

Appendix G

TEM Analyses of Pre-Test 1 Laboratory Solution

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Before initiation of Test 1, much discussion ensued regarding the possible formation of gelatinous chemical products, including solgels. To confirm the utility of TEM analysis for identifying materials of this type, a laboratory sample was prepared by soaking NUKON™ fiberglass and aluminum metal in a sodium hydroxide solution of the proper pH. This appendix presents the TEM images and diffraction patterns that were obtained for the suspended matter generated in this bench-scale test. The spatial resolution and diffraction analyses offered by the UNM TEM laboratory were found to be well suited for characterization of this chemical product class. No laboratory log was generated for these analyses, but visual comparisons of physical form between the laboratory-prepared surrogate and the precipitate observed in Test #1 may serve to motivate a more methodical examination of composition and formation processes for this material

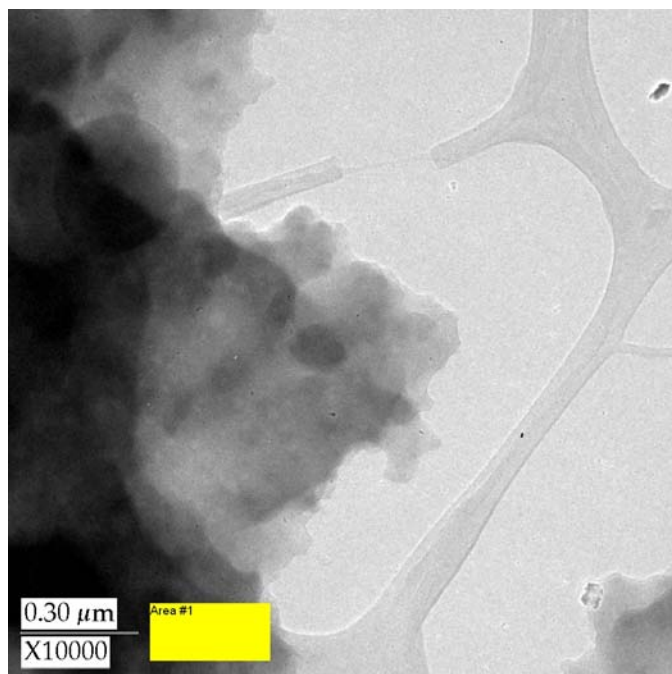


Figure G-1. Electron micrograph from the lab solution NUKON™ plus Al (Area #1), magnified 10,000 times.

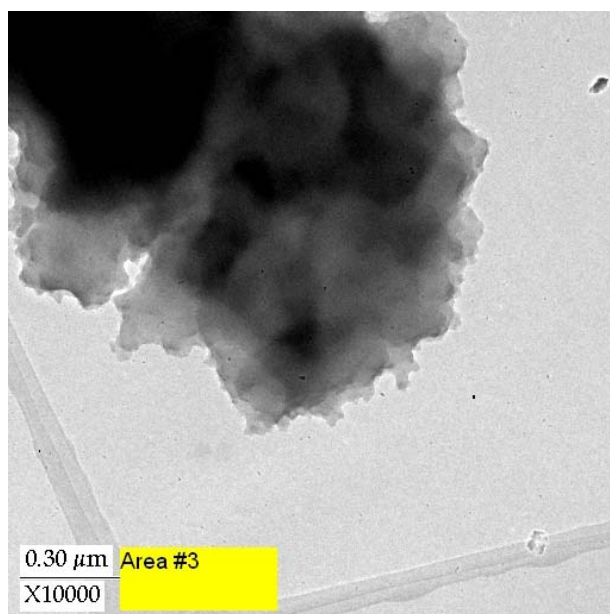


Figure G-2. Electron micrograph from the lab solution NUKON™ plus Al (Area #3), magnified 10,000 times.

