AMA Analytical Services, Inc.
Focused On Results.

CERTIFICATE OF ANALYSIS

Chain of Custody: 626190
Client: US Food & Drug Administration
Address: Office of Cosmetics & Colors
4300 River Road
College Park, MD 20740
Attention: John Gasper

Job Name: Assignment DFPG #21-18
Job Location: Batch No. 03242021 (Batch #3)
Job Number: CLIN 0001
PO Number: 75F40119P10689

Date Submitted: 4/12/2021
Date Analyzed: 5/14/2021-5/28/2021
Report Date: 7/23/2021
Date Sampled: Not Provided
Person Submitting: Martha Schwartz
Revised: 7/27/2021 (Revision #1)

SUMMARY OF ANALYSIS

AMA Sample ID	Client Sample ID	TEM LOD Using ASTM D5756 Mass Calculation	TEM LOQ Using ASTM D5756 Mass Calculation	% Chrysotile by TEM Using ASTM D5756 Mass Calculation	% Tremolite by TEM Using ASTM D5756 Mass Calculation	% Total Chrysotile & Tremolite by TEM Using ASTM D5756 Mass Calculation	% Asbestos by PLM	% Organics	% Acid Soluable	% Other	Comments
626190-1A	03242021-1	0.00000243%	0.00000973%	ND	ND	< 0.00001%	ND	25.48%	3.43%	71.08%	
626190-1B	03242021-1	0.00000336%	0.00001346%	ND	ND	< 0.00001%	ND	25.57%	5.03%	69.40%	
626190-1C	03242021-1	0.00000256%	0.00001023%	ND	ND	< 0.00001%	ND	25.42%	3.79%	70.79%	
626190-2A	03242021-2	0.00000197%	0.00000788%	ND	ND	< 0.00001%	ND	61.83%	7.88%	30.29%	
626190-2B	03242021-2	0.00000194%	0.00000777%	ND	ND	< 0.00001%	ND	61.77%	8.08%	30.15%	
626190-2C	03242021-2	0.00000214%	0.00000857%	ND	ND	< 0.00001%	ND	61.79%	7.98%	30.23%	
626190-3A	03242021-3	0.00000272%	0.00001089%	ND	ND	< 0.00001%	ND	17.60%	3.43%	78.97%	
626190-3B	03242021-3	0.00000246%	0.00000984%	ND	ND	< 0.00001%	ND	17.37%	3.54%	79.09%	
626190-3C	03242021-3	0.00000269%	0.00001077%	ND	ND	< 0.00001%	ND	17.22%	6.64%	76.14%	
626190-4A	03242021-4	0.00000310%	0.00001239%	ND	ND	< 0.00001%	ND	2.42%	1.16%	96.42%	
626190-4B	03242021-4	0.00000347%	0.00001388%	ND	ND	< 0.00001%	ND	2.49%	4.14%	93.37%	
626190-4C	03242021-4	0.00000278%	0.00001112%	ND	ND	< 0.00001%	ND	2.42%	3.72%	93.85%	
626190-5A	03242021-5	0.00000201%	0.00000802%	ND	ND	< 0.00001%	ND	20.57%	10.56%	68.86%	
626190-5B	03242021-5	0.00000217%	0.00000866%	ND	ND	< 0.00001%	ND	20.48%	9.83%	69.69%	
626190-5C	03242021-5	0.00000201%	0.00000804%	ND	ND	< 0.00001%	ND	20.51%	10.70%	68.79%	
626190-6A	03242021-6	0.00000190%	0.00000762%	ND	ND	< 0.00001%	ND	0.08%	6.61%	93.31%	
626190-6B	03242021-6	0.00000207%	0.00000828%	ND	ND	< 0.00001%	ND	0.06%	6.03%	93.91%	
626190-6C	03242021-6	0.00000282%	0.00001127%	ND	ND	< 0.00001%	ND	0.06%	8.02%	91.92%	
626190-7A	03242021-7	0.00000205%	0.00000821%	ND	ND	< 0.00001%	ND	19.98%	8.81%	71.21%	
626190-7B	03242021-7	0.00000223%	0.00000894%	ND	ND	< 0.00001%	ND	20.13%	8.18%	71.68%	
626190-7C	03242021-7	0.00000243%	0.00000973%	ND	ND	< 0.00001%	ND	20.08%	7.88%	72.04%	
626190-8A	03242021-8	0.00000247%	0.00000988%	ND	ND	< 0.00001%	ND	16.69%	14.07%	69.25%	
626190-8B	03242021-8	0.00000263%	0.00001051%	ND	ND	< 0.00001%	ND	16.74%	11.65%	71.61%	
626190-8C	03242021-8	0.00000250%	0.00000998%	ND	ND	< 0.00001%	ND	16.69%	11.64%	71.67%	
626190-9A	03242021-9	0.00000196%	0.00000784%	ND	ND	< 0.00001%	ND	5.07%	8.11%	86.82%	
626190-9B	03242021-9	0.00000196%	0.00000782%	ND	ND	< 0.00001%	ND	5.15%	9.22%	85.64%	
626190-9C	03242021-9	0.00000251%	0.00001004%	ND	ND	< 0.00001%	ND	5.03%	5.87%	89.10%	
626190-10A	03242021-10	0.00000241%	0.00000962%	ND	ND	< 0.00001%	ND	26.89%	5.97%	67.14%	
626190-10B	03242021-10	0.00000235%	0.00000941%	ND	ND	< 0.00001%	ND	26.83%	5.59%	67.58%	
626190-10C	03242021-10	0.00000257%	0.00001029%	ND	ND	< 0.00001%	ND	26.79%	5.08%	68.13%	
626190-11A	03242021-11	0.00000199%	0.00000795%	ND	ND	< 0.00001%	ND	32.95%	5.87%	61.17%	
626190-11B	03242021-11	0.00000183%	0.00000733%	ND	ND	< 0.00001%	ND	32.91%	6.95%	60.15%	
626190-11C	03242021-11	0.00000167%	0.00000669%	ND	ND	< 0.00001%	ND	32.86%	6.87%	60.27%	

LOD = Limit of Detection **LOQ** = Limit of Quantification **ND** = Not Detected **PLM** = Polarized Light Microscopy **TEM** = Transmission Electron Microscopy

Analytical Method(s): PLM by Modified NY ELAP 198.6
TEM by Modified NY ELAP 198.4/ASTM D5756

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Person Submitting: Martha Schwartz
Revised: 7/27/2021 (Revision #1)

SUMMARY OF ANALYSIS

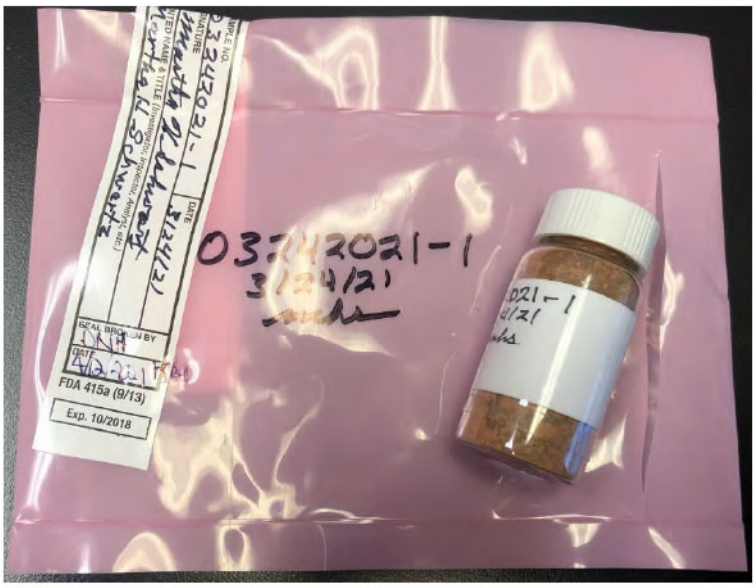
AMA Sample ID	Client Sample ID	TEM LOD Using ASTM D5756 Mass Calculation	TEM LOQ Using ASTM D5756 Mass Calculation	% Chrysotile by TEM Using ASTM D5756 Mass Calculation	% Tremolite by TEM Using ASTM D5756 Mass Calculation	% Total Chrysotile & Tremolite by TEM Using ASTM D5756 Mass Calculation	% Asbestos by PLM	% Organics	% Acid Soluable	% Other	Comments

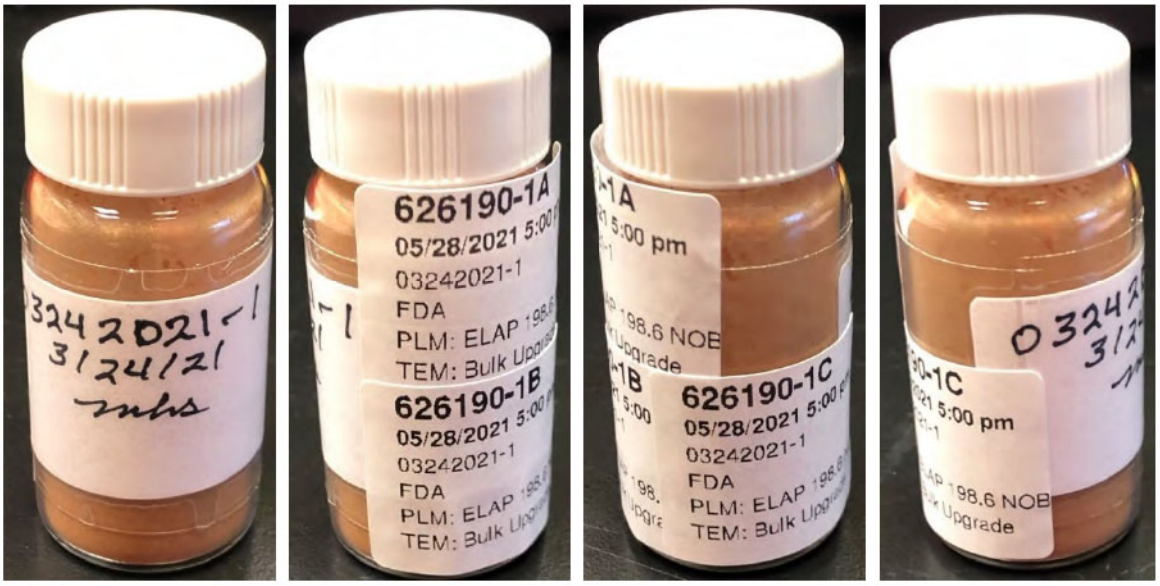
Analyst(s): **PLM** (b)(6)
TEM (b)(6) Andreas Saldivar

Technical Director: Andreas Saldivar

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy

626190-1A, 1B, 1C/03242021-1





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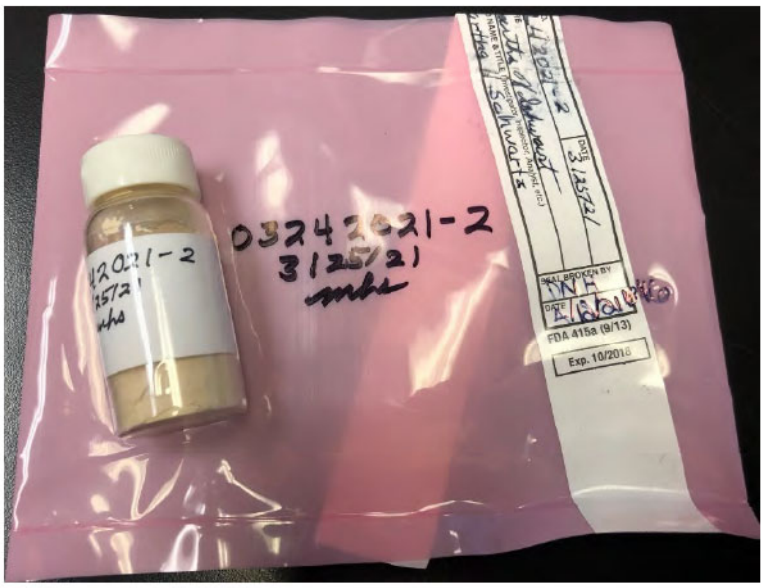

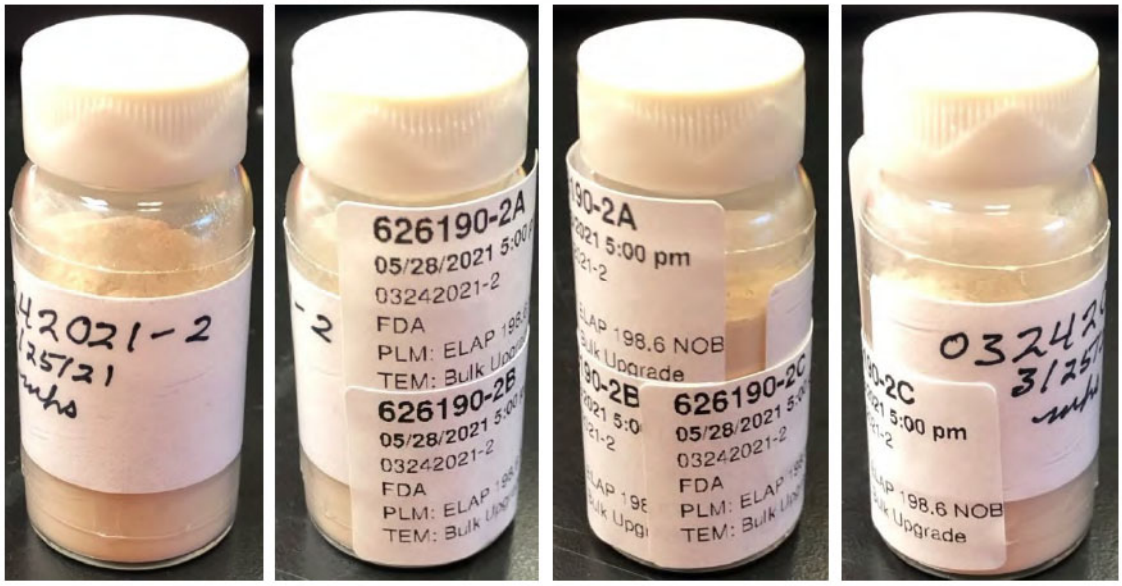

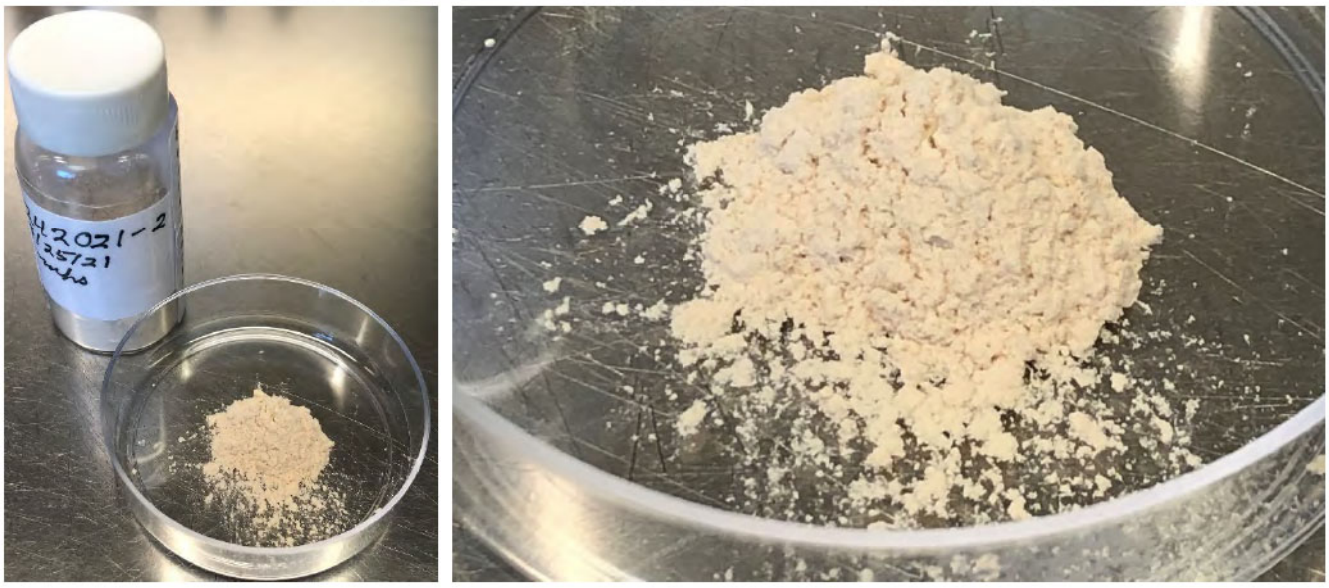

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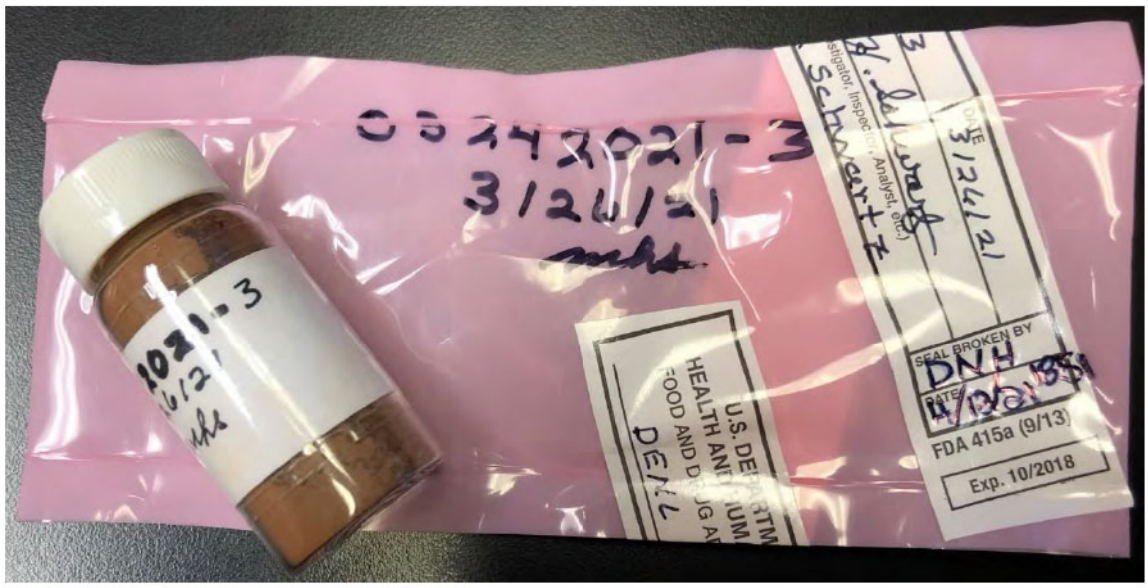

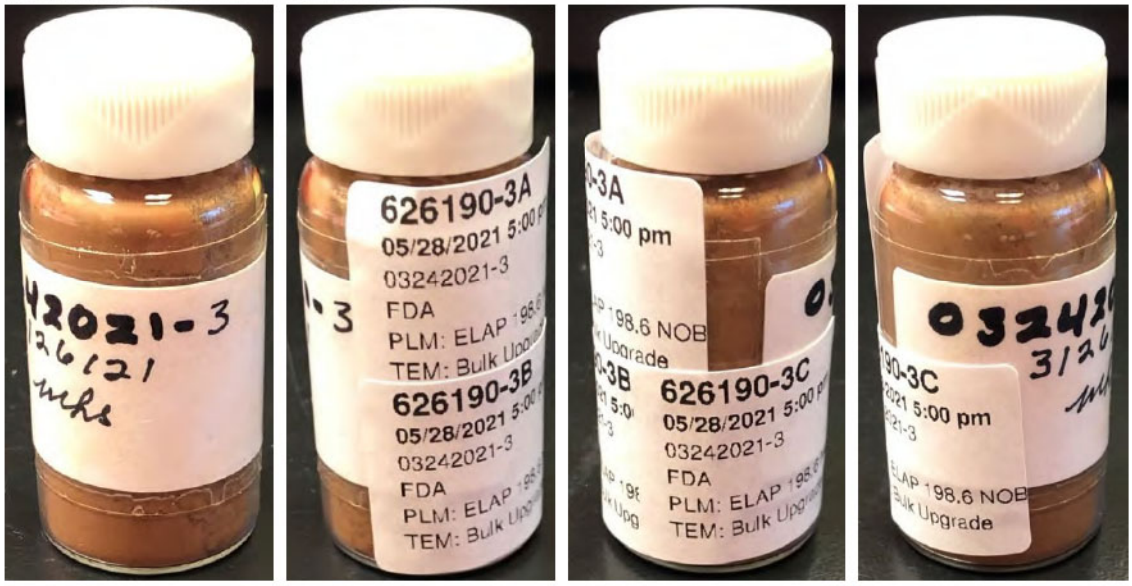

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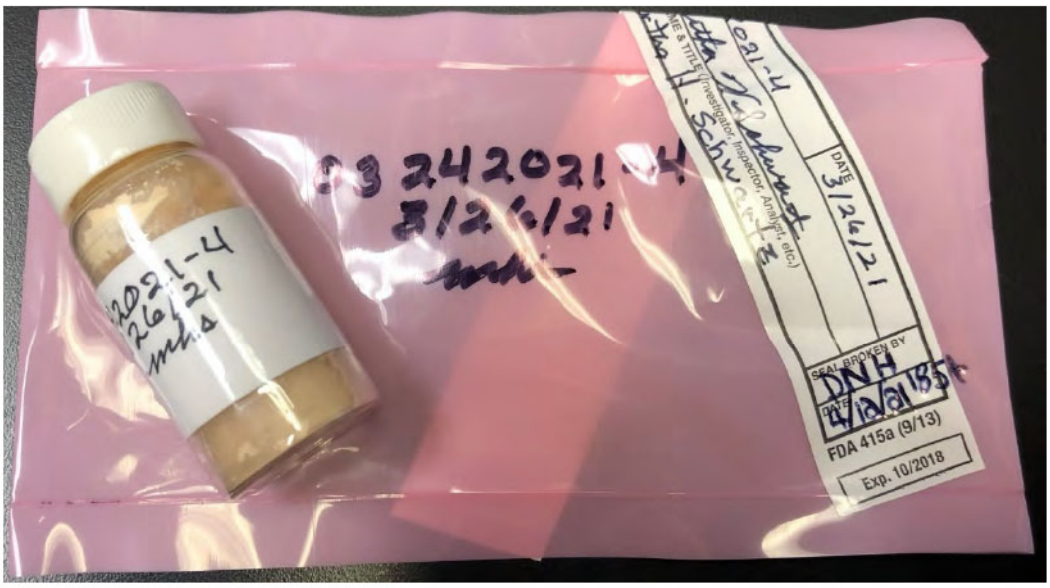

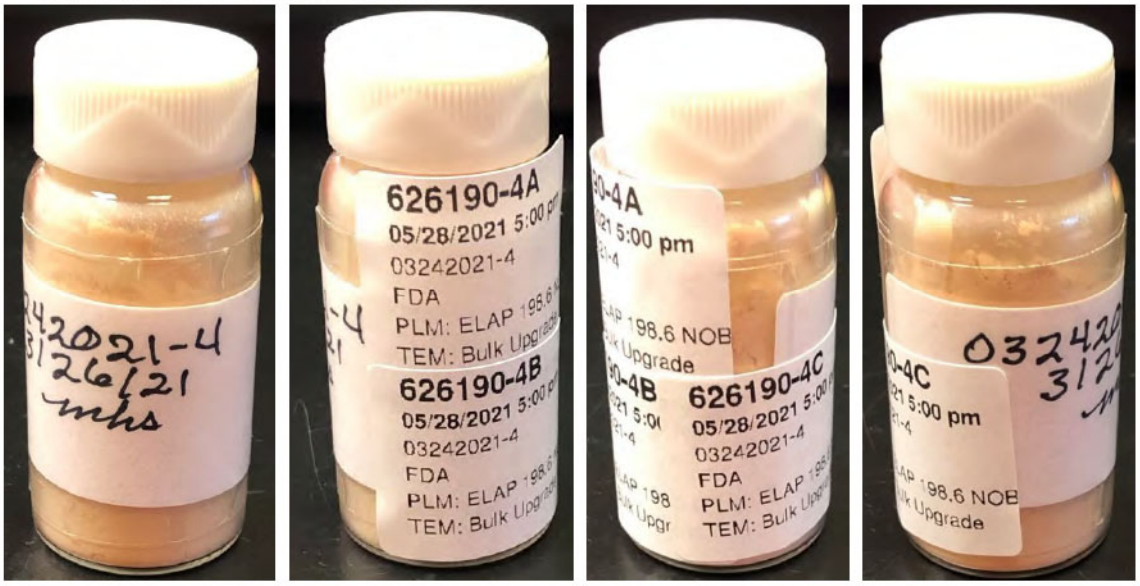

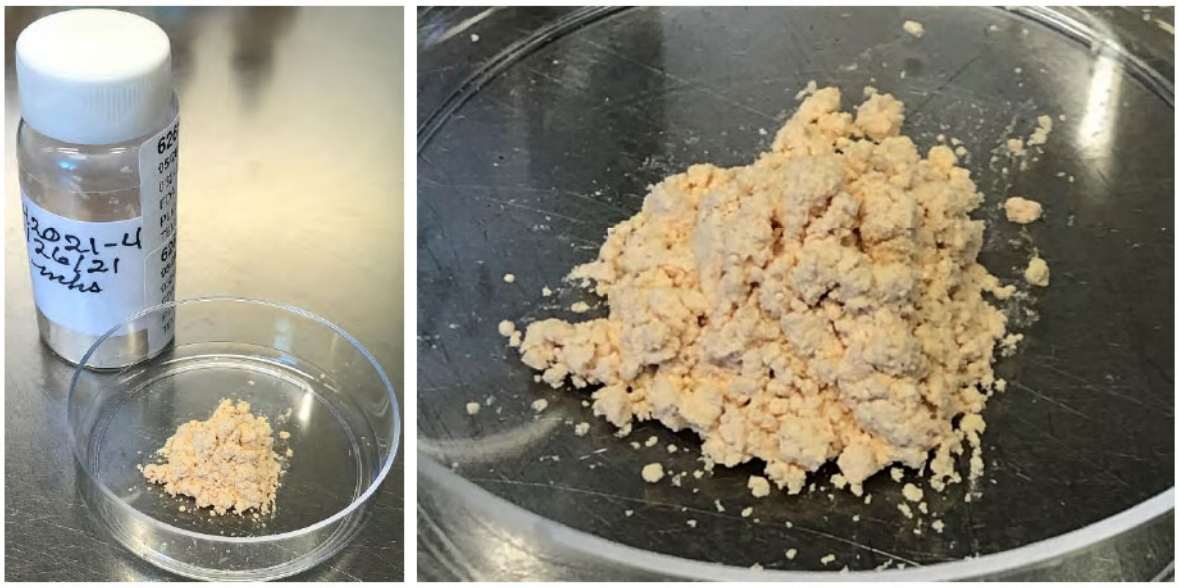

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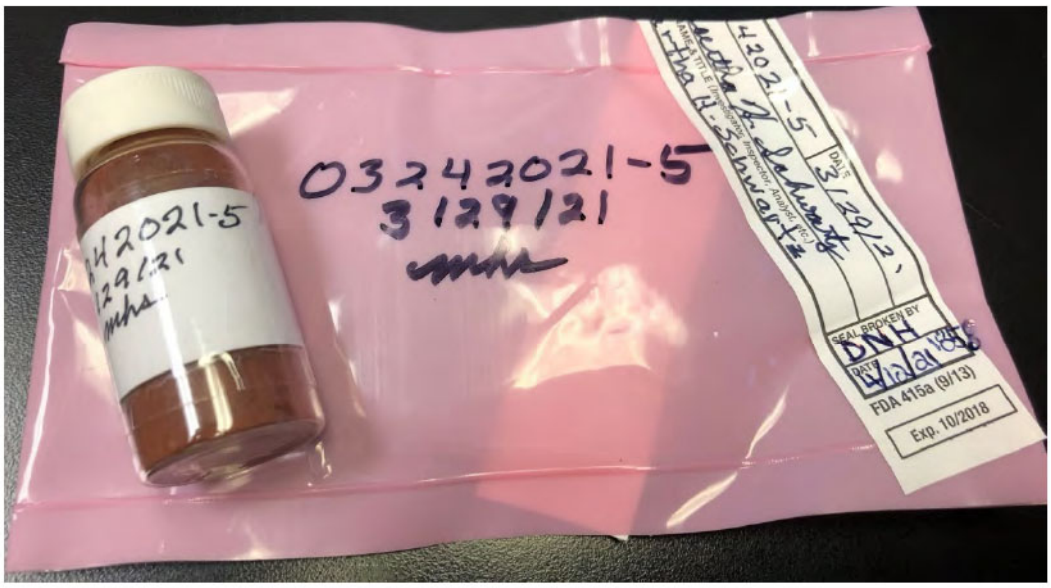

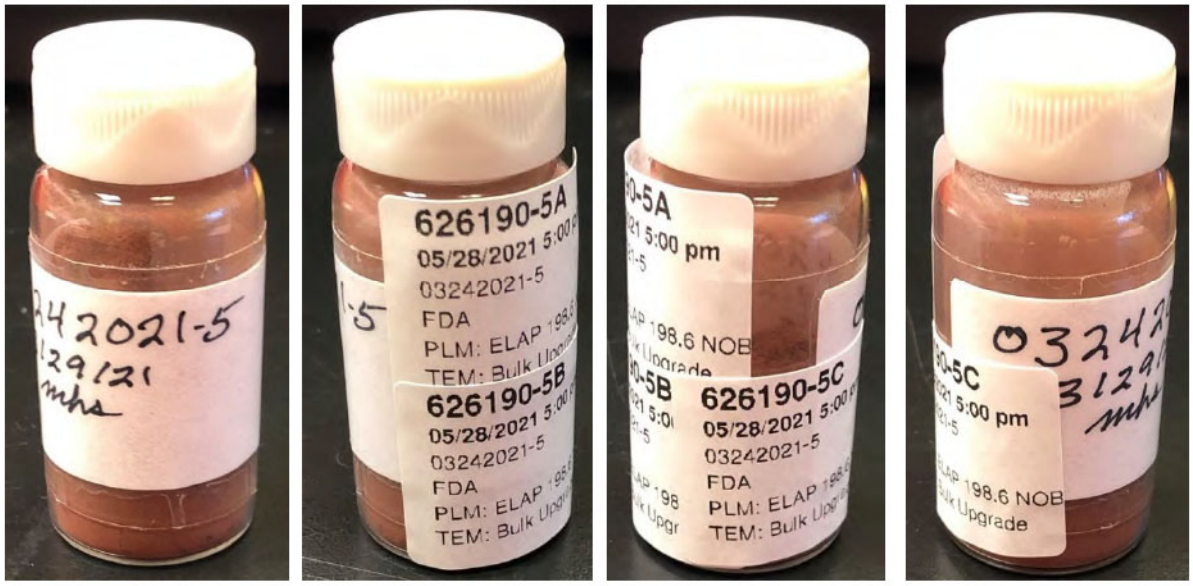

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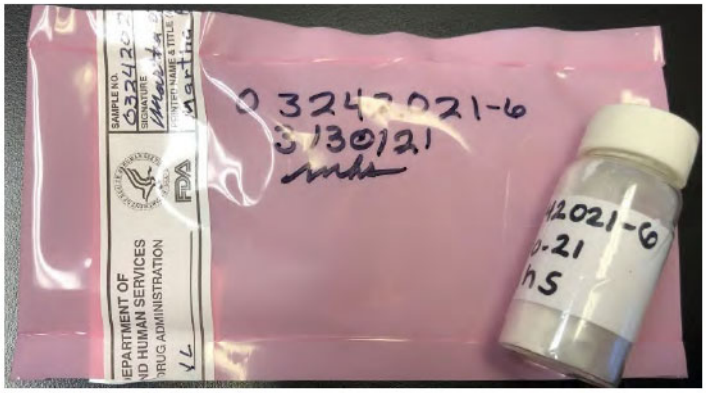
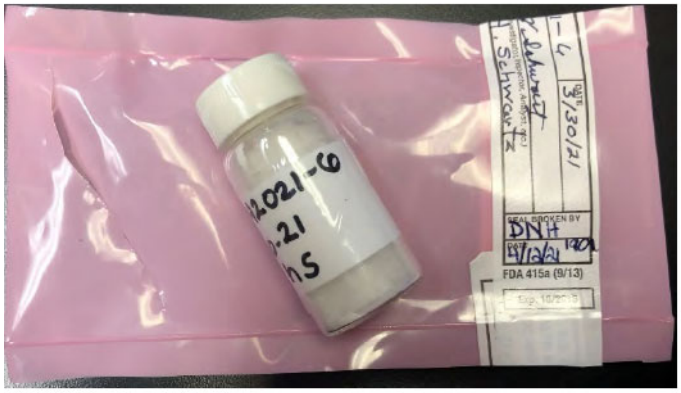
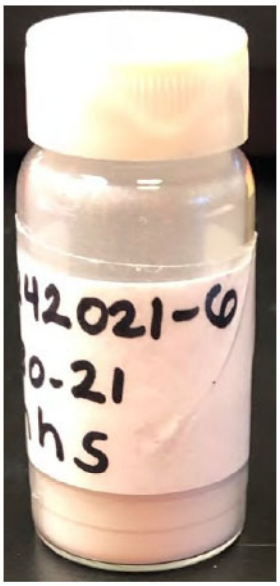
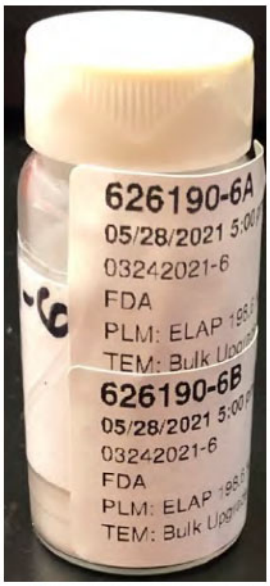
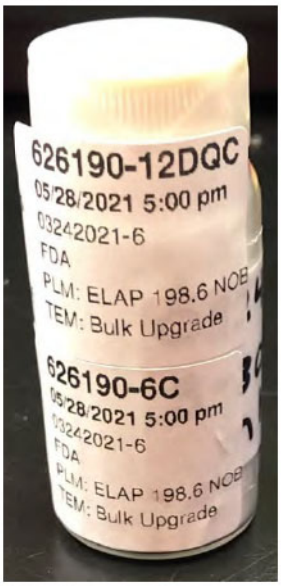
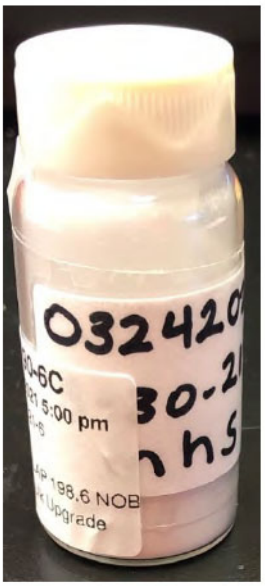


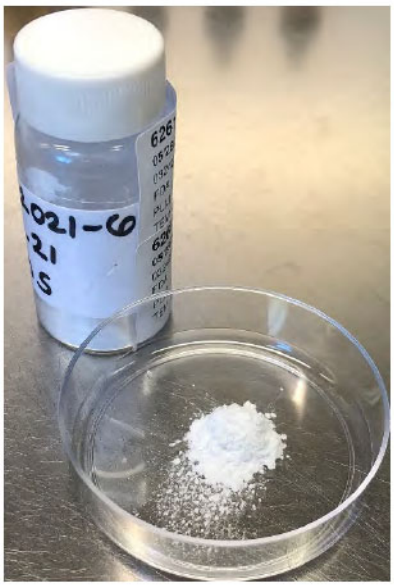


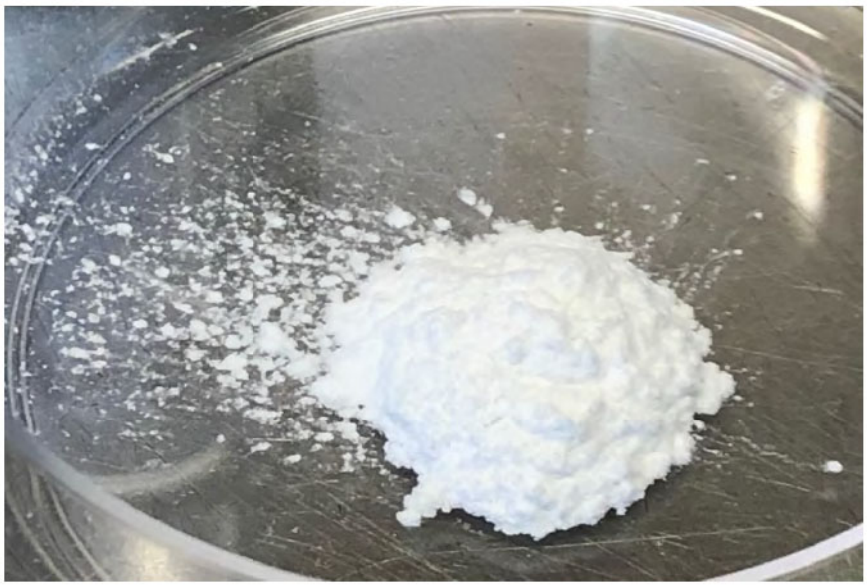




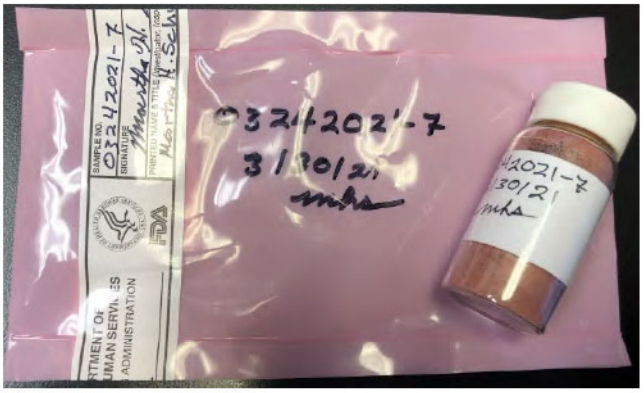


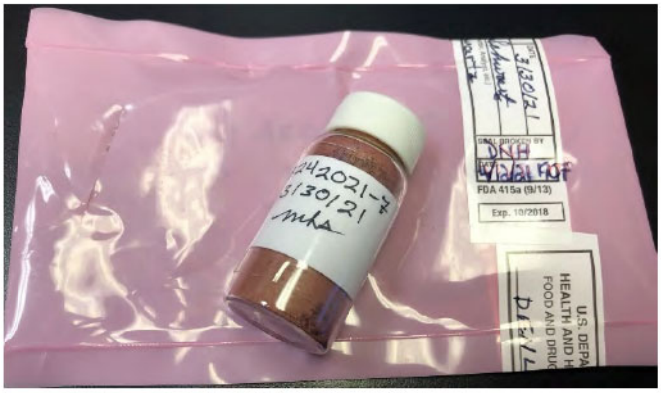


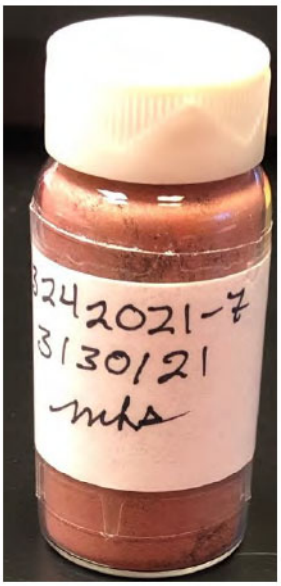


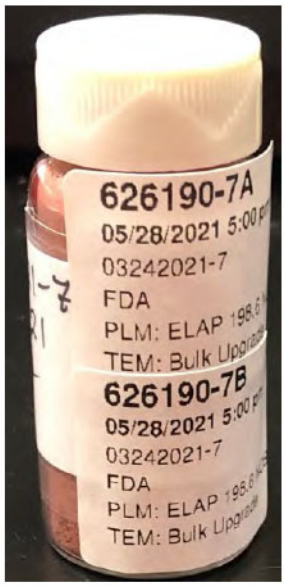


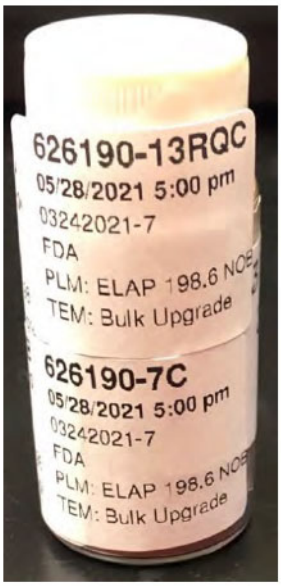
626190-7A, 7B, 7C/03242021-7

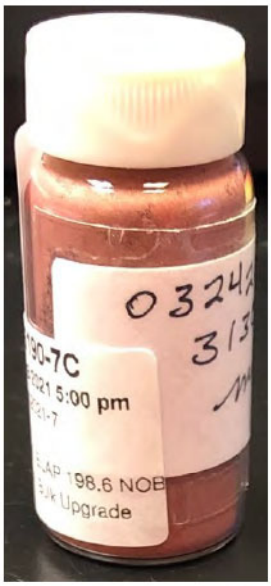












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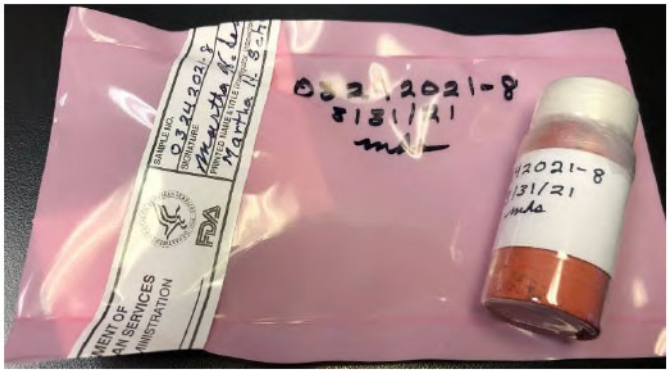

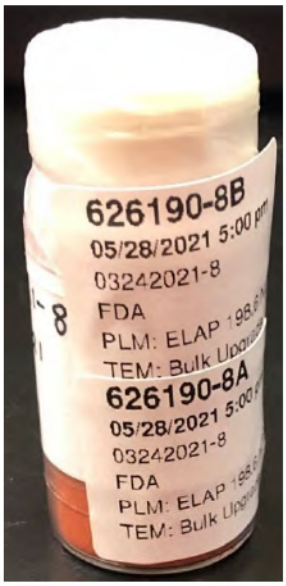

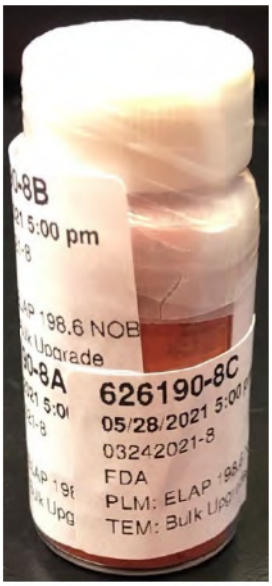

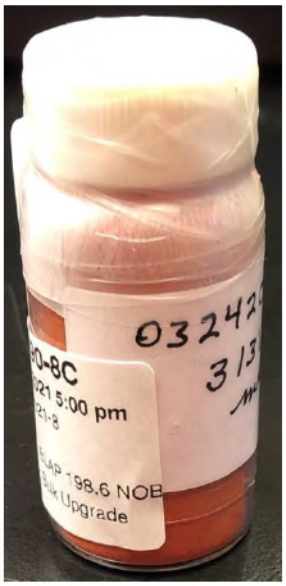

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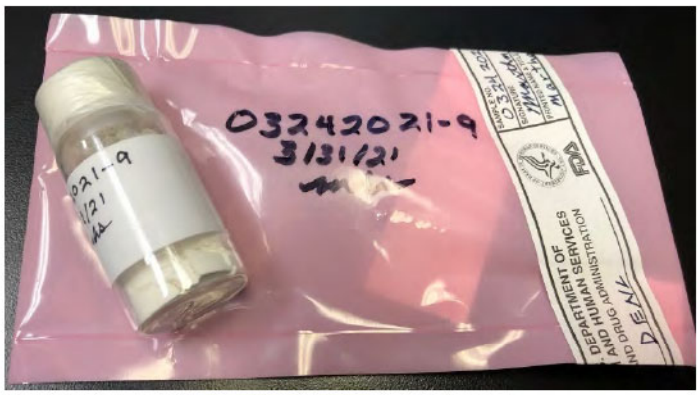
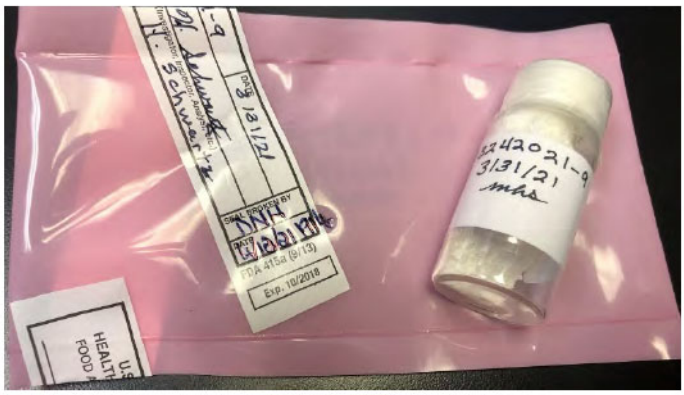
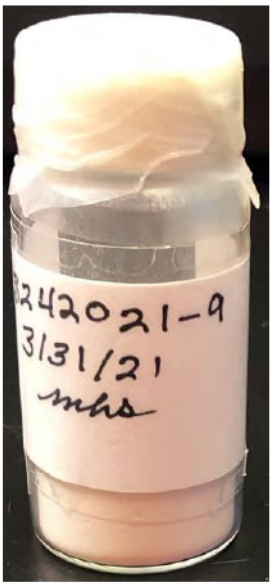
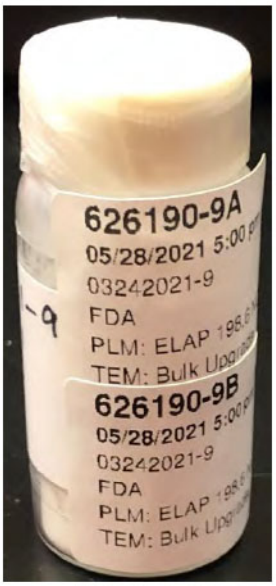
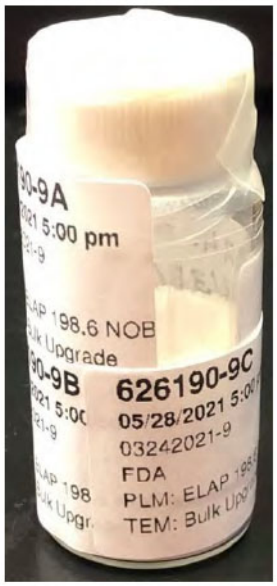
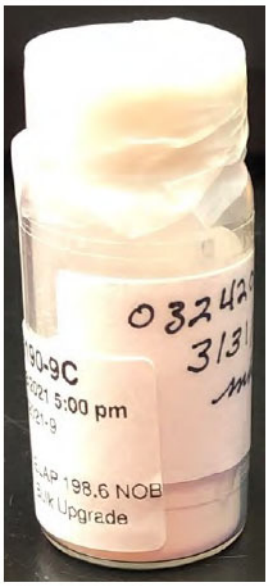


