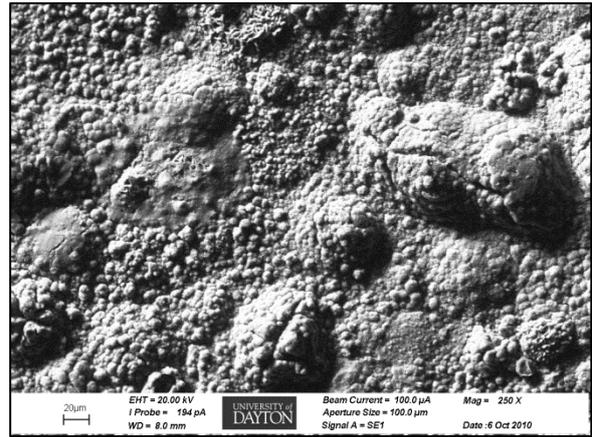


(d)

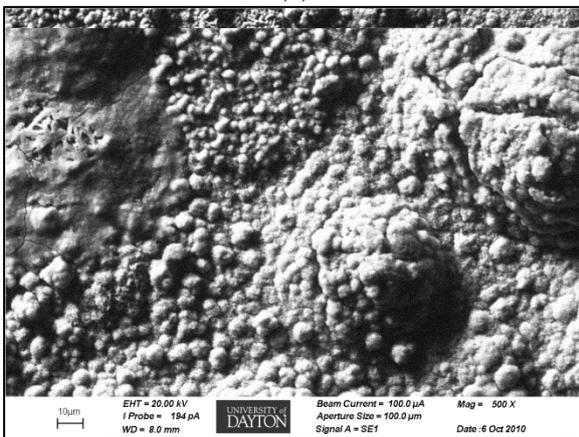
Figure H-47. SEM images of 1010 steel sample retrieved on 6 months exposure from Wright-Patterson AFB site. (a) 100X magnification (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.



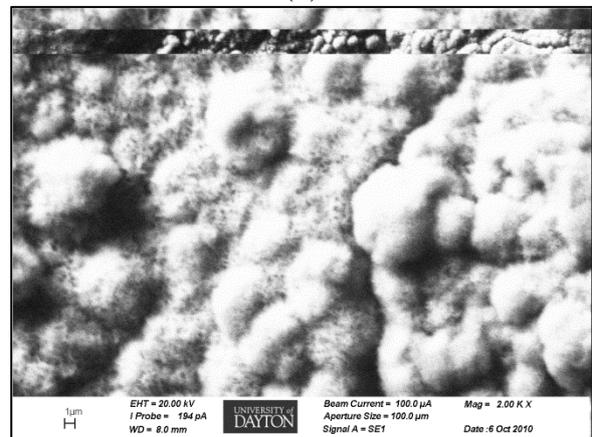
(a)



(b)



(c)



(d)

Figure H-48. SEM images of 1010 steel sample retrieved on 3 months exposure from Wright-Patterson AFB site. (a) 100X magnification, (b) 250X magnification, (c) 500X magnification, and (d) 2000X magnification.