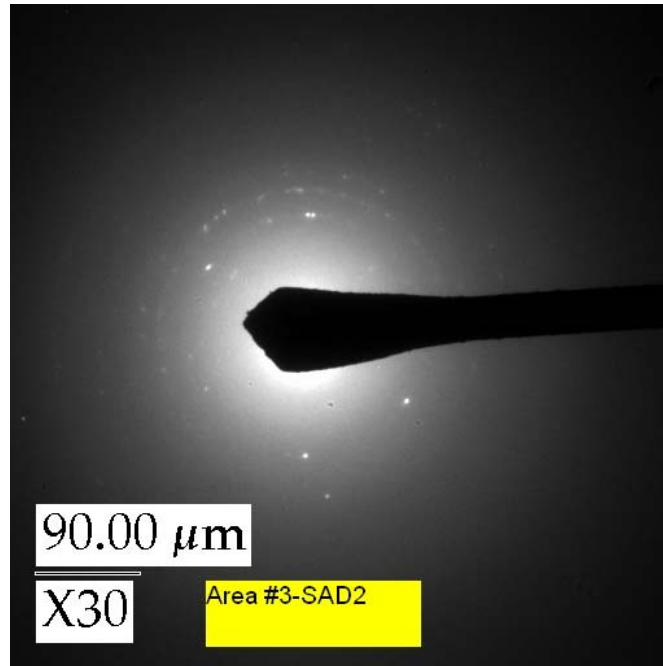


Figure G-3. TEM image from the lab solution NUKON™ plus Al sample (Area #3-SAD2), magnified 30 times.

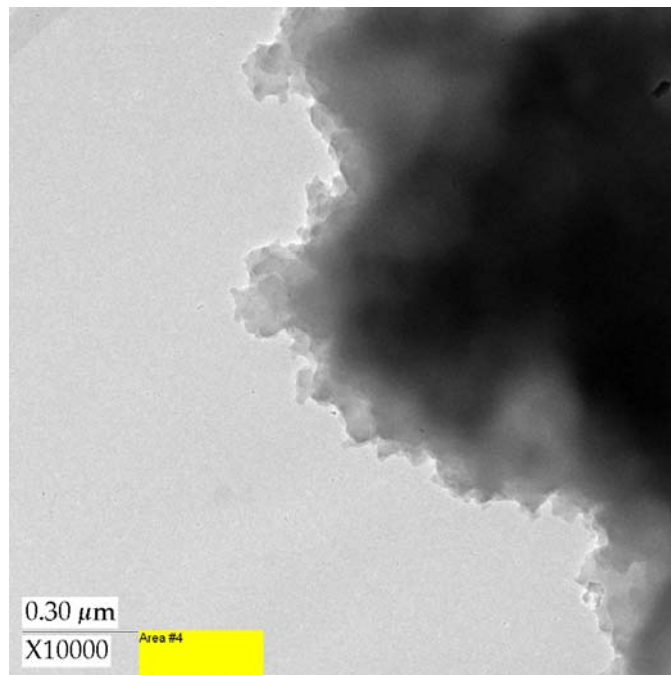


Figure G-4. Electron micrograph from the lab solution NUKON™ plus Al (Area #4), magnified 10,000 times.

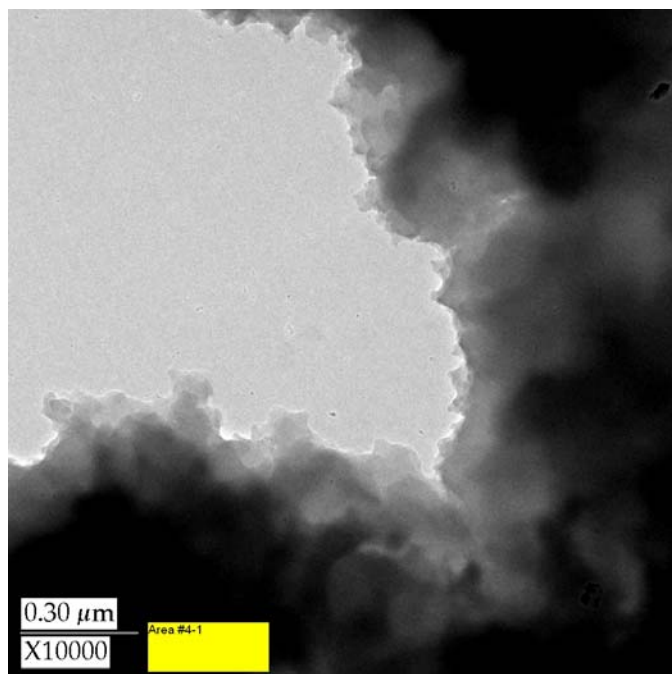


Figure G-5. Electron micrograph from the lab solution NUKON™ plus Al (Area #4-1), magnified 10,000 times.