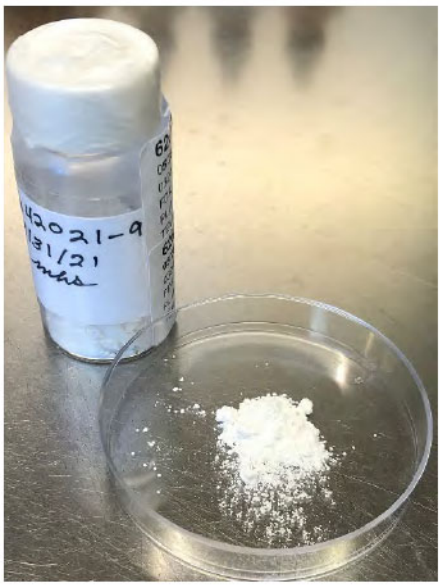


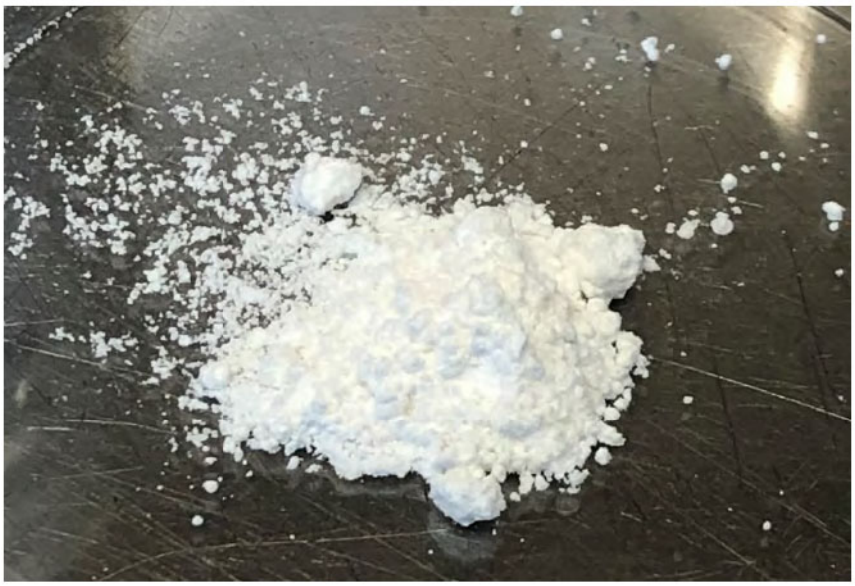




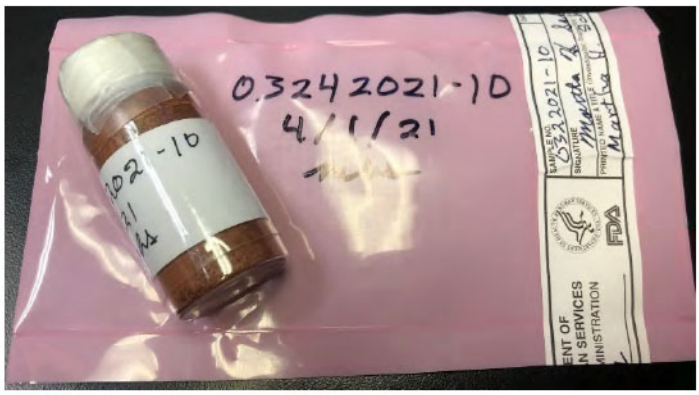


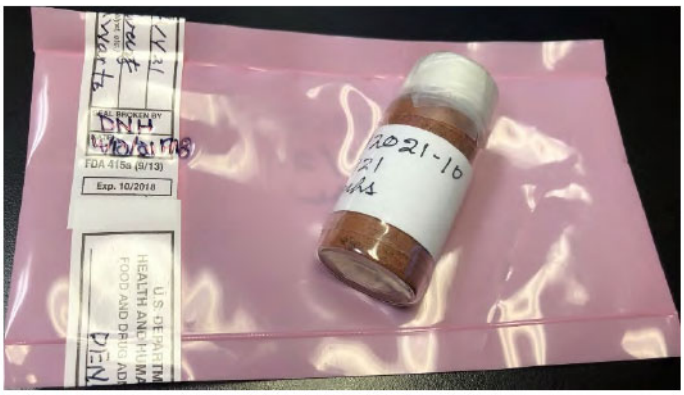


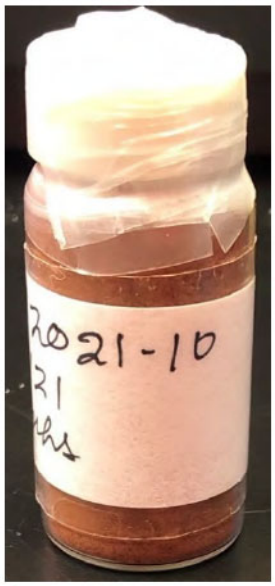


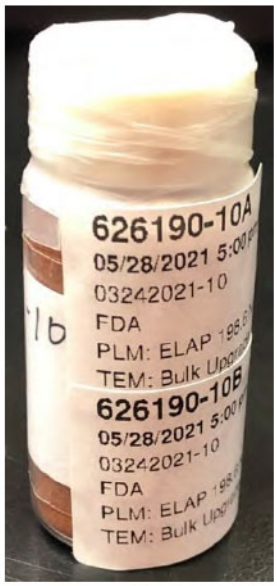


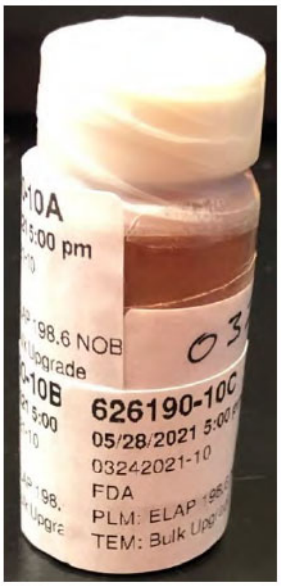
626190-10A, 10B, 10C/03242021-10

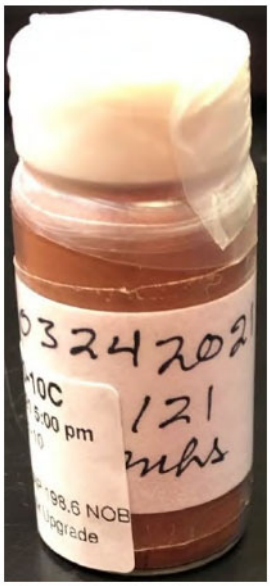




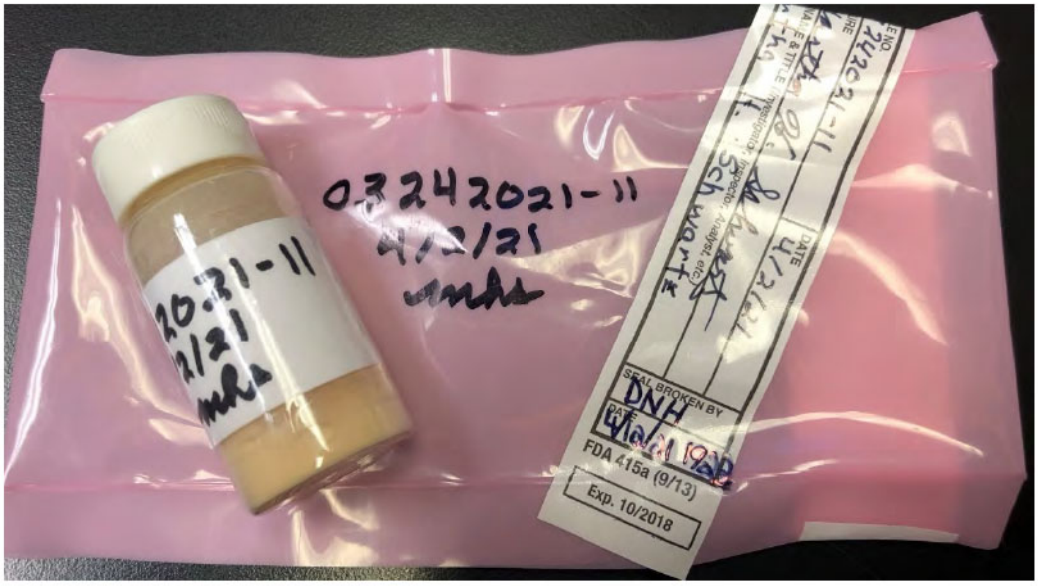


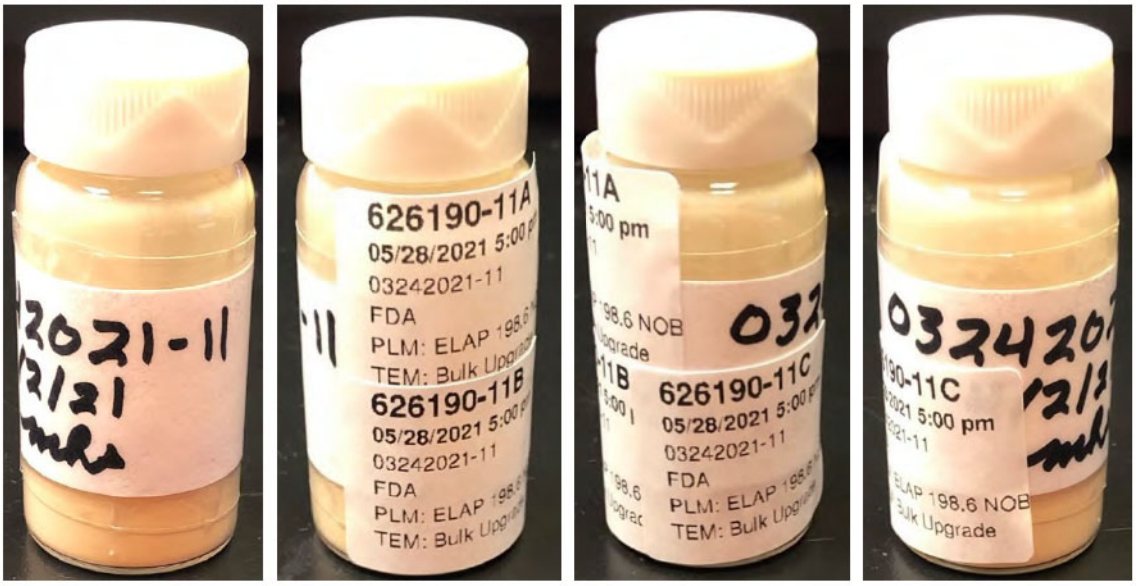


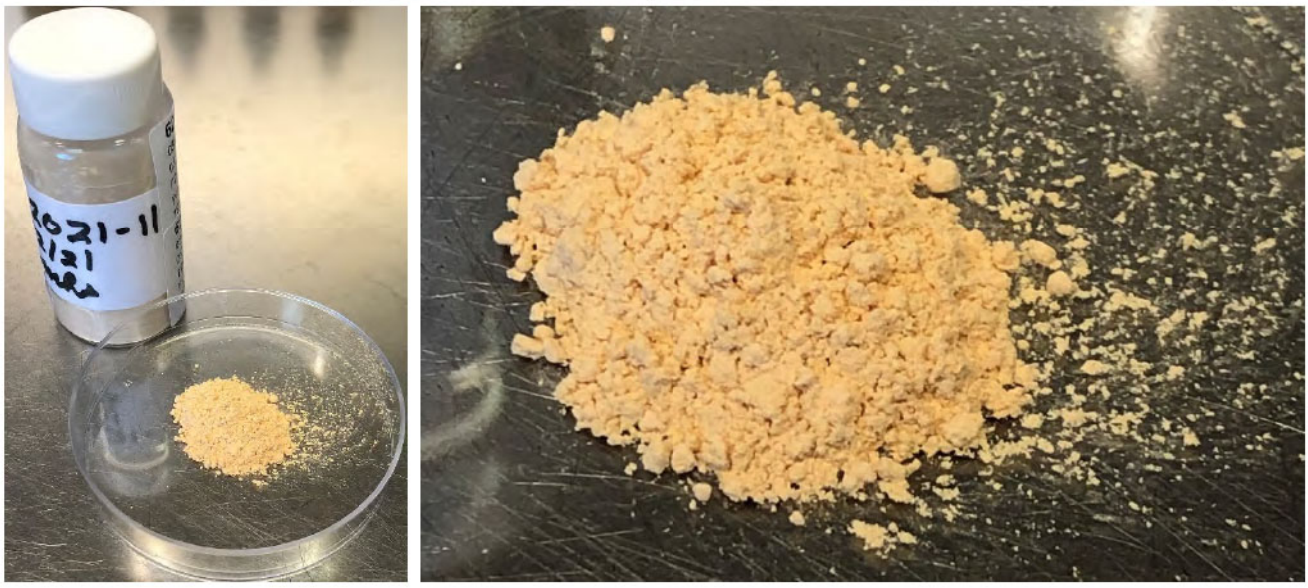




626190-11A, 11B, 11C/03242021-11







Sample Preparation

Samples were gravimetrically reduced and filtered by (b)(6) on: May 10, 2021 through May 13, 2021 for samples 626190-1A through 626190-4C and NB21-312; on May 14, 2021 through May 18, 2021 for samples 626190-5A through 626190-8C, 626190-12DQC, 626190-13RQC and NB21-325; and on May 19, 2021 through May 20, 2021 for samples 626190-9A through 626190-11C and NB21-329. PLM slide preparations were made by (b)(6) on May 21, 2021. TEM grid preparations were made by: (b)(6) on May 13, 2021 for samples 626190-1A through 626190-4C and NB21-312; (b)(6) on May 19, 2021 for samples 626190-5A through 626190-8C, 626190-12DQC, 626190-13RQC and NB21-325; and (b)(6) on May 20, 2021 and for samples 626190-9A through 626190-11C and NB21-329. Sample preparation consisted of the following steps:

1) Label and weigh two 8mL glass vials for each sample in the set – one vial for the PLM preparation and one vial for the TEM preparation.
2) Weigh out 0.1 to 0.8-grams of material and place in the corresponding 8mL glass vial. Record weight.
3) Burn samples at 480° C for at least 12-hours.
4) Record Post-Ash weight.
5) Treat ashed sample with reagent grade hydrochloric acid.
6) Filter acid reduced material with a pre-weighed disposable filtration apparatus onto a 47mm 0.4µm PolyCarbonate filter.
7) Place disposable filtration apparatus with filter into drying oven for 3 hours and then record Post-Acid Reduced weight.
8) Make four PLM slide preparations from the PLM residue for each sample in 1.550 dispersion oil. Make additional preparations in 1.605, 1.625, 1.680 and 1.700 dispersion oil(s) as necessary for particle identification.
9) Weigh a portion of the material from the TEM residue and place it into the corresponding pre-weighed 100mL jar.
10) Fill the 100mL jar with deionized water
11) Sonicate the jar for ~5-minutes.
12) Filter 0.1mL to 2mL of the solution onto a 47mm 0.22µm MCE filter.
13) Dry the filter for ~10-minutes then collapse, carbon coat, and place on a 3 TEM grids.

TEM grid preparations were examined prior to analysis and were rejected if they met the following criteria:

1) Less than 50% of the carbon coating was intact
2) The grid was too dark due to incomplete dissolution of the filter
3) Heavy particulate loading in excess of 25%
4) Light particulate loading below 10%
5) Uneven distribution of particulate

<u>Problems Encountered During Preparation & Resolutions:</u>

No problems were encountered during sample preparation. All gravimetric data was consistent among each group of aliquots and all TEM grid preparations were deemed acceptable for analysis.

PLM Analysis

Analysis was performed in accordance with NY ELAP 198.6 protocols. The analysis was conducted using an Olympus BH-2 polarized light microscope (PLM) equipped with a dispersion staining objective. All four slide preparations for each aliquot were examined; each slide preparation consisted of two (2) coverslips for a total of eight (8) coverslips. 400-point count was performed for those samples on which asbestos was observed. If no asbestos was detected on any of the slides, the percentage of fibrous components was determined by visual estimation. The results of this analysis are detailed below in the *Discussion and Interpretation of Analytical Findings* section for each individual sample.

<u>Point Counting</u>

If asbestos was observed on the slide preparations, the amount of asbestos was quantified using point count techniques. Point counting is form of quantifying PLM samples. One of the oculars of each PLM microscope is etched with a crosshair. When point counting, whatever is under the crosshair is counted as one point of whatever the material is. Four (4) slide preparations with a total of eight (8) coverslips are prepared for each sample. The microscope mechanical

stage is used to randomly move the slide. After each movement, whatever is under the crosshair, provided the point is not empty, is counted. Fifty (50) non-empty points are counted on each of the eight (8) coverslips for a total of four hundred (400) points. The total asbestos points counted are divided by the total points counted to calculate the percentage.

Example:

11 points of asbestos were counted out of the 400 total points

Slide percentage = (11pts/400pts) * 100%
Slide percentage = 2.75%

This number is not the final asbestos percentage. To calculate the final percentage, this number must be corrected to account for the material lost during gravimetric reduction preparation. See the *Calculations* section below for additional details.

TEM Analysis

Analysis was performed in accordance with modified NY ELAP Method 198.4 protocols. The analysis was performed using JEOL JEM-100CX II and JEOL JEM-100CX transmission electron microscopes (TEM) equipped with Thermo Fisher NSS System 7 Energy Dispersive X-Ray Analyzers (EDXA), at magnifications of 19,000x. All TEM scopes are equipped with a Selective Area Electron Diffraction (SAED) setting that allows the operator to view the diffraction pattern of any mineral substance. Twenty (20) grid openings over two (2) grids were examined for each aliquot.

Modifications to the NY ELAP 198.4 Method were:

1) The residue was not placed in alcohol and prepared using the quick drop method. To obtain a more uniform preparation, the residue was placed in a jar and filled with 100mL of deionized water. The jar was sonicated, and a portion of the solution was filtered onto a 47mm 0.22µm MCE filter.
2) Any amphibole or chrysotile particle(s) observed were not quantified by visual estimation. The length and width of the observed particle(s) were measured, and the mass of each amphibole and chrysotile particle was calculated using the ASTM D5756 method.
3) All particles identified as amphibole were included with the counts/concentrations, regardless of size and aspect ratio.

The results of this analysis are detailed below in the *Discussion and Interpretation of Analytical Findings* section for each individual sample.

Calculations

TEM ASTM D5756 Mass:

$M = \pi/4\ L * W^2 * D * 10^{-12}$

Where: M: Mass
L: Length
W: Width
D: Density

Gravimetric Reduction Percentages:

Organic: ((W1 – W2) * 100/W1

Acid Soluble: ((W2 – W3) * 100/W1

Other* Percent: ((W3/W1) * 100) – Calculated Asbestos %

*Other is defined as the non-asbestos, inorganic, acid insoluble portion of the sample

Where: W1: Weight of sample prior to ashing/acid wash
W2: Weight of sample after ashing
W3: Weight of sample after acid treatment

Asbestos Percent Calculation:

TEM

$$\frac{EFA(mm^2) * 100ml * MA(g) * RW(g)}{VF(ml) * IW(g) * AA(mm^2) * RJ(g)}$$

(The calculated value is then multiplied by 100 to convert it to percent)

Where: EFA: Effective filter area
MA: Mass of asbestos
RW: Weight of residue

PLM

(ASB * W3)/W1

Where: W1: Weight of sample prior to ashing/acid wash
W3: Weight of sample after acid treatment
ASB: Calculated Point Count Result

VF: Volume filtered
IW: Initial weight of the sample
AA: Area analyzed
RJ: Weight of residue placed into the jar

Note: All reported concentrations were calculated using the gravimetric data from the TEM preparations.

Limit of Detection and Quantification
We used the mass of a 0.5 x 0.04-micron tremolite fiber as the basis for our calculations. Limit of detection (LOD) was defined as 1 fiber and limit of quantification (LOQ) was defined as 4 fibers.

Discussion and Interpretation of Analytical Findings:
626190-1A, 1B, 1C/Client Sample: 03242021-1

PLM
All three aliquots of sample 03242021-1 were analyzed by (b)(6) on May 28, 2021. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

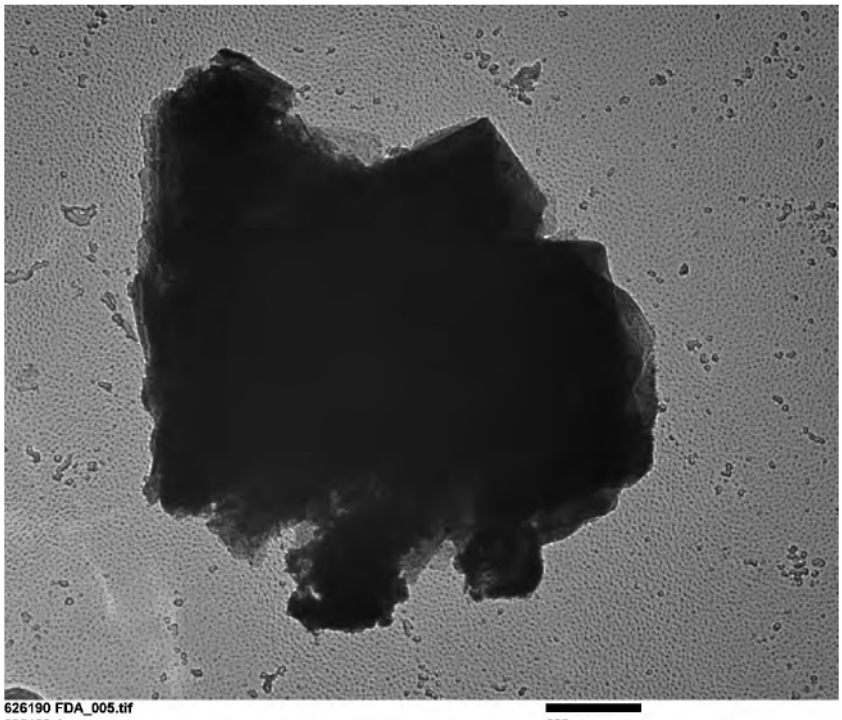
626190-1A	No Asbestos Detected
626190-1B	No Asbestos Detected
626190-1C	No Asbestos Detected

TEM
(b)(6) analyzed aliquot 1A May 14, 2021. Andreas Saldivar analyzed aliquots 1B and 1C on May 14, 2021. The primary particles observed were talc and mica; silica spheres and iron particles were also observed along with a few talc fibers/ribbons, silica particles, and particles containing magnesium, aluminum, and silicon. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-1A	No Asbestos Detected
626190-1B	No Asbestos Detected
626190-1C	No Asbestos Detected

Below are pictures, diffraction patterns, and chemistry from some of the observed particles. The copper peaks in the chemistry spectra are from the TEM grid. The unidentified (and some identified) peaks in the chemistry spectra are zinc and carbon from the TEM specimen holder.

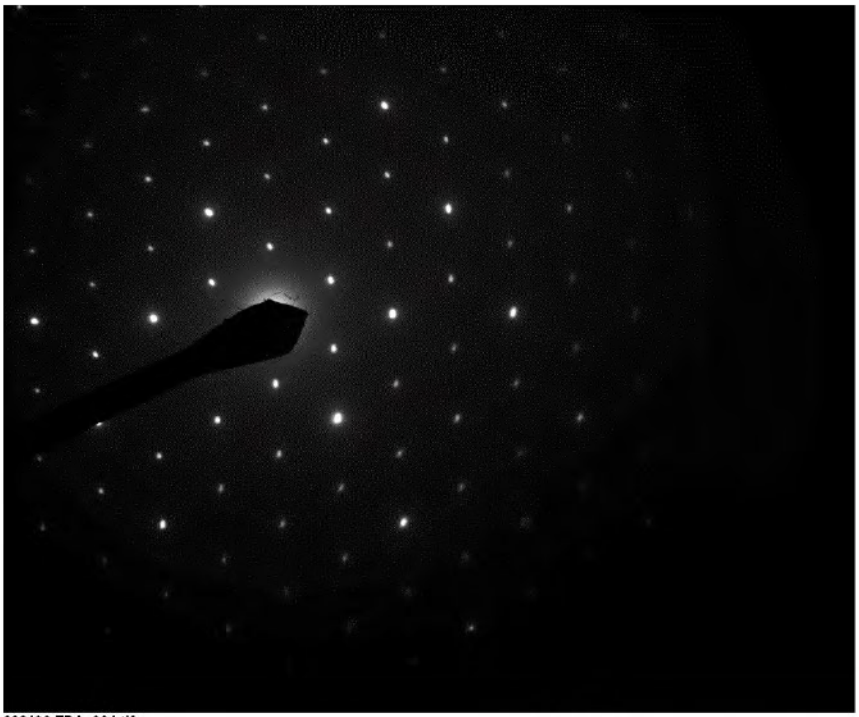
Sample 626190-1A, Talc Particle



626190 FDA_005.tif
626190-1a
Talc Particle
Cal: 0.002144 µm/pix
10:06 5/14/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

600 nm
HV=100kV
Direct Mag: 4800 x
AMA Analytical Services, Inc

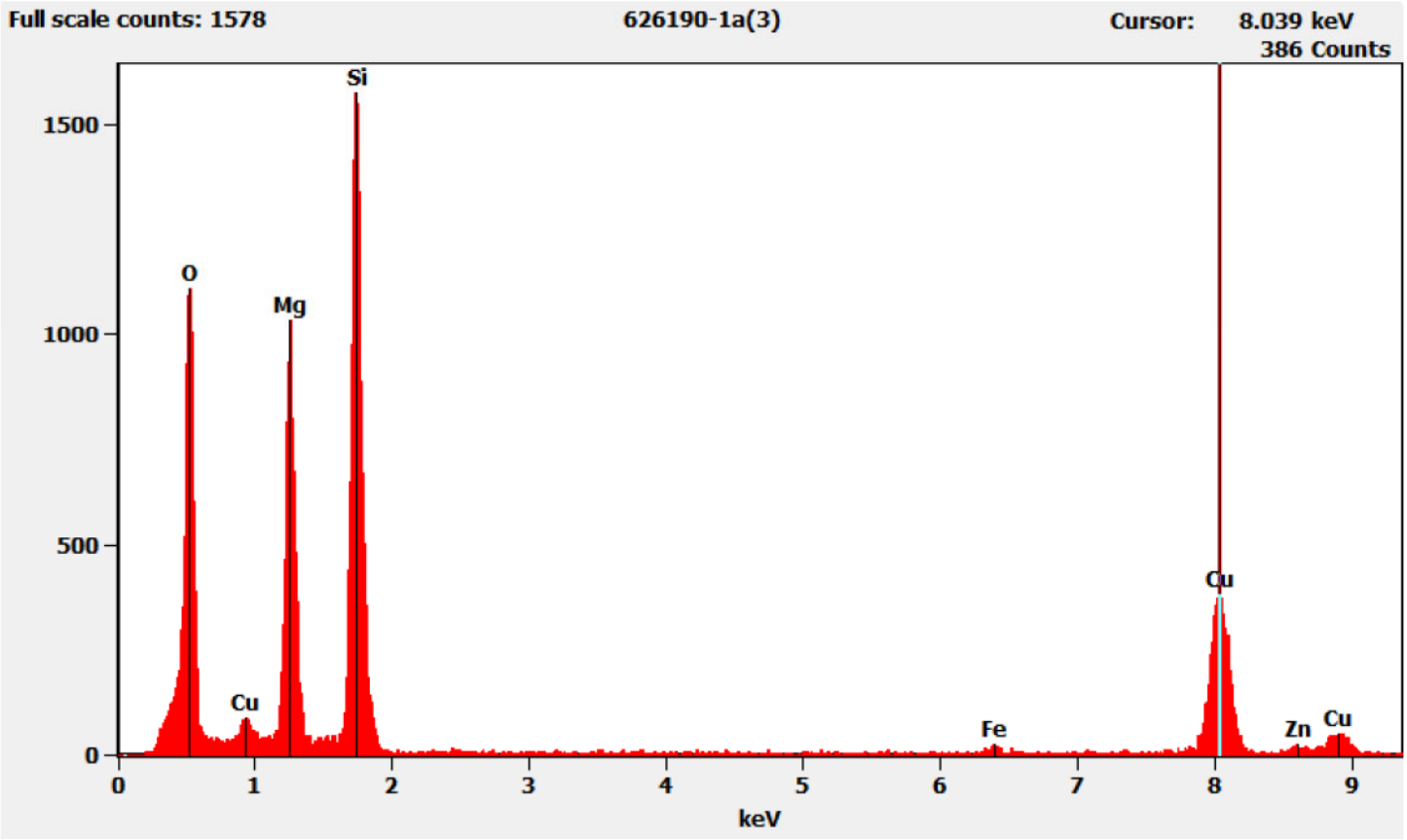
Hexagonal Diffraction Pattern from the Talc Particle pictured above



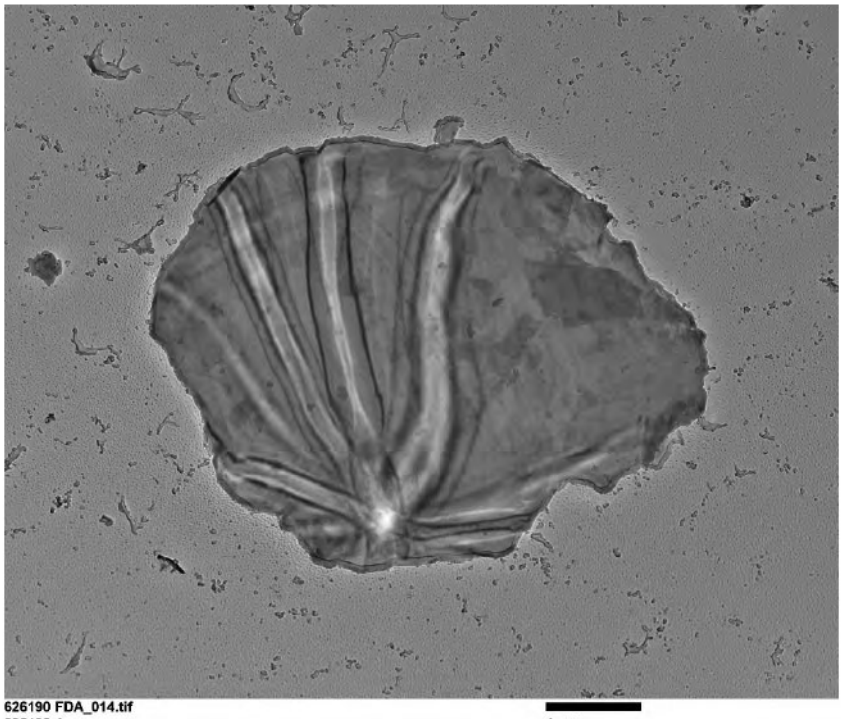
626190 FDA_004.tif
626190-1a
Talc Particle Dif
10:05 5/14/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Talc Particle pictured above

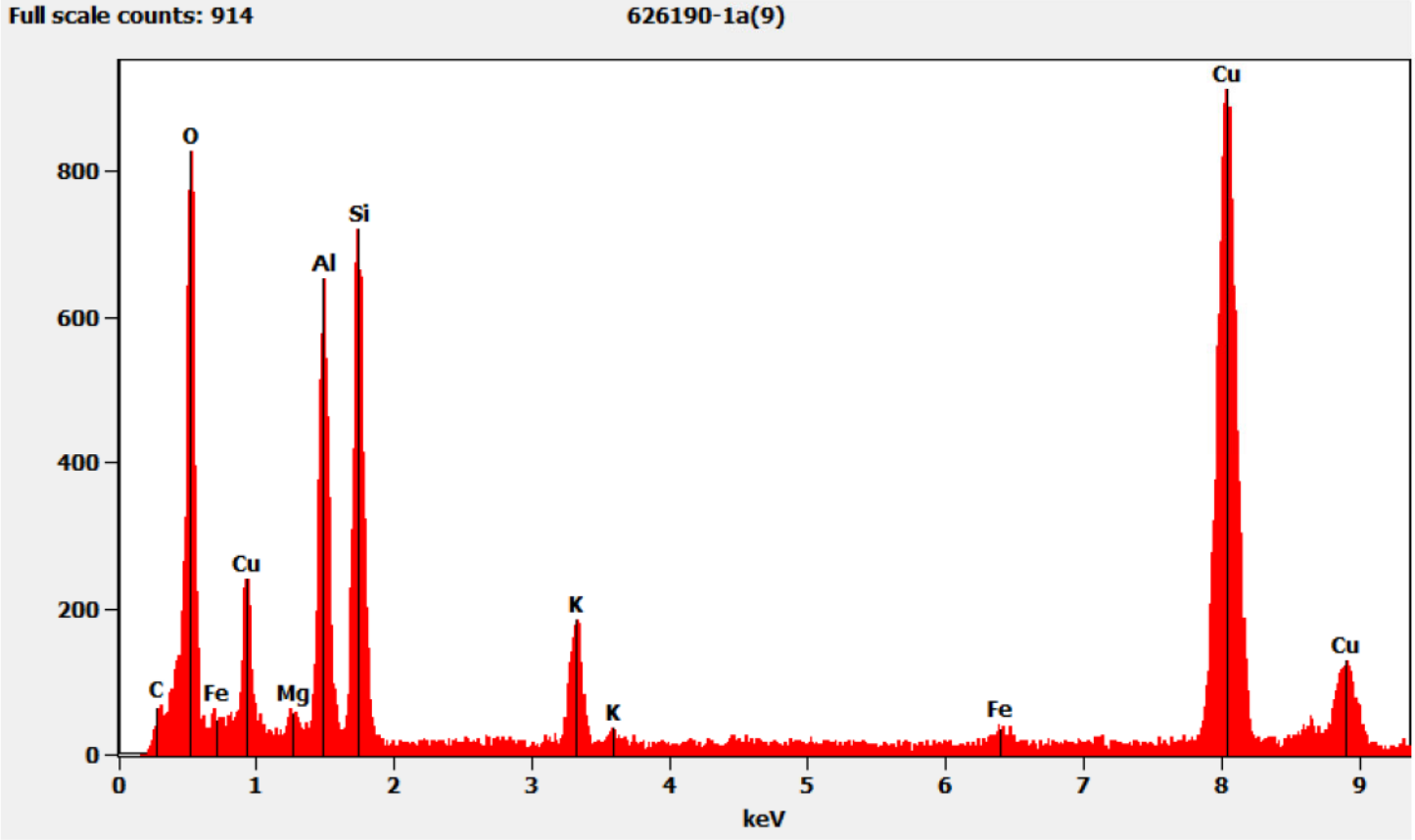


Sample 626190-1A, Mica Particle

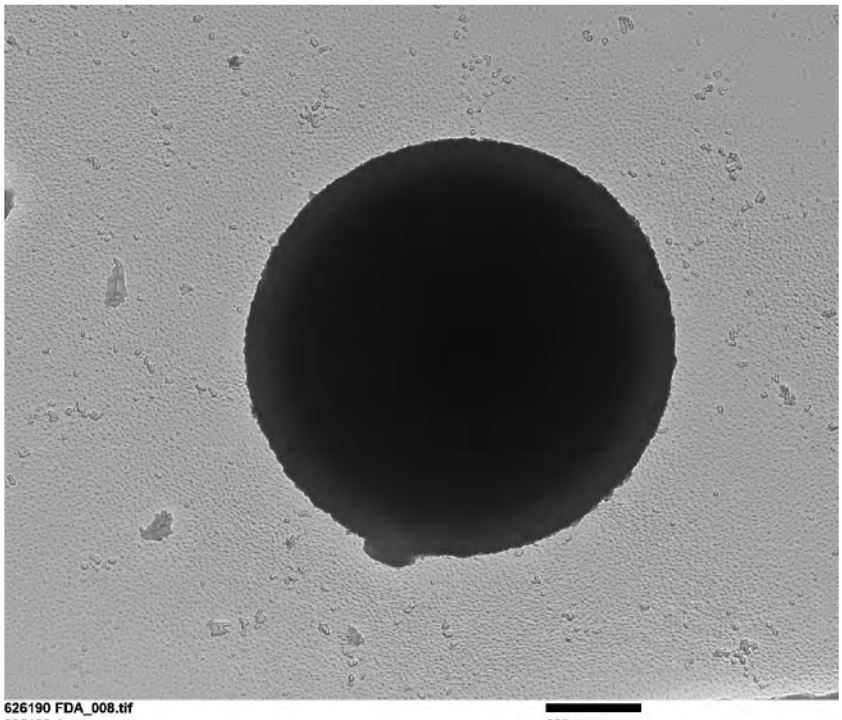


Hexagonal Diffraction Pattern from the Mica Particle pictured above

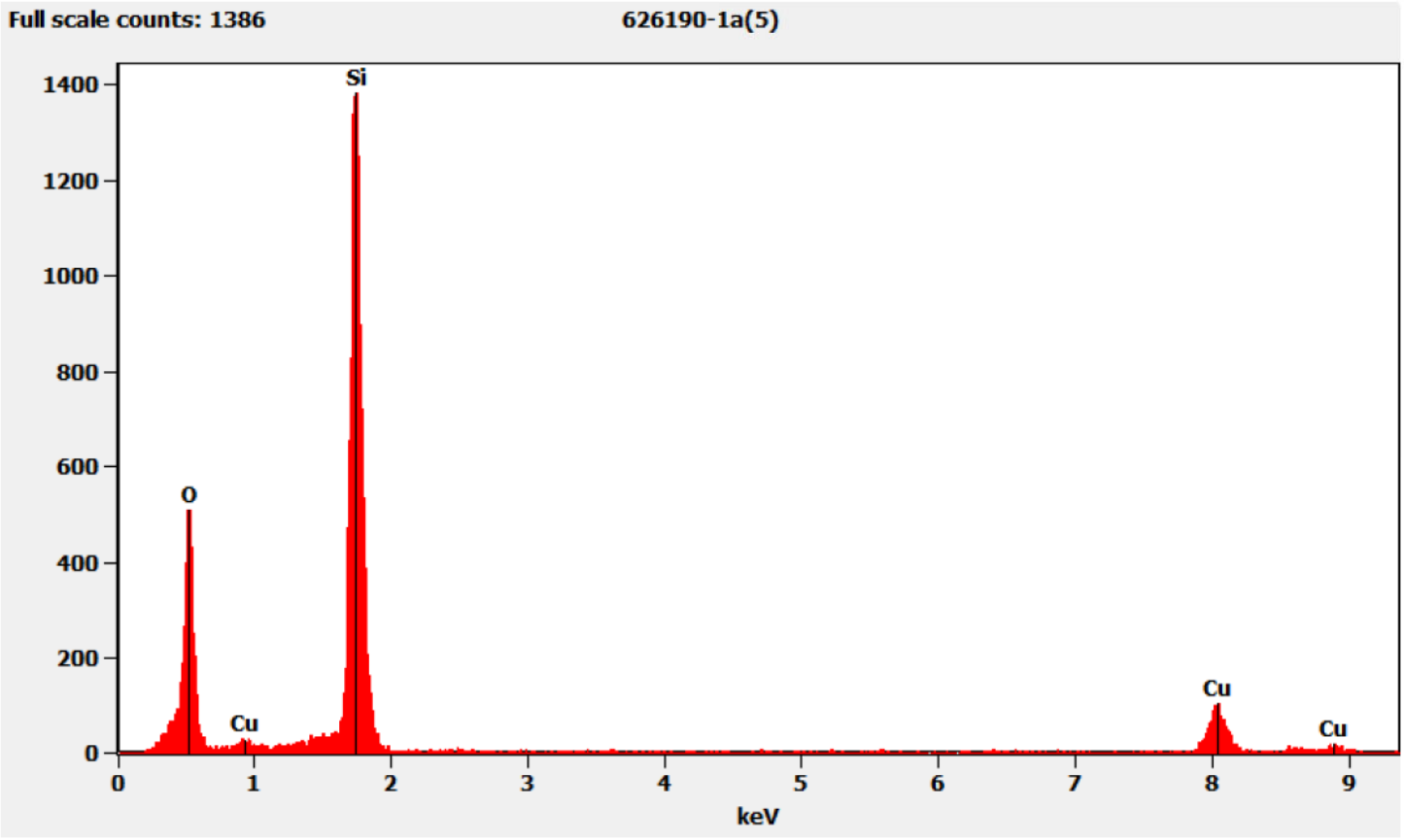
Chemistry from Mica Particle pictured above



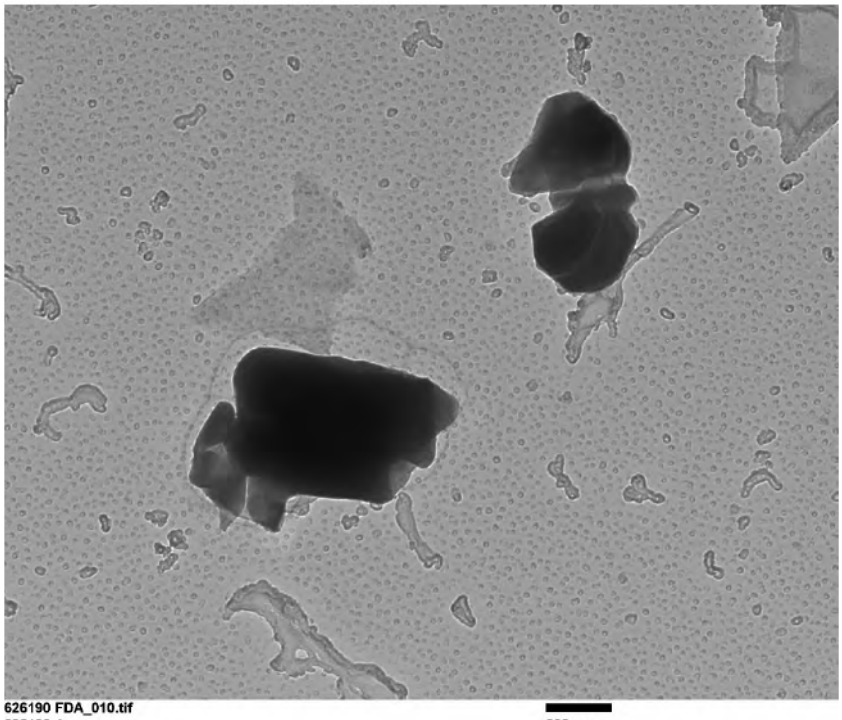
626190-1A, Silica Sphere



Chemistry from the Silica Sphere pictured above



626190-1A, Iron Particles



626190 FDA_010.tif
626190-1a
Fe Particles
Cal: 0.001029 µm/pix
10:29 5/14/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

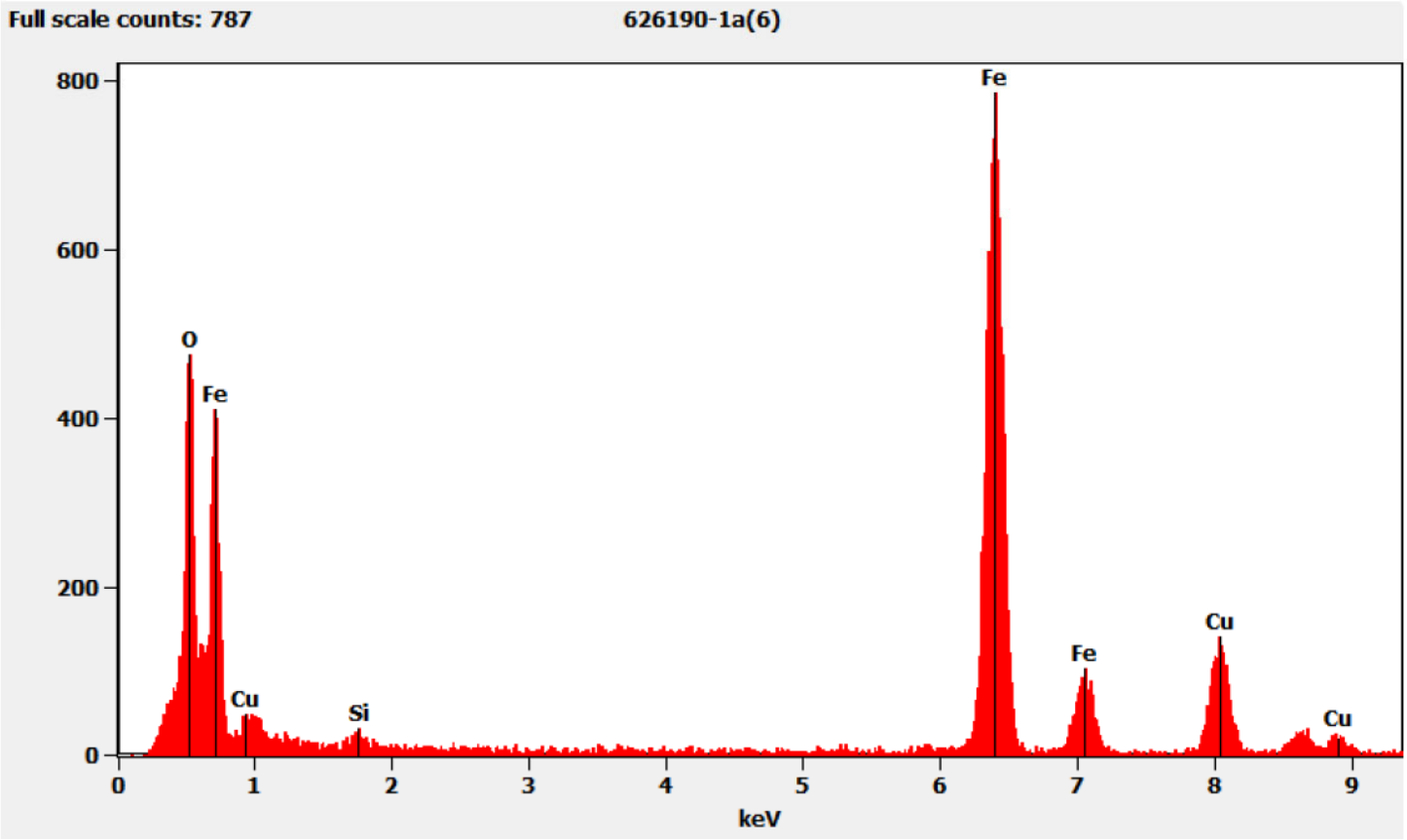
200 nm
HV=100kV
Direct Mag: 10000 x
AMA Analytical Services, Inc

Diffraction Pattern from the Iron Particles pictured above

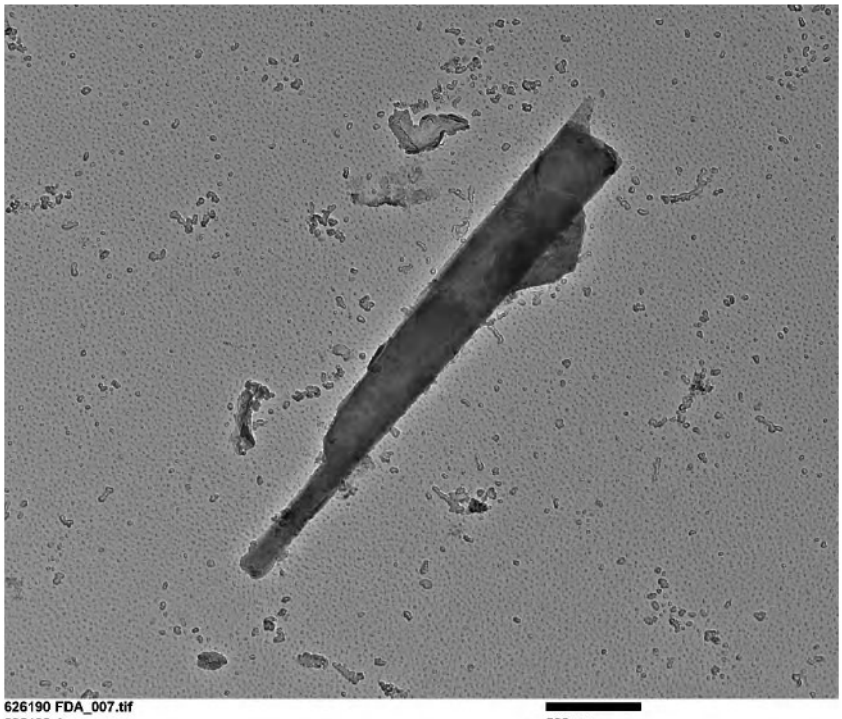
626190 FDA_009.tif
626190-1a
Fe Particles Dif
10:28 5/14/2021
TEM Mode: Diffraction
Microscopist (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Iron Particles pictured above



626190-1A, Talc Fiber

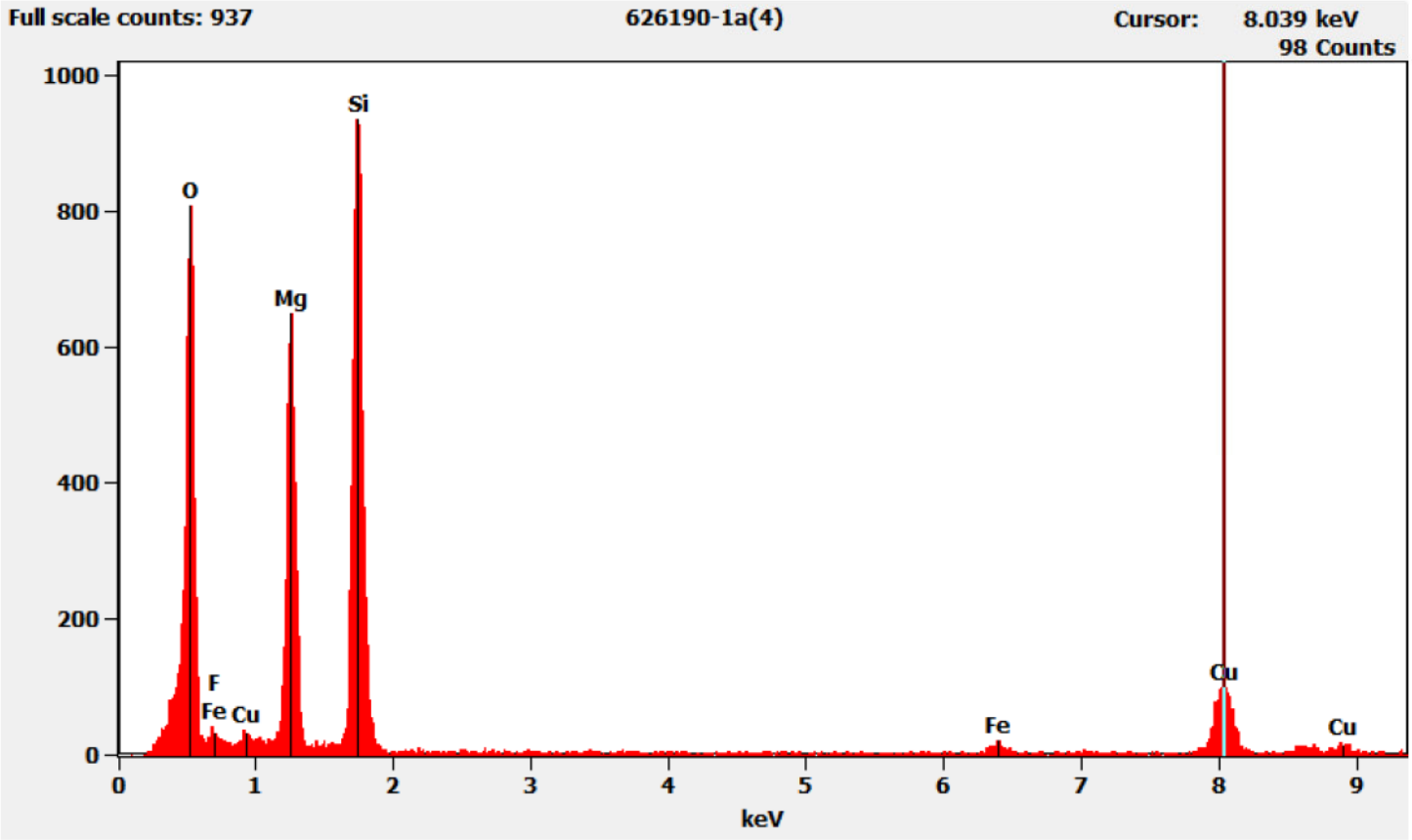


626190 FDA_007.tif
626190-1a
Talc Fiber
Cal: 0.001774 µm/pix
10:13 5/14/2021
TEM Mode: Imaging
Microscopist (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

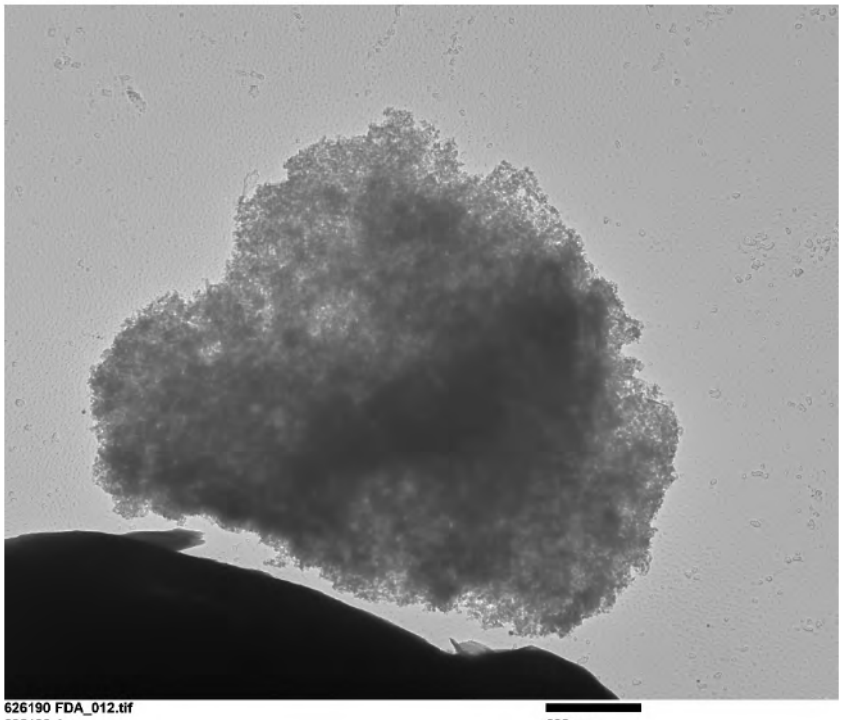
500 nm
HV=100kV
Direct Mag: 5800 x
AMA Analytical Services, Inc

Hexagonal Diffraction Pattern from the Talc Fiber pictured above

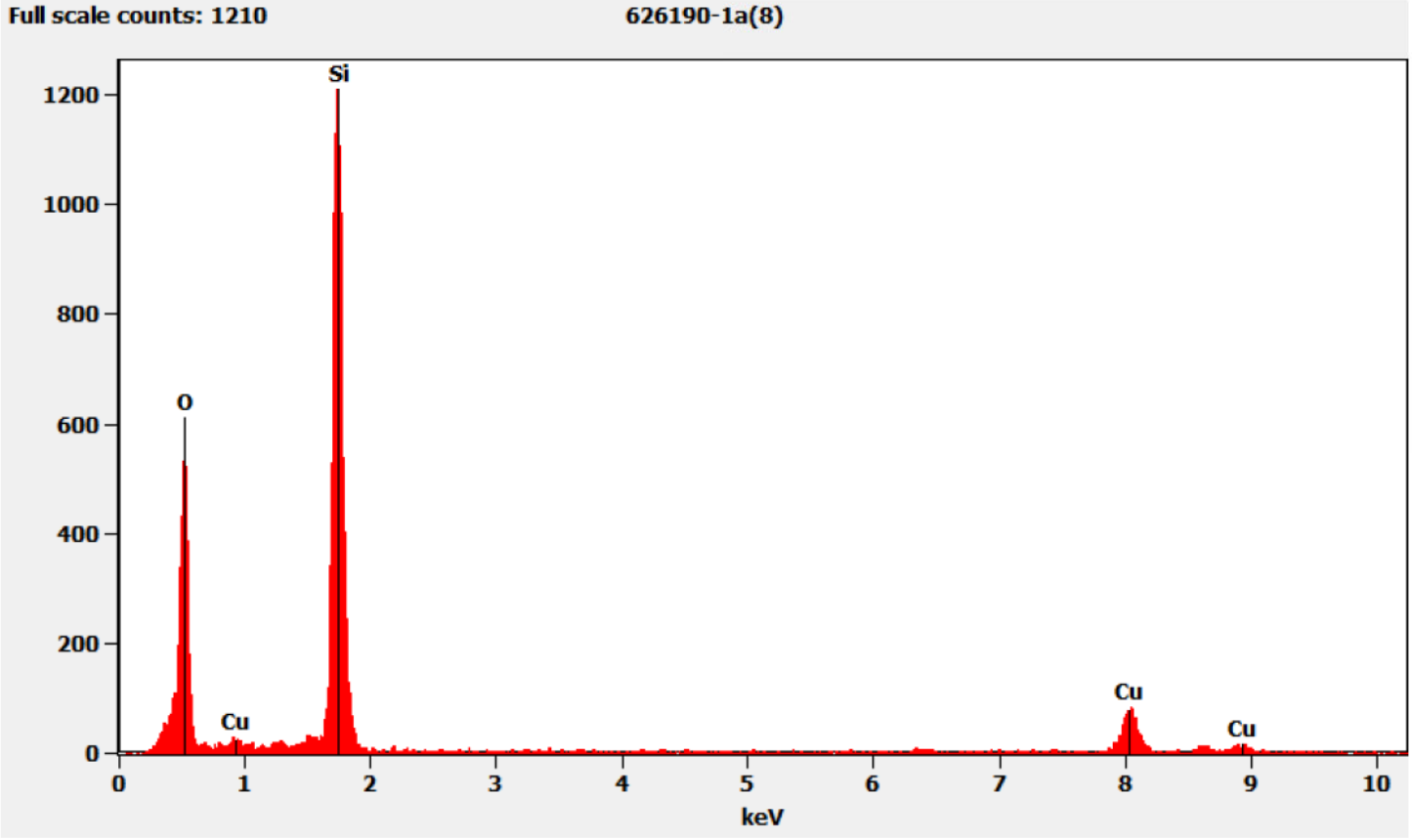
Chemistry from the Talc Fiber pictured above



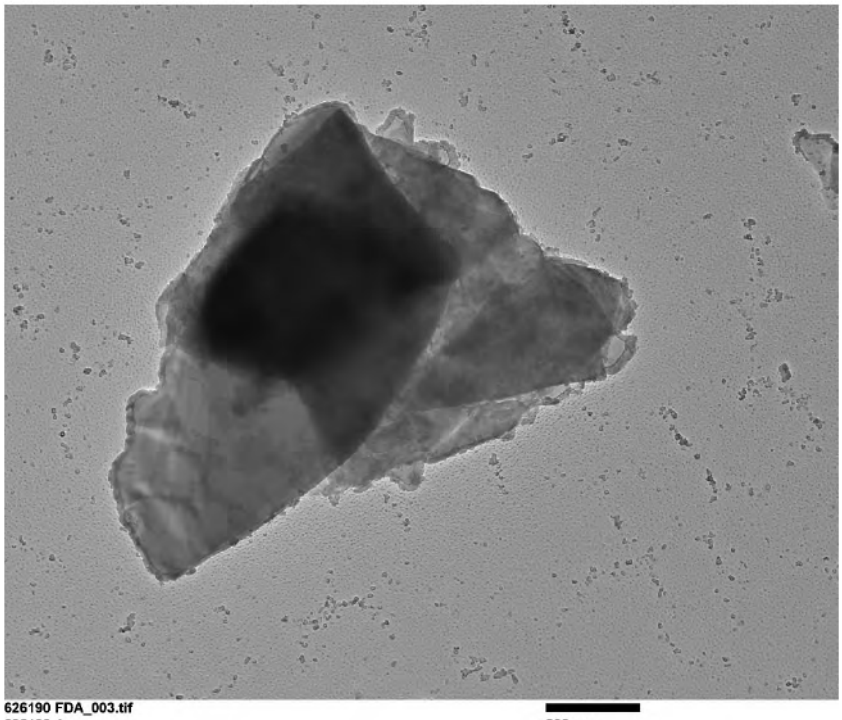
626190-1A, Silica Particles



Chemistry from the Silica Particles pictured above



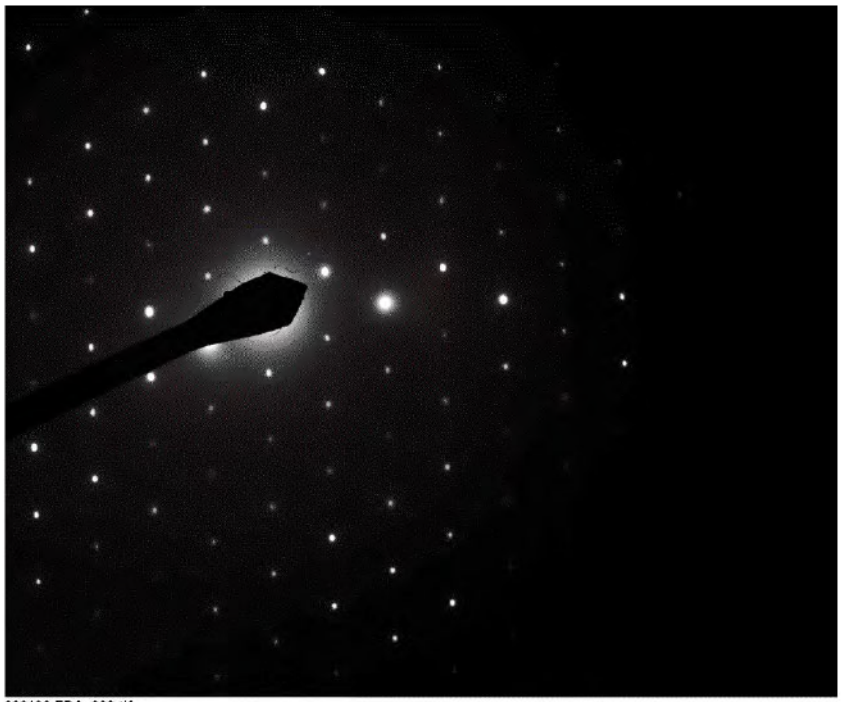
626190-1A, Particle containing Magnesium, Aluminum, Silicon, Potassium, and Iron



626190 FDA_003.tif
626190-1a
SiMgAlFeK Particle
Cal: 0.002858 µm/pix
10:02 5/14/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

800 nm
HV=100kV
Direct Mag: 3600 x
AMA Analytical Services, Inc

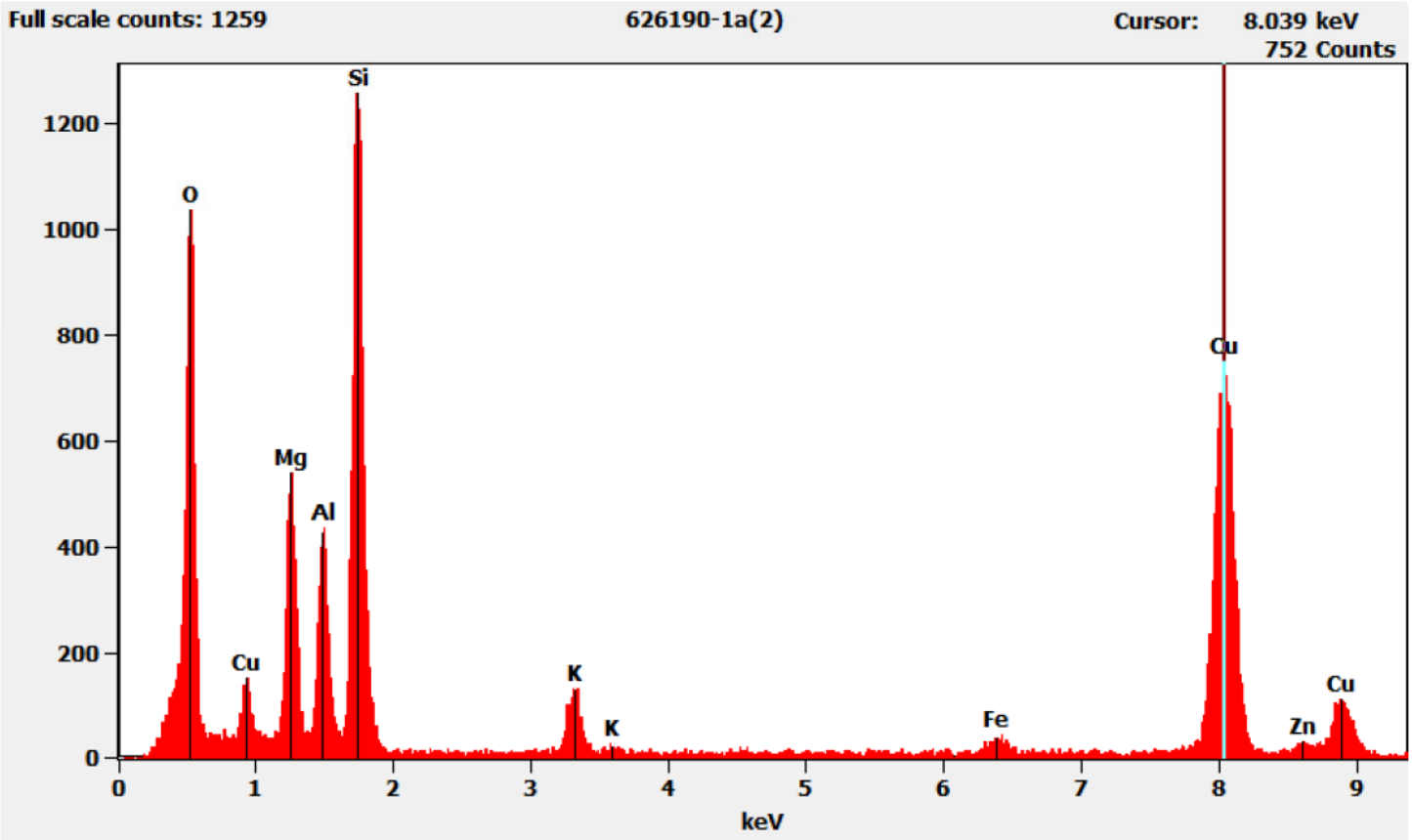
Hexagonal Diffraction Pattern from the Particle containing Magnesium, Aluminum, Silicon, Potassium, and Iron pictured above



626190 FDA_002.tif
626190-1a
SiMgAlFeK Dif
10:01 5/14/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Particle containing Magnesium, Aluminum, Silicon, Potassium, and Iron pictured above



626190-2A, 2B, 2C/Client Sample: 03242021-2

PLM

All three aliquots of sample 03242021-2 were analyzed by (b)(6) on May 28, 2021. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-2A	No Asbestos Detected
626190-2B	No Asbestos Detected
626190-2C	No Asbestos Detected

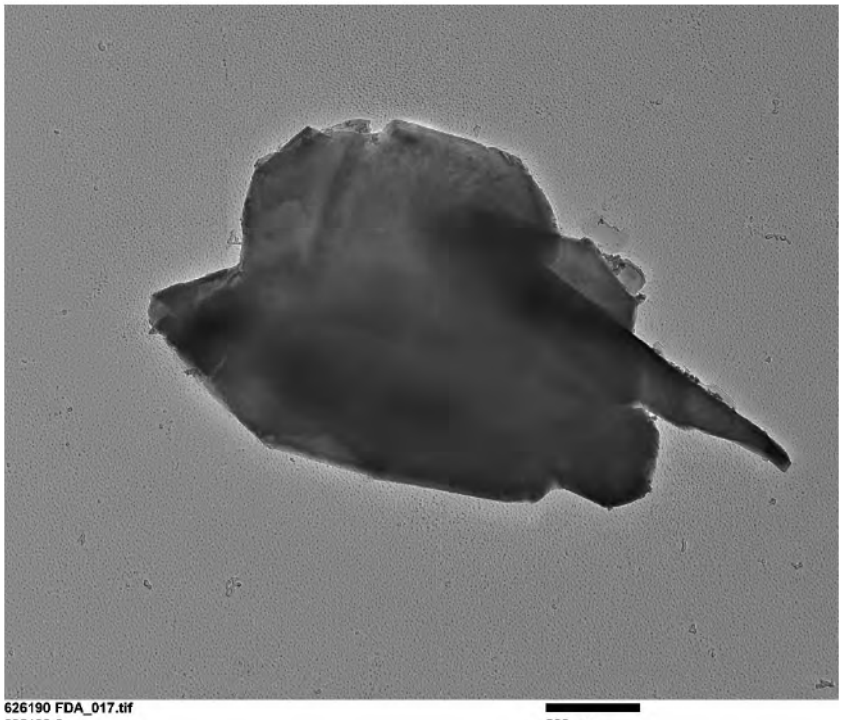
TEM

(b)(6) analyzed aliquot 2A on May 14, 2021 and aliquot 2B on May 17, 2021. (b)(6) analyzed aliquot 2C on May 19, 2021. The primary particle observed was talc; talc fibers/ribbons and iron particles were also observed along with a few calcium particles. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-2A	No Asbestos Detected
626190-2B	No Asbestos Detected
626190-2C	No Asbestos Detected

Below are pictures, diffraction patterns, and chemistry from some of the observed particles. The copper peaks in the chemistry spectra are from the TEM grid. The unidentified (and some identified) peaks in the chemistry spectra are zinc and carbon from the TEM specimen holder.

626190-2A, Talc Particle



626190 FDA_017.tif
626190-2a
Talc Particle
Cal: 0.002858 µm/pix
11:34 5/14/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

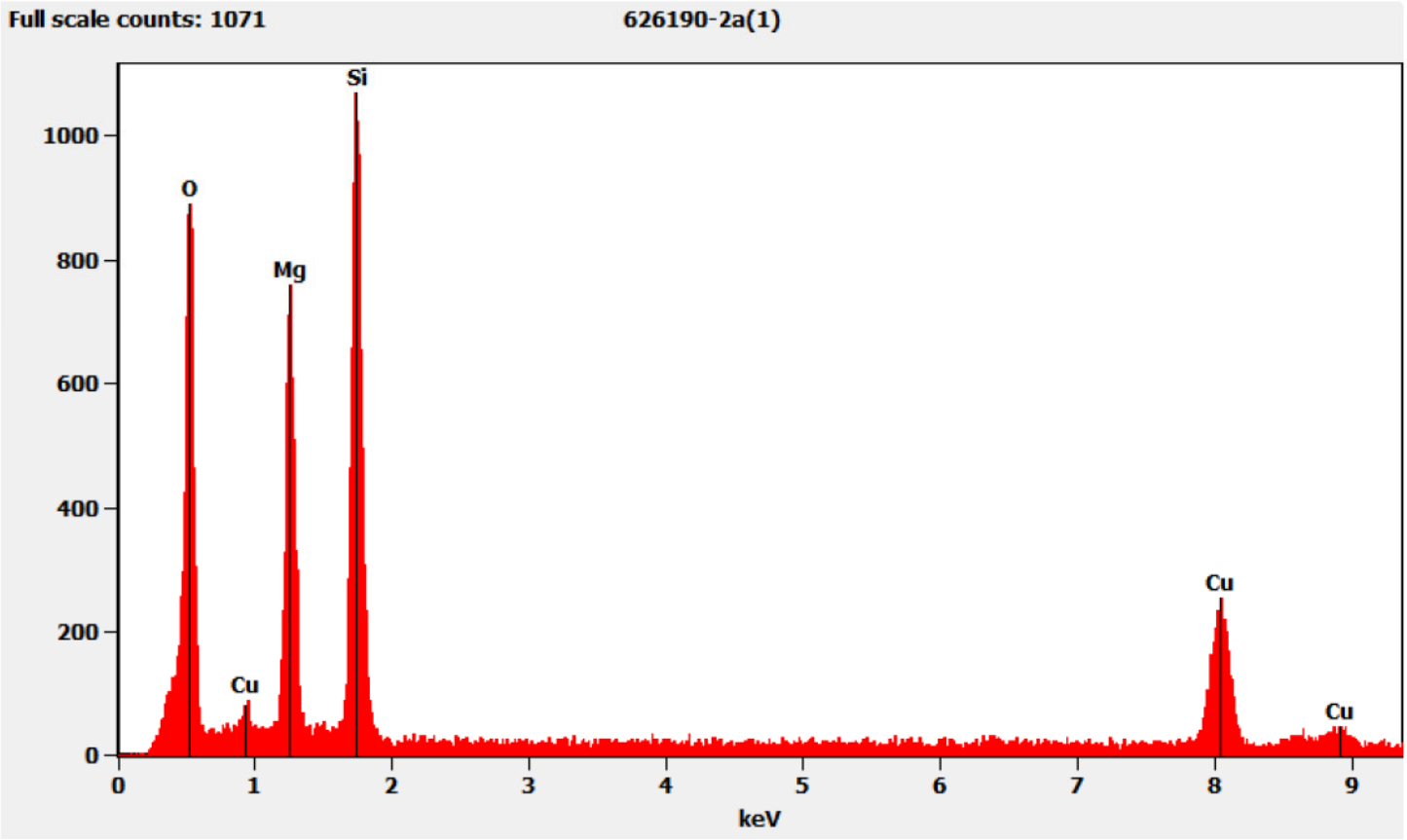
800 nm
HV=100kV
Direct Mag: 3600 x
AMA Analytical Services, Inc

Hexagonal Diffraction Pattern from the Talc Particle pictured above

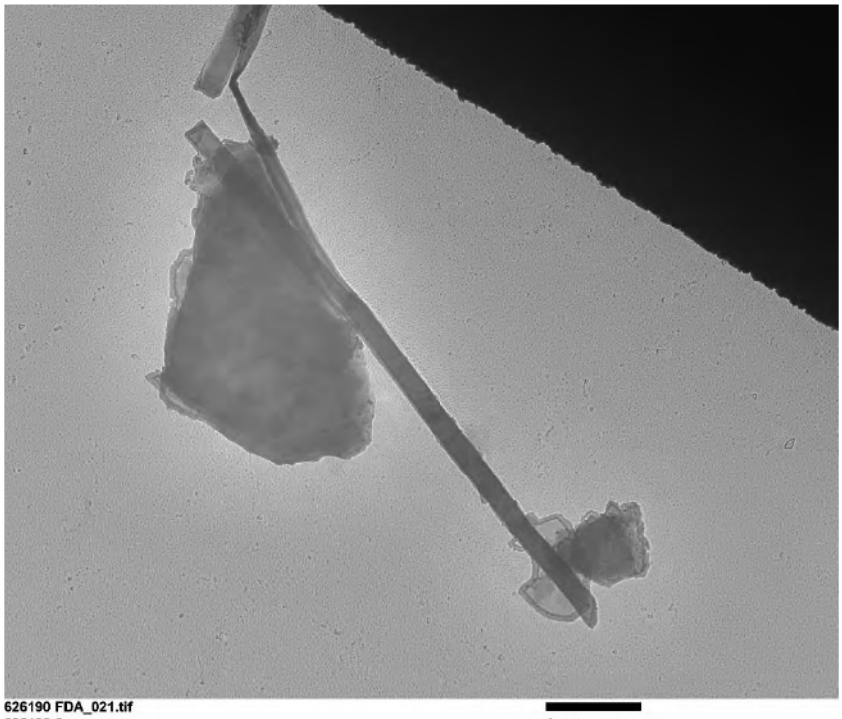
626190 FDA_016.tif
626190-2a
Talc Particle Dif
11:32 5/14/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Talc Particle pictured above

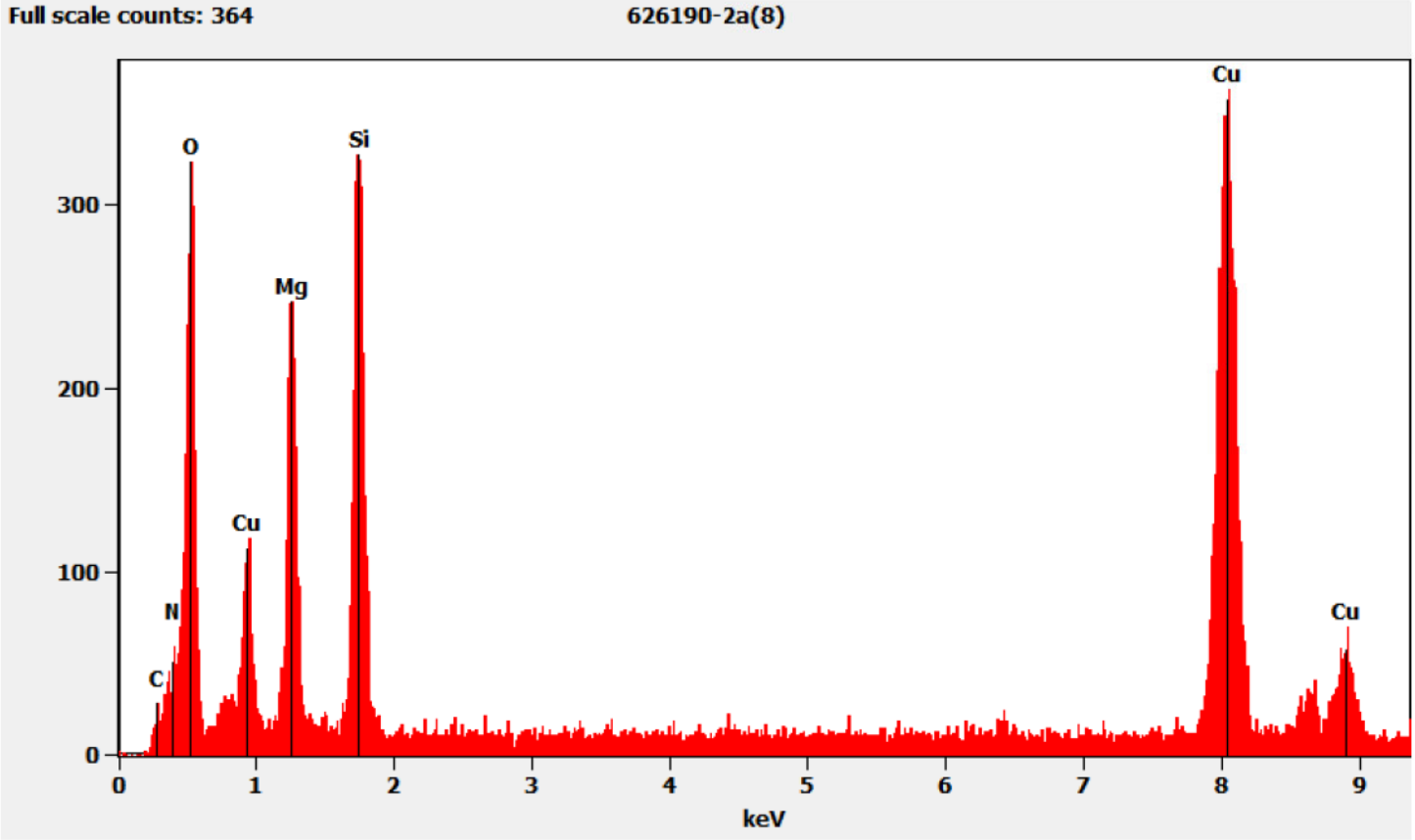


626190-2A, Talc Fiber

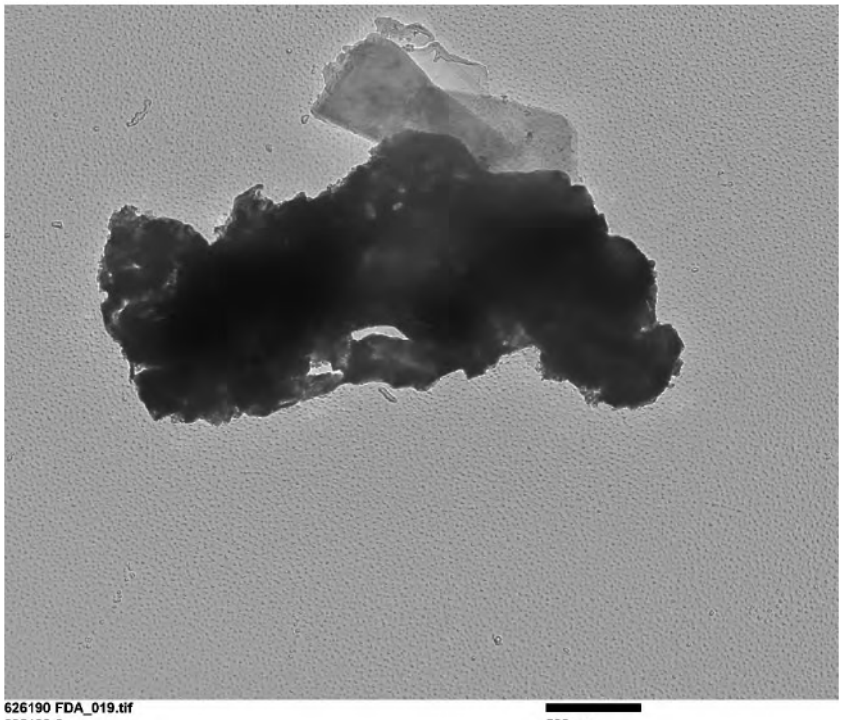


Hexagonal Diffraction Pattern from the Talc Fiber pictured above

Chemistry from the Talc Fiber pictured above



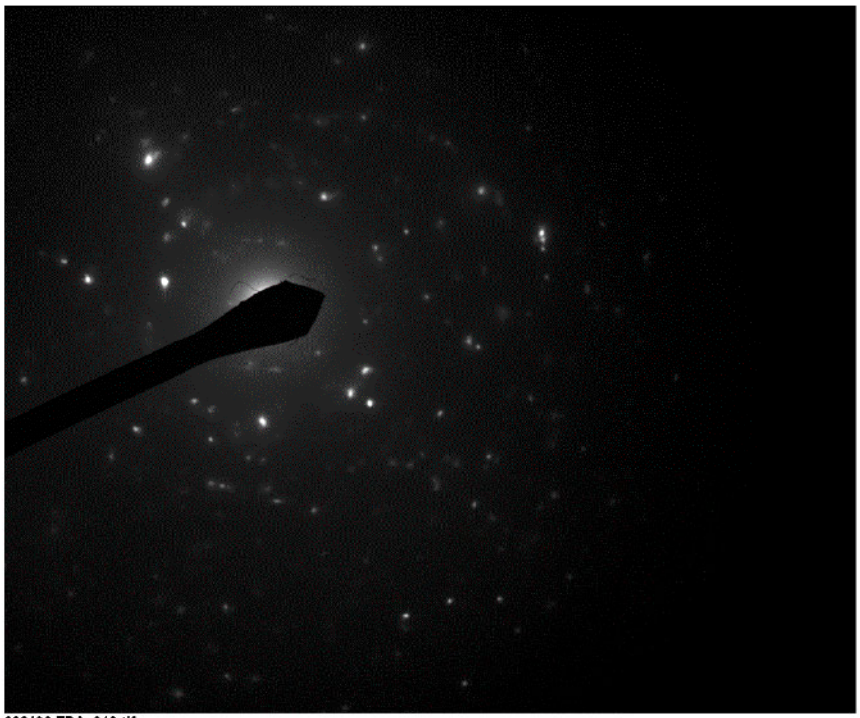
626190-2A, Iron Particles



626190 FDA_019.tif
626190-2a
Fe Particles
Cal: 0.001774 µm/pix
11:47 5/14/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

500 nm
HV=100kV
Direct Mag: 5800 x
AMA Analytical Services, Inc

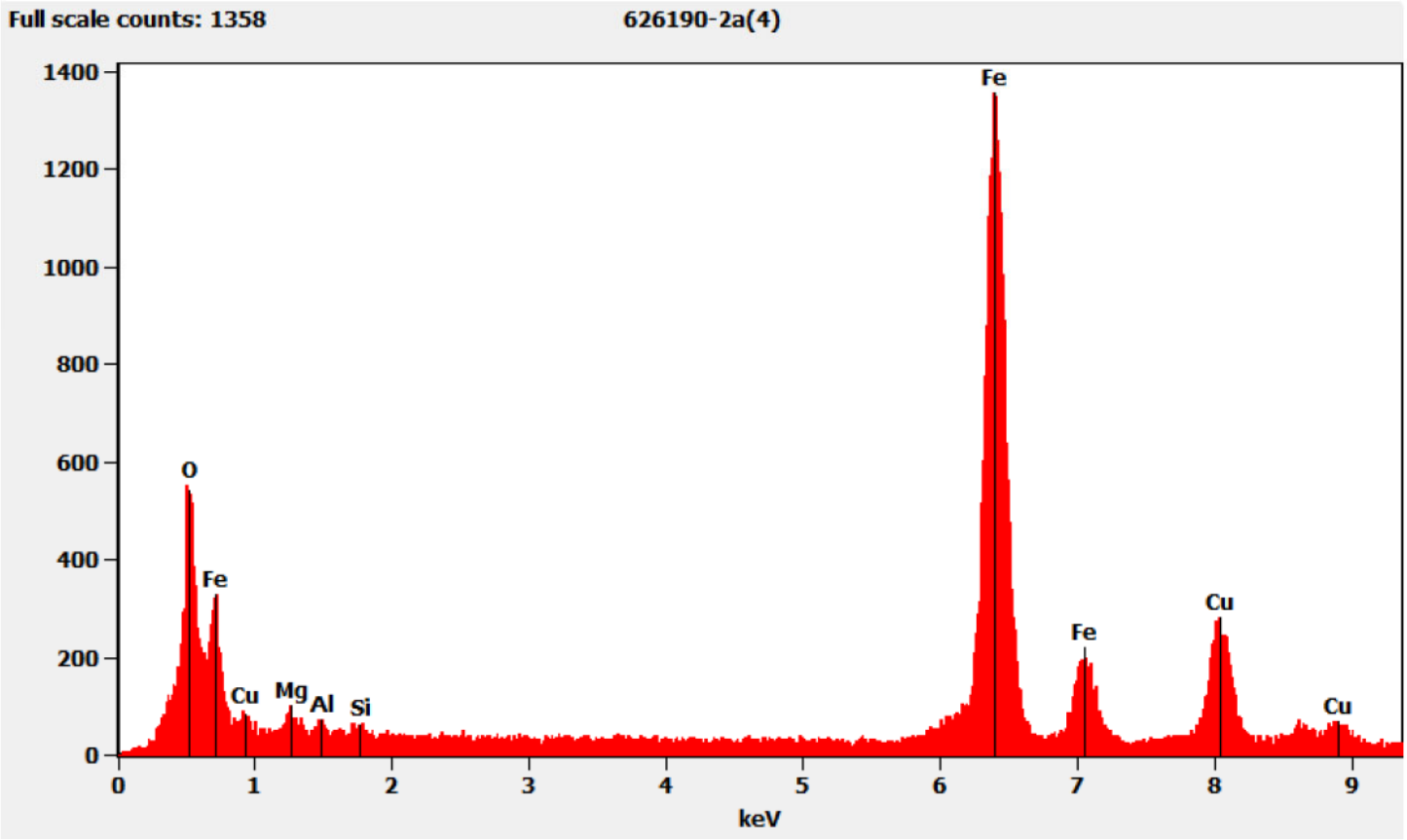
Diffraction Pattern from the Iron Particles pictured above



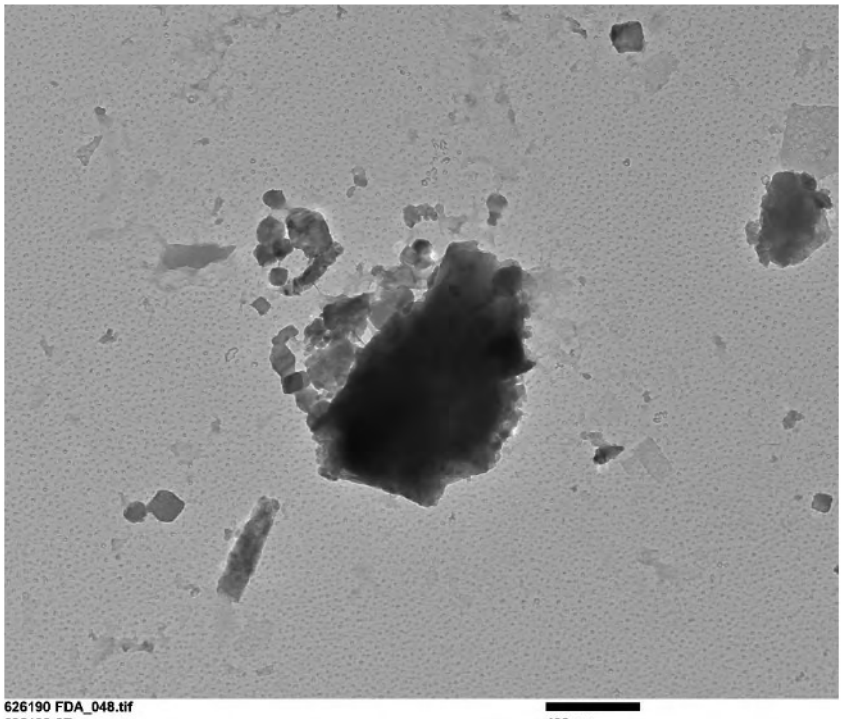
626190 FDA_018.tif
626190-2a
Fe Particles
11:45 5/14/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/A)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Iron Particles pictured above

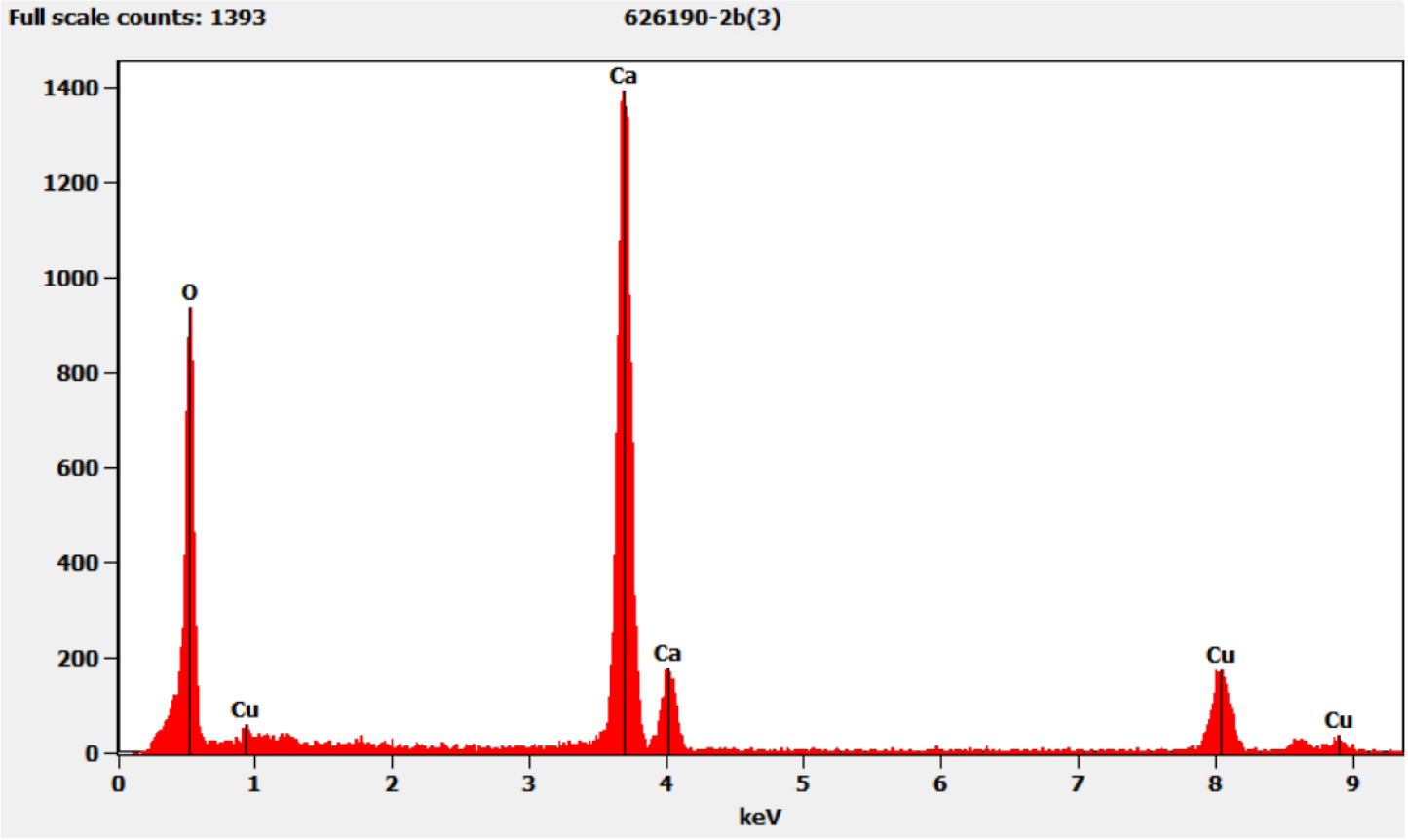


626190-2B Calcium Particle



Diffraction Pattern from the Calcium Particle pictured above

Chemistry from the Calcium Particle pictured above



626190-3A, 3B, 3C/Client Sample: 03242021-3

PLM

All three aliquots of sample 03242021-3 were analyzed by (b)(6) on May 28, 2021. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the C*alculations* section above.

626190-3A	No Asbestos Detected
626190-3B	No Asbestos Detected
626190-3C	No Asbestos Detected

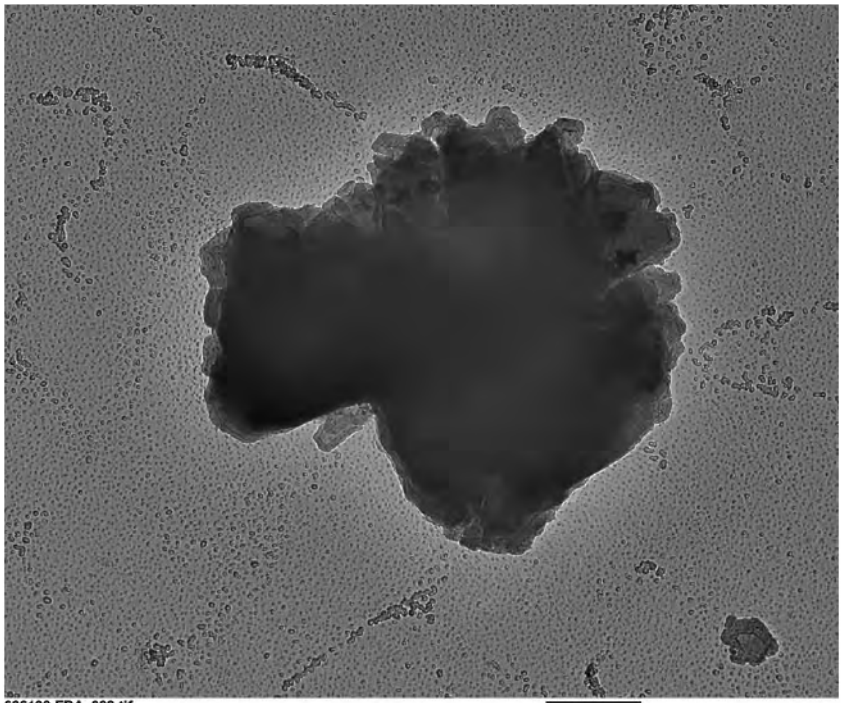
TEM

(b)(6) analyzed aliquot 3A on May 14, 2021 and aliquot 3B on May 17, 2021. (b)(6) analyzed aliquot 3C on May 19, 2021. The primary particles observed were talc and mica; several iron particles were also observed along with silica spheres and a few talc ribbons/fibers. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the C*alculations* section above.

626190-3A	No Asbestos Detected
626190-3B	No Asbestos Detected
626190-3C	No Asbestos Detected

Below are pictures, diffraction patterns, and chemistry from some of the observed particles. The copper peaks in the chemistry spectra are from the TEM grid. The unidentified (and some identified) peaks in the chemistry spectra are zinc and carbon from the TEM specimen holder.

626190-3A, Talc Particle

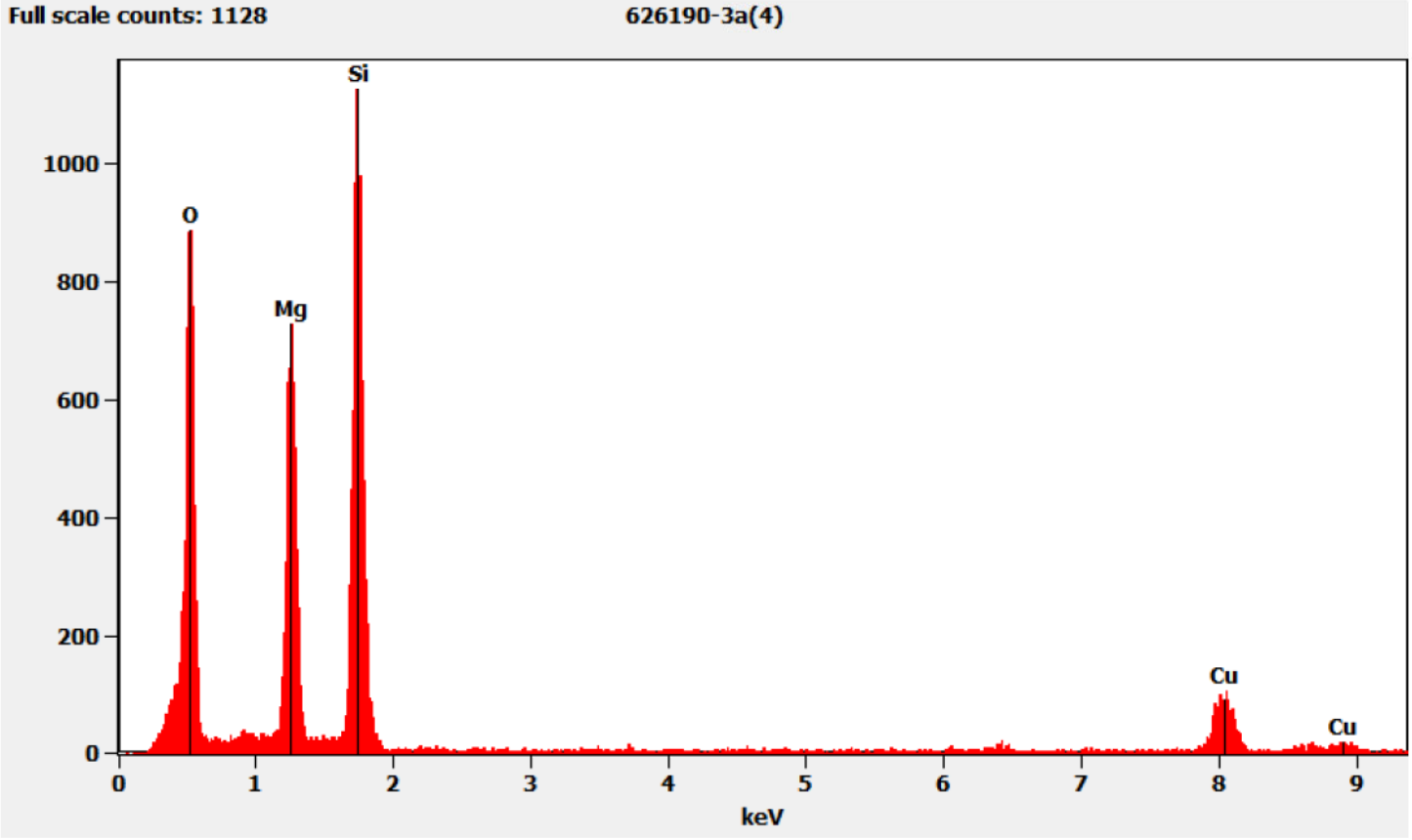


626190 FDA_029.tif
626190-3a
Talc Particle
Cal: 0.001774 µm/pix
13:30 5/14/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

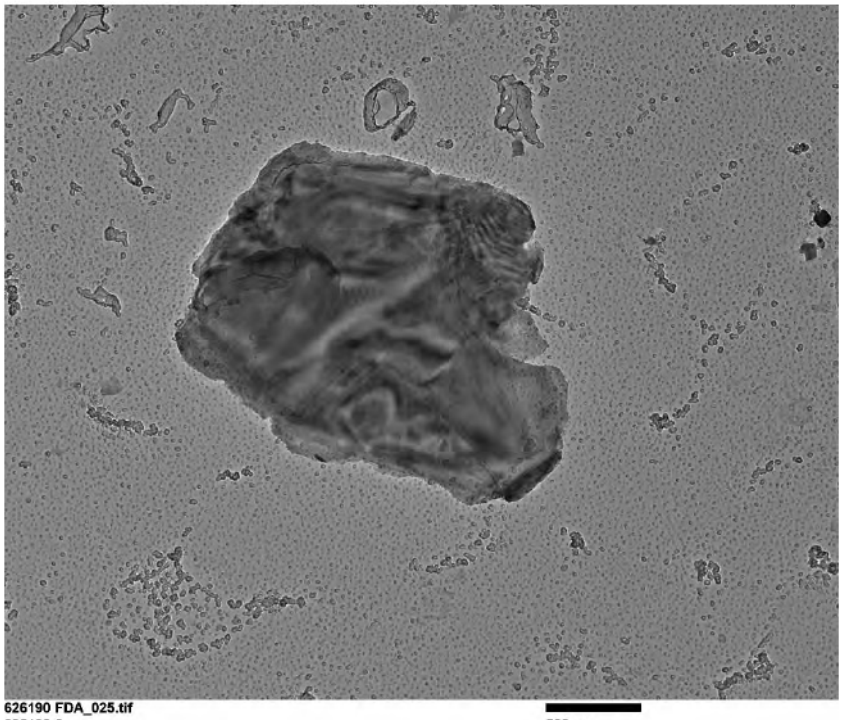
500 nm
HV=100kV
Direct Mag: 5800 x
AMA Analytical Services, Inc

Hexagonal Diffraction Pattern from the Talc Particle pictured above

Chemistry from the Talc Particle pictured above



626190-3A, Mica Particle



626190 FDA_025.tif
626190-3a
Mica Particle
Cal: 0.001774 µm/pix
13:23 5/14/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

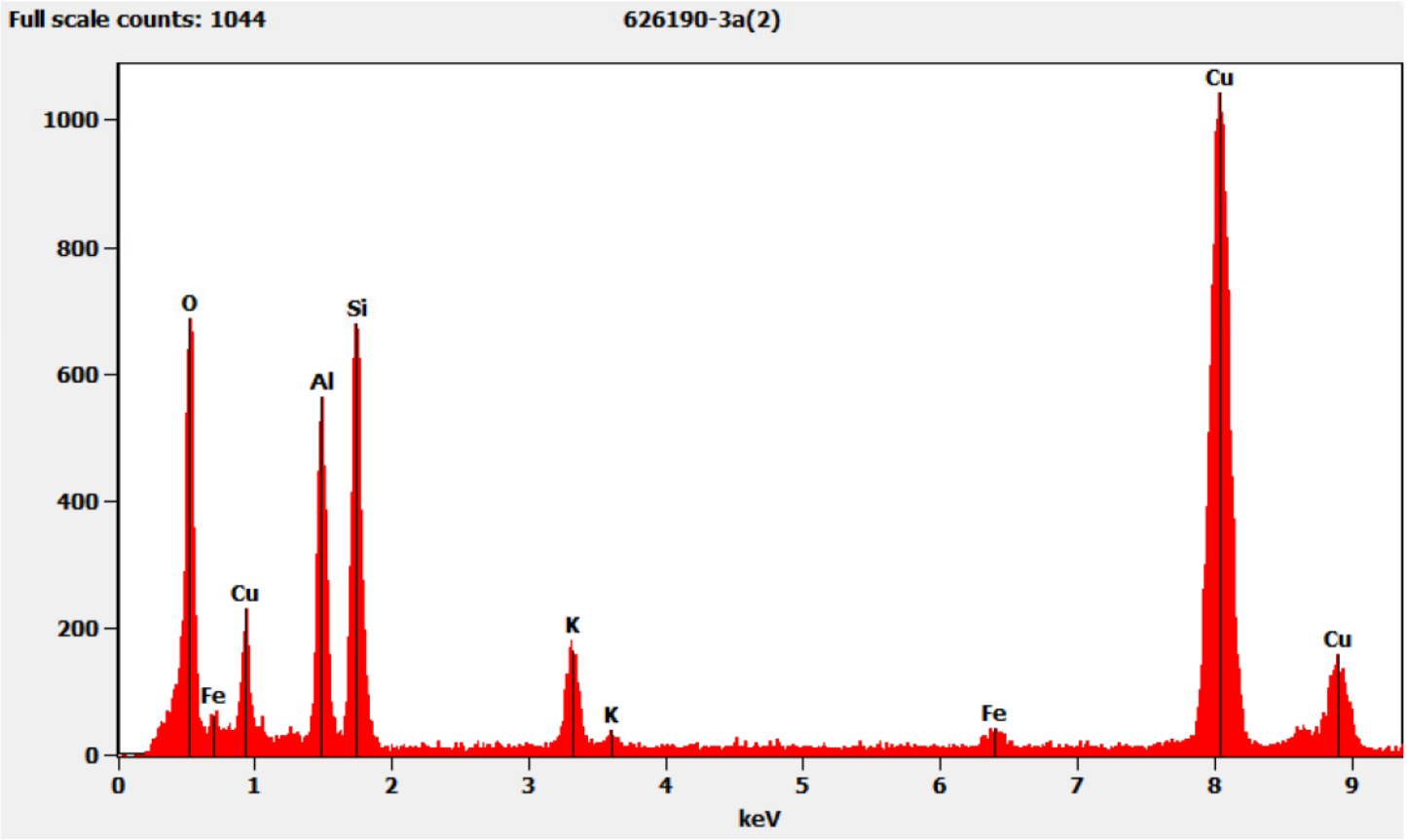
500 nm
HV=100kV
Direct Mag: 5800 x
AMA Analytical Services, Inc

Hexagonal Diffraction Pattern from the Mica Particle pictured above

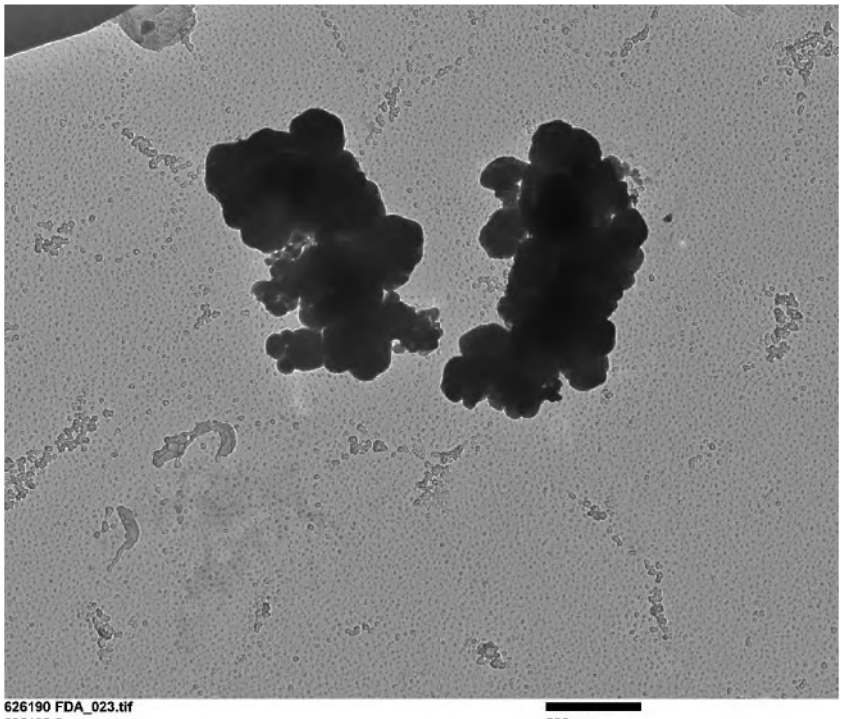
626190 FDA_024.tif
626190-3a
Mica Particle Dif
13:21 5/14/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Mica Particle pictured above