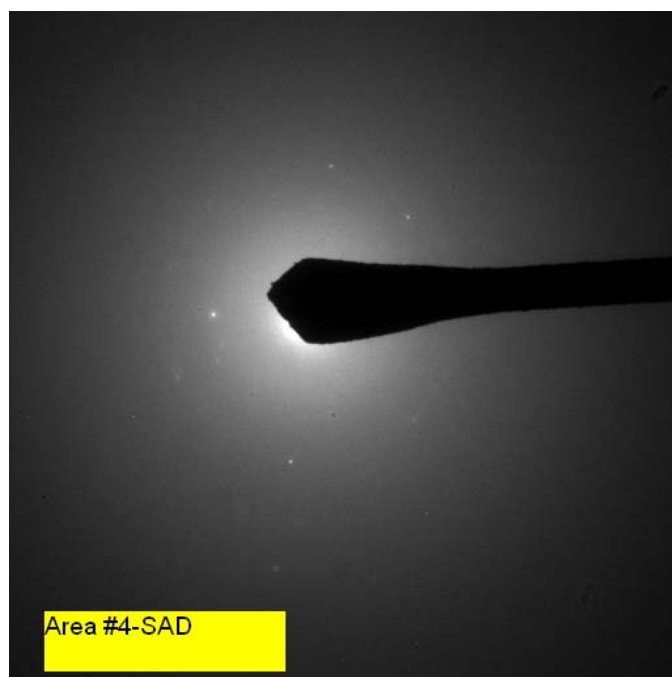


Figure G-6. TEM image from the lab solution NUKON™ plus Al sample (Area #4-SAD), magnified 30 times.

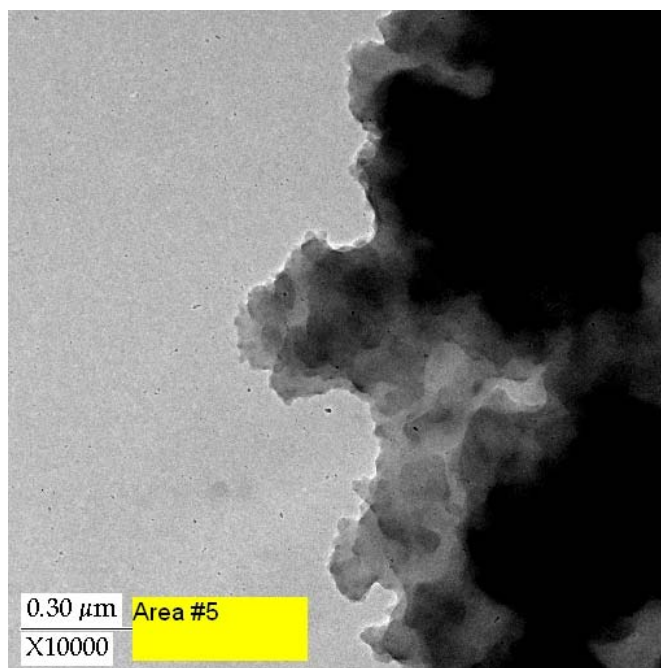


Figure G-7. Electron micrograph from the lab solution NUKON™ plus Al (Area #5), magnified 10,000 times.

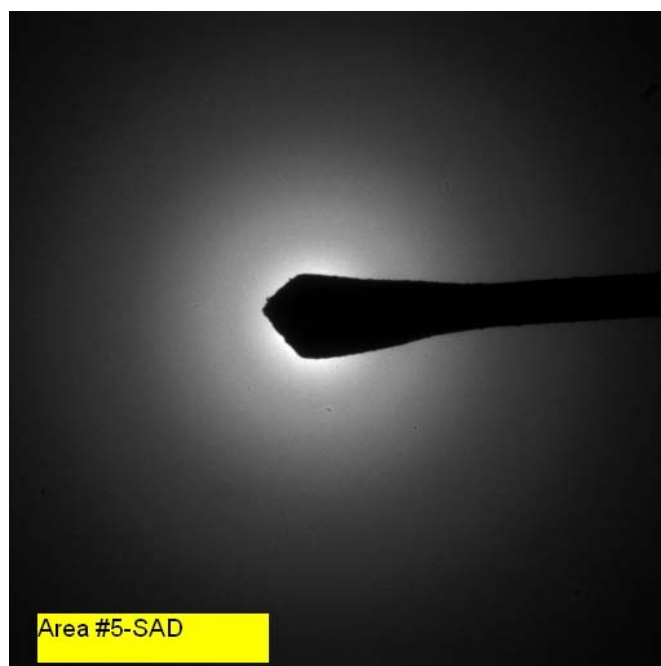


Figure G-8. TEM image from the lab solution NUKON™ plus Al sample (Area #5-SAD), magnified 30 times.