626190-3A, Iron Particles

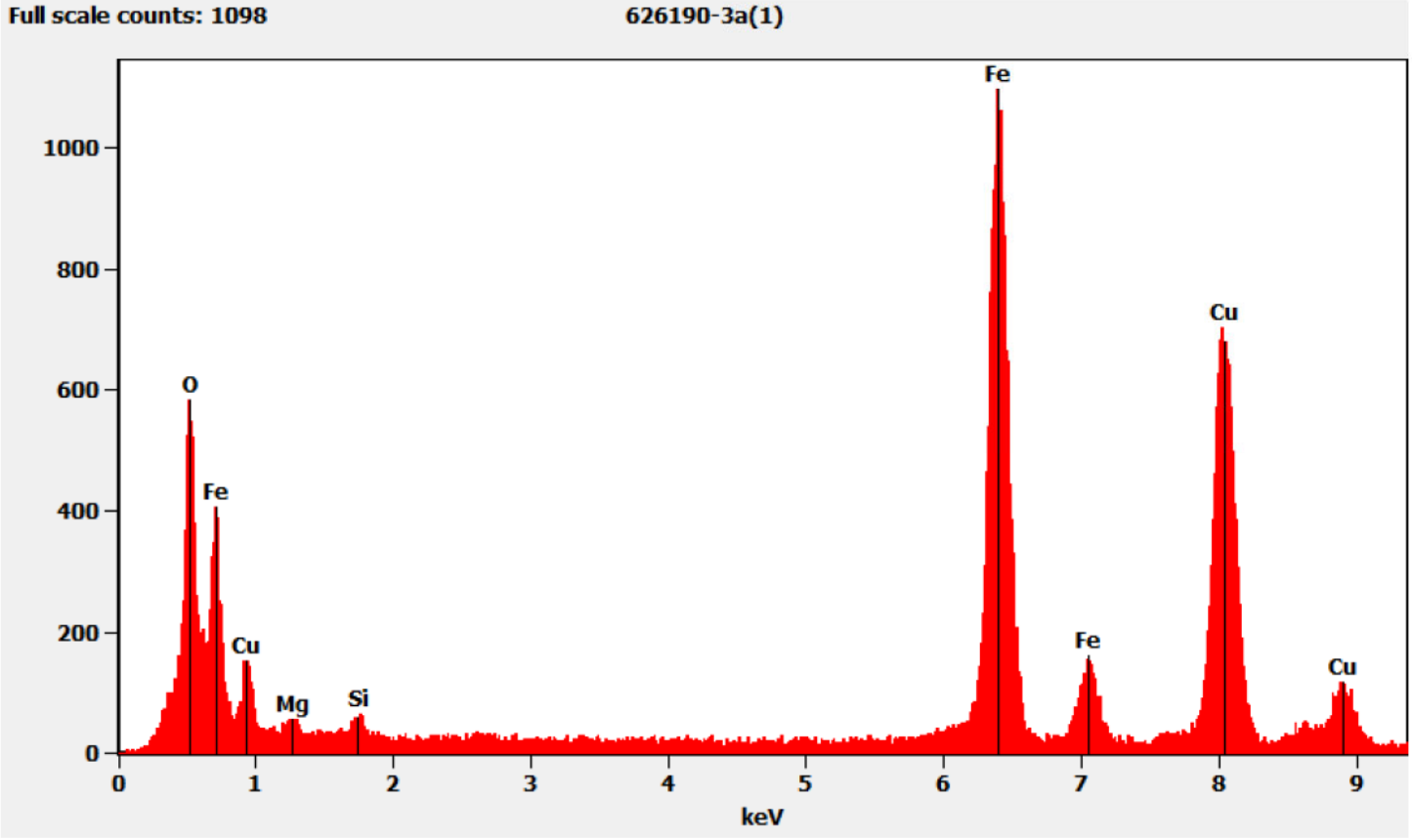


626190 FDA_023.tif
626190-3a
Fe Particles
Cal: 0.001774 µm/pix
13:16 5/14/2021
TEM Mode: Imaging
Microscopist:(b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

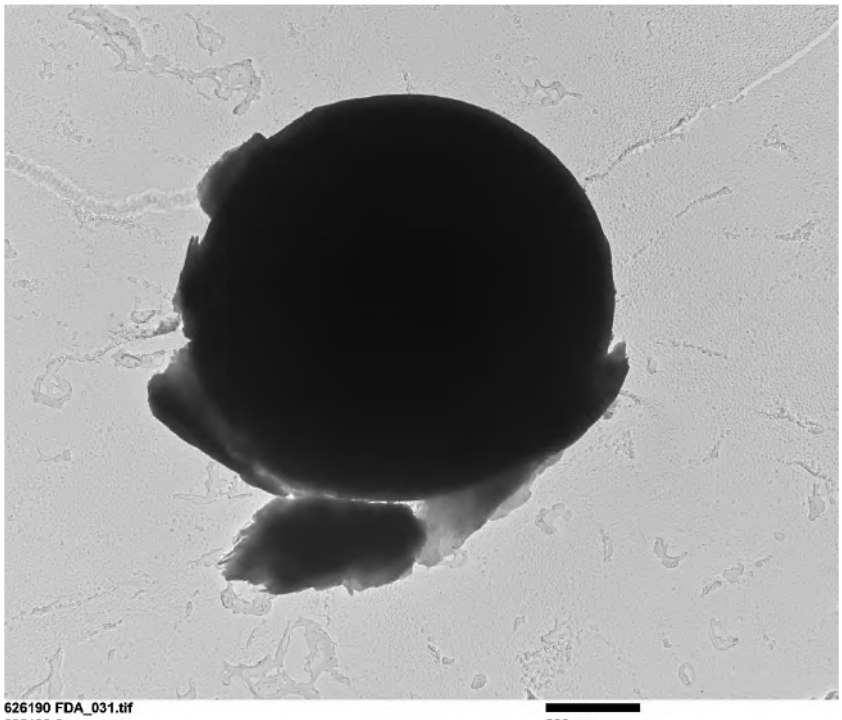
500 nm
HV=100kV
Direct Mag: 5800 x
AMA Analytical Services, Inc

Diffraction Pattern from the Iron Particles pictured above

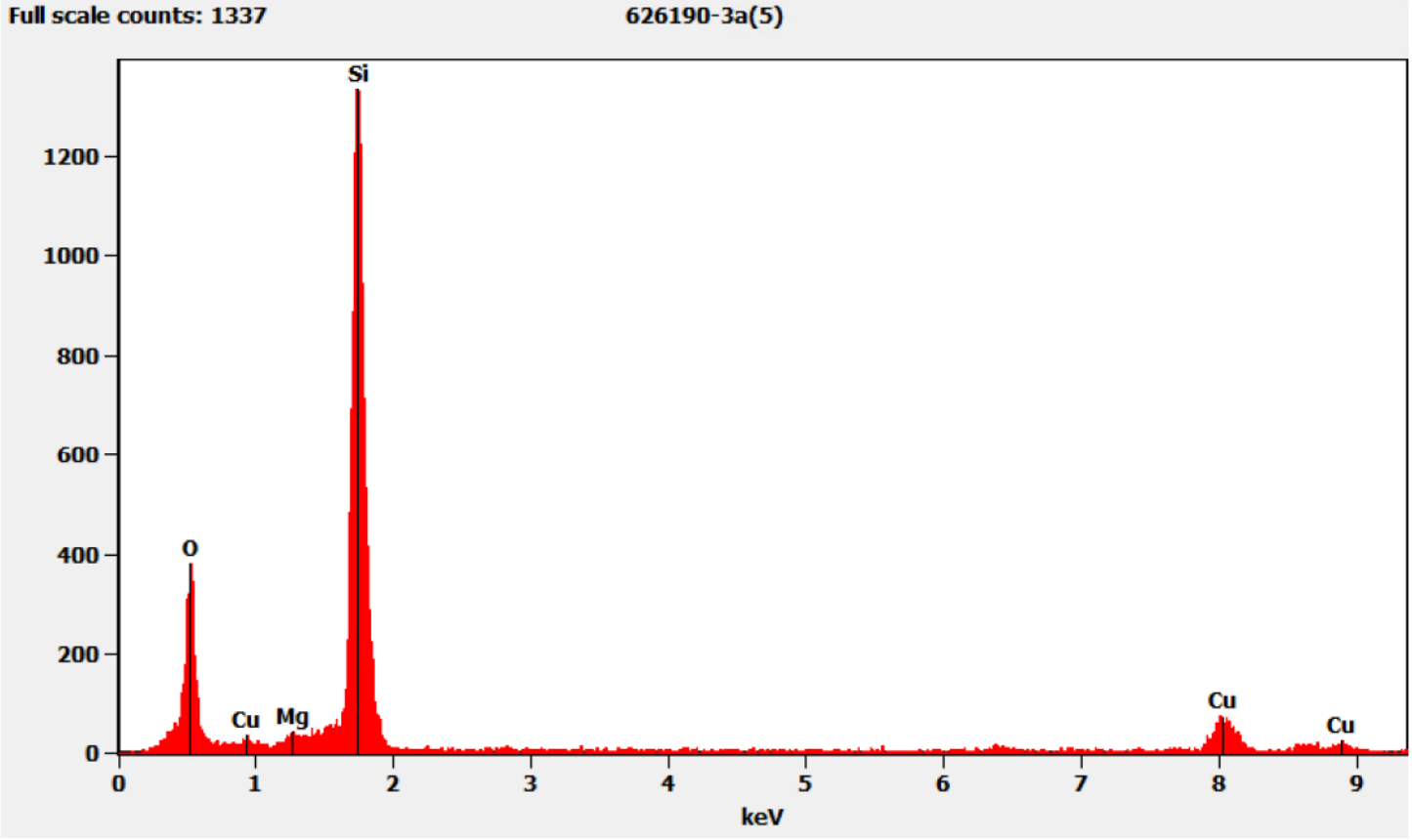
Chemistry from the Iron Particles pictured above



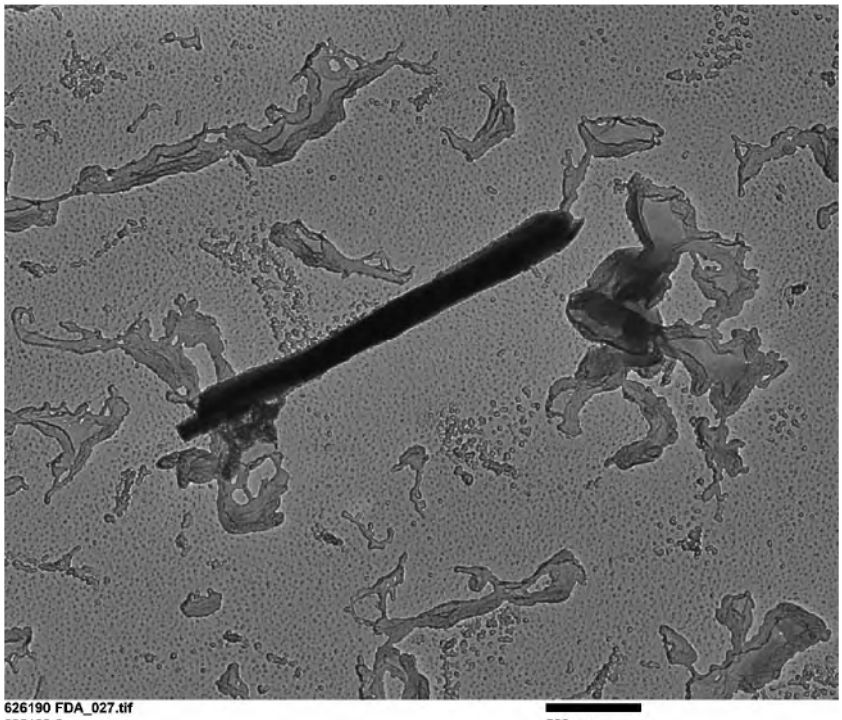
626190-3A, Silica Sphere



Chemistry from the Silica Sphere pictured above



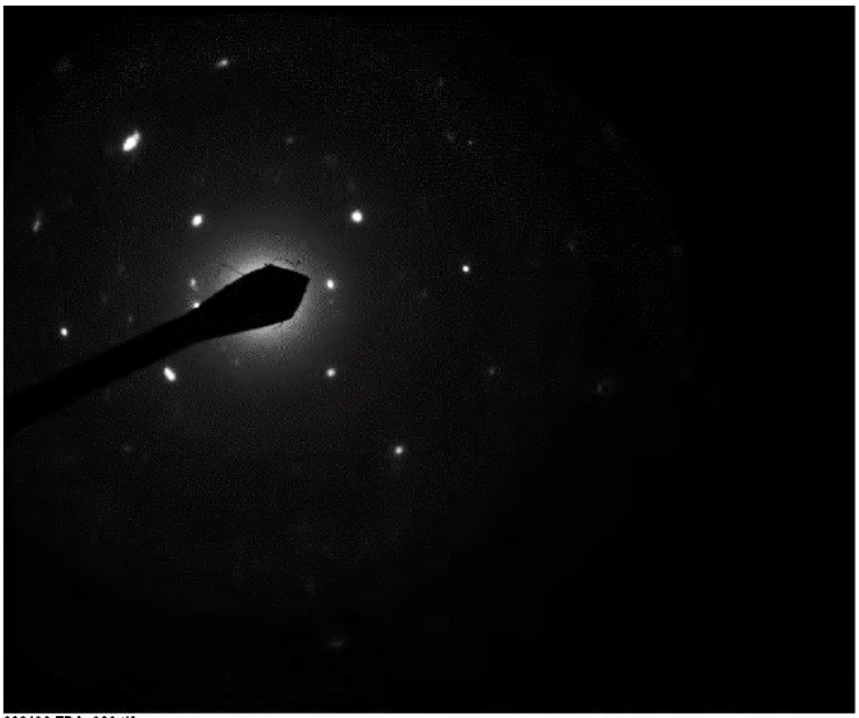
626190-3A, Talc Ribbon



626190 FDA_027.tif
626190-3a
Talc Ribbon
Cal: 0.001774 µm/pix
13:27 5/14/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

500 nm
HV=100kV
Direct Mag: 5800 x
AMA Analytical Services, Inc

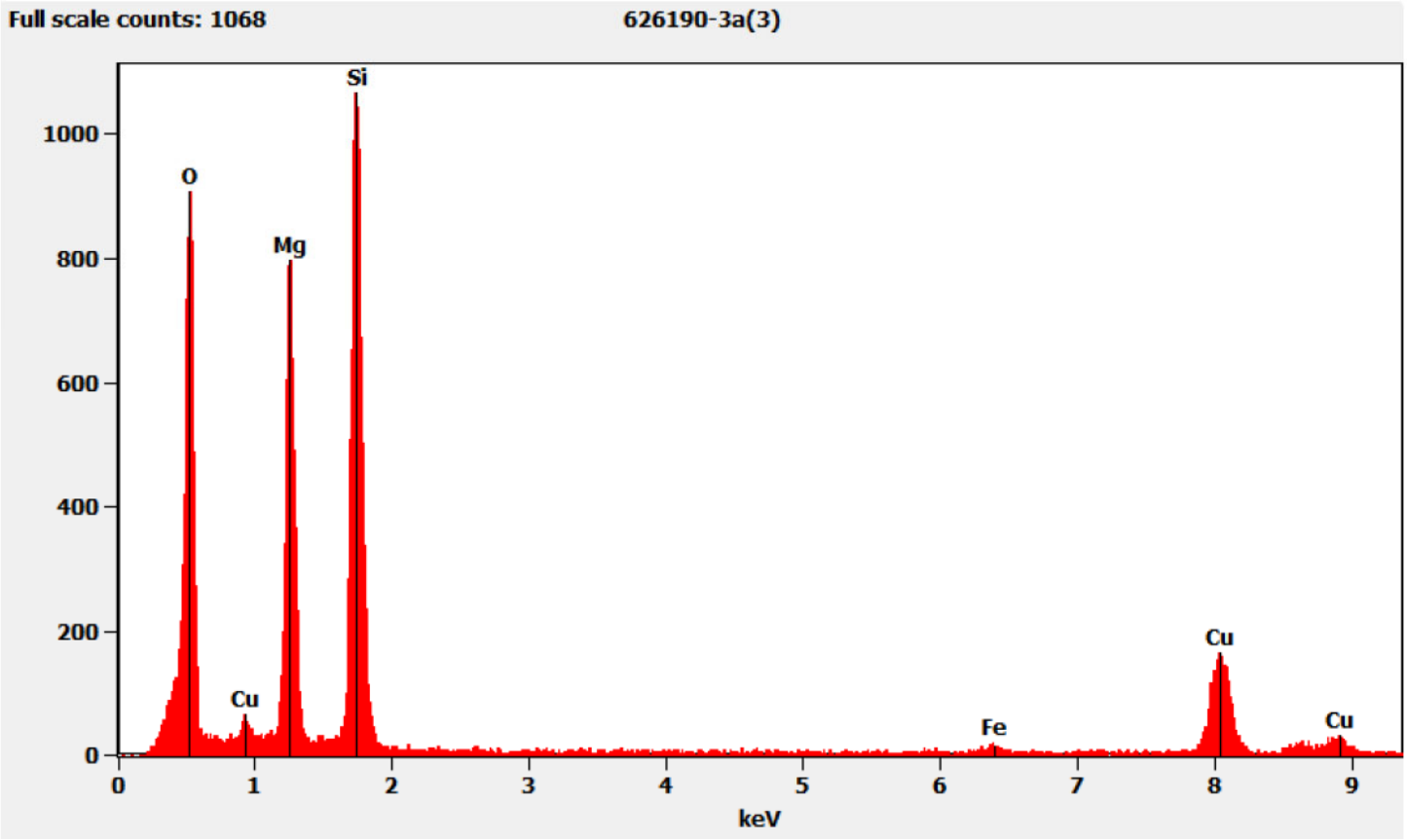
Diffraction Pattern from the Talc Ribbon pictured above



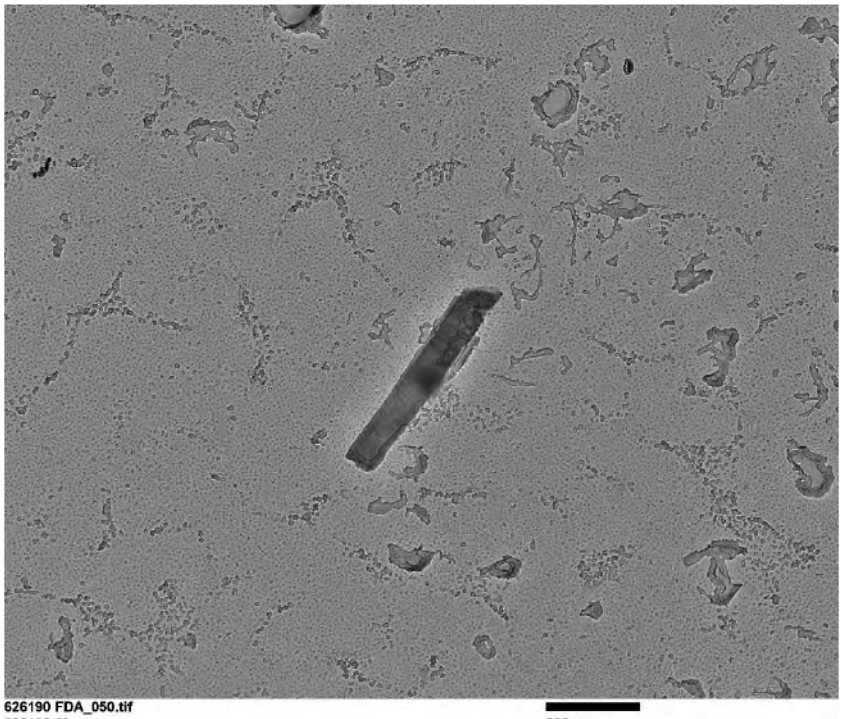
626190 FDA_026.tif
626190-3a
Talc Ribbon Dif
13:26 5/14/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Talc Ribbon pictured above

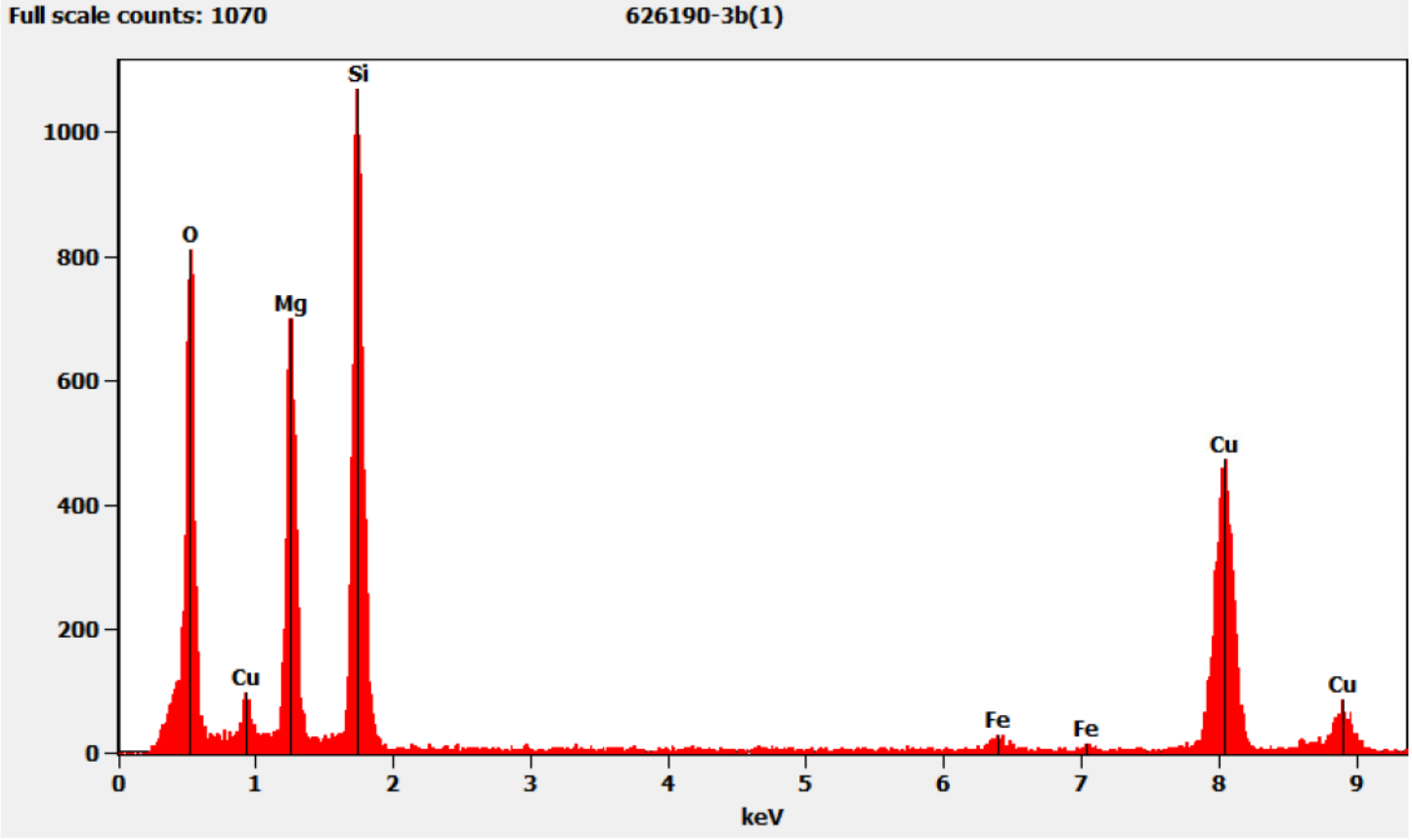


626190-3B, Talc Fiber



Hexagonal Diffraction Pattern from the Talc Fiber pictured above

Chemistry from the Talc Fiber pictured above



626190-4A, 4B, 4C/Client Sample: 03242021-4

PLM

All three aliquots of sample 03242021-4 were analyzed by (b)(6) on May 28, 2021. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-4A	No Asbestos Detected
626190-4B	No Asbestos Detected
626190-4C	No Asbestos Detected

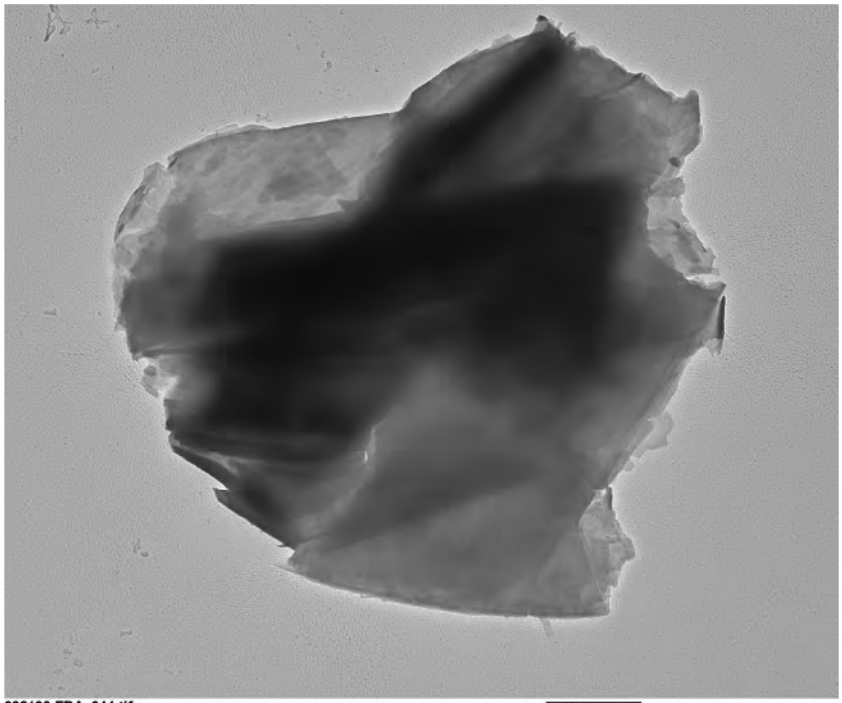
TEM

(b)(6) analyzed aliquot 4A on May 14, 2021. Andreas Saldivar analyzed aliquot 4B on May 19, 2021 and aliquot 4C on May 20, 2021. The primary particles observed were talc and mica; iron and particles containing magnesium, aluminum, and silicon were also observed along with a few talc fibers/ribbons. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

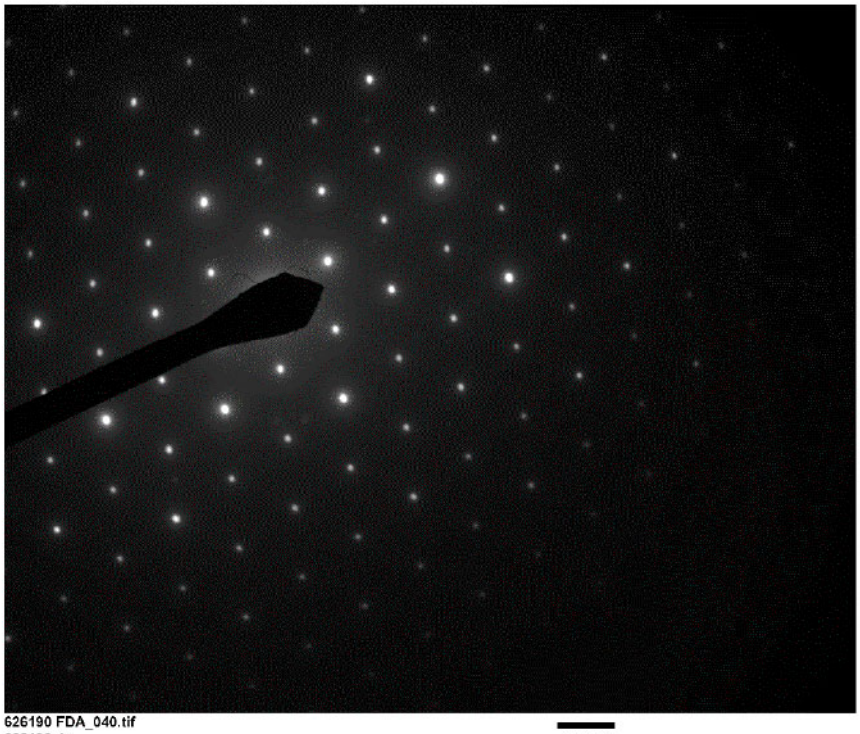
626190-4A	No Asbestos Detected
626190-4B	No Asbestos Detected
626190-4C	No Asbestos Detected

Below are pictures, diffraction patterns, and chemistry from some of the observed particles. The copper peaks in the chemistry spectra are from the TEM grid. The unidentified (and some identified) peaks in the chemistry spectra are zinc and carbon from the TEM specimen holder.

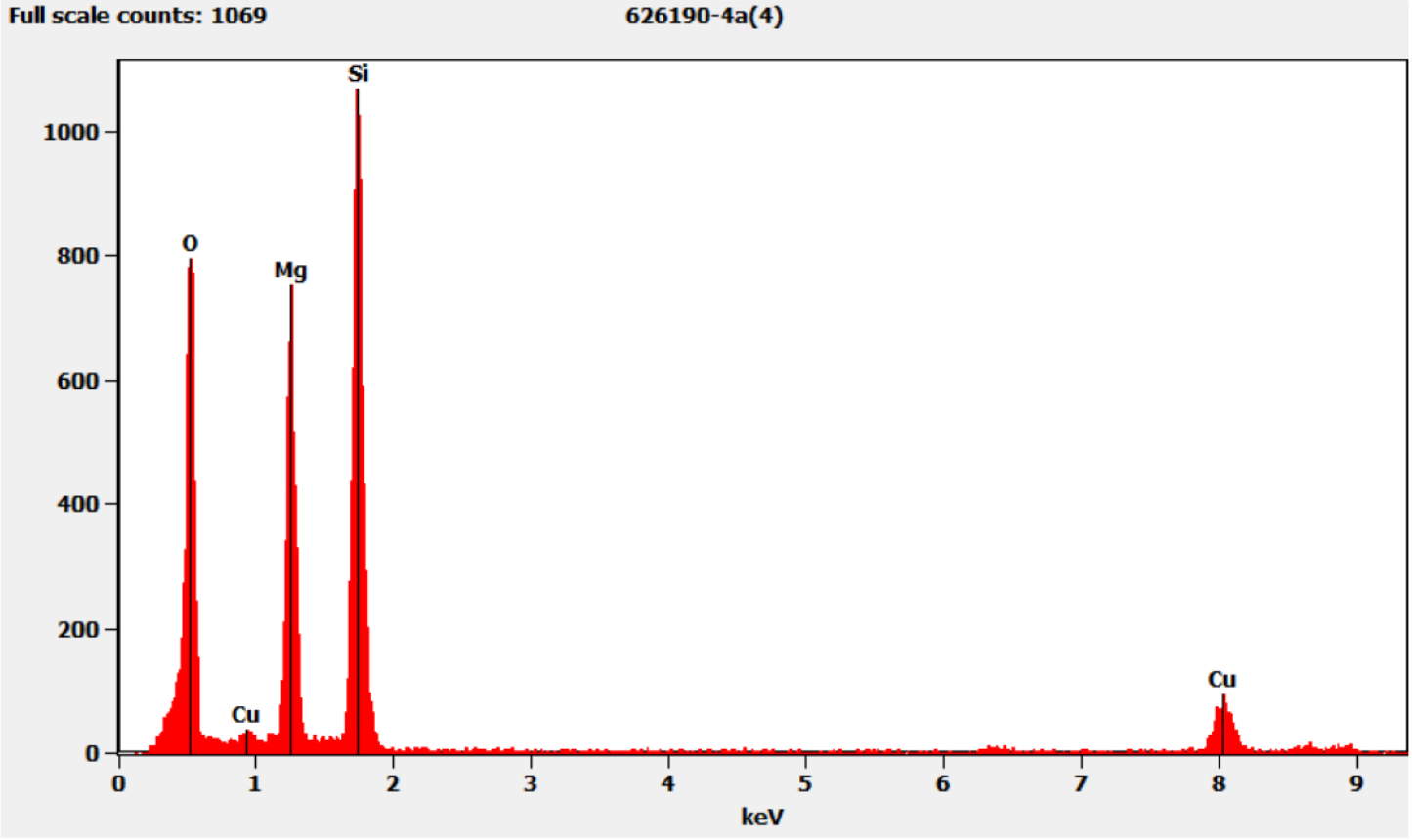
626190-4A, Talc Particle



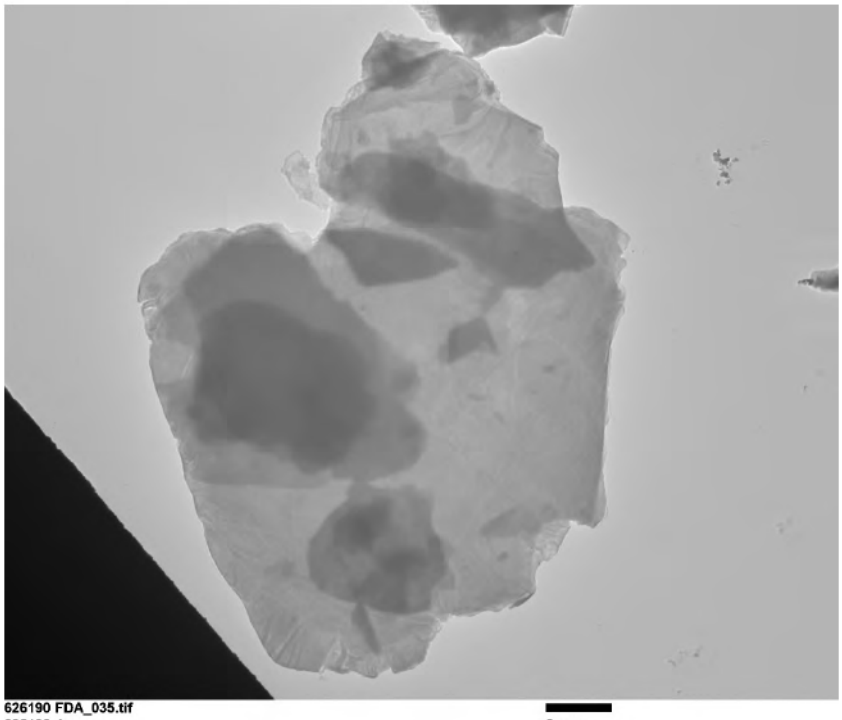
Hexagonal Diffraction Pattern from the Talc Particle pictured above



Chemistry from the Talc Particle pictured above



626190-4A, Mica Particle



626190 FDA_035.tif
626190-4a
Mica Particle
Cal: 0.010289 µm/pix
14:42 5/14/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

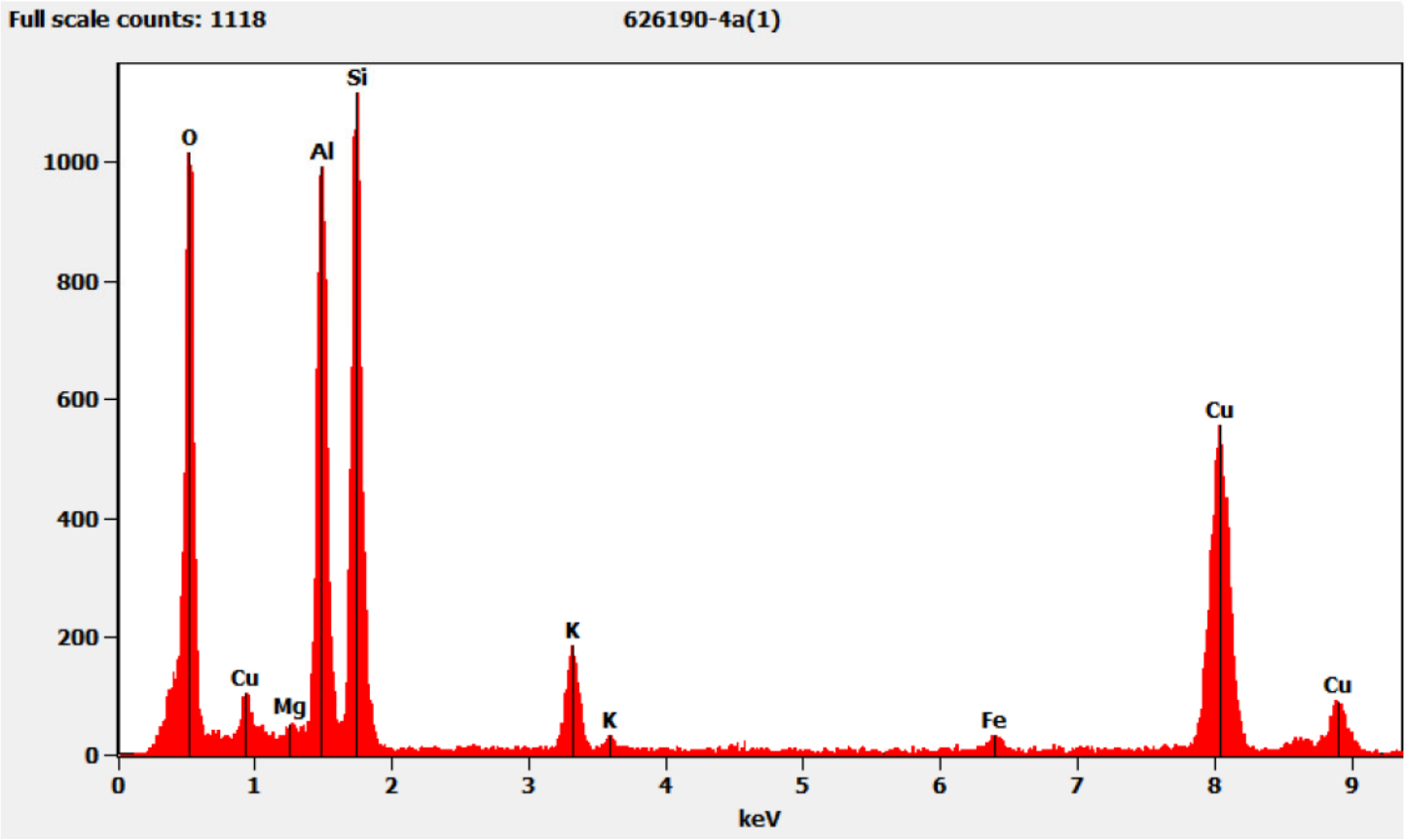
2 µm
HV=100kV
Direct Mag: 1000 x
AMA Analytical Services, Inc

Hexagonal Diffraction Pattern from the Mica Particle pictured above

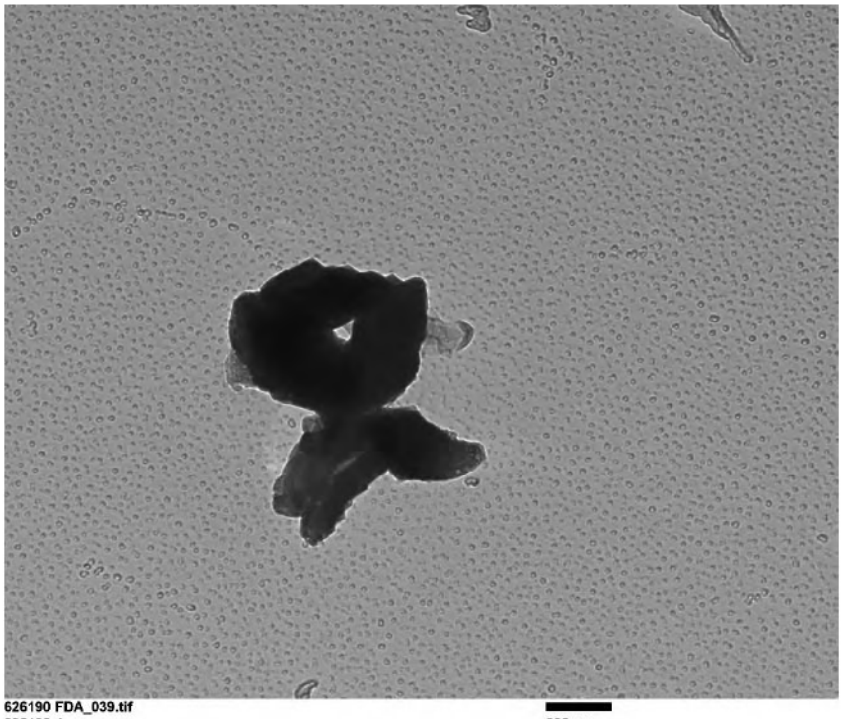
626190 FDA_034.tif
626190-4a
Mica Particle Dif
14:41 5/14/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Mica Particle pictured above

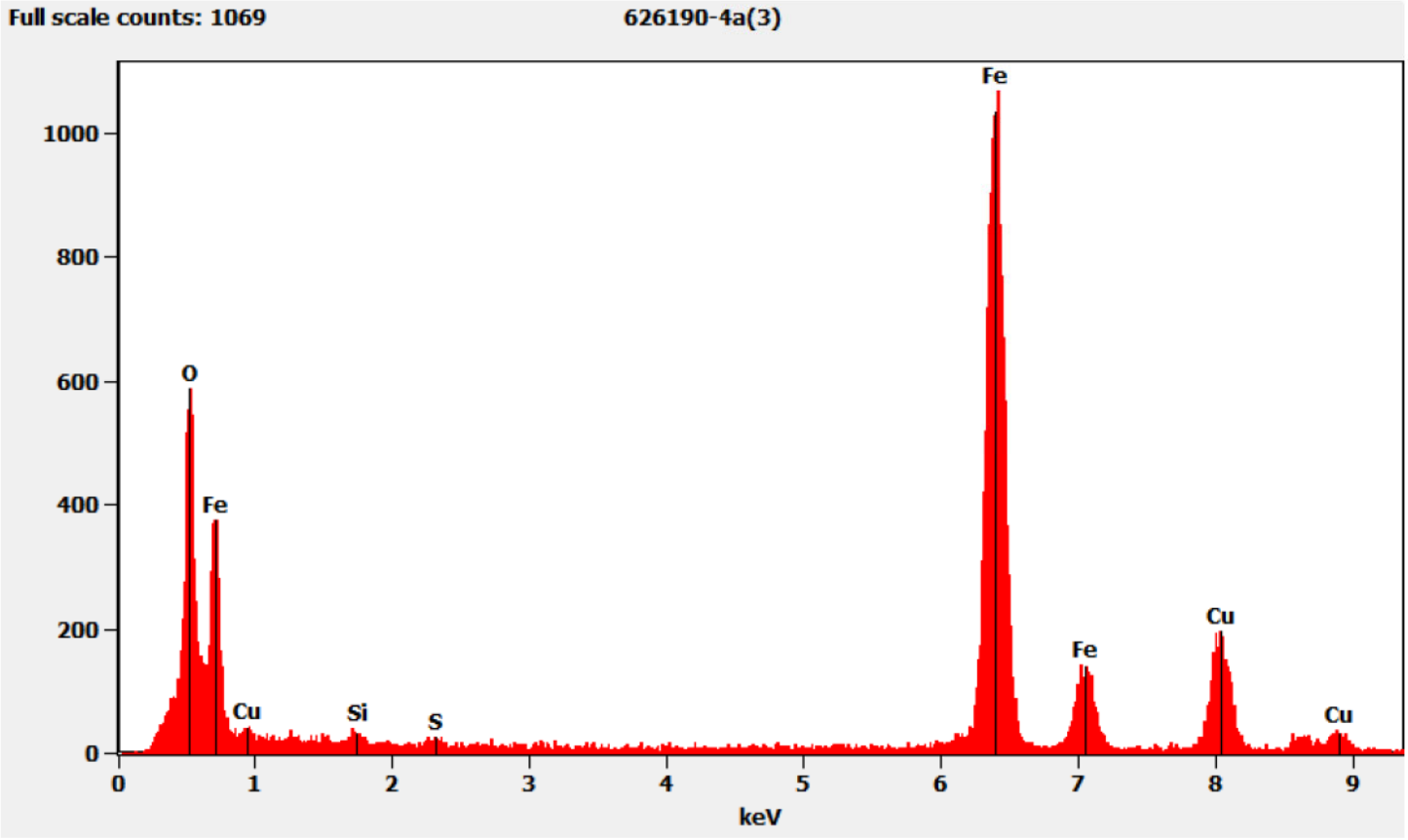


626190-4A, Iron Particle

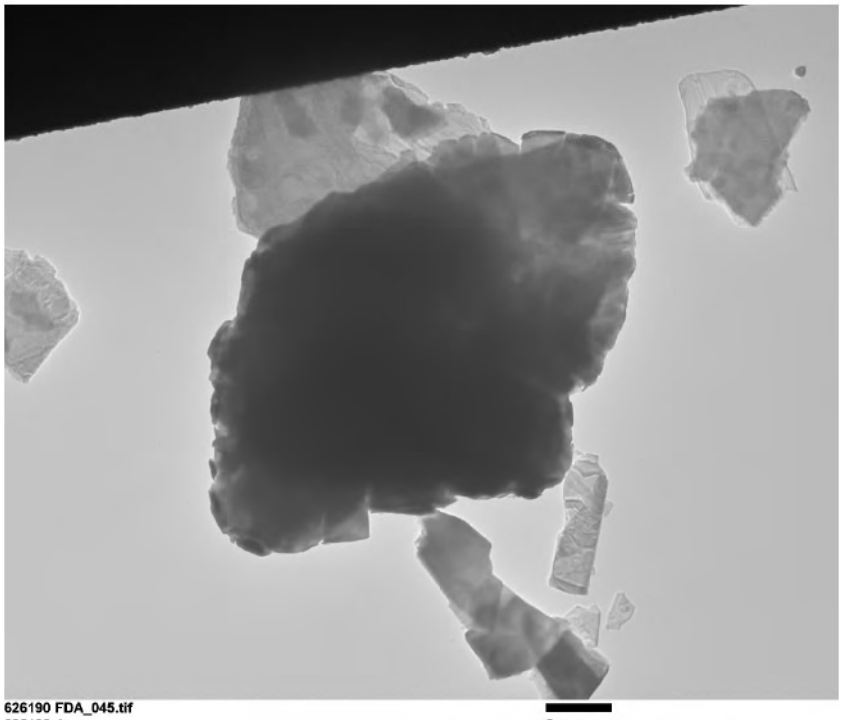


Diffraction Pattern from the Iron Particle pictured above

Chemistry from the Iron Particle pictured above



626190-4A, Particle containing Magnesium, Aluminum, Silicon, and Iron



626190 FDA_045.tif
626190-4a
SiMgAlFe Particle
Cal: 0.010289 µm/pix
15:24 5/14/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

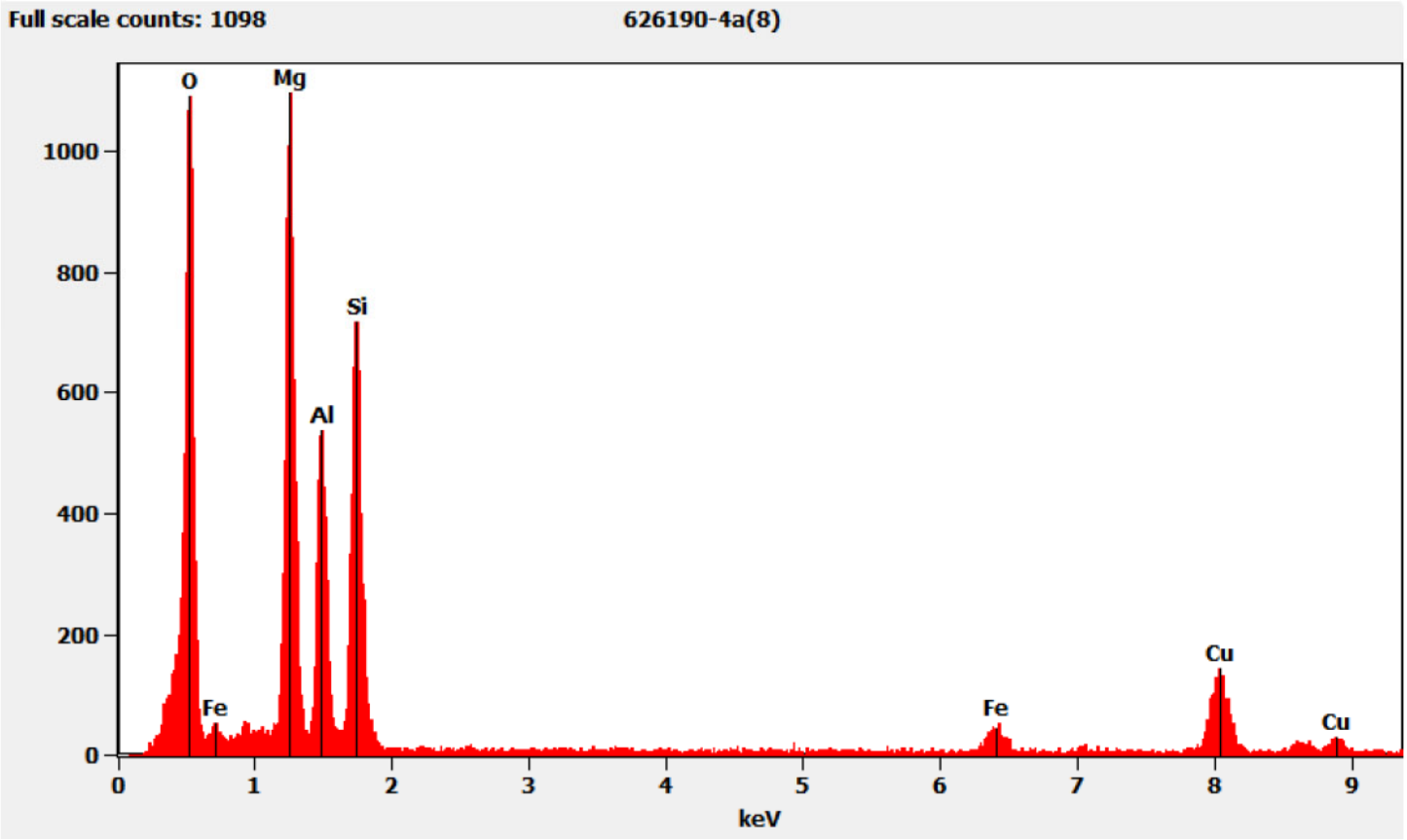
2 µm
HV=100kV
Direct Mag: 1000 x
AMA Analytical Services, Inc

Diffraction Pattern from the Particle containing Magnesium, Aluminum, Silicon, and Iron pictured above

626190 FDA_046.tif
626190-4a
SiMgAlFe Particle Dif
Cal: 0.010289 µm/pix
15:25 5/14/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

2 µm
HV=100kV
Direct Mag: 1000 x
AMA Analytical Services, Inc

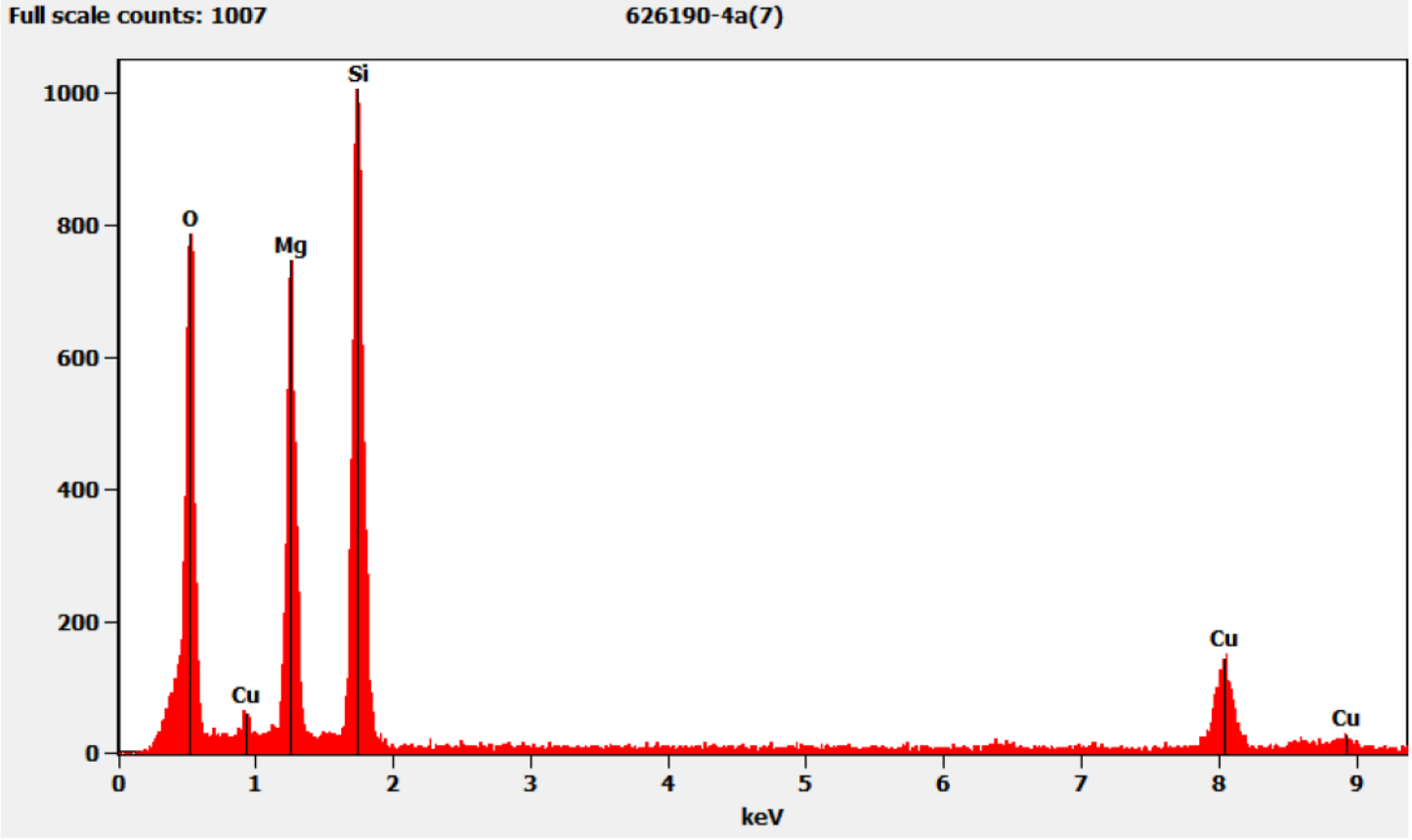
Chemistry from the Particle containing Magnesium, Aluminum, Silicon, and Iron pictured above



626190-4A, Talc Ribbon

Diffraction Pattern from the Talc Ribbon pictured above

Chemistry from the Talc Ribbon pictured above



626190-5A, 5B, 5C/Client Sample: 03242021-5

PLM

All three aliquots of sample 03242021-5 were analyzed by (b)(6) on May 28, 2021. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-5A	No Asbestos Detected
626190-5B	No Asbestos Detected
626190-5C	No Asbestos Detected

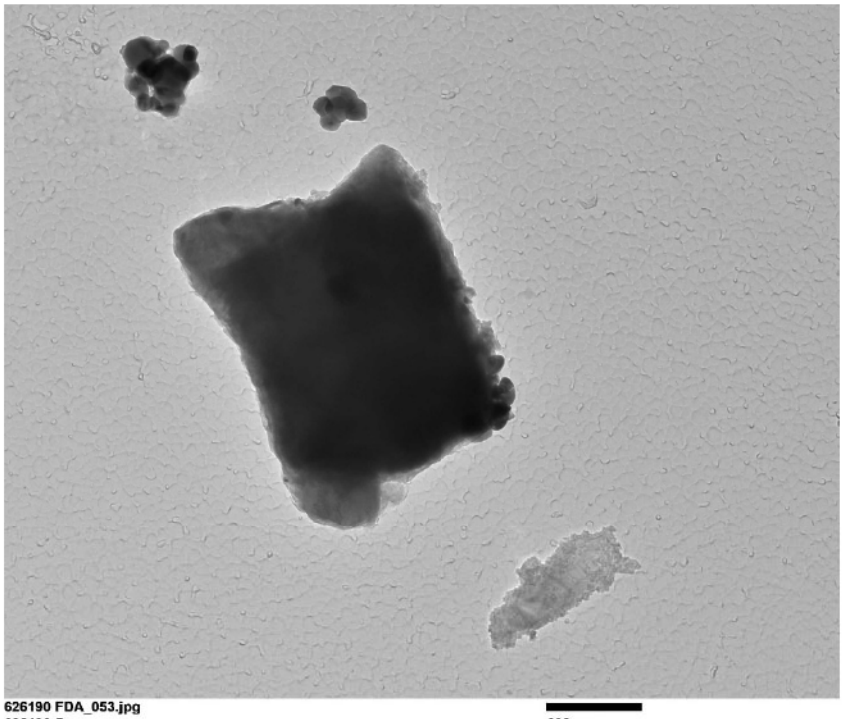
TEM

(b)(6) analyzed aliquot 5A on May 19, 2021. Andreas Saldivar analyzed aliquots 5B and 5C on May 20, 2021. The primary particle observed was mica; several titanium and iron particles were also observed along with talc particles, titanium fibers, silica particles and silica spheres. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-5A	No Asbestos Detected
626190-5B	No Asbestos Detected
626190-5C	No Asbestos Detected

Below are pictures, diffraction patterns, and chemistry from some of the observed particles. The copper peaks in the chemistry spectra are from the TEM grid. The unidentified (and some identified) peaks in the chemistry spectra are zinc and carbon from the TEM specimen holder.

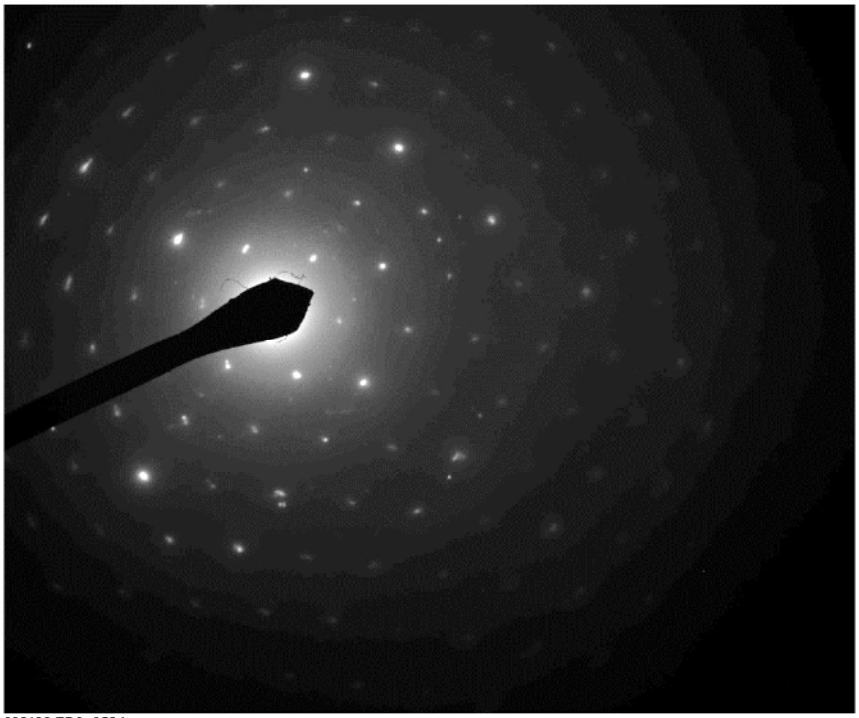
626190-5A, Mica Particle



626190 FDA_053.jpg
626190-5a
Mica Particle
Cal: 0.002144 µm/pix
11:34 5/19/2021
TEM Mode: Imaging
Microscopist (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

600 nm
HV=100kV
Direct Mag: 4800 x
AMA Analytical Services, Inc

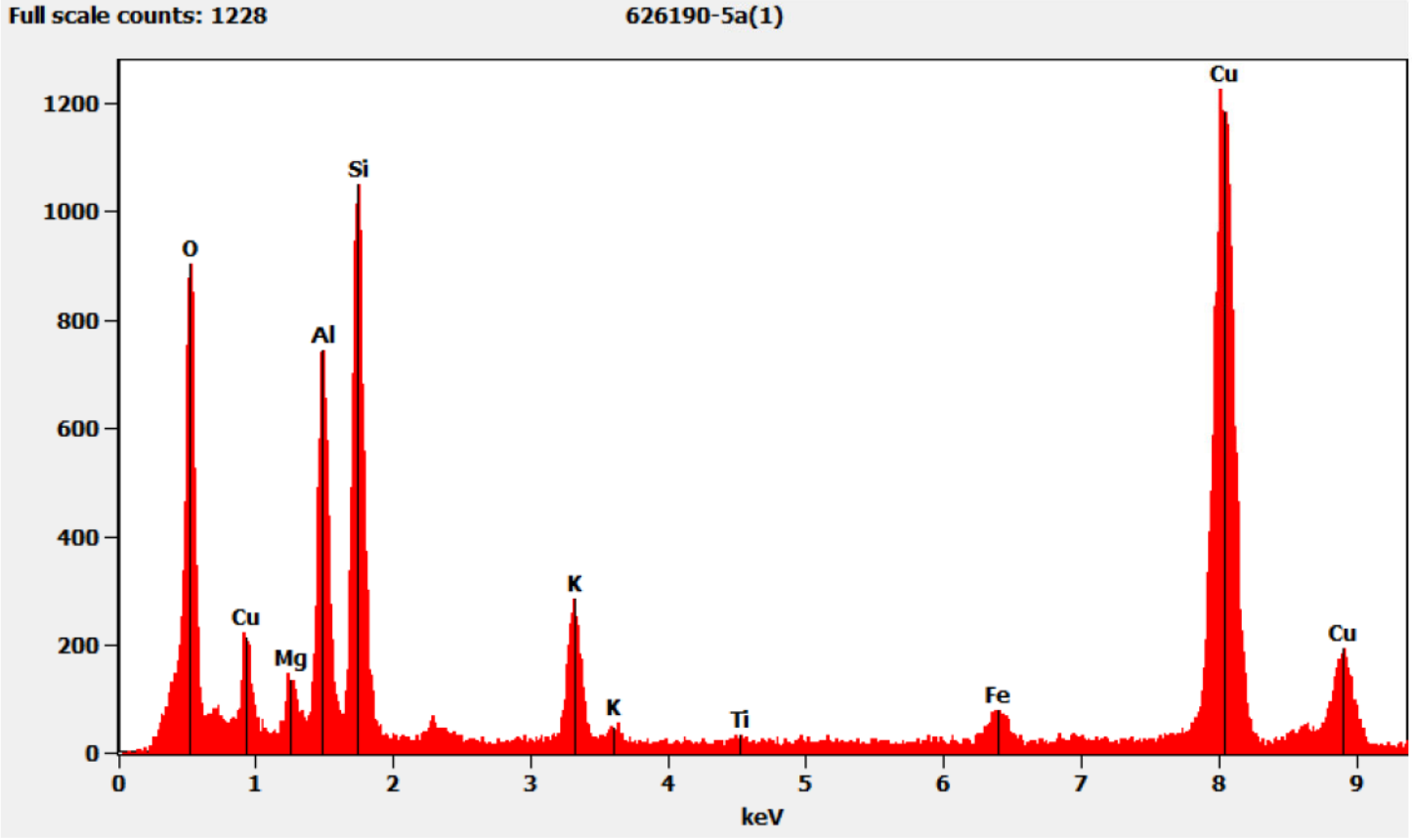
Diffraction Pattern from the Mica Particle pictured above



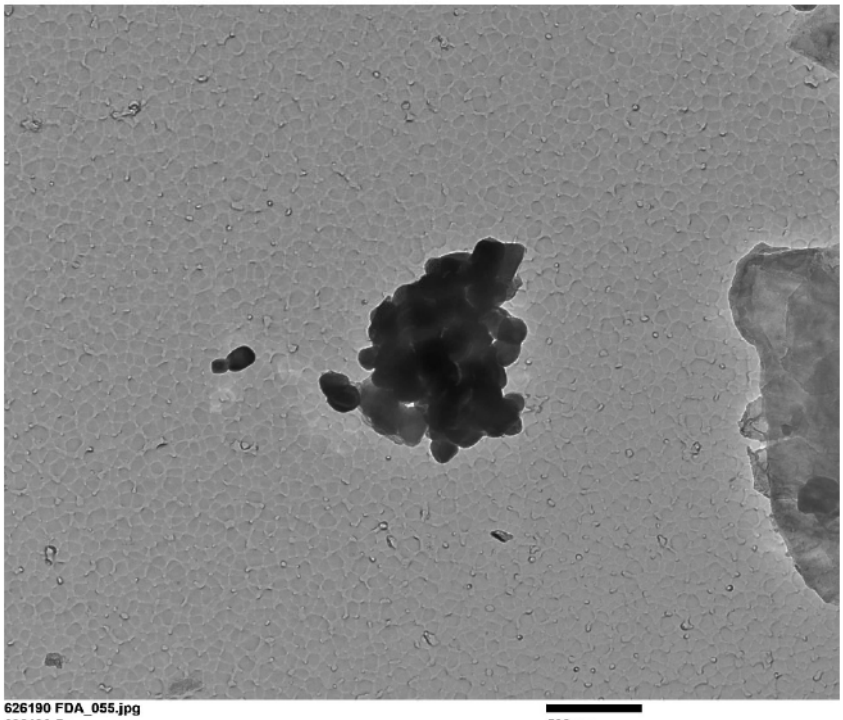
626190 FDA_052.jpg
626190-5a
Mica Particle Dif
11:33 5/19/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Mica Particle pictured above



626190-5A, Titanium Particles



626190 FDA_055.jpg
626190-5a
Ti Particles
Cal: 0.001774 µm/pix
11:39 5/19/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

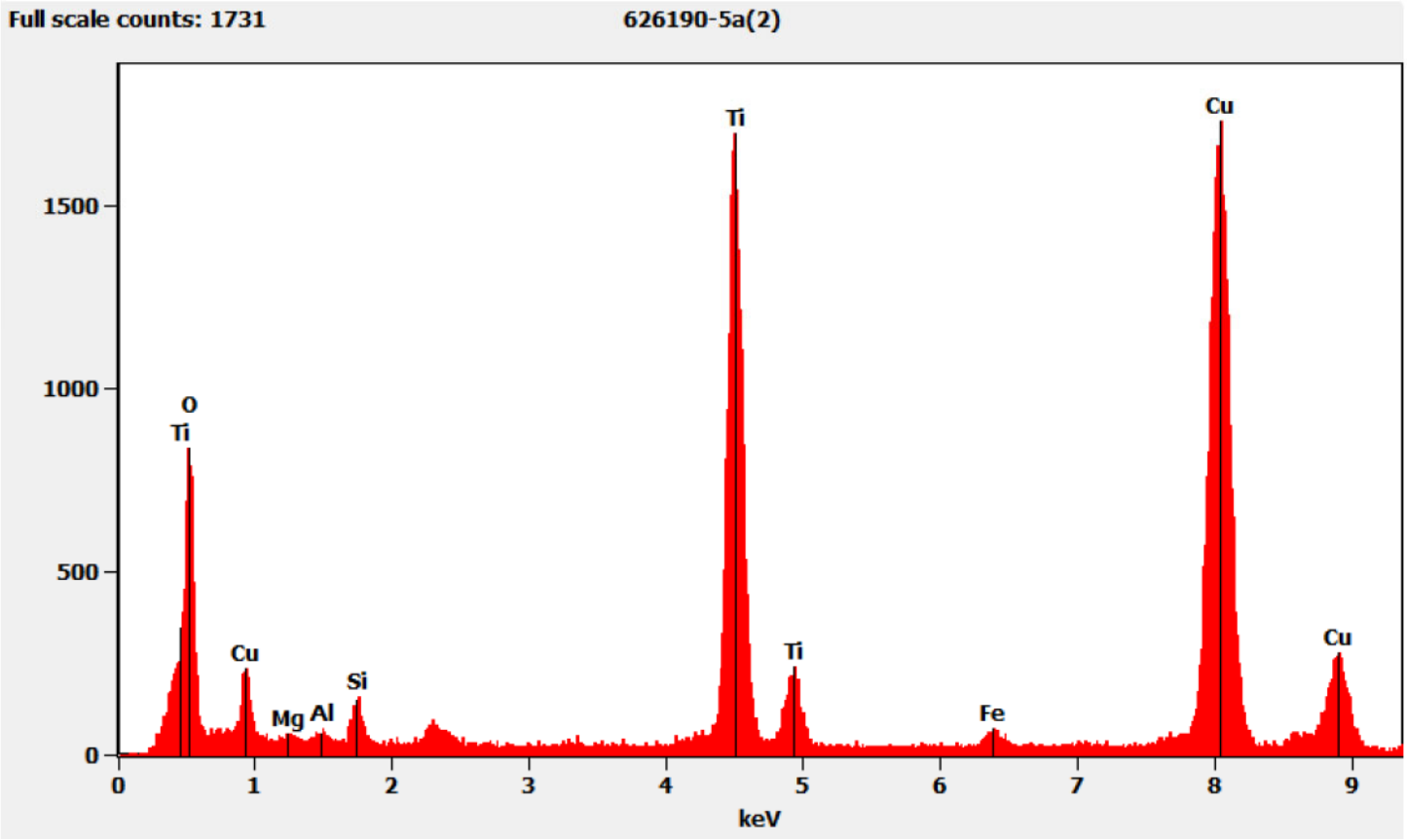
500 nm
HV=100kV
Direct Mag: 5800 x
AMA Analytical Services, Inc

Diffraction Pattern from the Titanium Particles pictured above

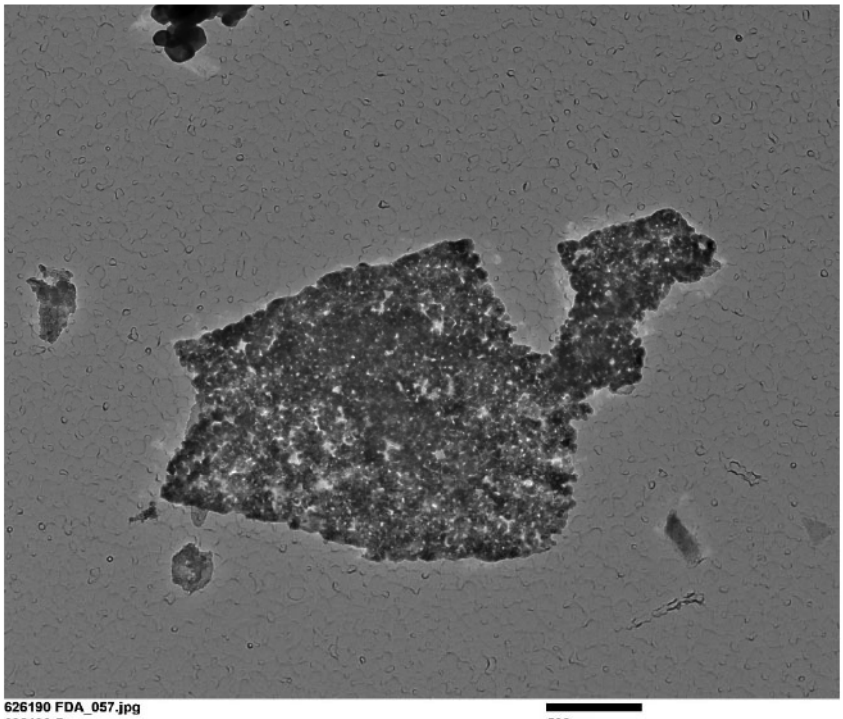
626190 FDA_054.jpg
626190-5a
Ti Particles
11:38 5/19/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Titanium Particles pictured above



626190-5A, Particle(s) containing Iron, Magnesium, and Silicon

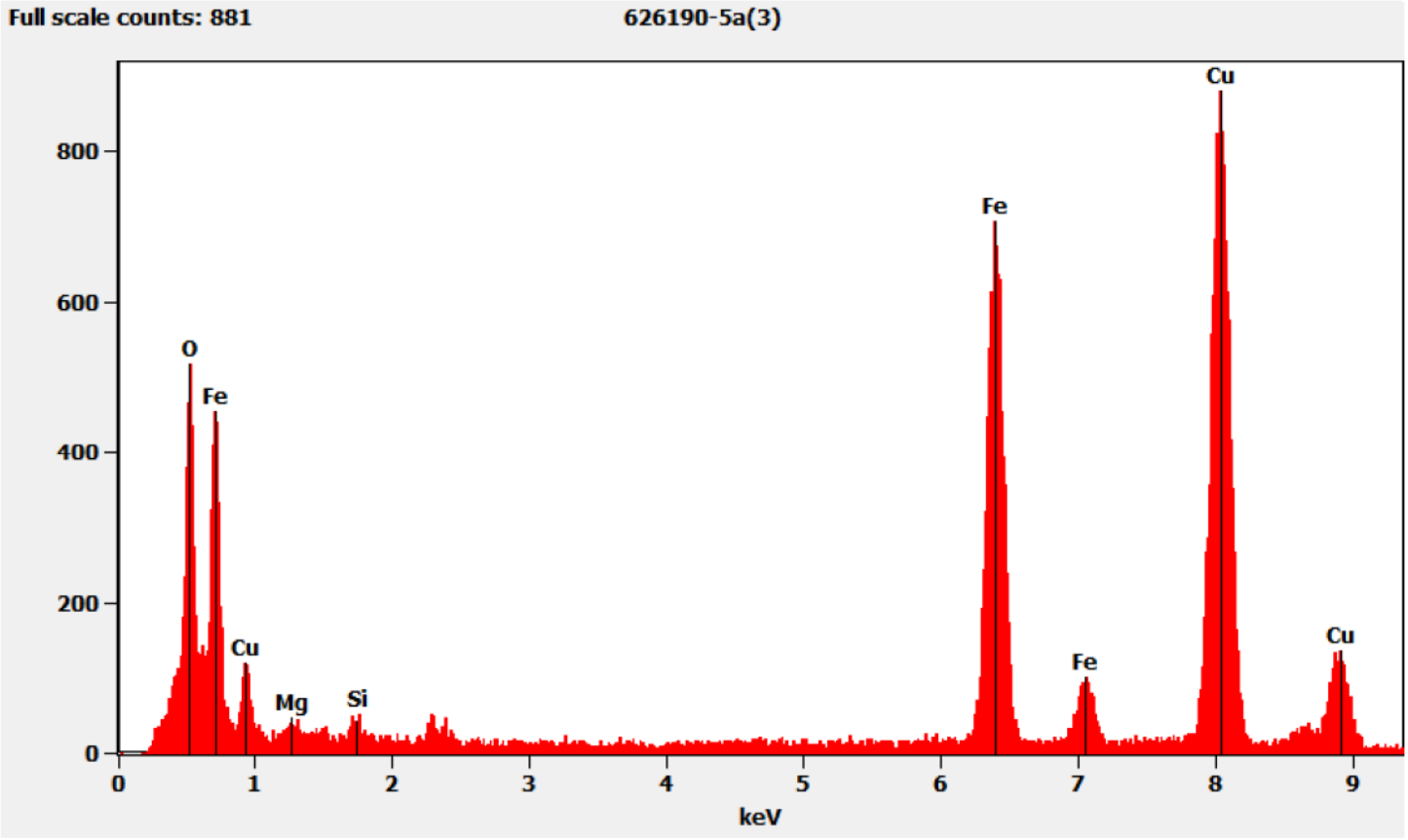


626190 FDA_057.jpg
626190-5a
Fe Particle
Cal: 0.001774 µm/pix
11:45 5/19/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

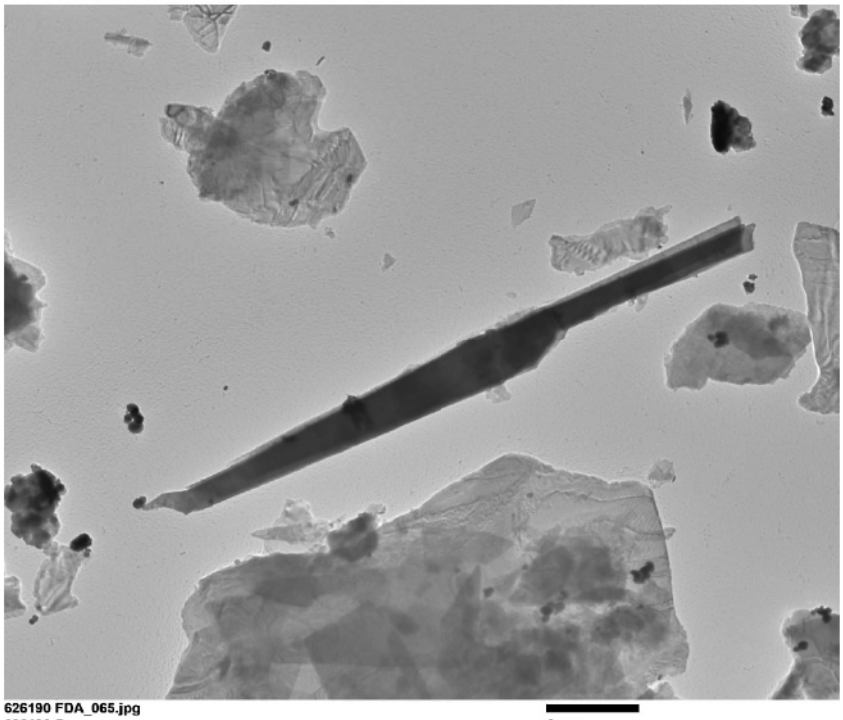
500 nm
HV=100kV
Direct Mag: 5800 x
AMA Analytical Services, Inc

Diffraction Pattern from the Particle(s) containing Iron, Magnesium, and Silicon pictured above

Chemistry from the Particle(s) containing Iron, Magnesium, and Silicon pictured above



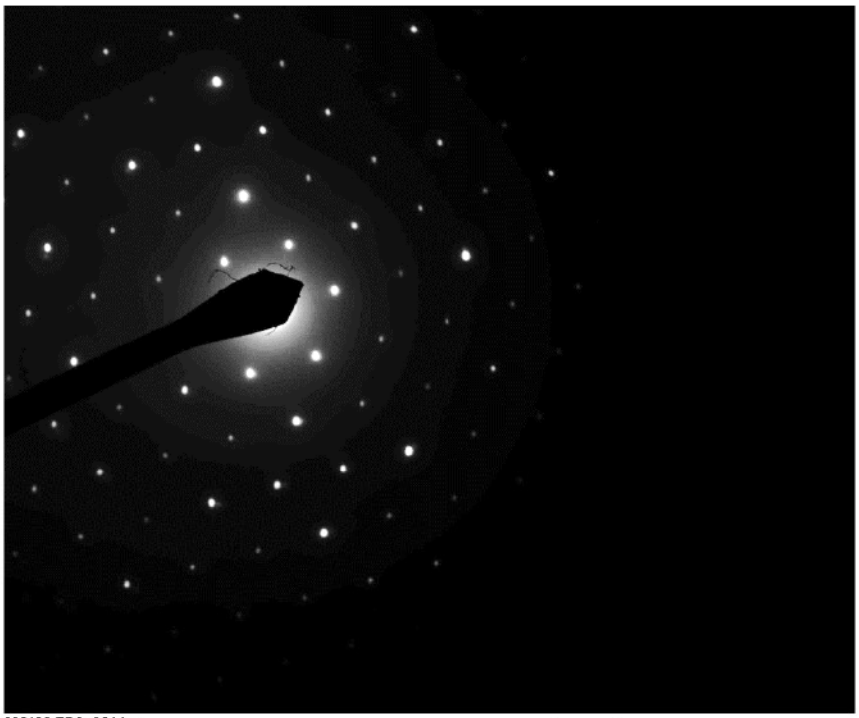
626190-5A, Talc Particle



626190 FDA_065.jpg
626190-5a
Talc Particle
Cal: 0.007349 µm/pix
12:47 5/19/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

2 µm
HV=100kV
Direct Mag: 1400 x
AMA Analytical Services, Inc

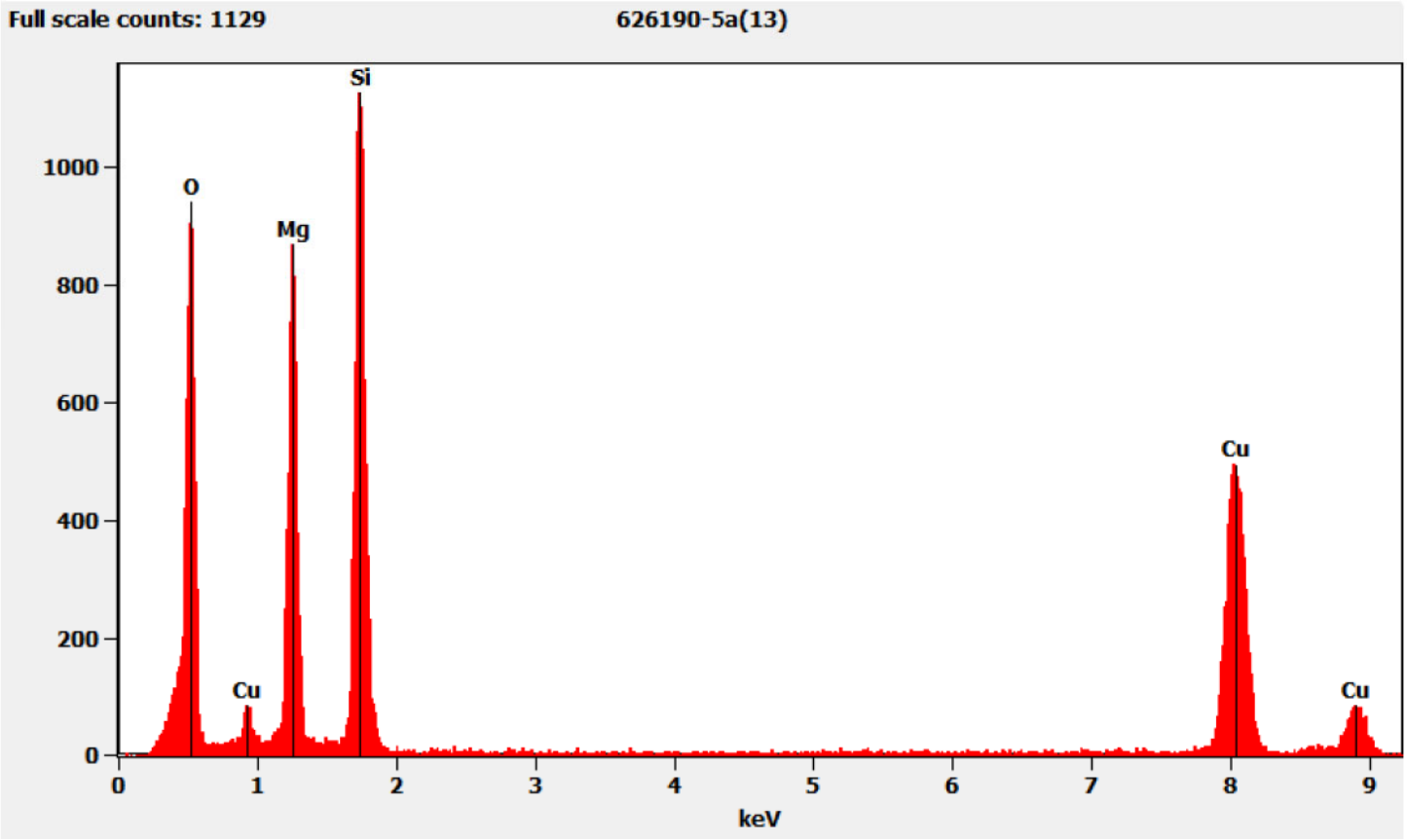
Hexagonal Diffraction Pattern from the Talc Particle pictured above



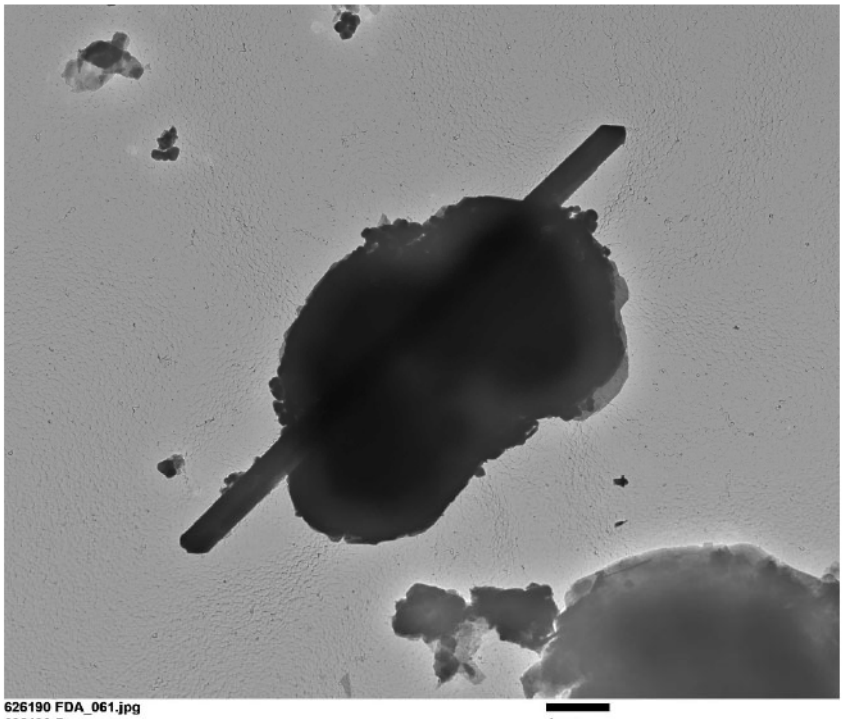
626190 FDA_064.jpg
626190-5a
Talc Particle Dif
12:46 5/19/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Talc Particle pictured above



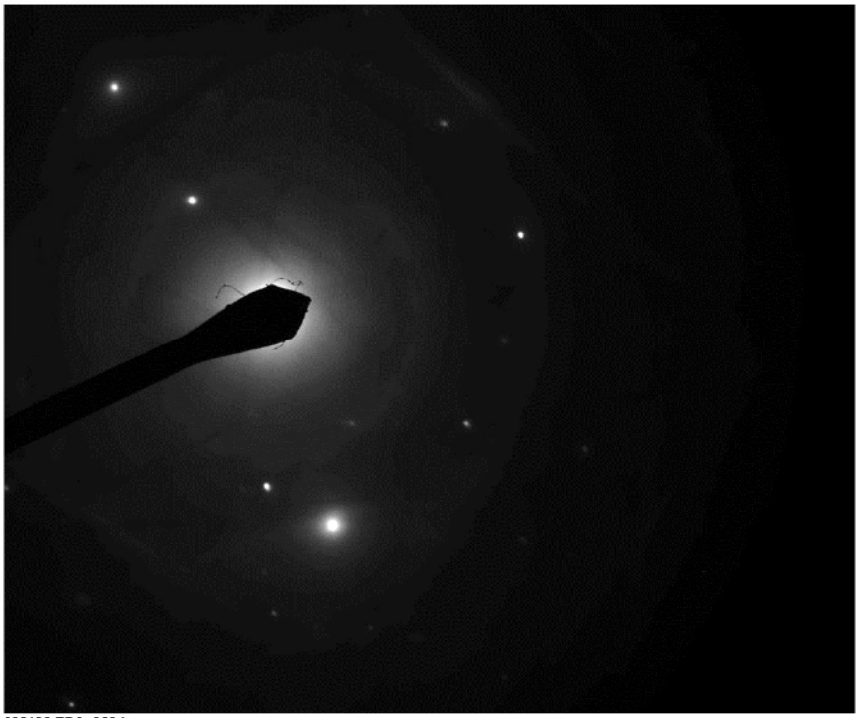
626190-5A, Titanium Fiber in Mica



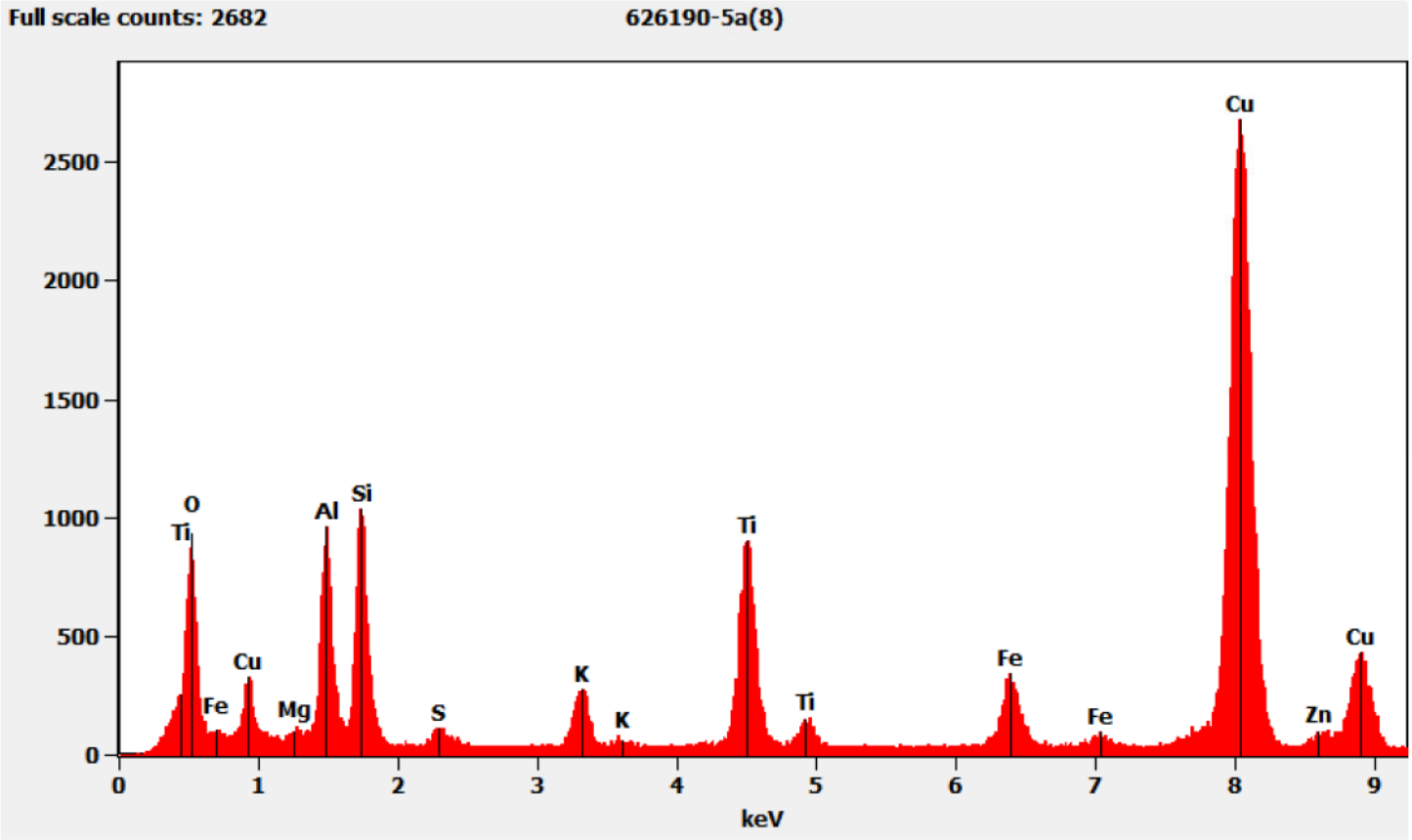
626190 FDA_061.jpg
626190-5a
Ti Fiber in Mica
Cal: 0.005415 µm/pix
12:30 5/19/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

1 µm
HV=100kV
Direct Mag: 1900 x
AMA Analytical Services, Inc

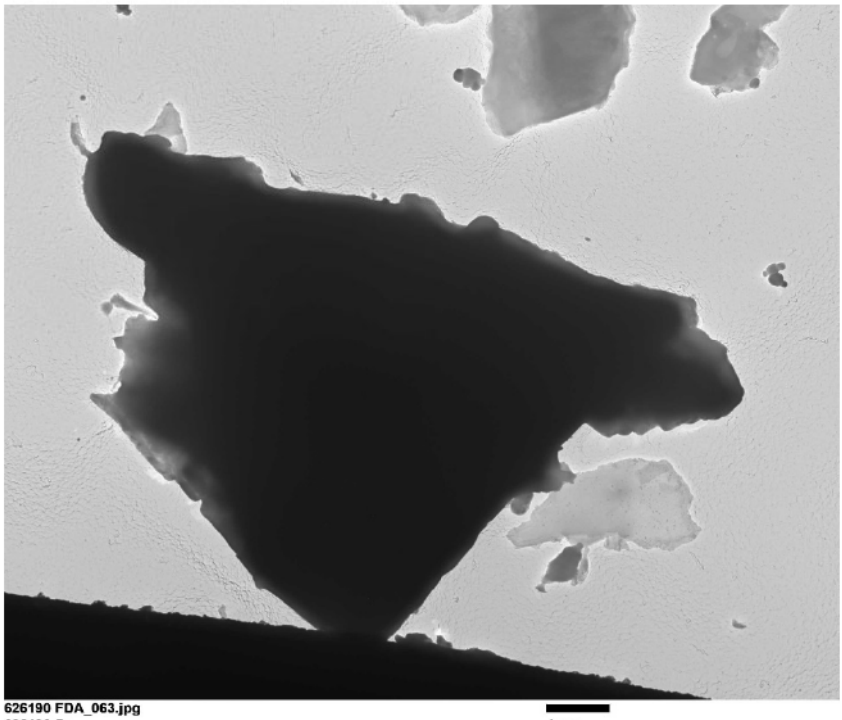
Diffraction Pattern from the Titanium Fiber in Mica pictured above



Chemistry from the Titanium Fiber in Mica pictured above



626190-5A, Silica Particle



626190 FDA_063.jpg
626190-5a
Silica Particle
Cal: 0.005415 µm/pix
12:42 5/19/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

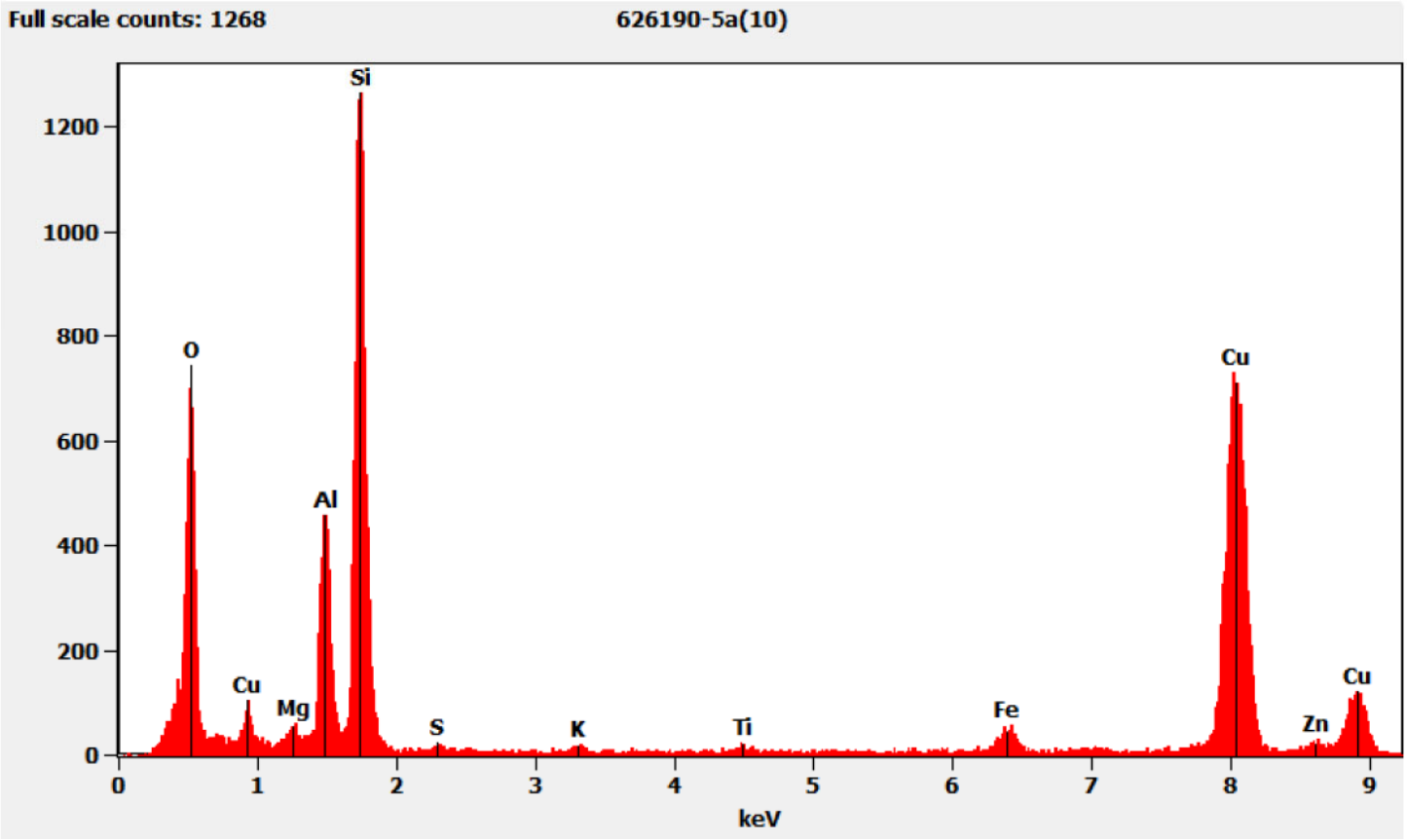
1 µm
HV=100kV
Direct Mag: 1900 x
AMA Analytical Services, Inc

Diffraction Pattern from the Silica Particle pictured above

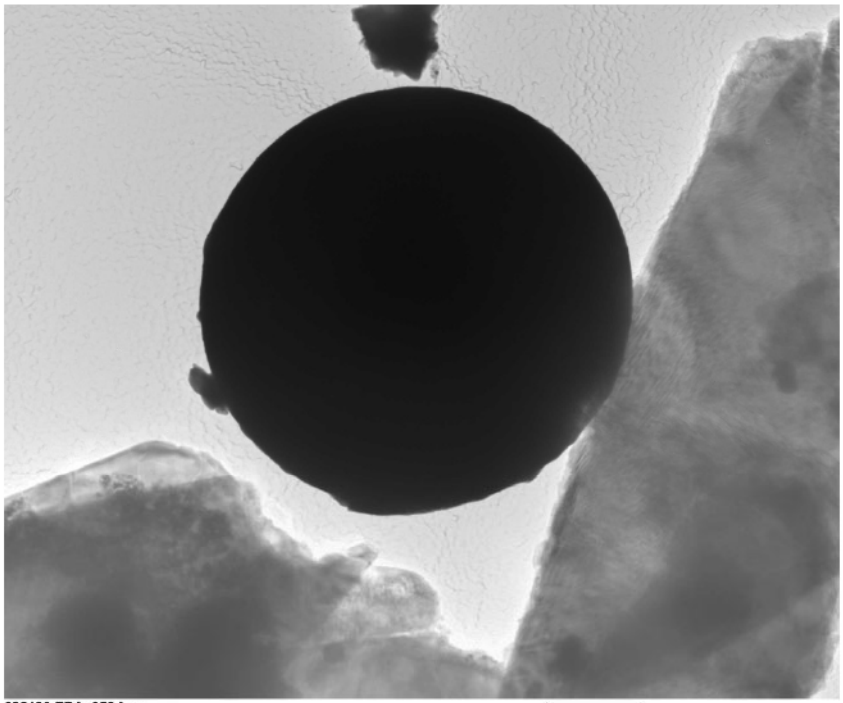
626190 FDA_062.jpg
626190-5a
Silica Particle Dif
12:41 5/19/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Silica Particle pictured above



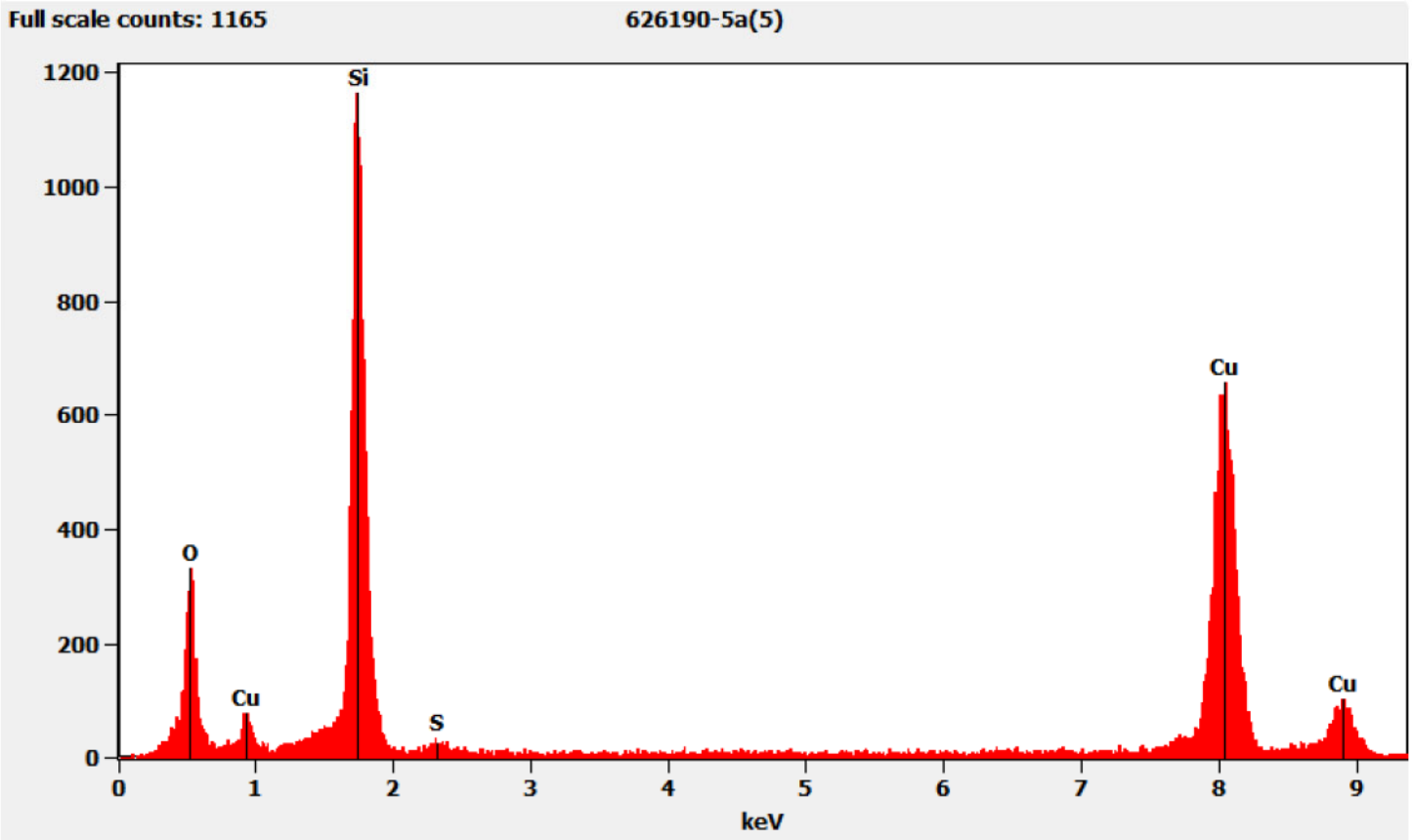
626190-5A, Silica Sphere



626190 FDA_059.jpg
626190-5a
Silica Sphere
Cal: 0.002858 µm/pix
12:00 5/19/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

800 nm
HV=100kV
Direct Mag: 3600 x
AMA Analytical Services, Inc

Chemistry from the Silica Sphere pictured above



626190-6A, 6B, 6C/Client Sample: 03242021-6

PLM

All three aliquots of sample 03242021-6 were analyzed by (b)(6) on May 28, 2021. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-6A	No Asbestos Detected
626190-6B	No Asbestos Detected
626190-6C	No Asbestos Detected

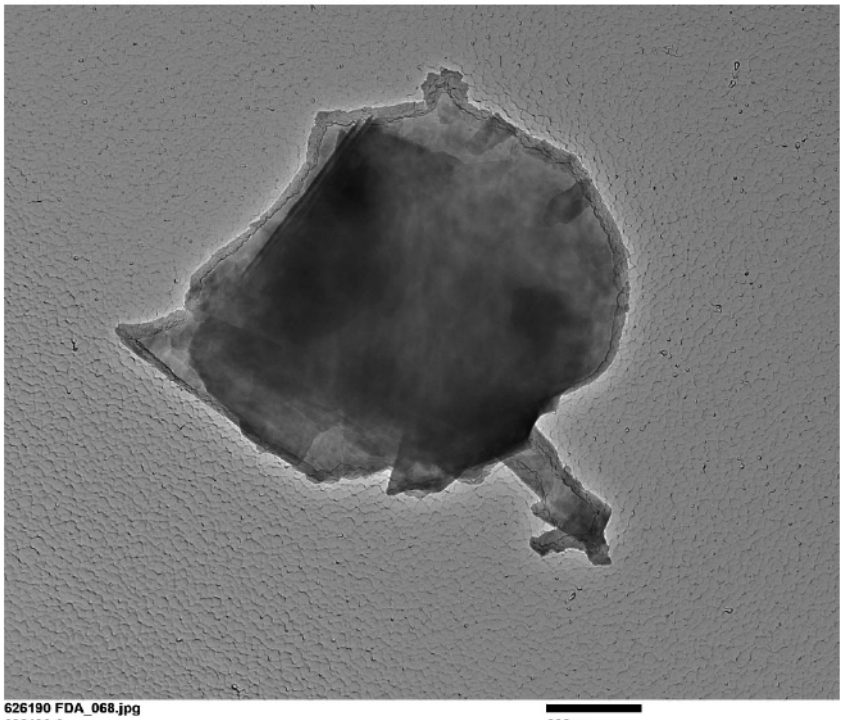
TEM

(b)(6) analyzed aliquot 6A on May 19, 2021 and aliquot 6B on May 20, 2021. (b)(6) analyzed aliquot 6C on May 21, 2021. The primary particle observed was talc; talc fibers/ribbons were also observed along with a few particles containing magnesium, aluminum, and silicon and calcium particles. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-6A	No Asbestos Detected
626190-6B	No Asbestos Detected
626190-6C	No Asbestos Detected

Below are pictures, diffraction patterns, and chemistry from some of the observed particles. The copper peaks in the chemistry spectra are from the TEM grid. The unidentified (and some identified) peaks in the chemistry spectra are zinc and carbon from the TEM specimen holder.