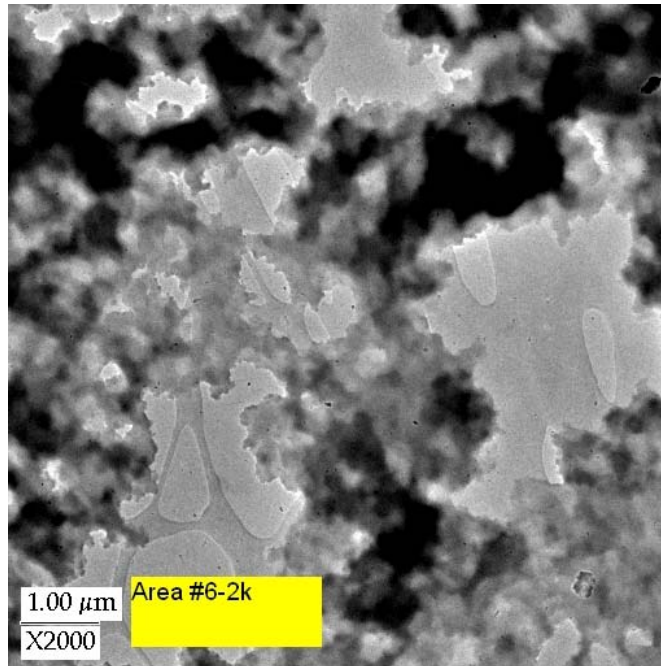


Figure G-9. Electron micrograph from the lab solution NUKON™ plus Al (Area #6-2K), magnified 2000 times.

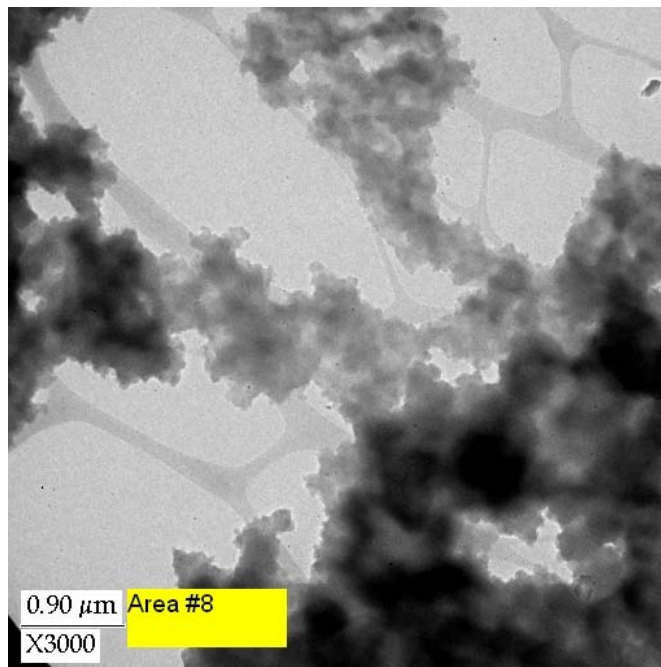


Figure G-10. Electron micrograph from the lab solution NUKON™ plus Al (Area #8), magnified 3000 times.

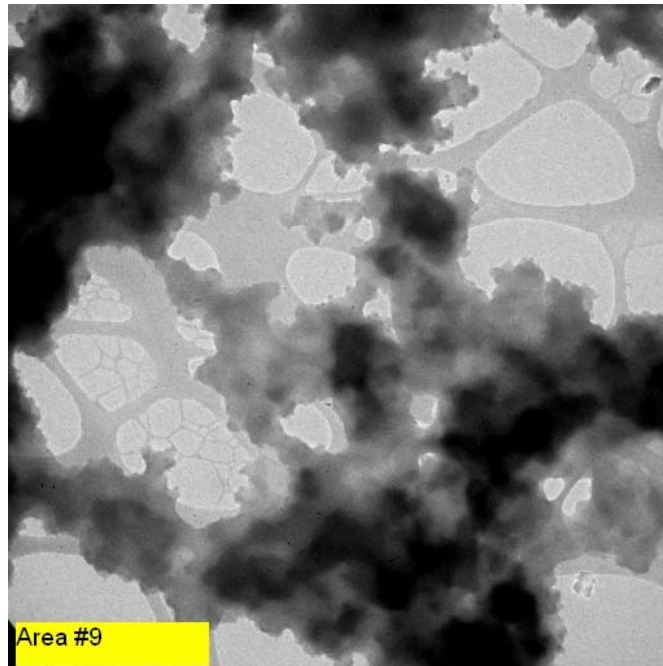


Figure G-11. Electron micrograph from the lab solution NUKON™ plus Al (Area #9, no scale bar in original), magnified 3000 times.

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