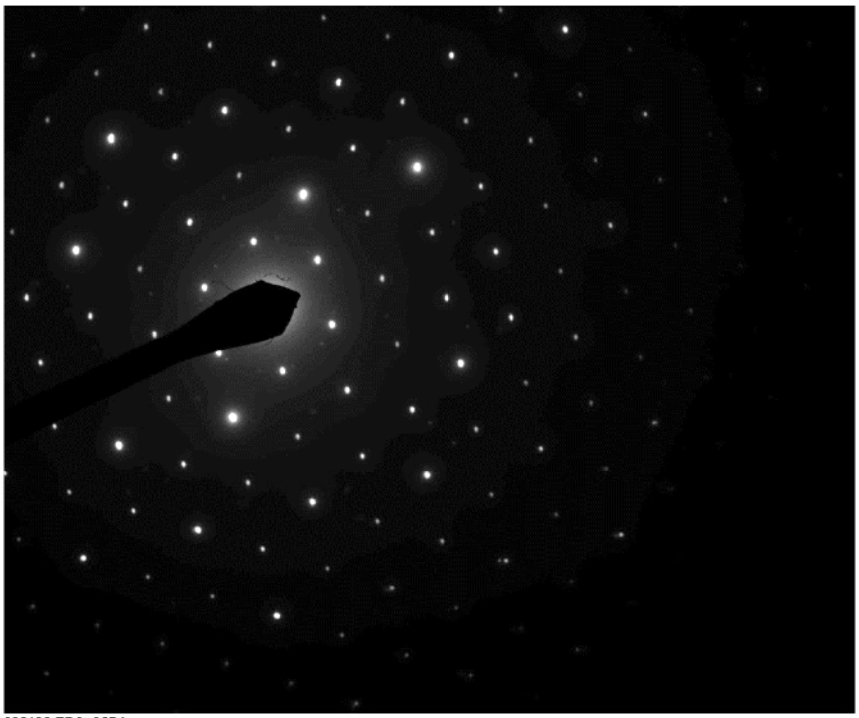
626190-6A, Talc Particle



626190 FDA_068.jpg
626190-6a
Talc Particle
Cal: 0.002858 µm/pix
13:24 5/19/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

800 nm
HV=100kV
Direct Mag: 3600 x
AMA Analytical Services, Inc

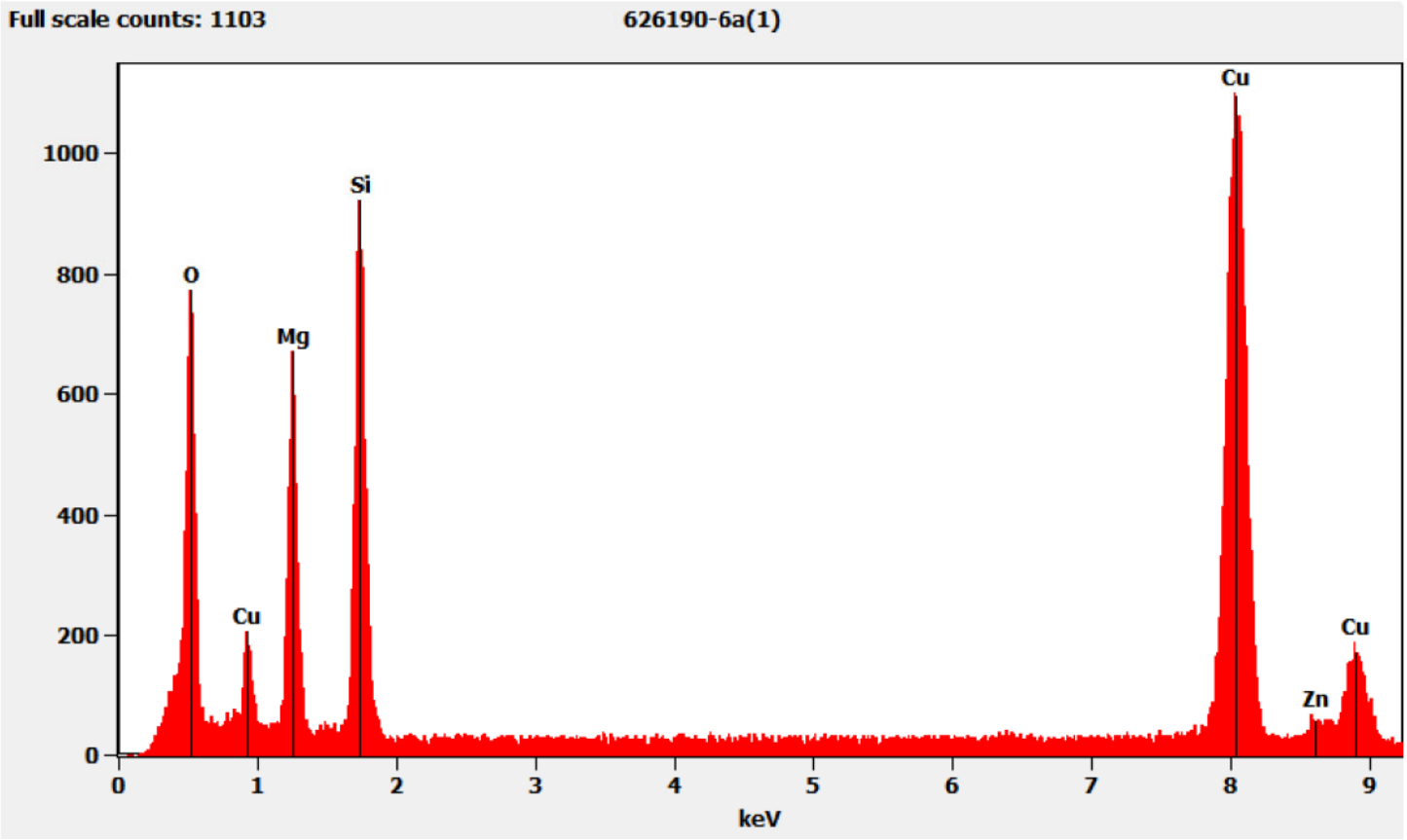
Hexagonal Diffraction Pattern from the Talc Particle pictured above



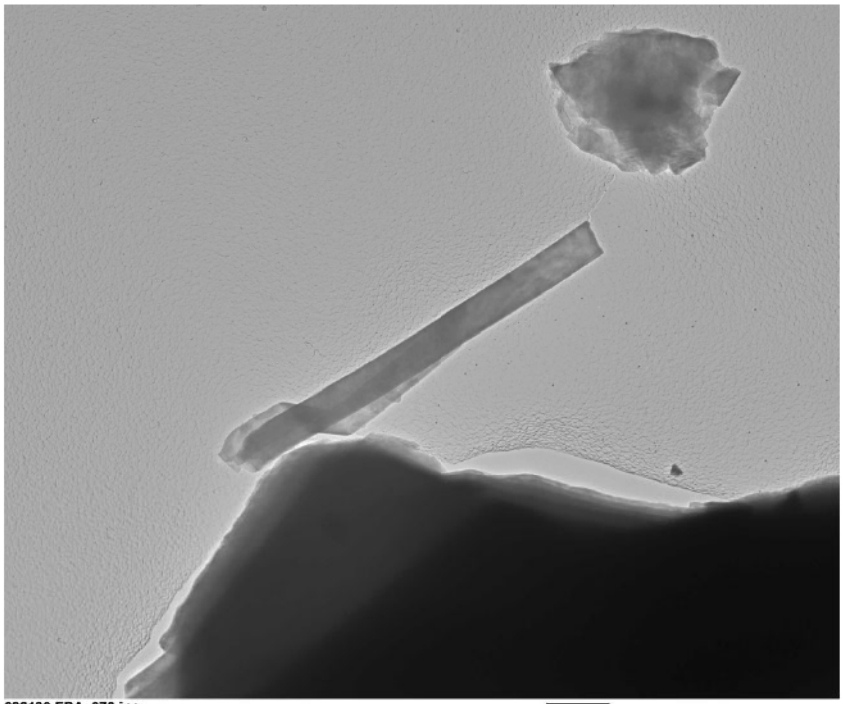
626190 FDA_067.jpg
626190-6a
Talc Particle Dif
13:23 5/19/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Talc Particle pictured above



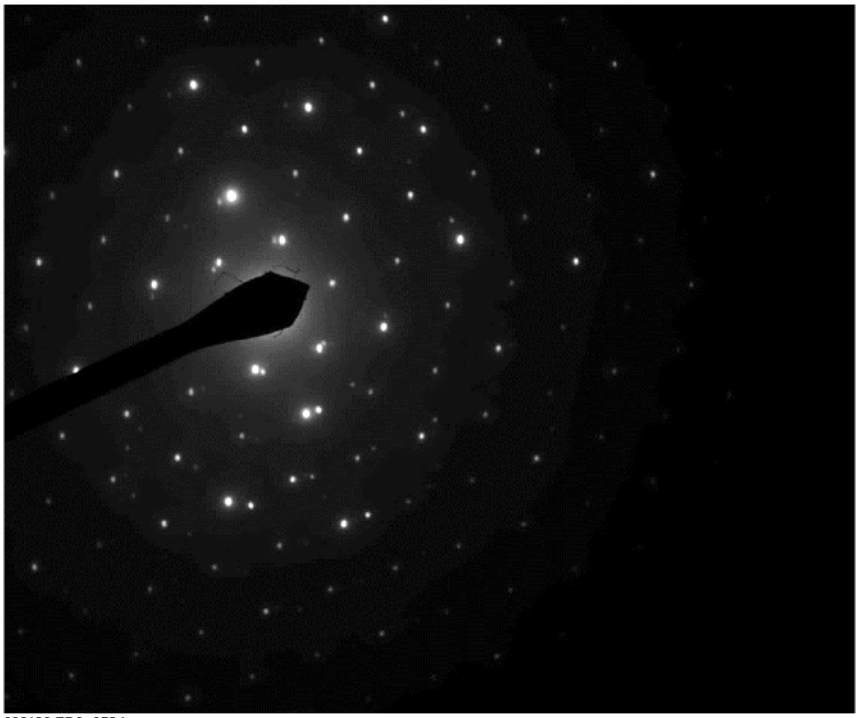
626190-6A, Talc Fiber



626190 FDA_073.jpg
626190-6a
Talc Fiber
Cal: 0.005415 µm/pix
13:55 5/19/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

1 µm
HV=100kV
Direct Mag: 1900 x
AMA Analytical Services, Inc

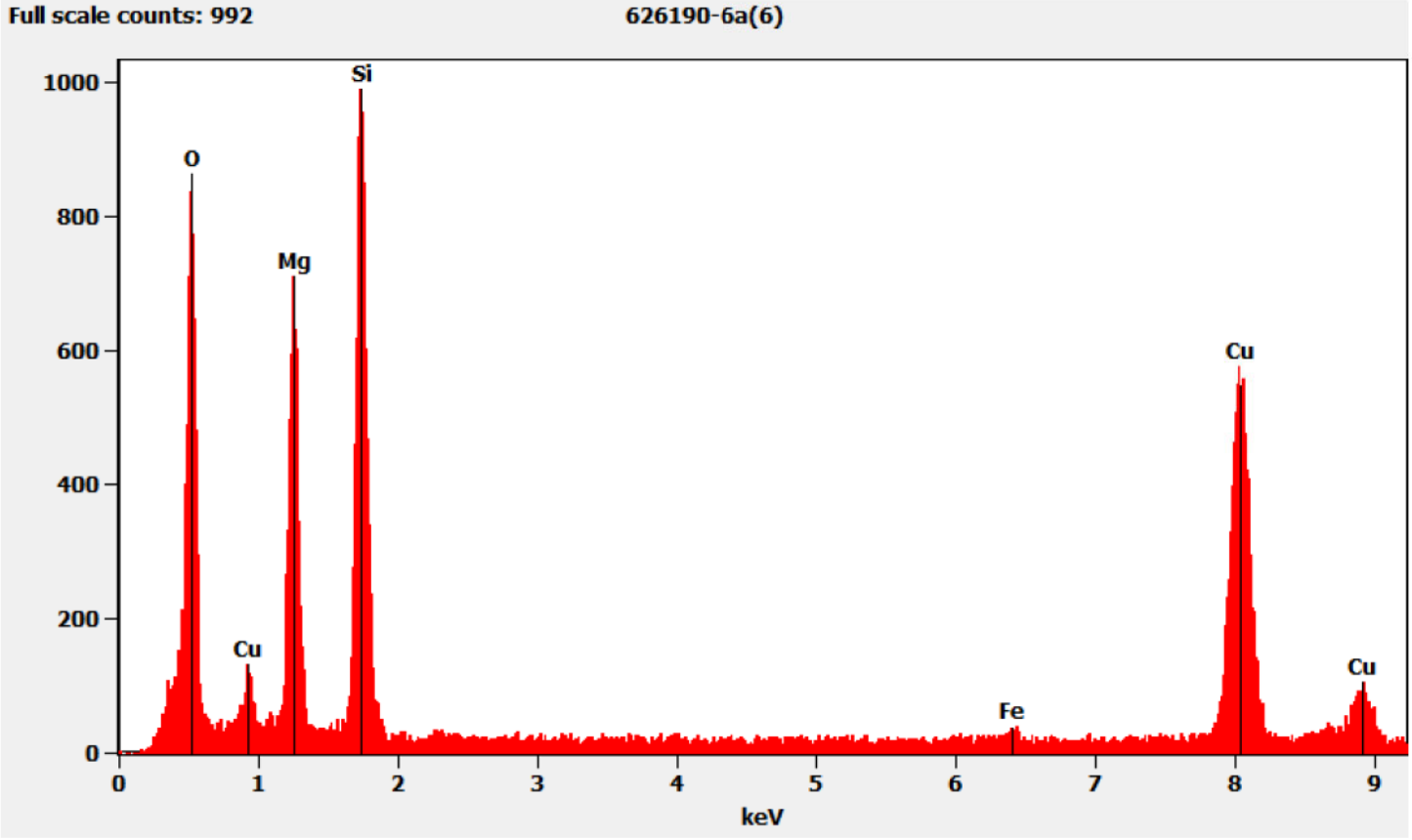
Hexagonal Diffraction Pattern from the Talc Fiber pictured above



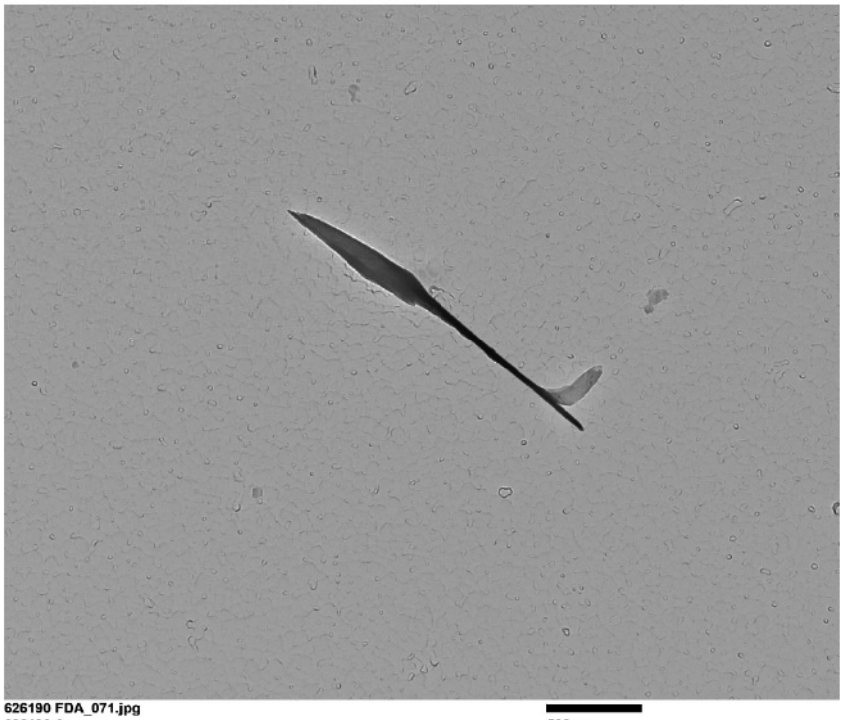
626190 FDA_072.jpg
626190-6a
Talc Fiber Dif
13:54 5/19/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Talc Fiber pictured above



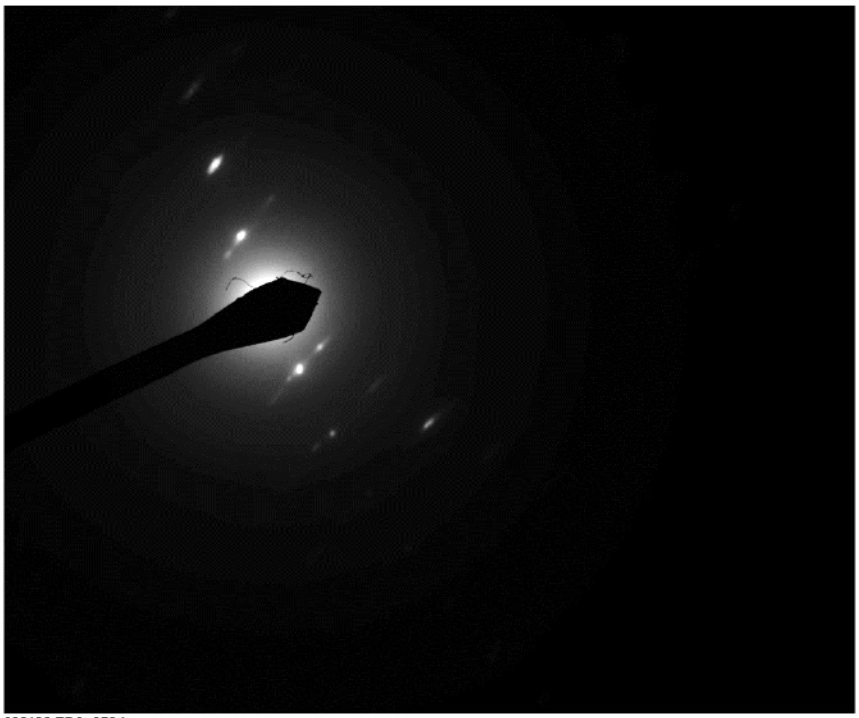
626190-6A, Talc Ribbon



626190 FDA_071.jpg
626190-6a
Talc Ribbon
Cal: 0.001774 µm/pix
13:41 5/19/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

500 nm
HV=100kV
Direct Mag: 5800 x
AMA Analytical Services, Inc

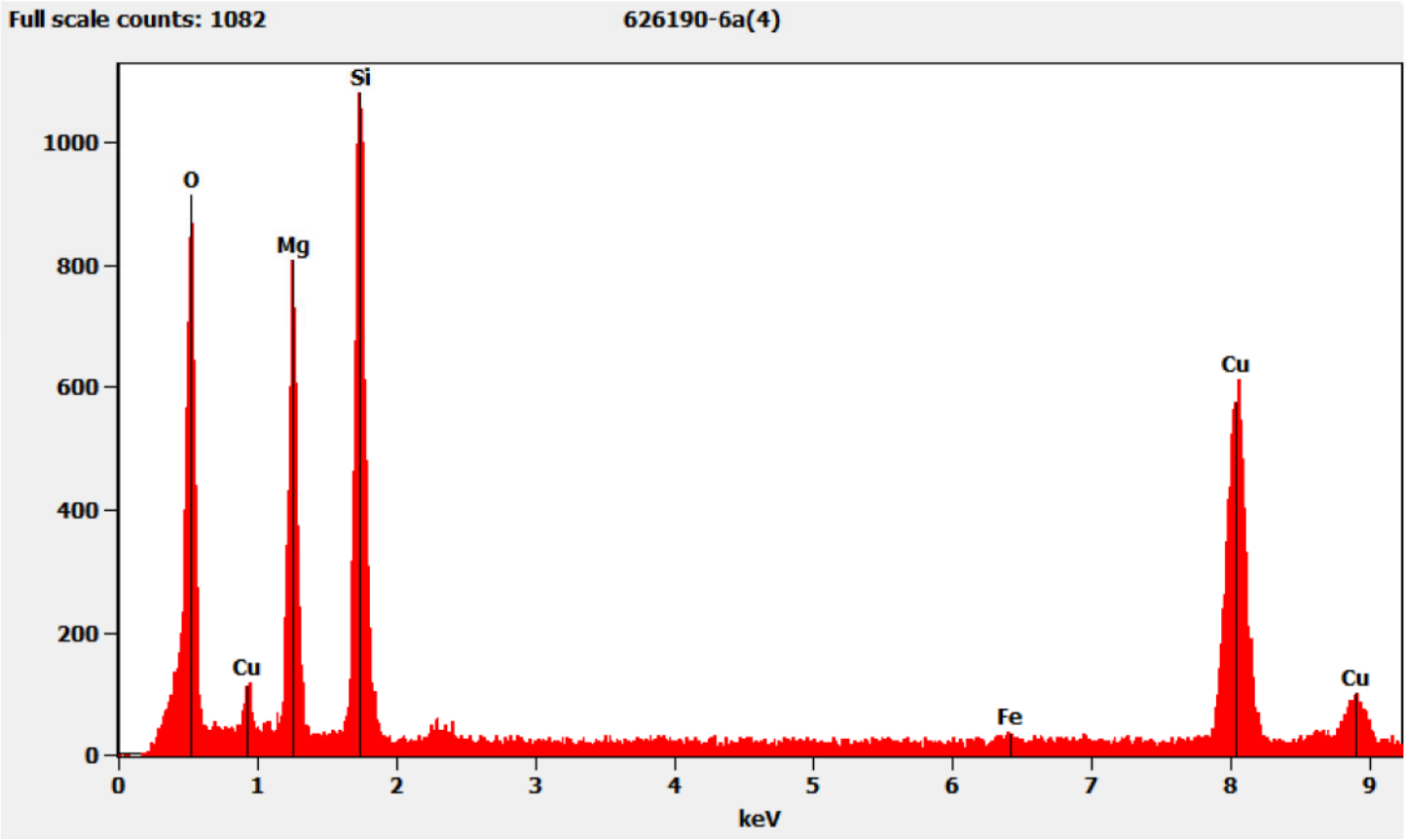
Diffraction Pattern from the Talc Ribbon pictured above



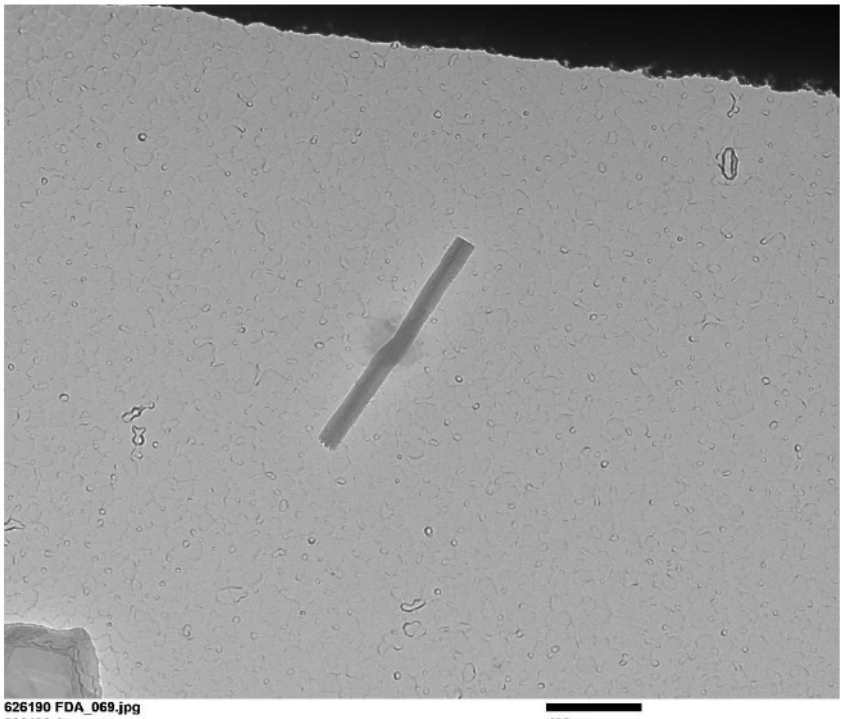
626190 FDA_070.jpg
626190-6a
Talc Ribbon Dif
13:40 5/19/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Talc Ribbon pictured above



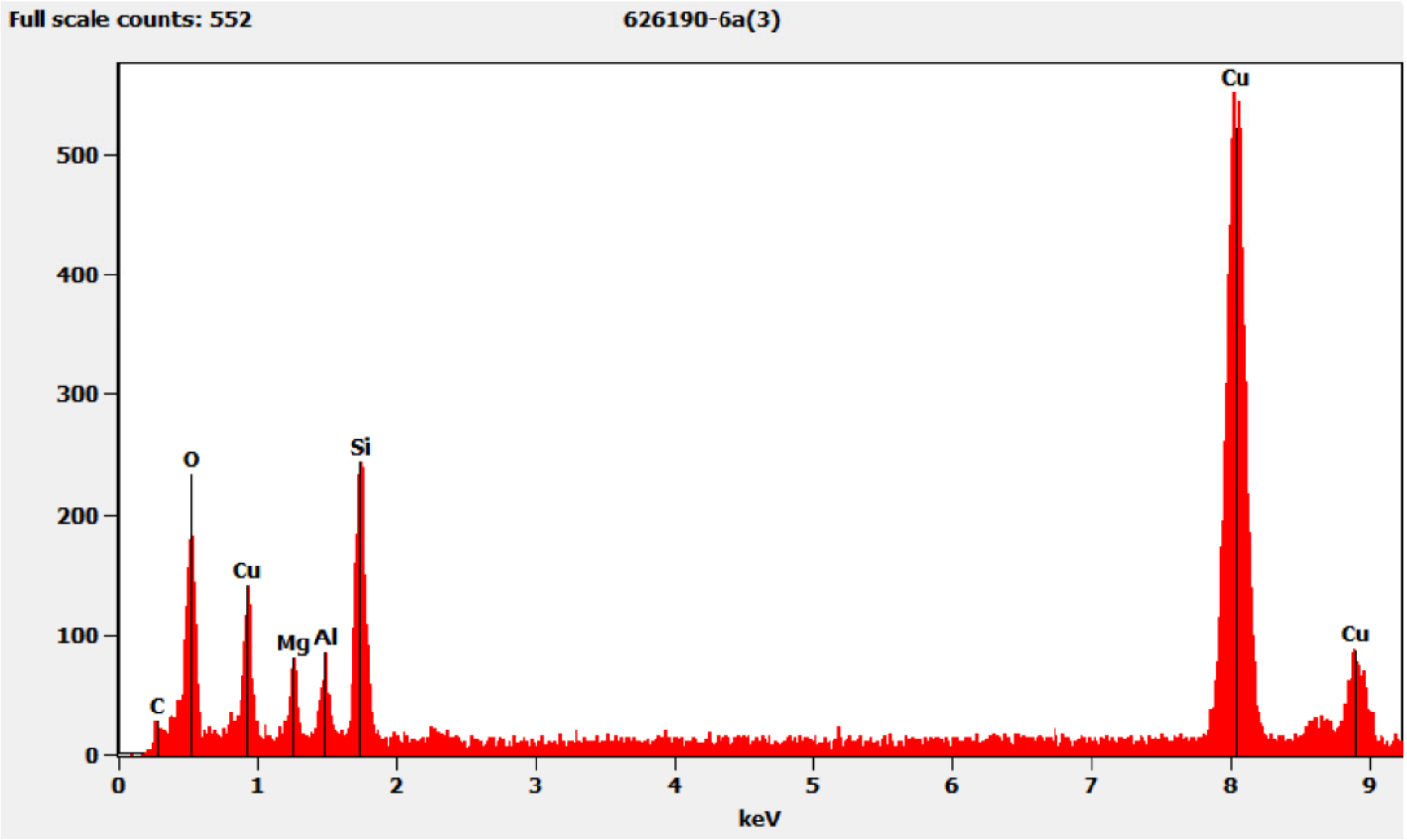
626190-6A, Fiber containing Magnesium, Aluminum, and Silicon



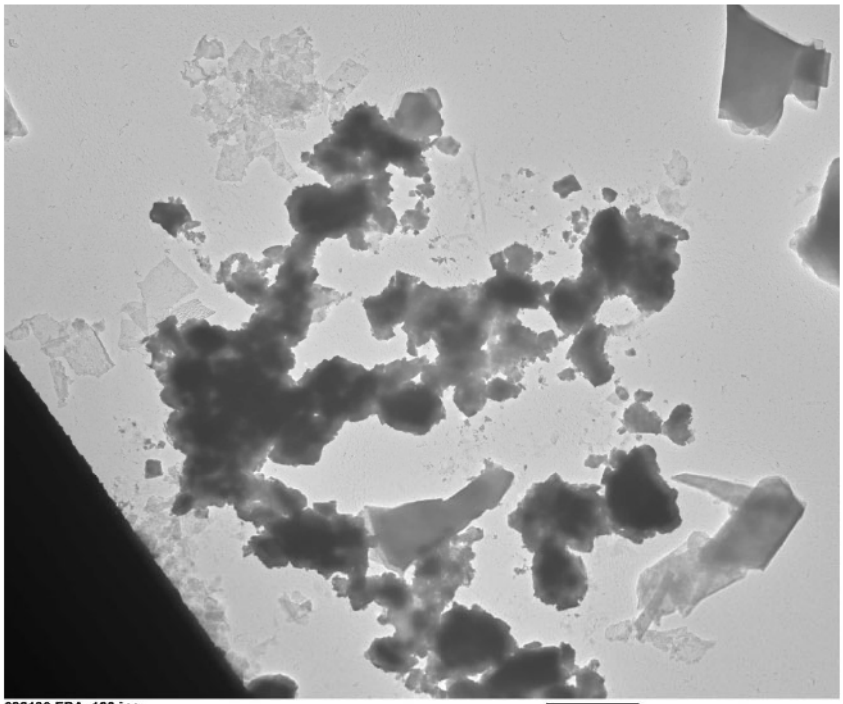
626190 FDA_069.jpg
626190-6a
SiMgAl Fiber, diffraction pattern burned out
Cal: 0.001429 µm/pix
13:34 5/19/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

400 nm
HV=100kV
Direct Mag: 7200 x
AMA Analytical Services, Inc

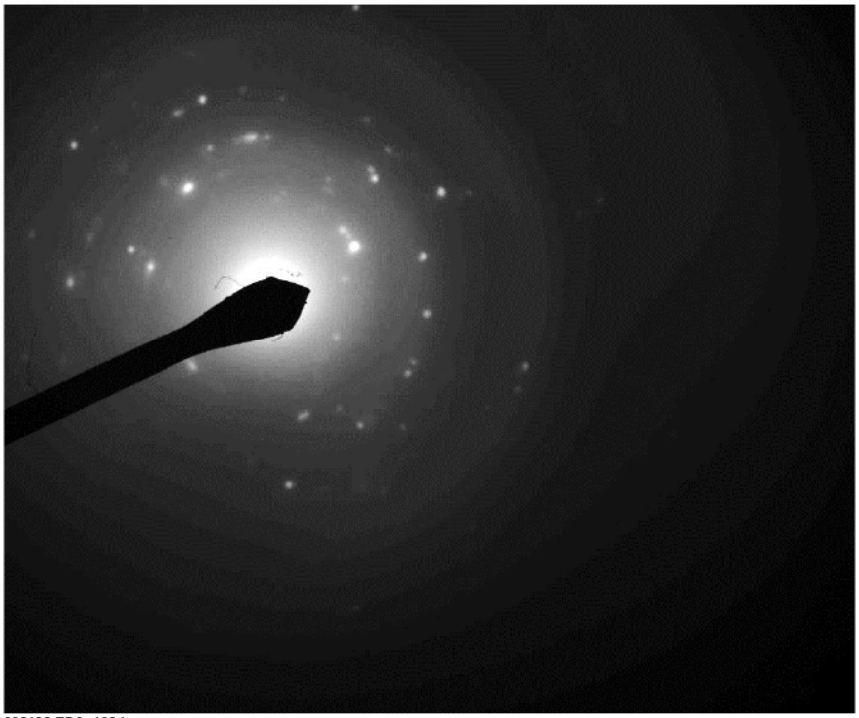
Chemistry from the Fiber containing Magnesium, Aluminum, and Silicon pictured above



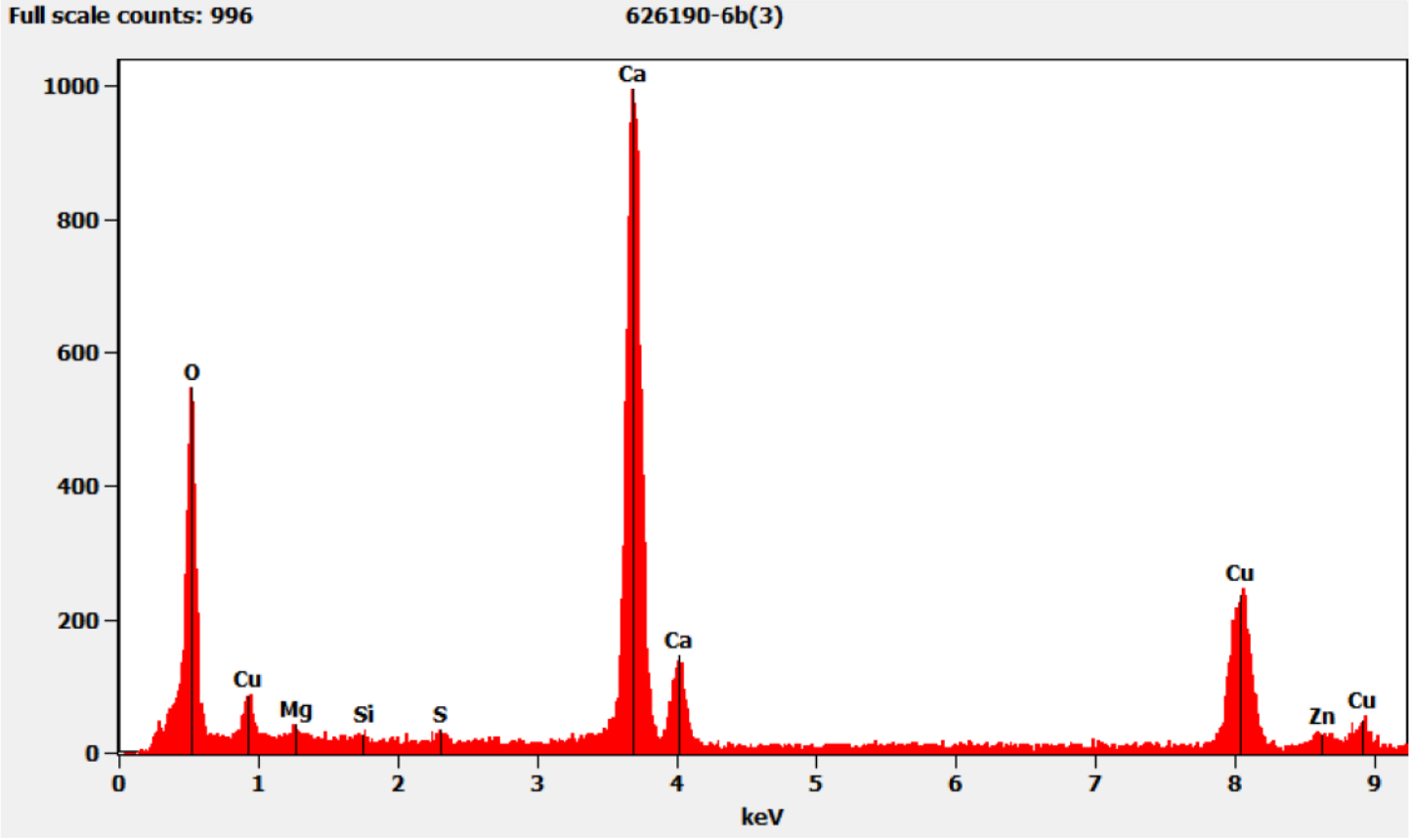
626190-6B, Calcium Particles



Diffraction Pattern from the Calcium Particles pictured above



Chemistry from the Calcium Particles pictured above



626190-7A, 7B, 7C/Client Sample: 03242021-7

PLM

All three aliquots of sample 03242021-7 were analyzed by (b)(6) on May 28, 2021. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the C*alculations* section above.

626190-7A	No Asbestos Detected
626190-7B	No Asbestos Detected
626190-7C	No Asbestos Detected

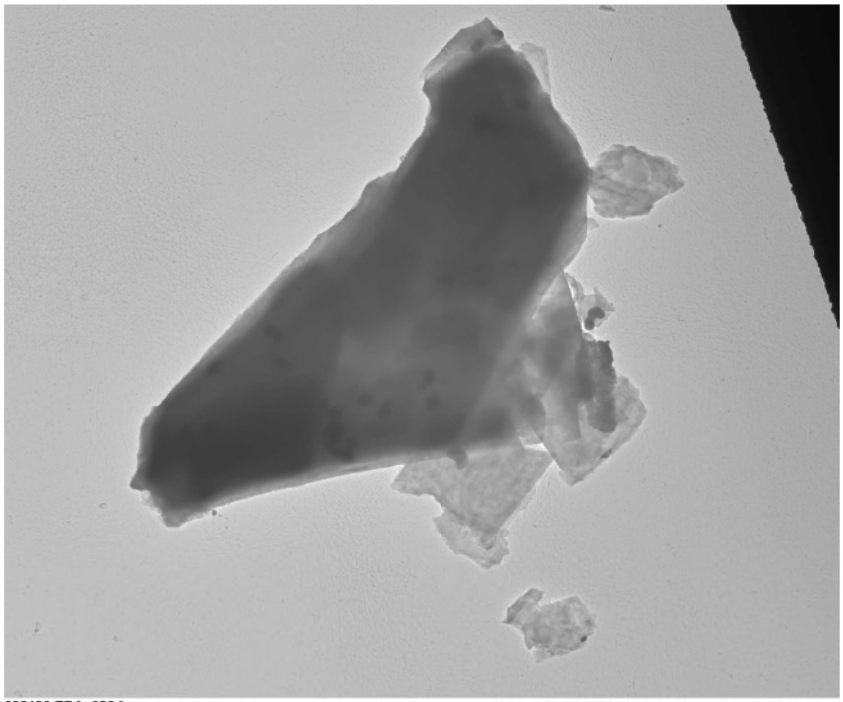
TEM

(b)(6) analyzed aliquot 7A on May 19, 2021. Andreas Saldivar analyzed aliquots 7B and 7C on May 25, 2021. The primary particles observed were talc and mica; titanium and calcium particles were also observed along with a few talc fibers/ribbons and titanium fibers. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the C*alculations* section above.

626190-7A	No Asbestos Detected
626190-7B	No Asbestos Detected
626190-7C	No Asbestos Detected

Below are pictures, diffraction patterns, and chemistry from some of the observed particles. The copper peaks in the chemistry spectra are from the TEM grid. The unidentified (and some identified) peaks in the chemistry spectra are zinc and carbon from the TEM specimen holder.

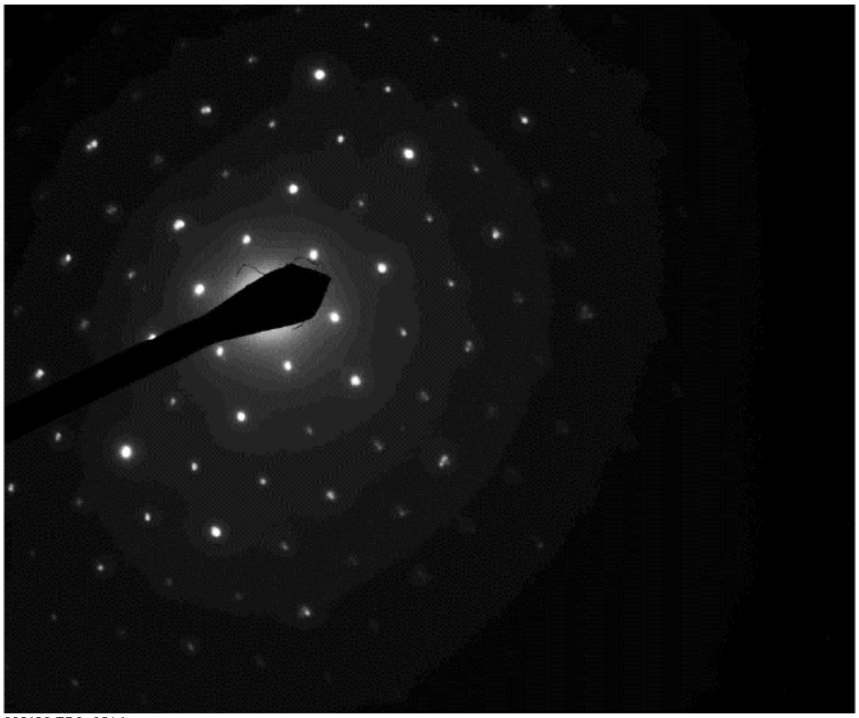
626190-7A, Talc Particle



626190 FDA_082.jpg
626190-7a
Talc Particle
Cal: 0.005415 µm/pix
15:03 5/19/2021
TEM Mode: Imaging
Microscopist (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

1 µm
HV=100kV
Direct Mag: 1900 x
AMA Analytical Services, Inc

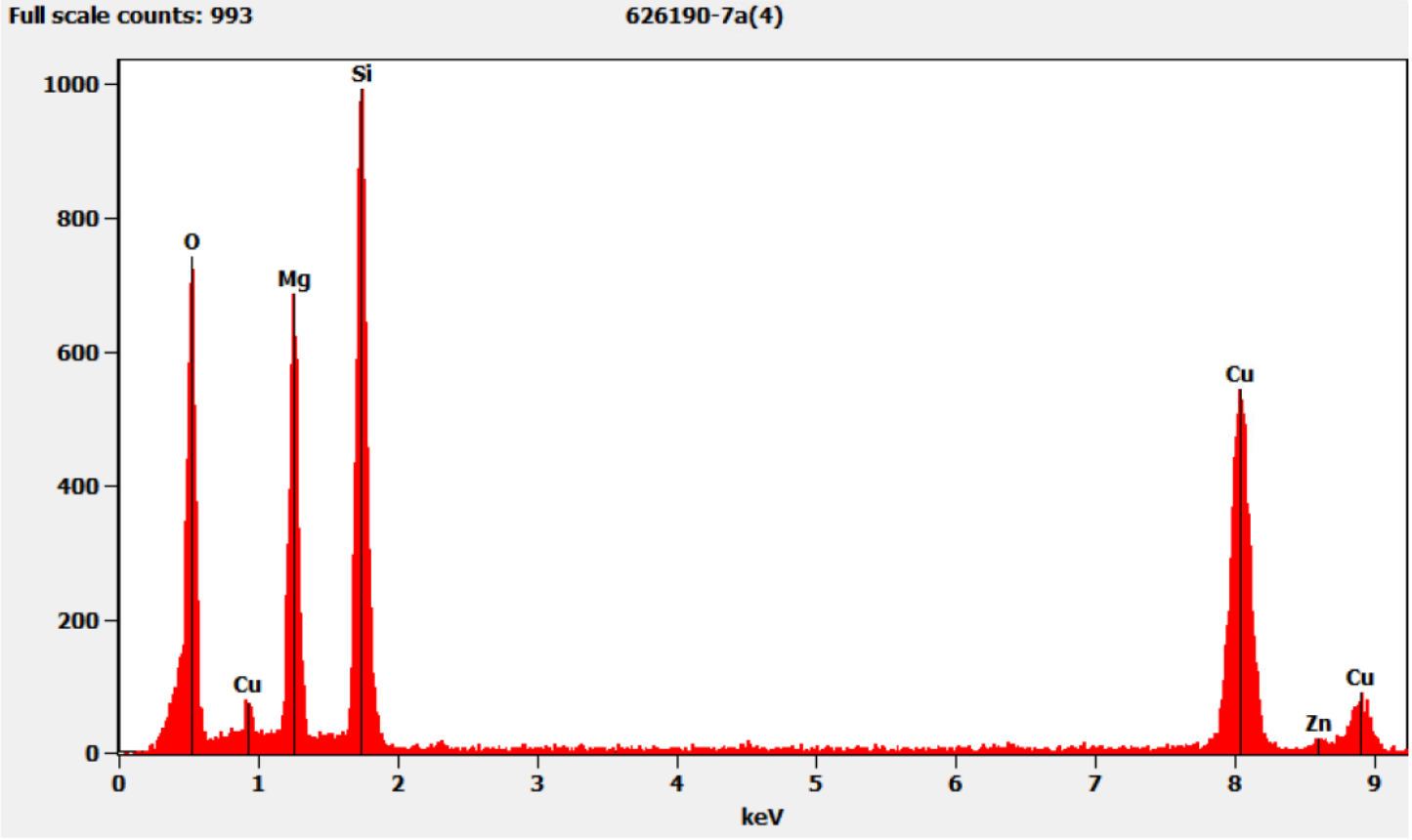
Hexagonal Diffraction Pattern from the Talc Particle pictured above



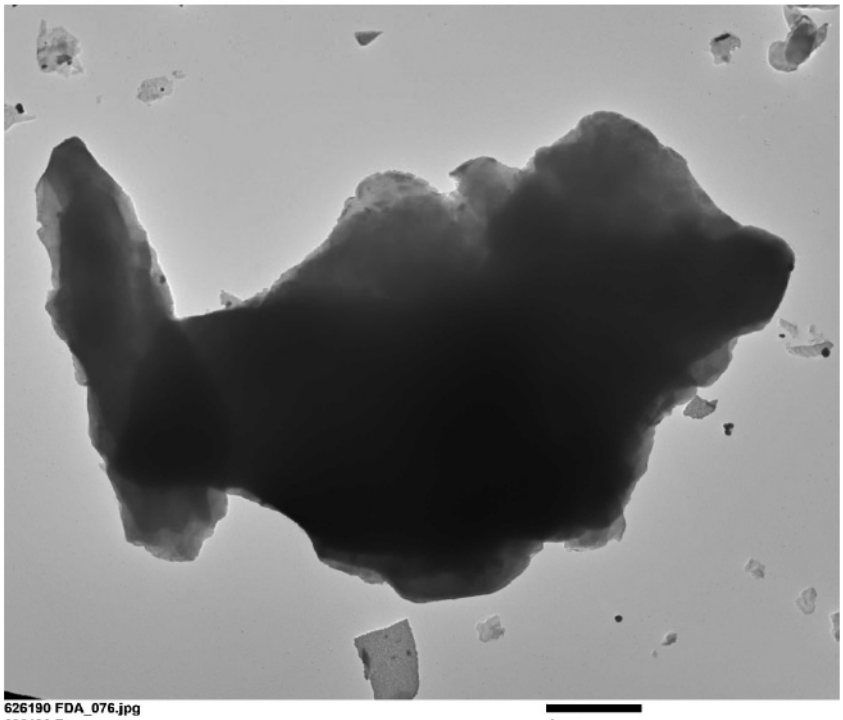
626190 FDA_081.jpg
626190-7a
Talc Particle Dif
15:02 5/19/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Talc Particle pictured above



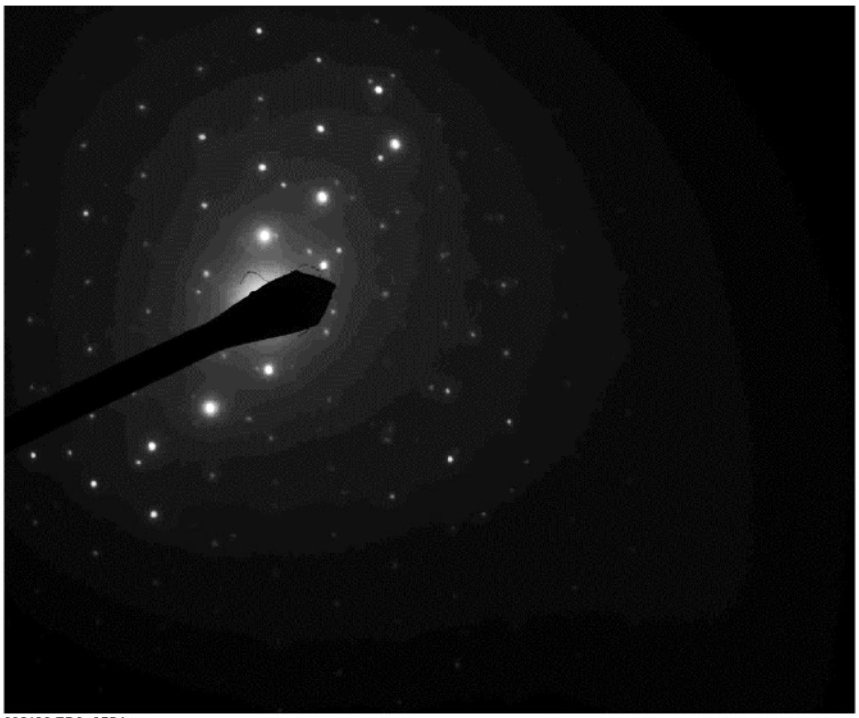
626190-7A, Mica Particle



626190 FDA_076.jpg
626190-7a
Mica Particle
Cal: 0.014290 µm/pix
14:52 5/19/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

4 µm
HV=100kV
Direct Mag: 720 x
AMA Analytical Services, Inc

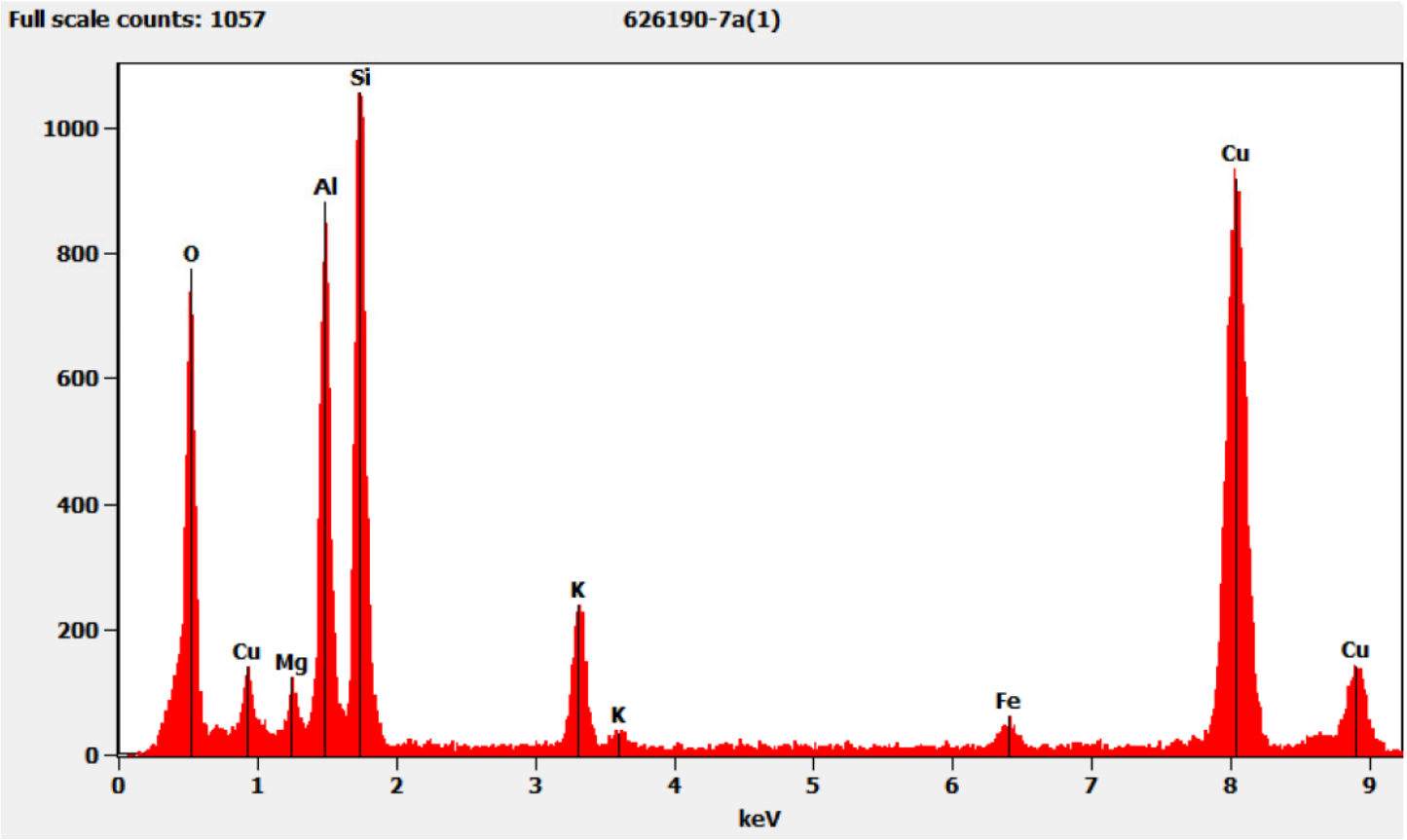
Diffraction Pattern from the Mica Particle pictured above



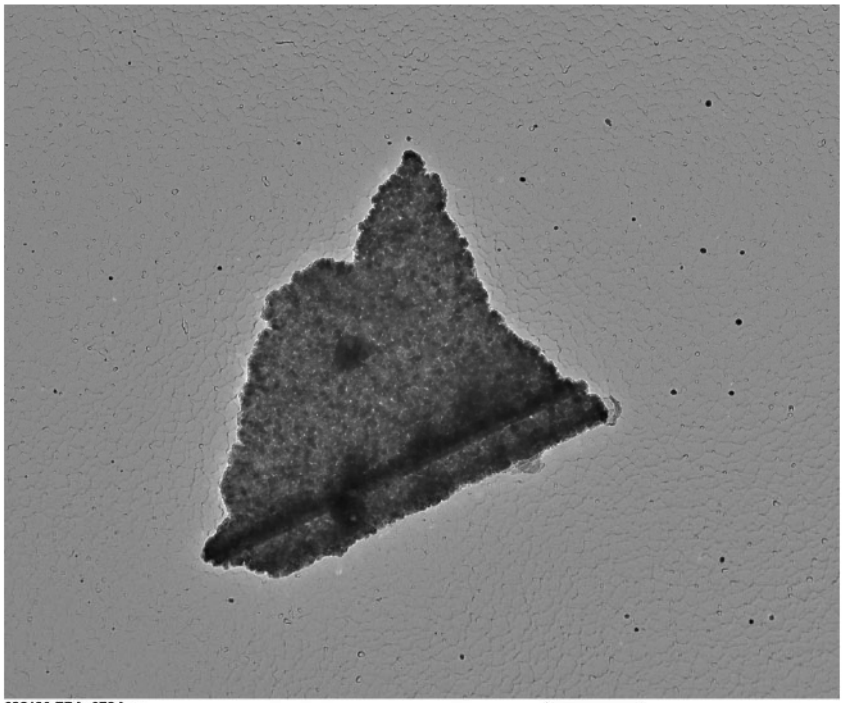
626190 FDA_075.jpg
626190-7a
Mica Particle Dif
14:50 5/19/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

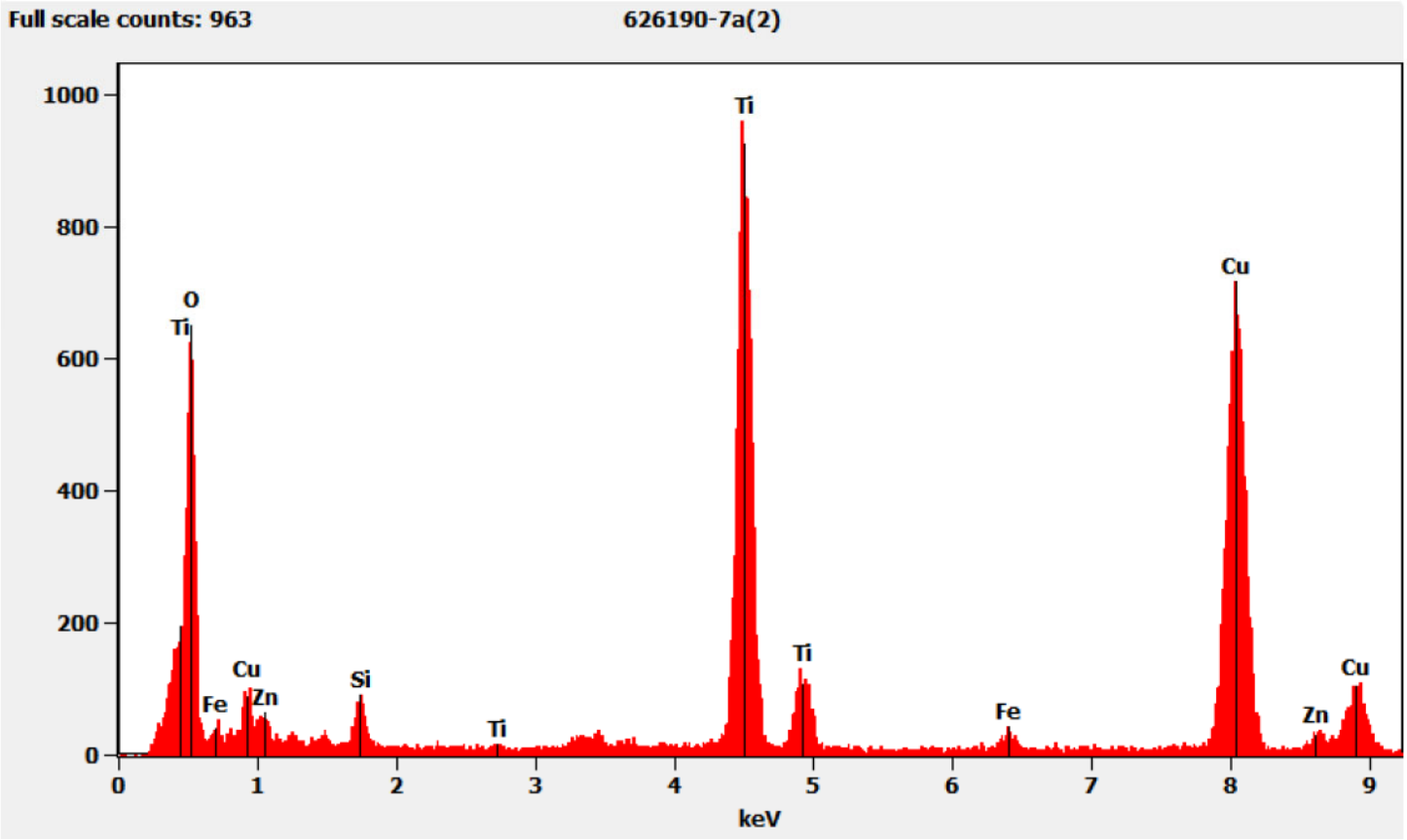
Chemistry from the Mica Particle pictured above



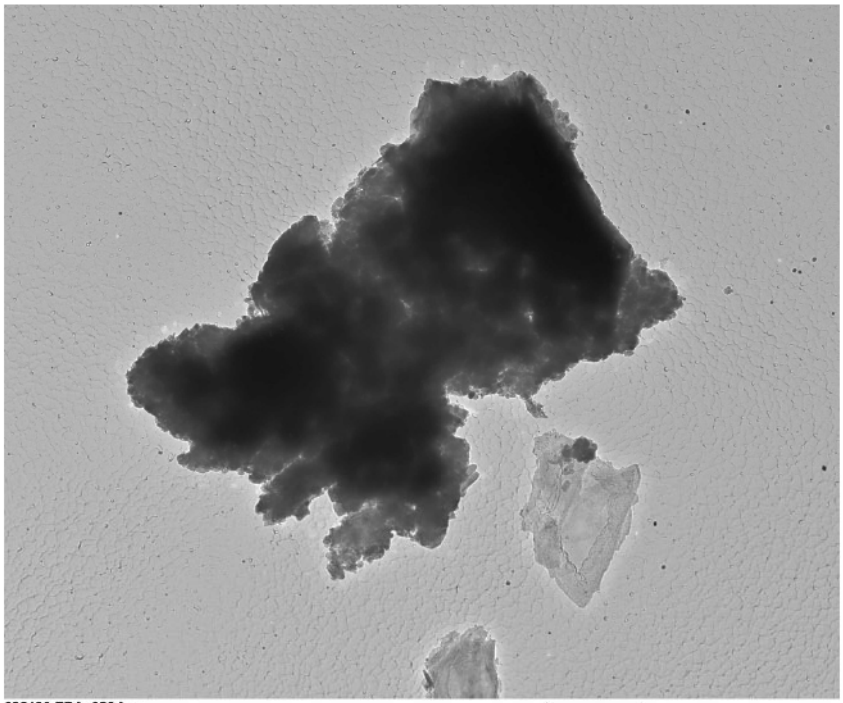
626190-7A, Titanium Particle



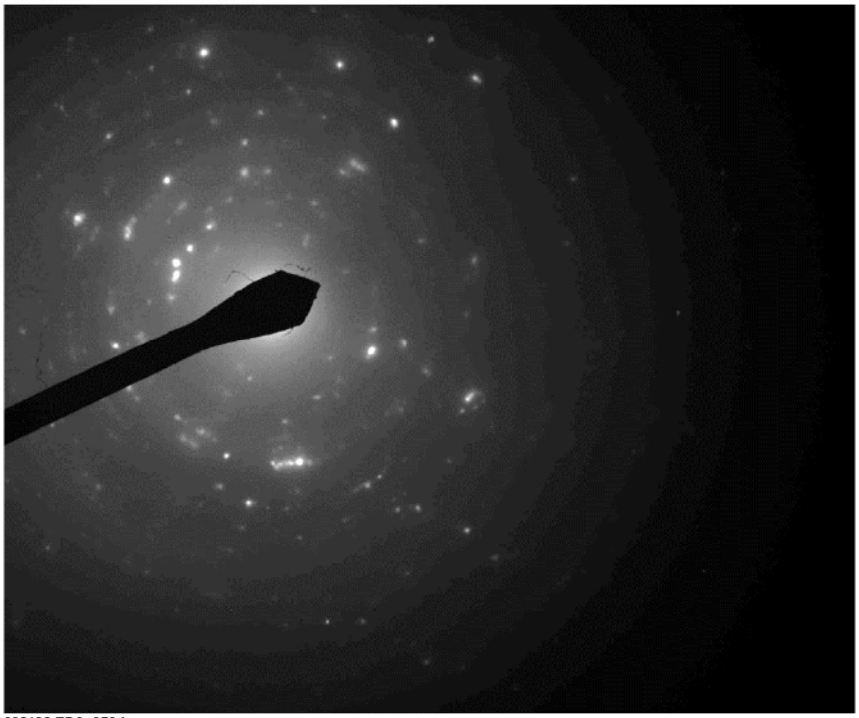
Chemistry from the Titanium Particle pictured above



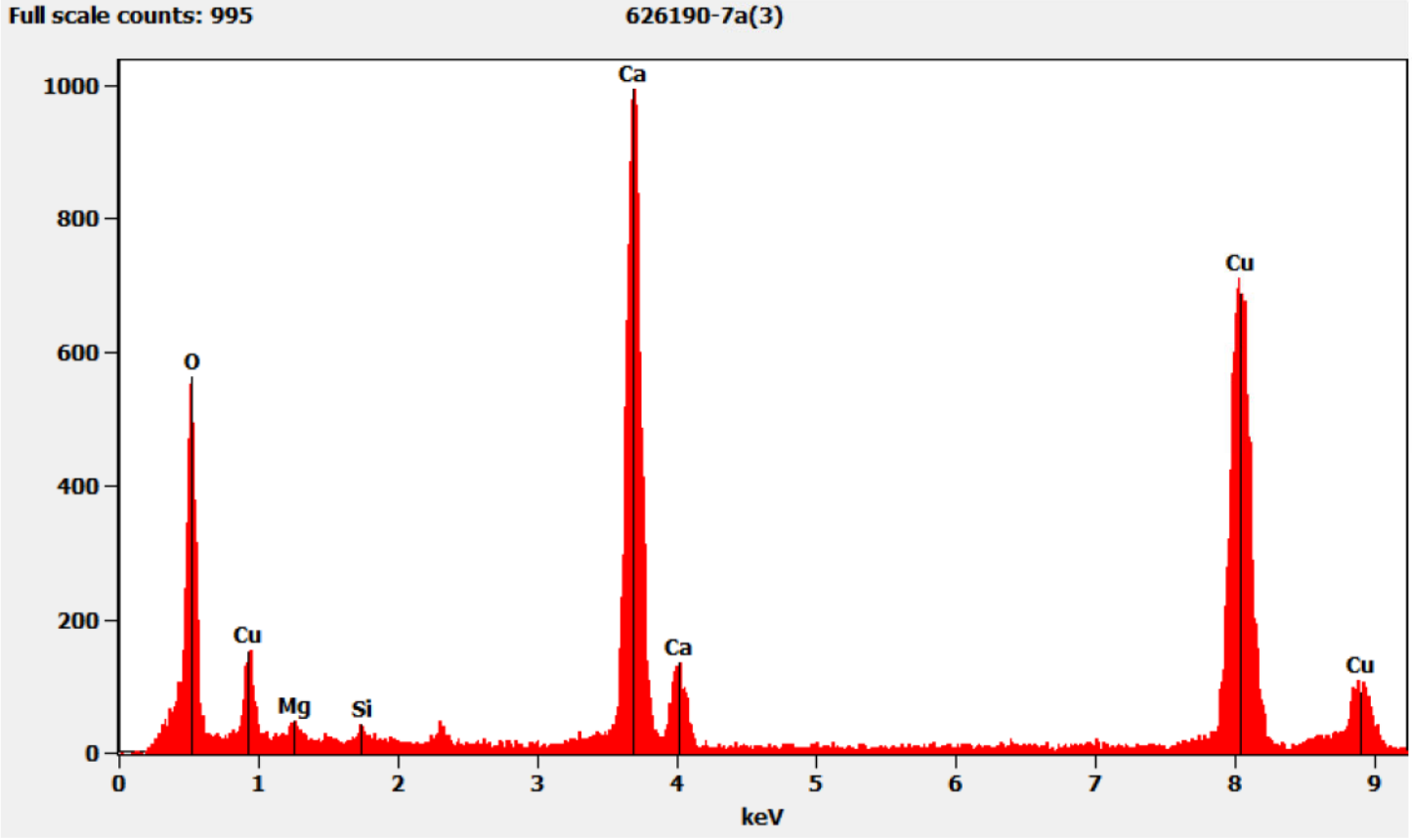
626190-7A, Calcium Particle



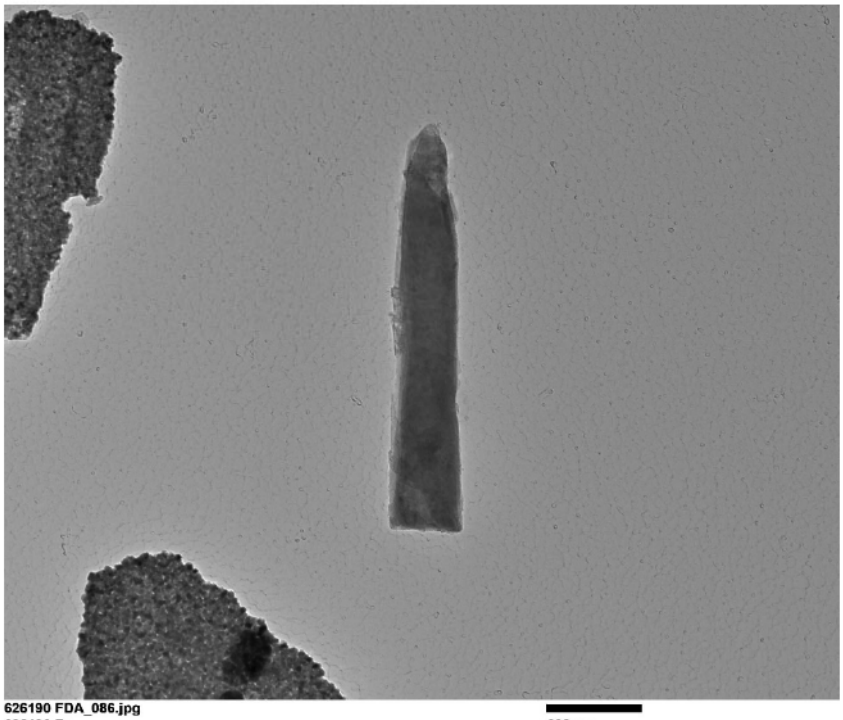
Diffraction Pattern from the Calcium Particle pictured above



Chemistry from the Calcium Particle pictured above



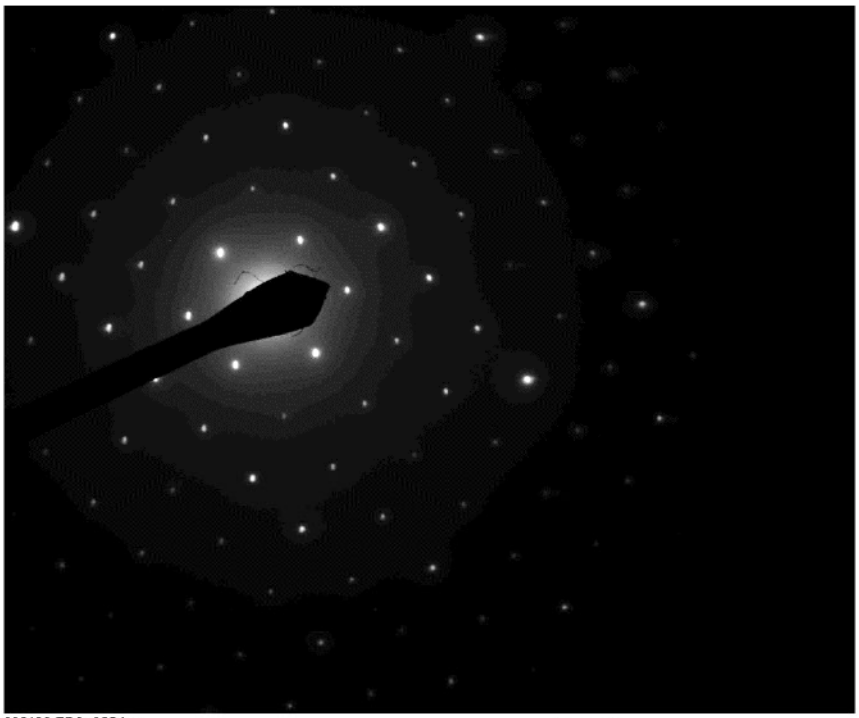
626190-7A, Talc Fiber



626190 FDA_086.jpg
626190-7a
Talc Fiber
Cal: 0.002144 µm/pix
15:41 5/19/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

600 nm
HV=100kV
Direct Mag: 4800 x
AMA Analytical Services, Inc

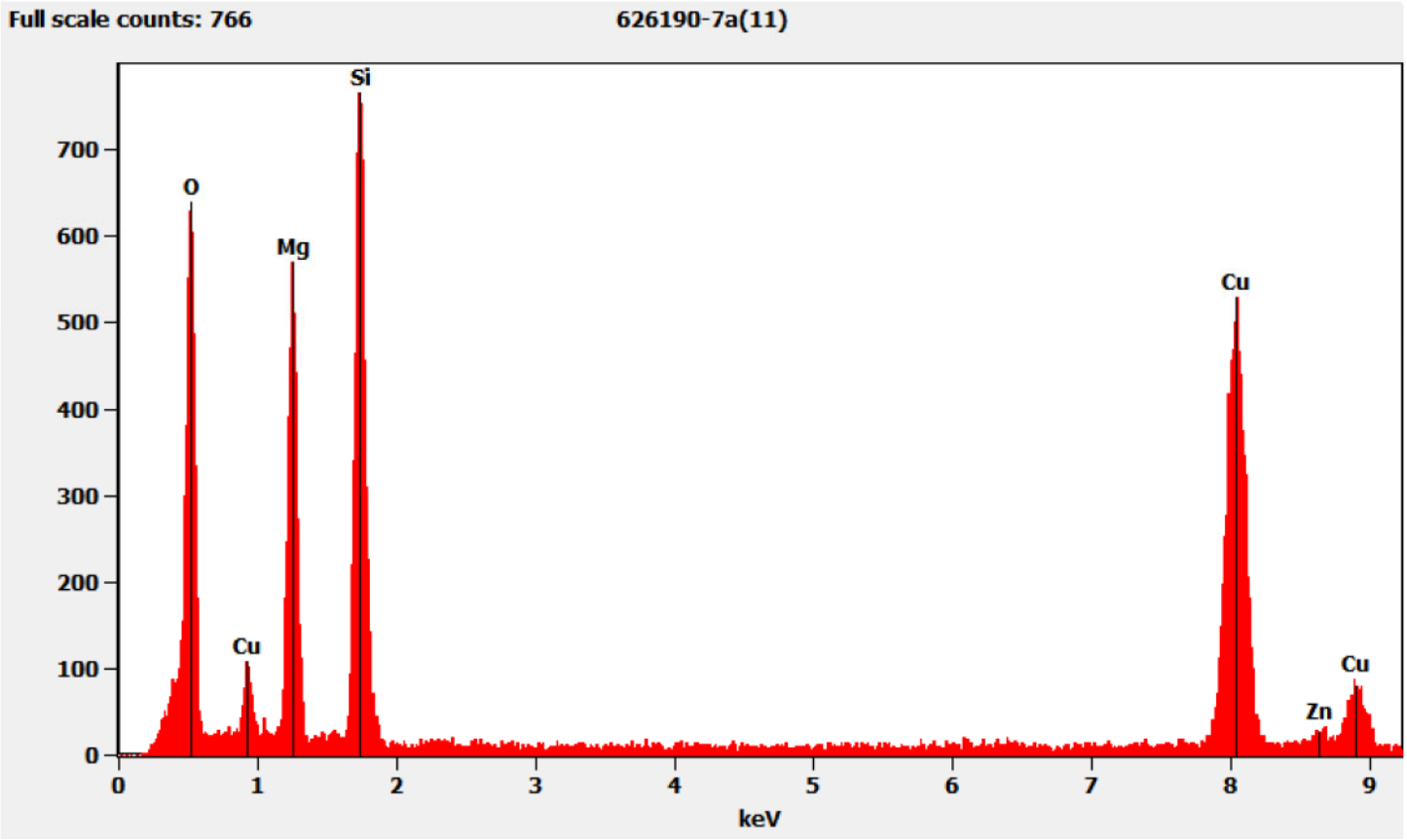
Hexagonal Diffraction Pattern from the Talc Fiber pictured above



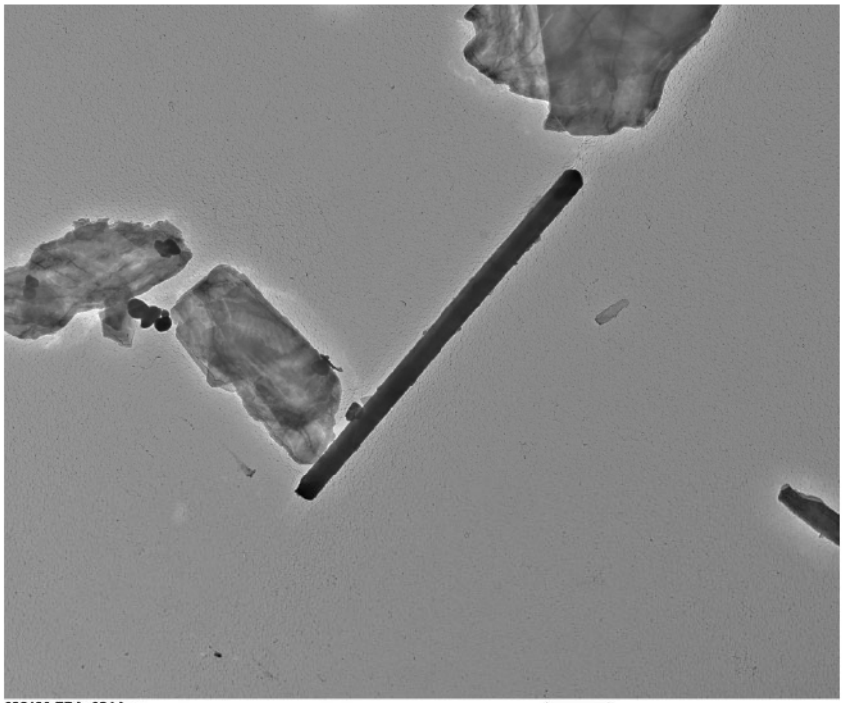
626190 FDA_085.jpg
626190-7a
Talc Fiber Dif
15:40 5/19/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Talc Fiber pictured above

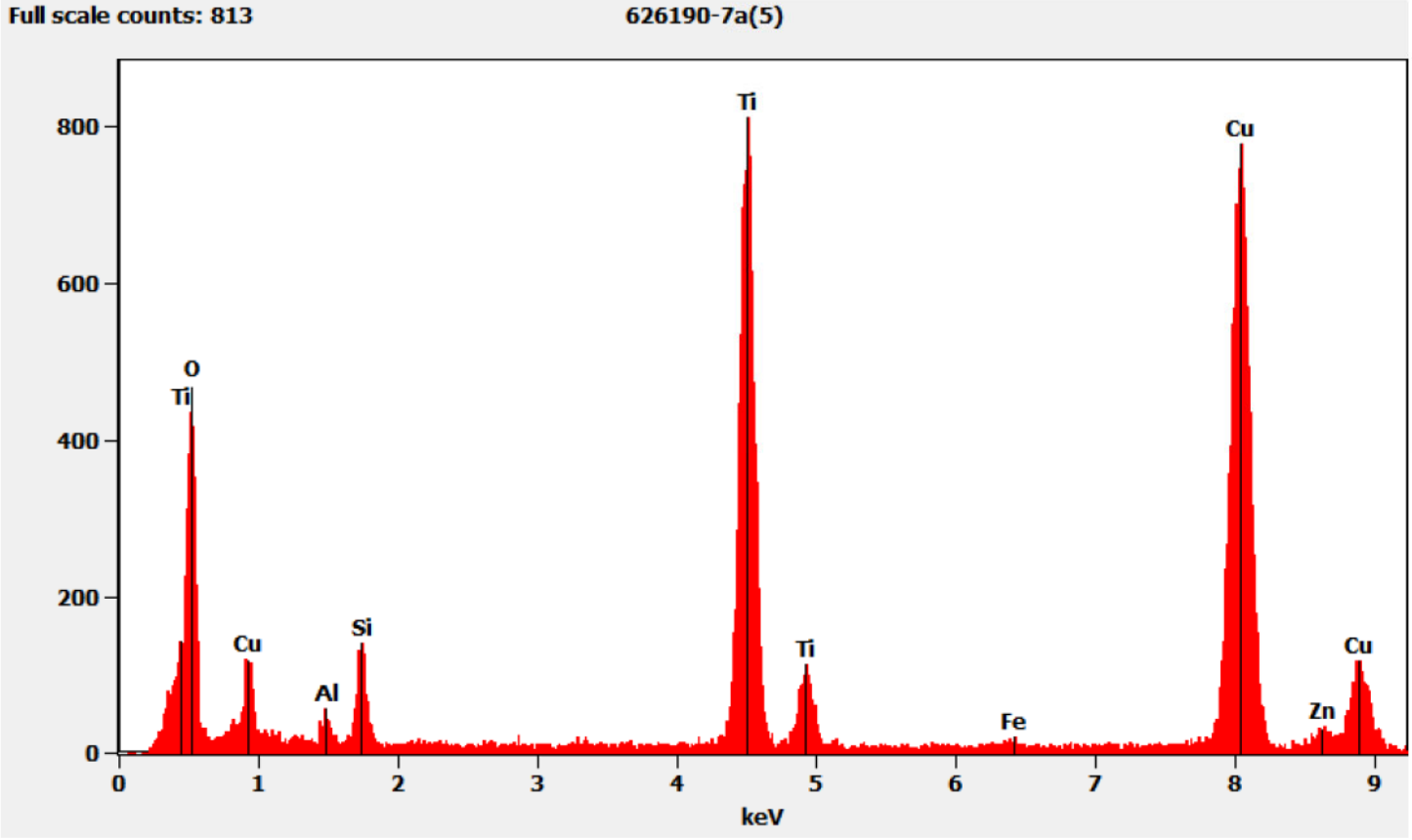


626190-7A, Titanium Fiber



Diffraction Pattern from the Titanium Fiber pictured above

Chemistry from the Titanium Fiber pictured above



626190-8A, 8B, 8C/Client Sample: 03242021-8

PLM

All three aliquots of sample 03242021-8 were analyzed by (b)(6) on May 28, 2021. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-8A	No Asbestos Detected
626190-8B	No Asbestos Detected
626190-8C	No Asbestos Detected

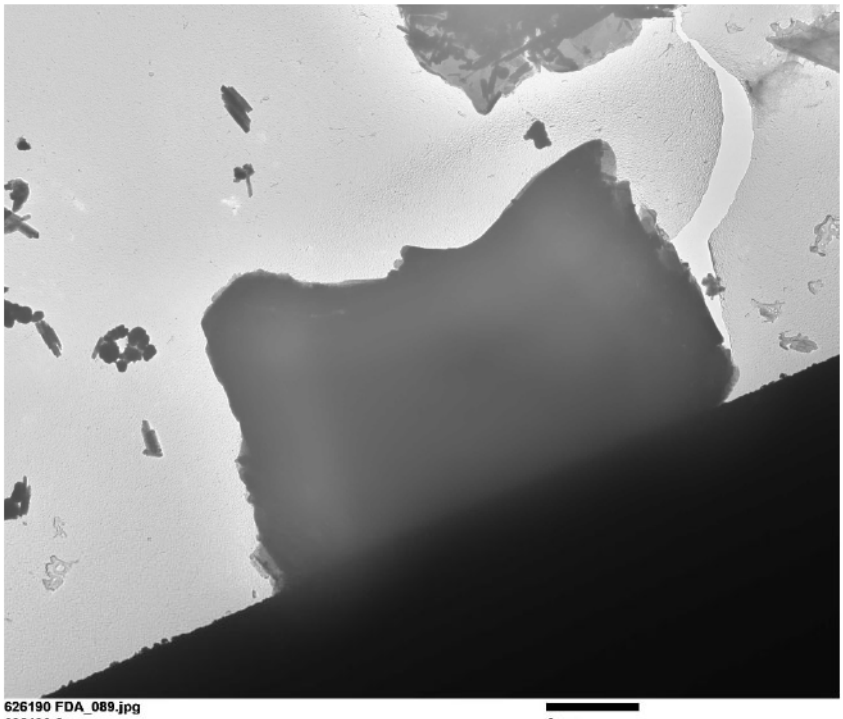
TEM

(b)(6) analyzed aliquot 8A on May 20, 2021. Andreas Saldivar analyzed aliquots 8B and 8C on May 26, 2021. The primary particles observed were talc and mica; titanium particles and iron particles/fibers were also observed along with a few silica spheres and barium sulfate particles. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-8A	No Asbestos Detected
626190-8B	No Asbestos Detected
626190-8C	No Asbestos Detected

Below are pictures, diffraction patterns, and chemistry from some of the observed particles. The copper peaks in the chemistry spectra are from the TEM grid. The unidentified (and some identified) peaks in chemistry spectra are zinc and carbon from the TEM specimen holder.

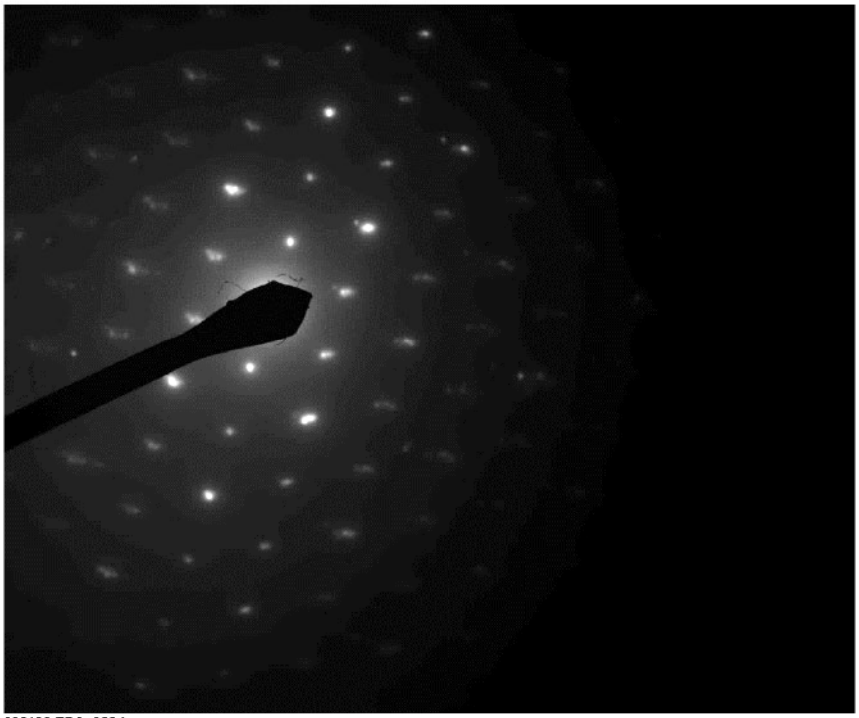
626190-8A, Talc Particle



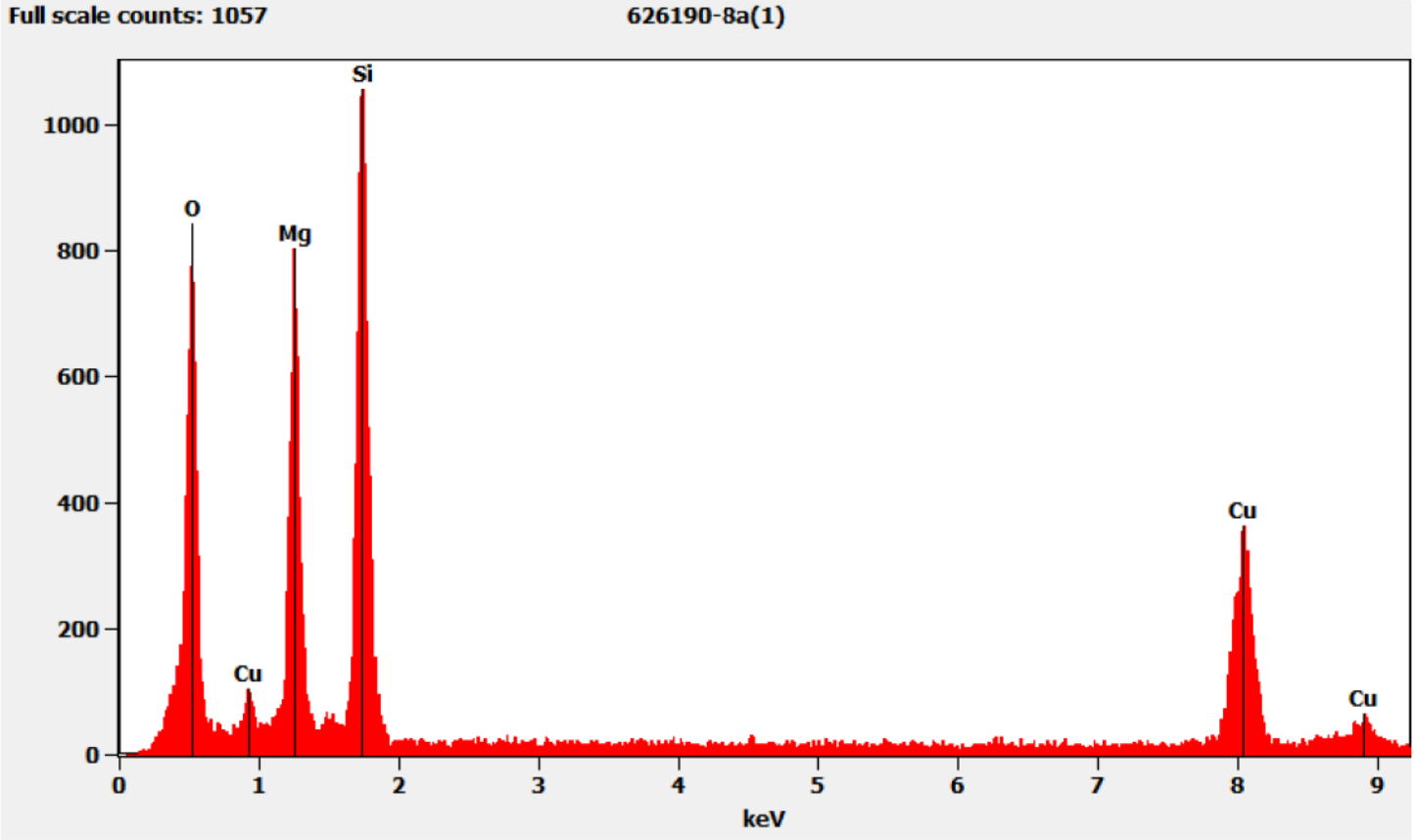
626190 FDA_089.jpg
626190-8a
Talc Particle
Cal: 0.007349 µm/pix
14:16 5/20/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

2 µm
HV=100kV
Direct Mag: 1400 x
AMA Analytical Services, Inc

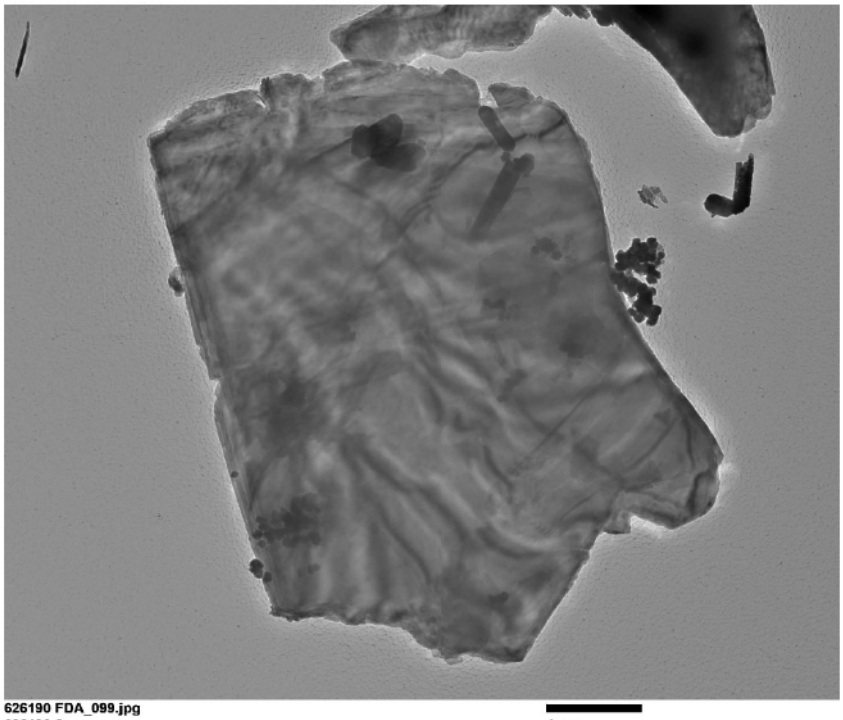
Hexagonal Diffraction Pattern from the Talc Particle pictured above



Chemistry from the Talc Particle pictured above



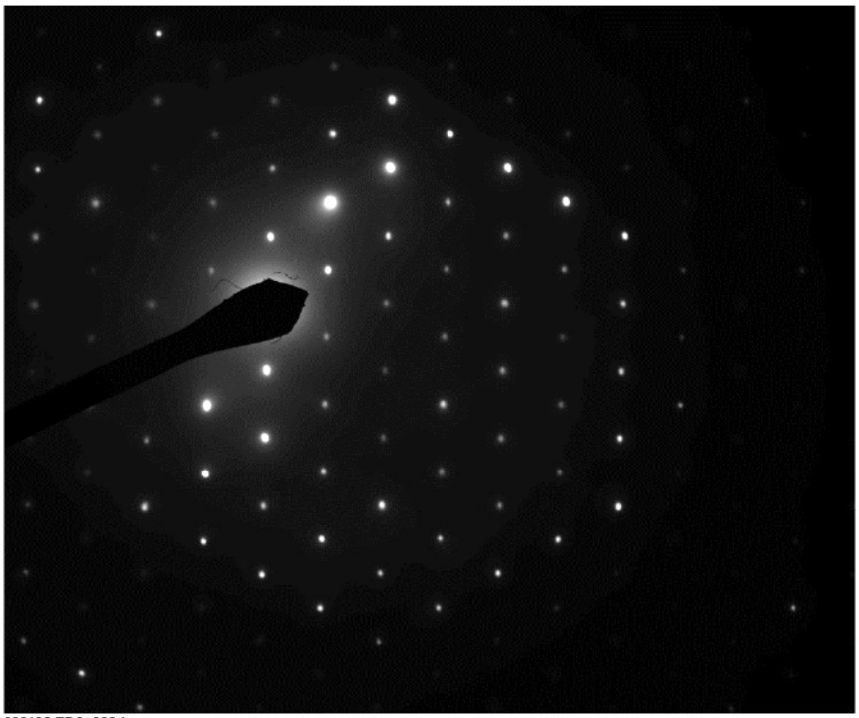
626190-8A, Mica Particle with Iron Particles



626190 FDA_099.jpg
626190-8a
Mica with Fe
Cal: 0.003548 µm/pix
14:42 5/20/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

1 µm
HV=100kV
Direct Mag: 2900 x
AMA Analytical Services, Inc

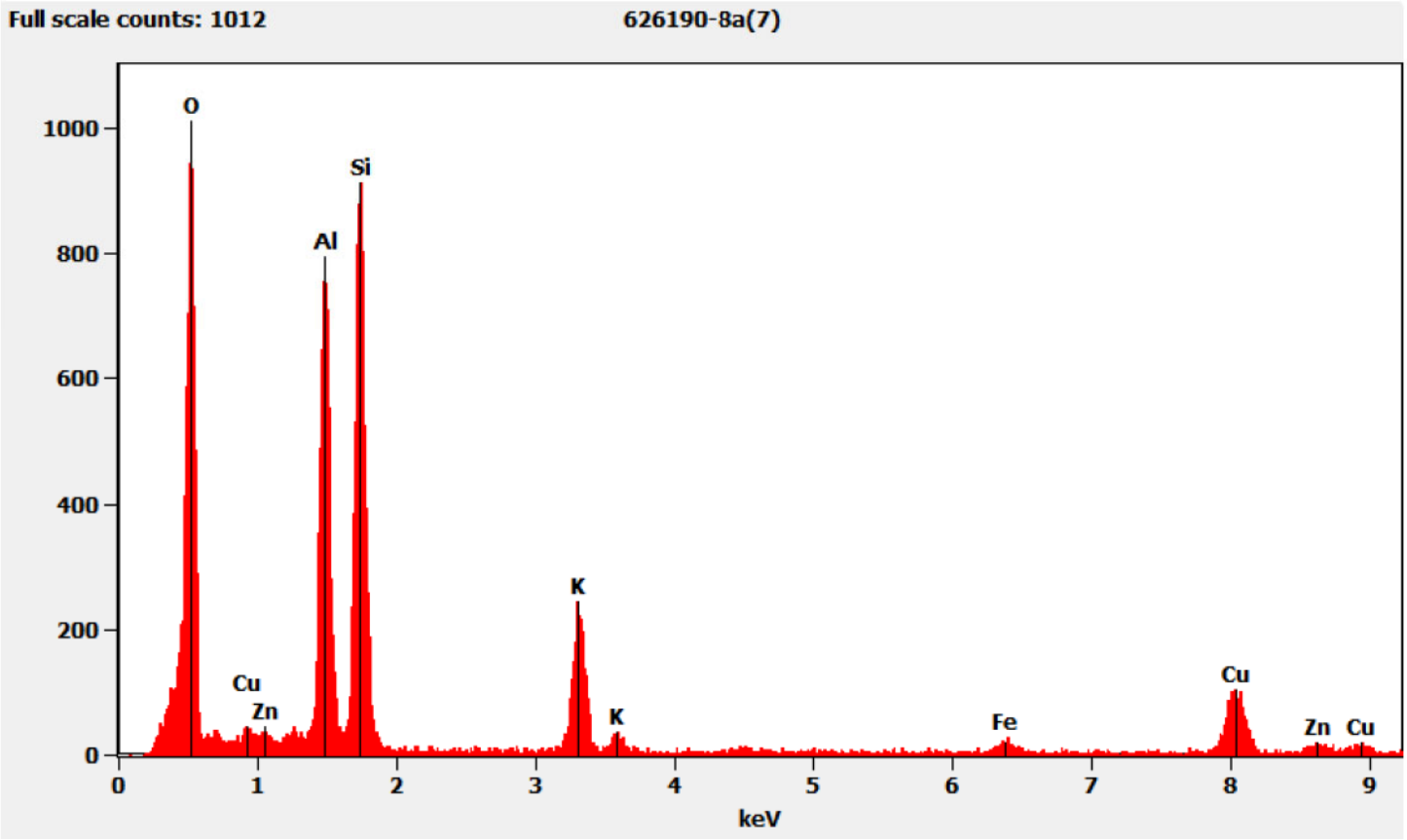
Hexagonal Diffraction Pattern from the Mica Particle with Iron Particles pictured above



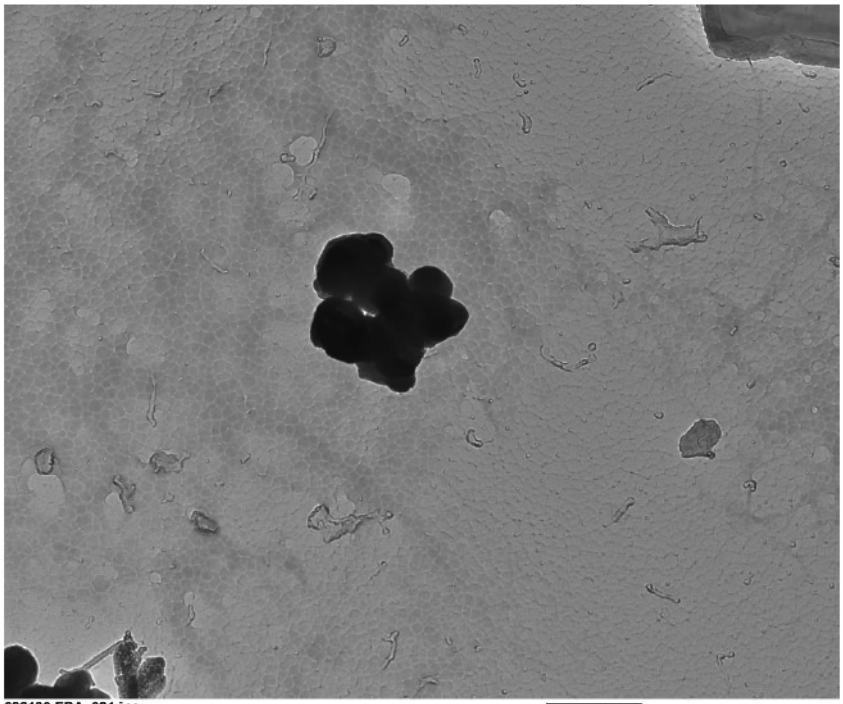
626190 FDA_098.jpg
626190-8a
Mica with Fe Dif
14:41 5/20/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

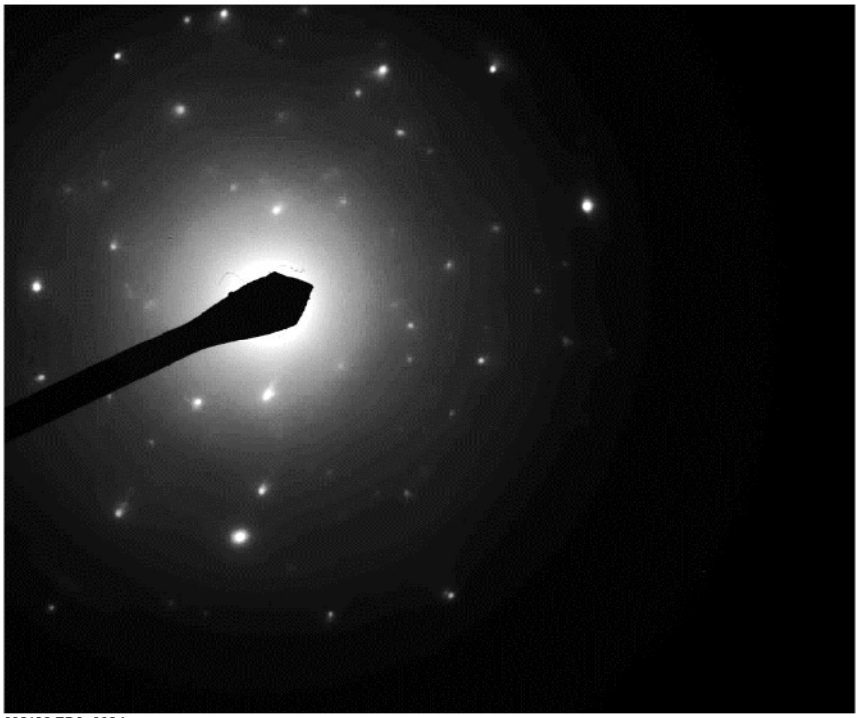
Chemistry from the Mica Particle with Iron Particles pictured above



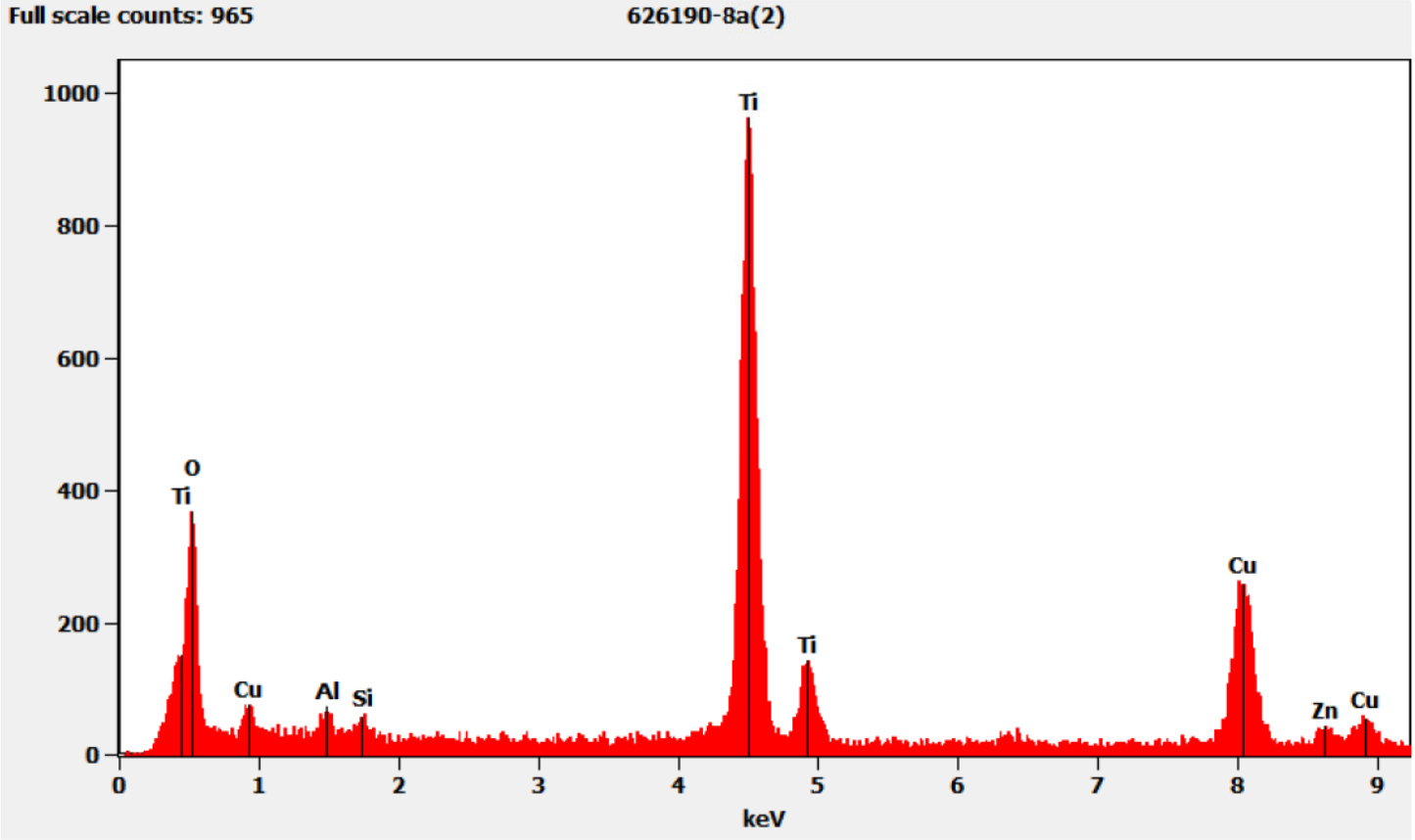
626190-8A, Titanium Particles



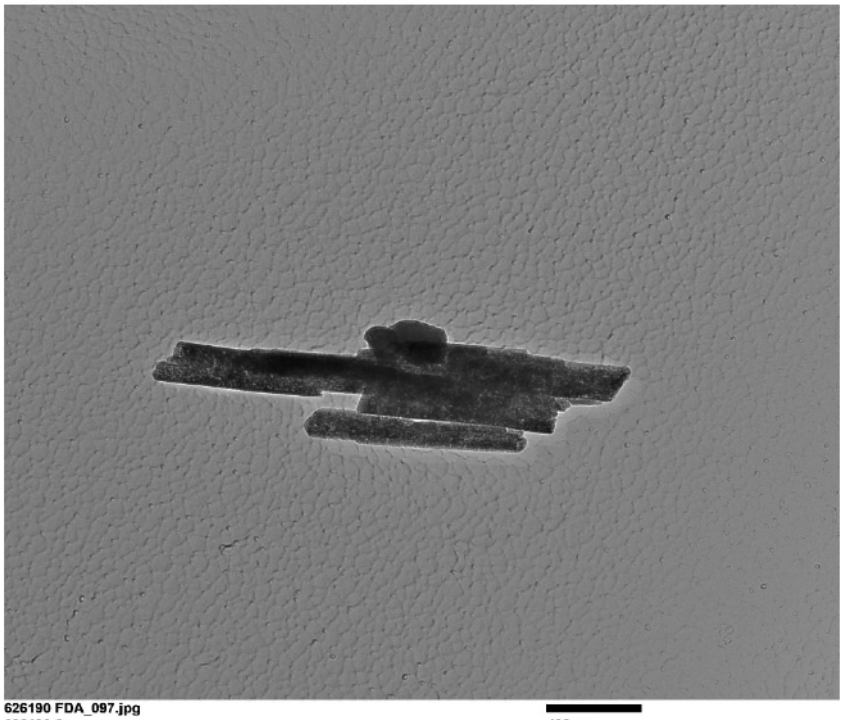
Diffraction Pattern from Titanium Particles pictured above



Chemistry from the Titanium Particles pictured above



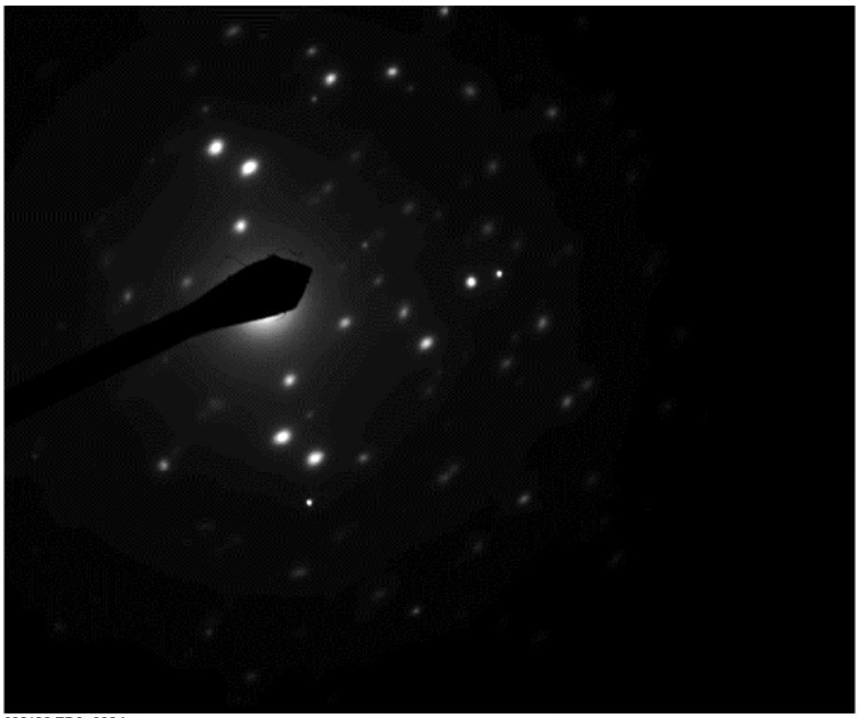
626190-8A, Iron Particles/Fibers



626190 FDA_097.jpg
626190-8a
Fe Particles/Fibers
Cal: 0.001429 µm/pix
14:35 5/20/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

400 nm
HV=100kV
Direct Mag: 7200 x
AMA Analytical Services, Inc

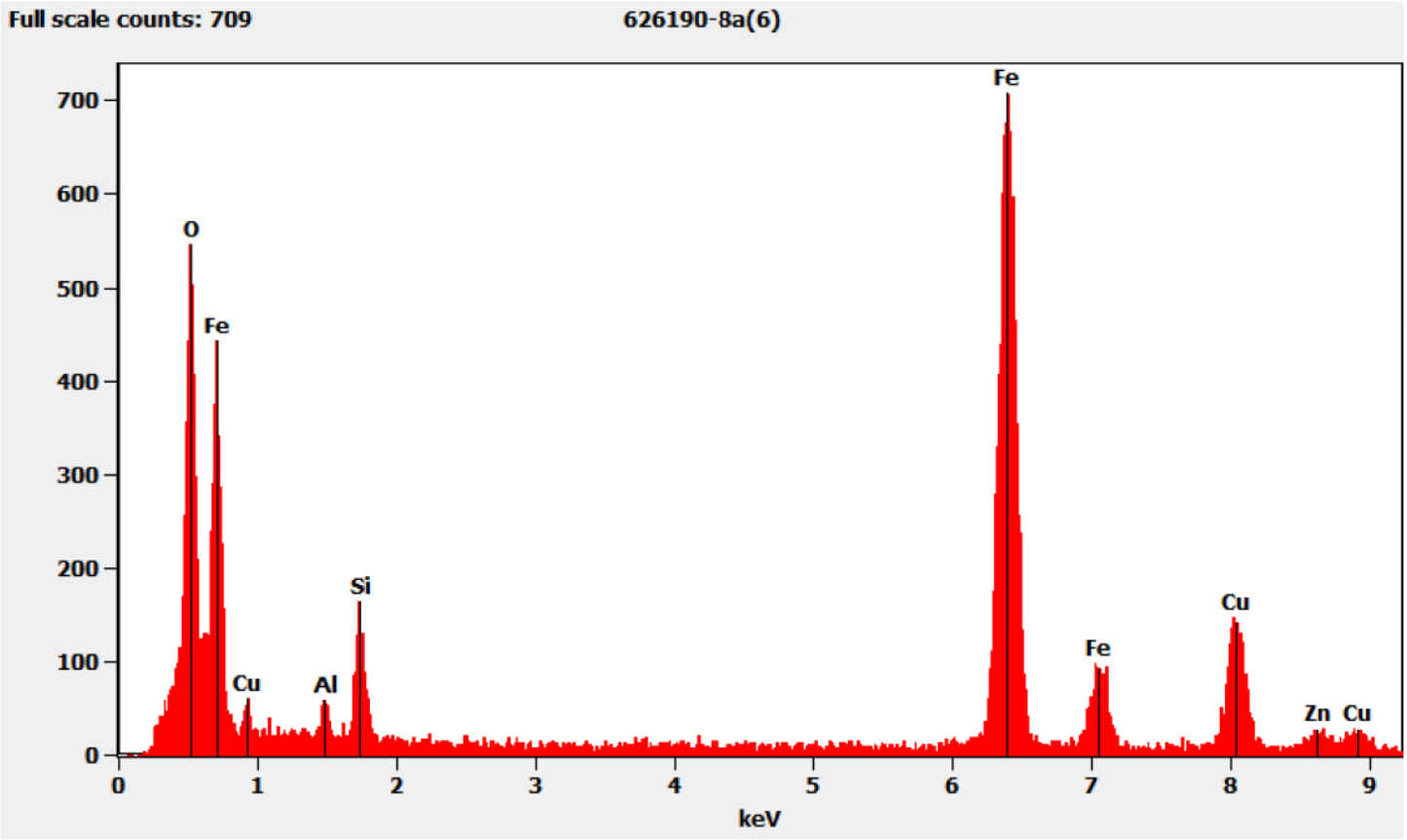
Diffraction Pattern from the Iron Particles/Fibers pictured above



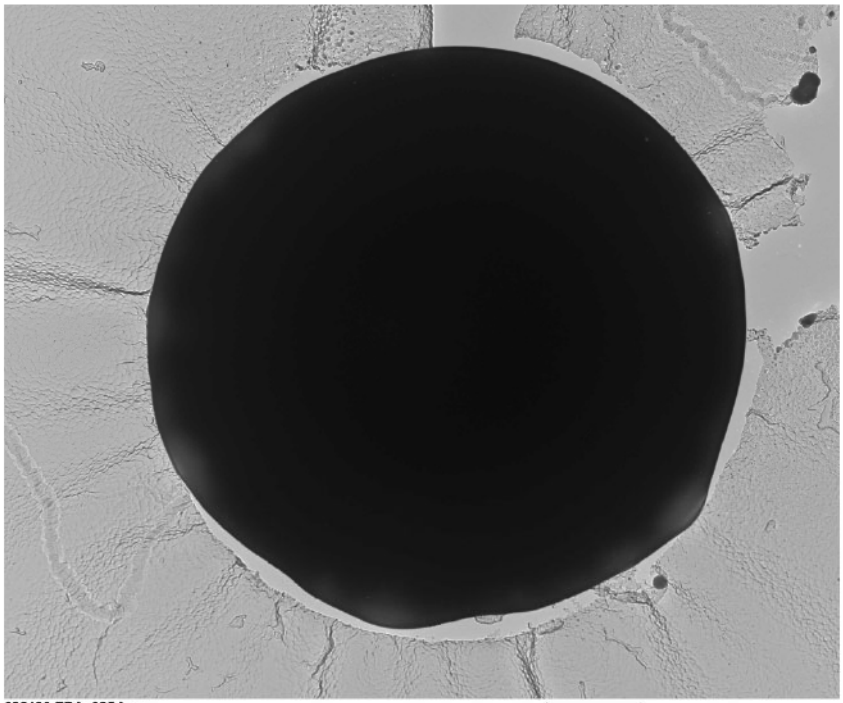
626190 FDA_096.jpg
626190-8a
Fe Particles/Fibers
14:34 5/20/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

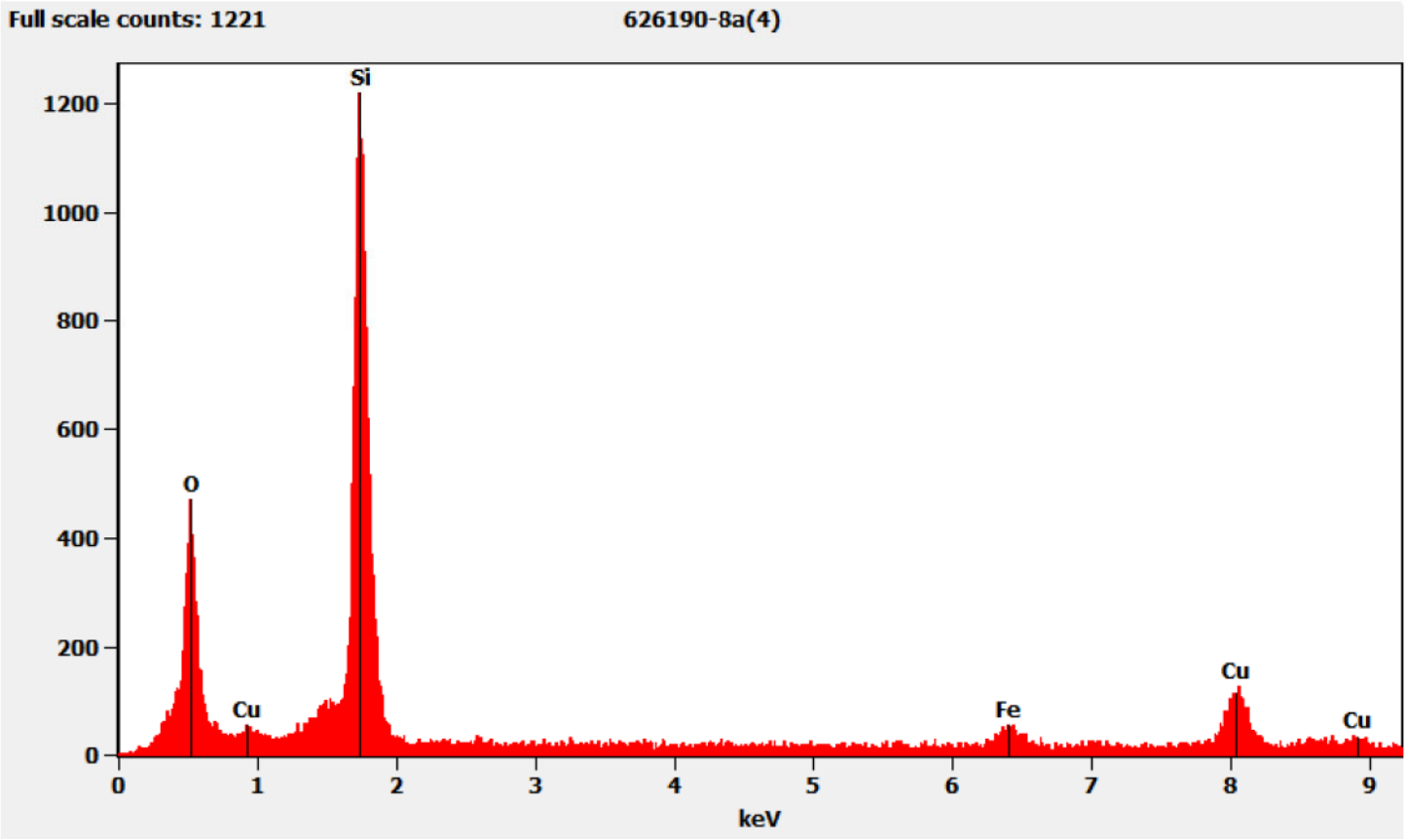
Chemistry from the Iron Particles/Fibers pictured above



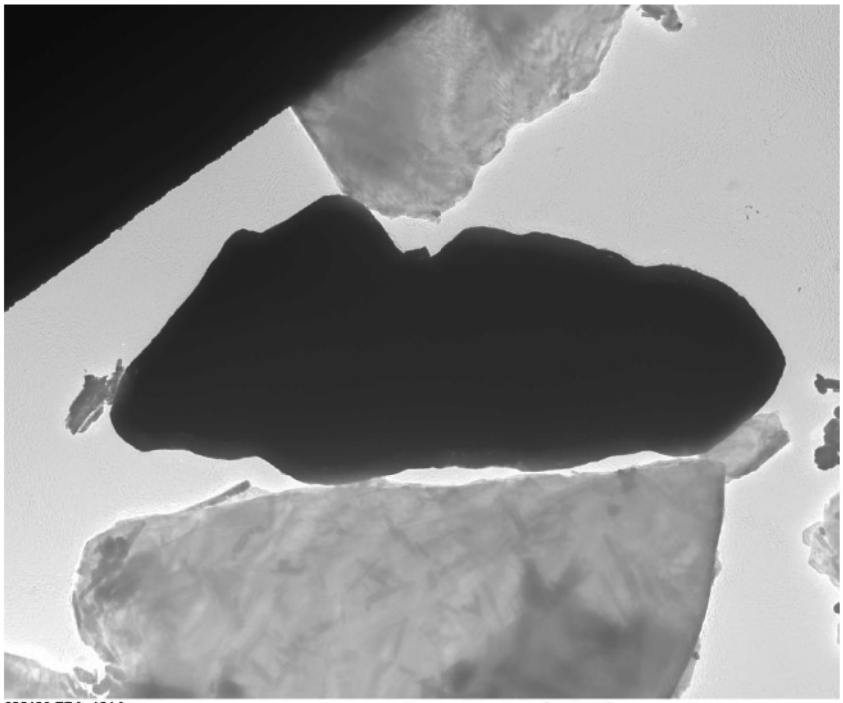
626190-8A, Silica Sphere



Chemistry from the Silica Sphere pictured above



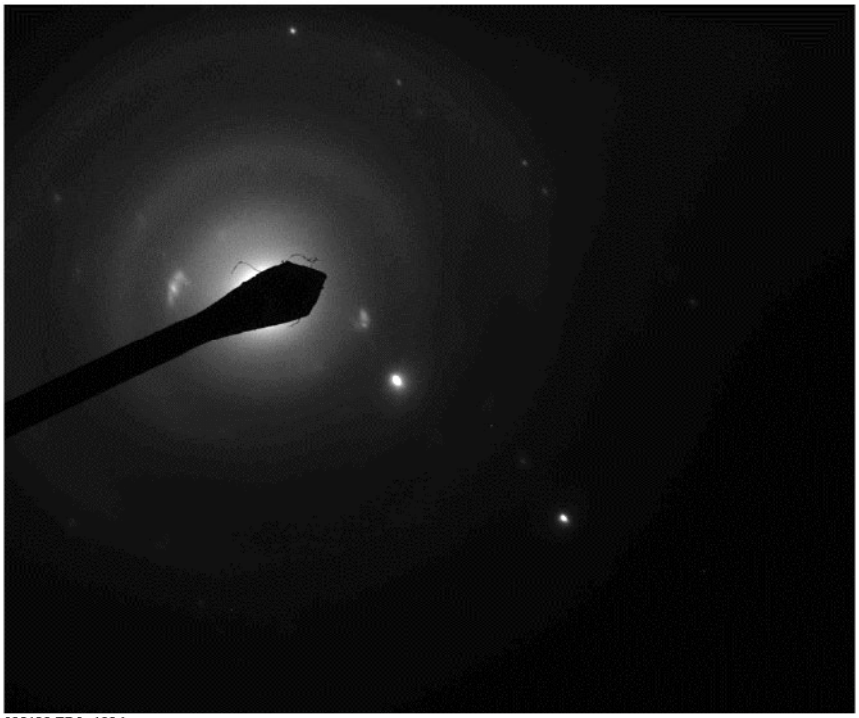
626190-8A, Barium Sulfate Particle



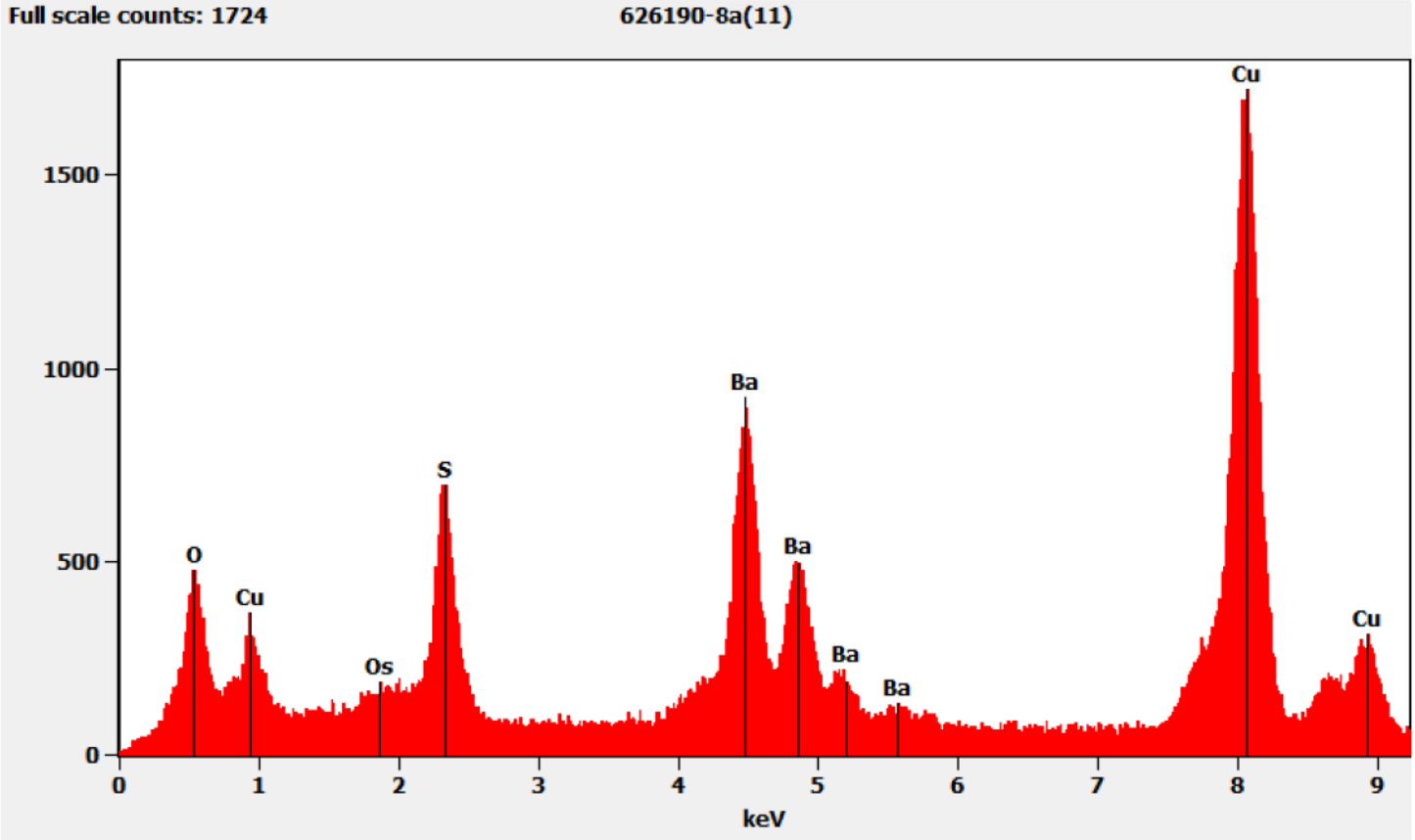
626190 FDA_101.jpg
626190-8a
Barium Sulfite
Cal: 0.005415 µm/pix
15:24 5/20/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

1 µm
HV=100kV
Direct Mag: 1900 x
AMA Analytical Services, Inc

Diffraction Pattern from the Barium Sulfate Particle pictured above



Chemistry from the Barium Sulfate pictured above



626190-9A, 9B, 9C/Client Sample: 03242021-9

PLM

All three aliquots of sample 03242021-9 were analyzed by (b)(6) on May 28, 2021. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-9A	No Asbestos Detected
626190-9B	No Asbestos Detected
626190-9C	No Asbestos Detected

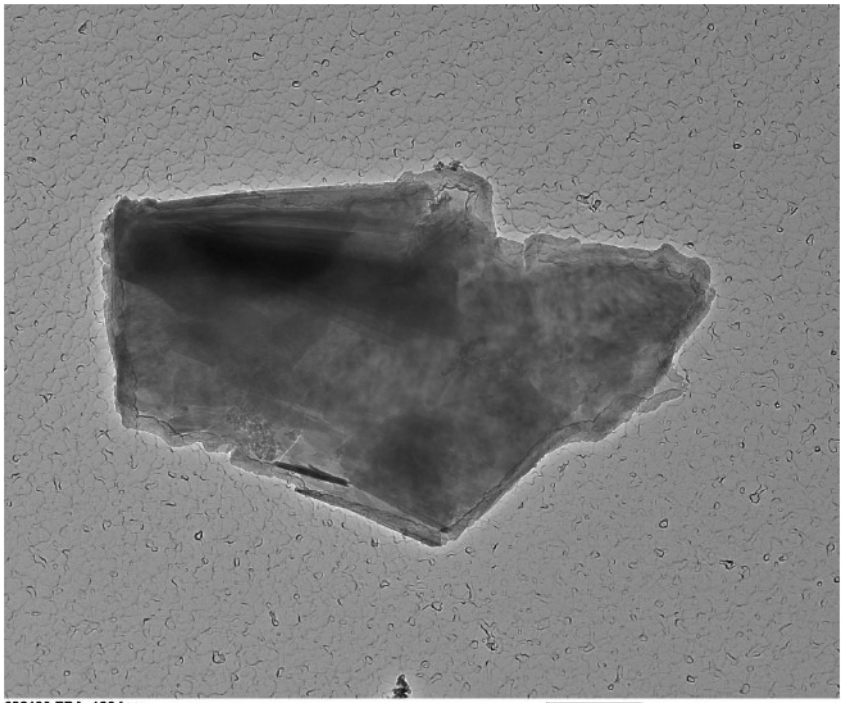
TEM

(b)(6) analyzed aliquot 9A on May 21, 2021. Andreas Saldivar analyzed aliquots 9B and 9C on May 26, 2021. The primary particle observed was talc; silica particles were also observed along with a few calcium particles, talc fibers/ribbons and particles containing magnesium, aluminum, and silicon. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-9A	No Asbestos Detected
626190-9B	No Asbestos Detected
626190-9C	No Asbestos Detected

Below are pictures, diffraction patterns, and chemistry from some of the observed particles. The copper peaks in the chemistry spectra are from the TEM grid. The unidentified (and some identified) peaks in chemistry spectra are zinc and carbon from the TEM specimen holder.

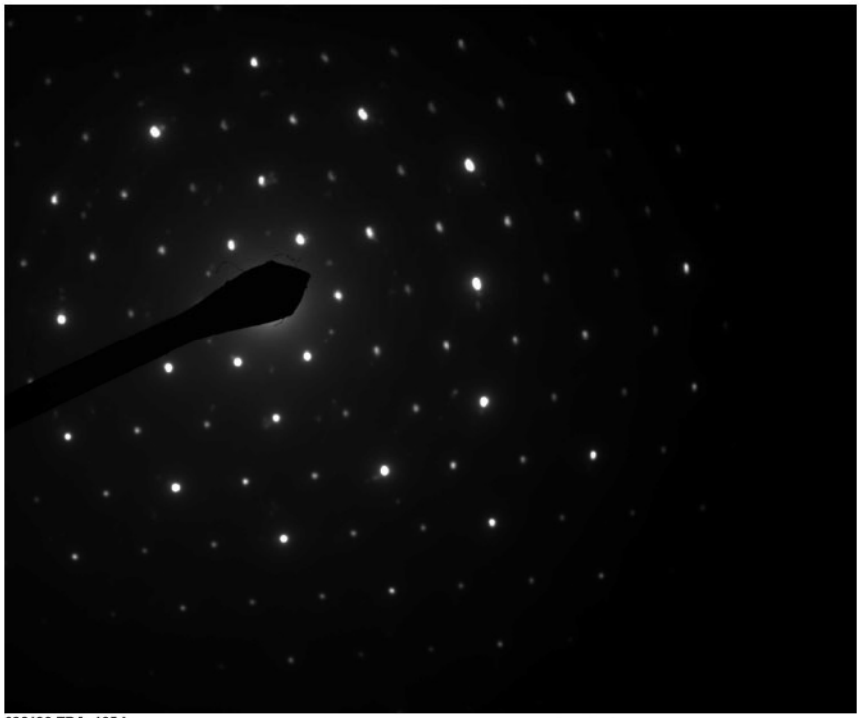
626190-9A, Talc Particle



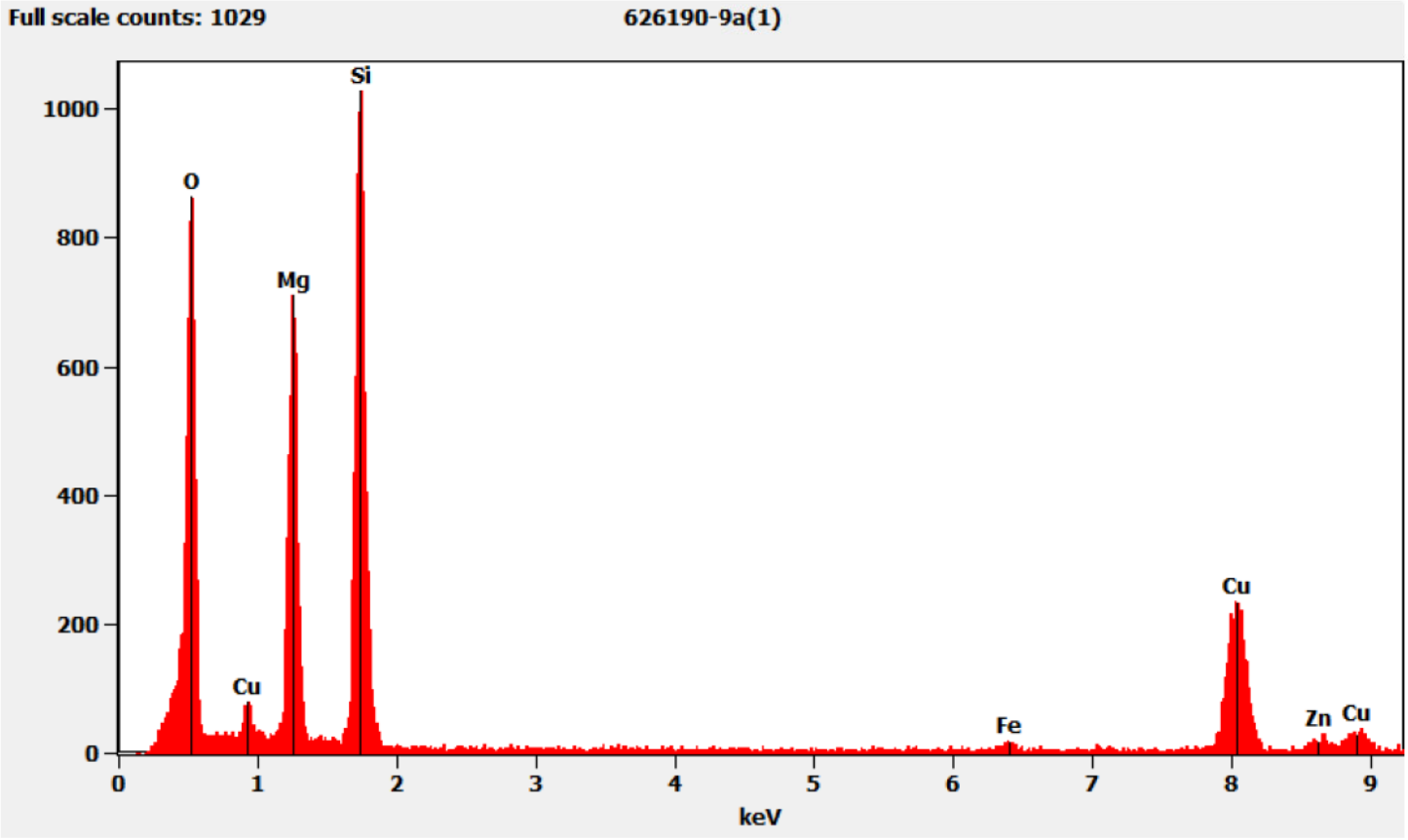
626190 FDA_106.jpg
626190-9a
Talc Particle
Cal: 0.002144 µm/pix
13:12 5/21/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

600 nm
HV=100kV
Direct Mag: 4800 x
AMA Analytical Services, Inc

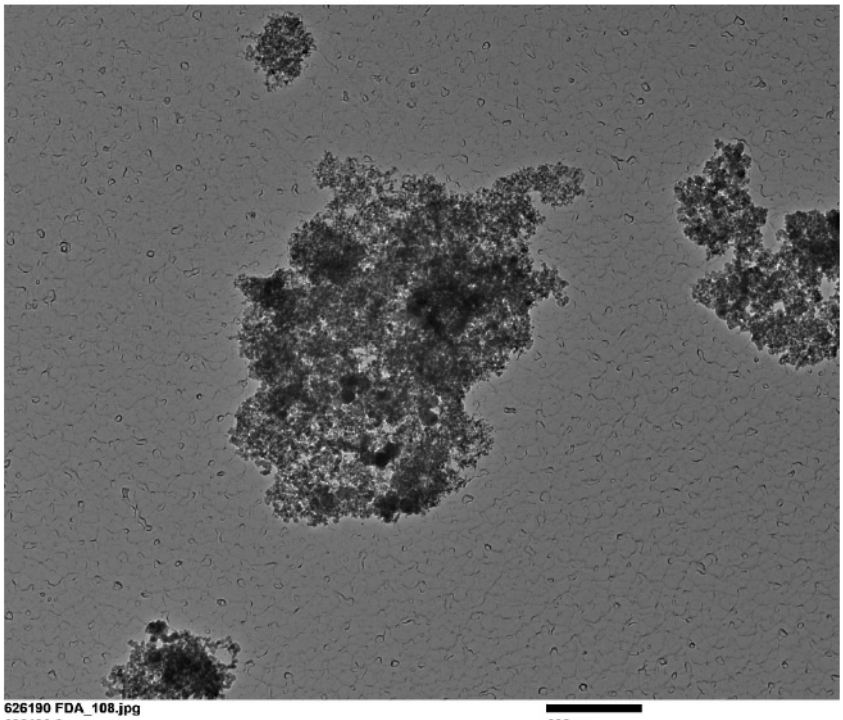
Hexagonal Diffraction Pattern from the Talc Particle pictured above



Chemistry from the Talc Particle pictured above



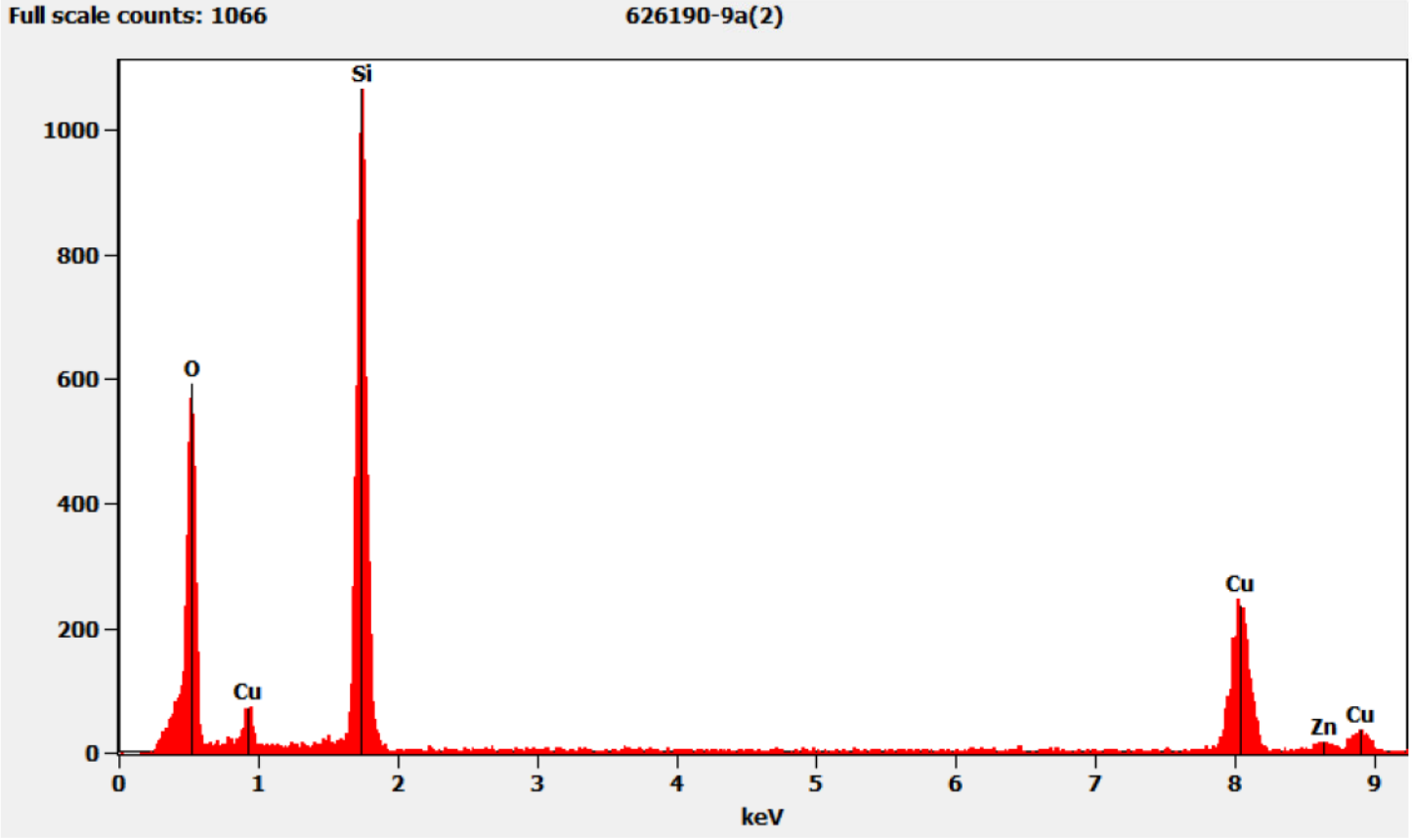
626190-9A, Silica Particles



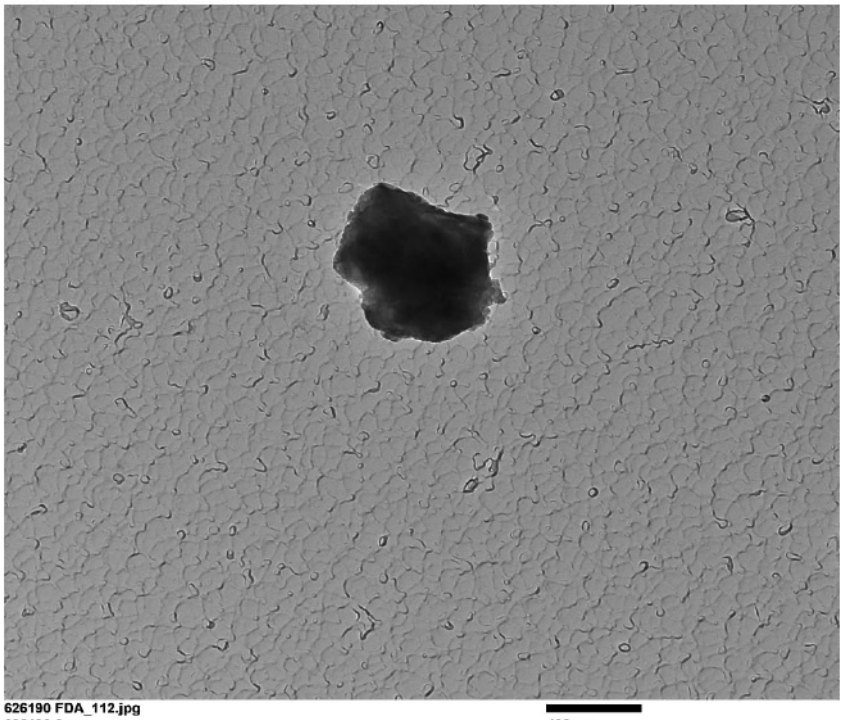
626190 FDA_108.jpg
626190-9a
Silica Particle
Cal: 0.002144 µm/pix
13:18 5/21/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

600 nm
HV=100kV
Direct Mag: 4800 x
AMA Analytical Services, Inc

Chemistry from the Silica Particles pictured above



626190-9A, Calcium Particle



626190 FDA_112.jpg
626190-9a
Calcium Particle
Cal: 0.001429 µm/pix
13:39 5/21/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

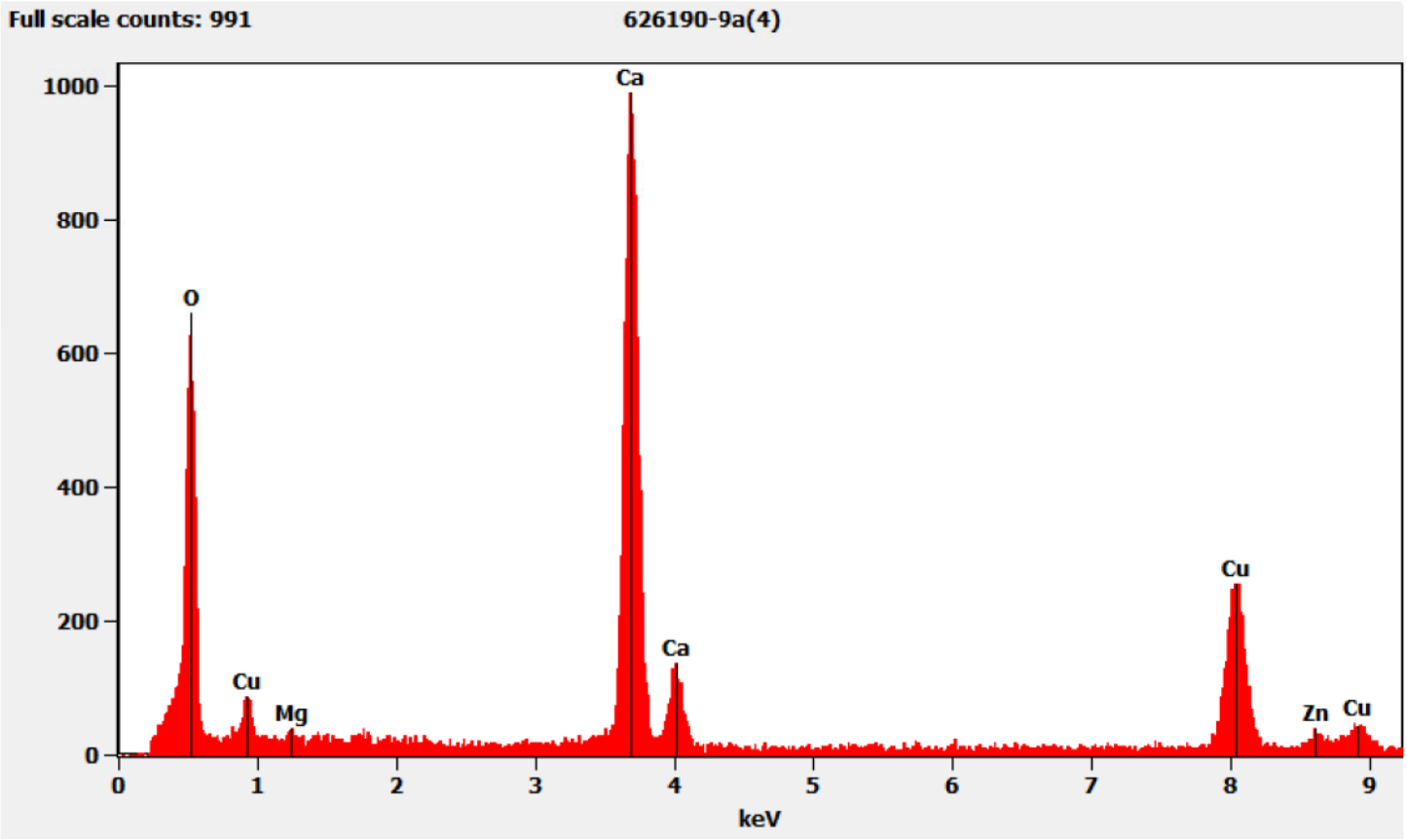
400 nm
HV=100kV
Direct Mag: 7200 x
AMA Analytical Services, Inc

Diffraction Pattern from Calcium Particle pictured above

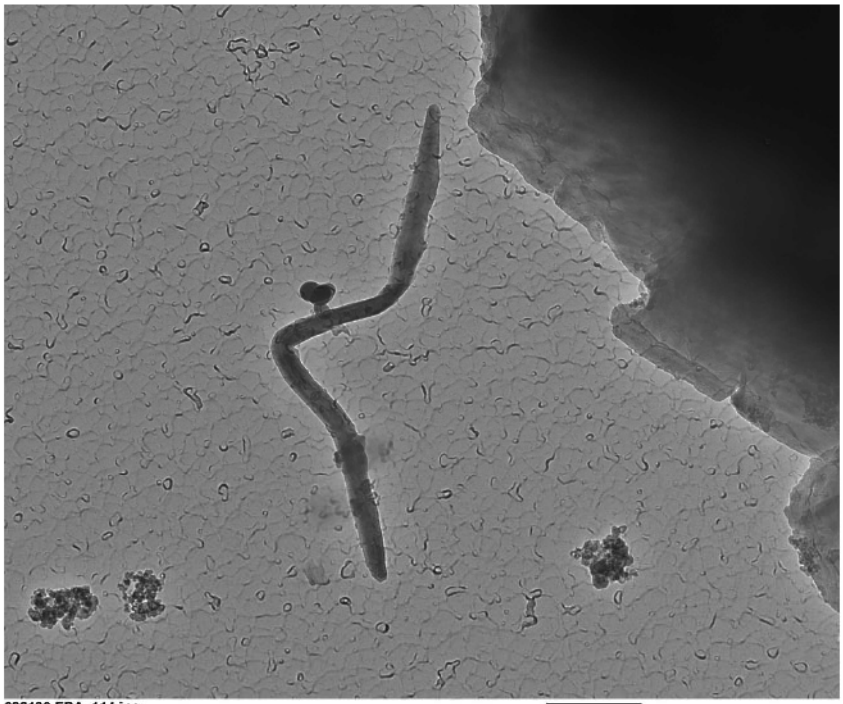
626190 FDA_111.jpg
626190-9a
Calcium Particle Dif
13:37 5/21/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

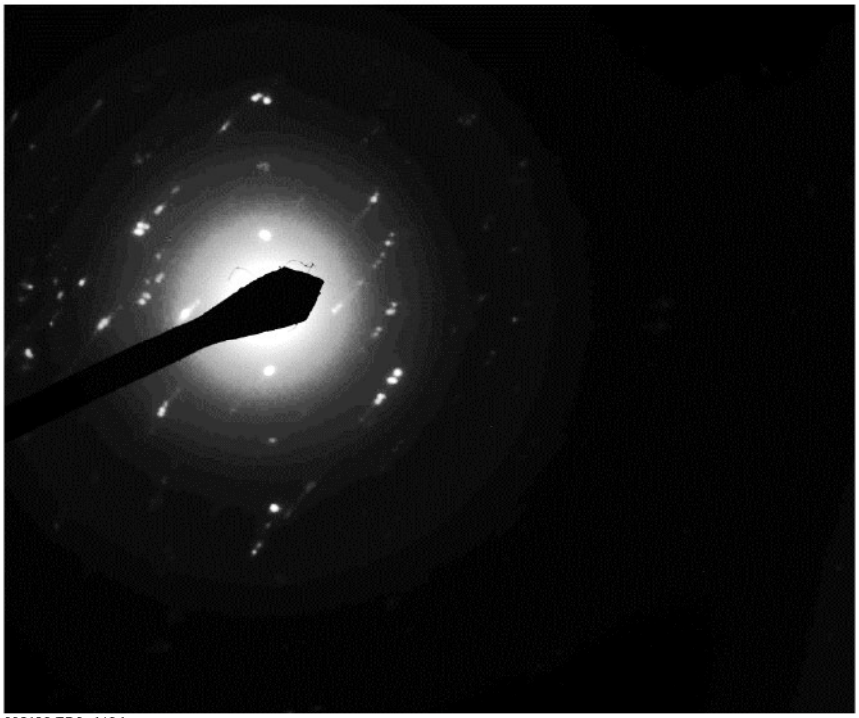
Chemistry from the Calcium Particle pictured above



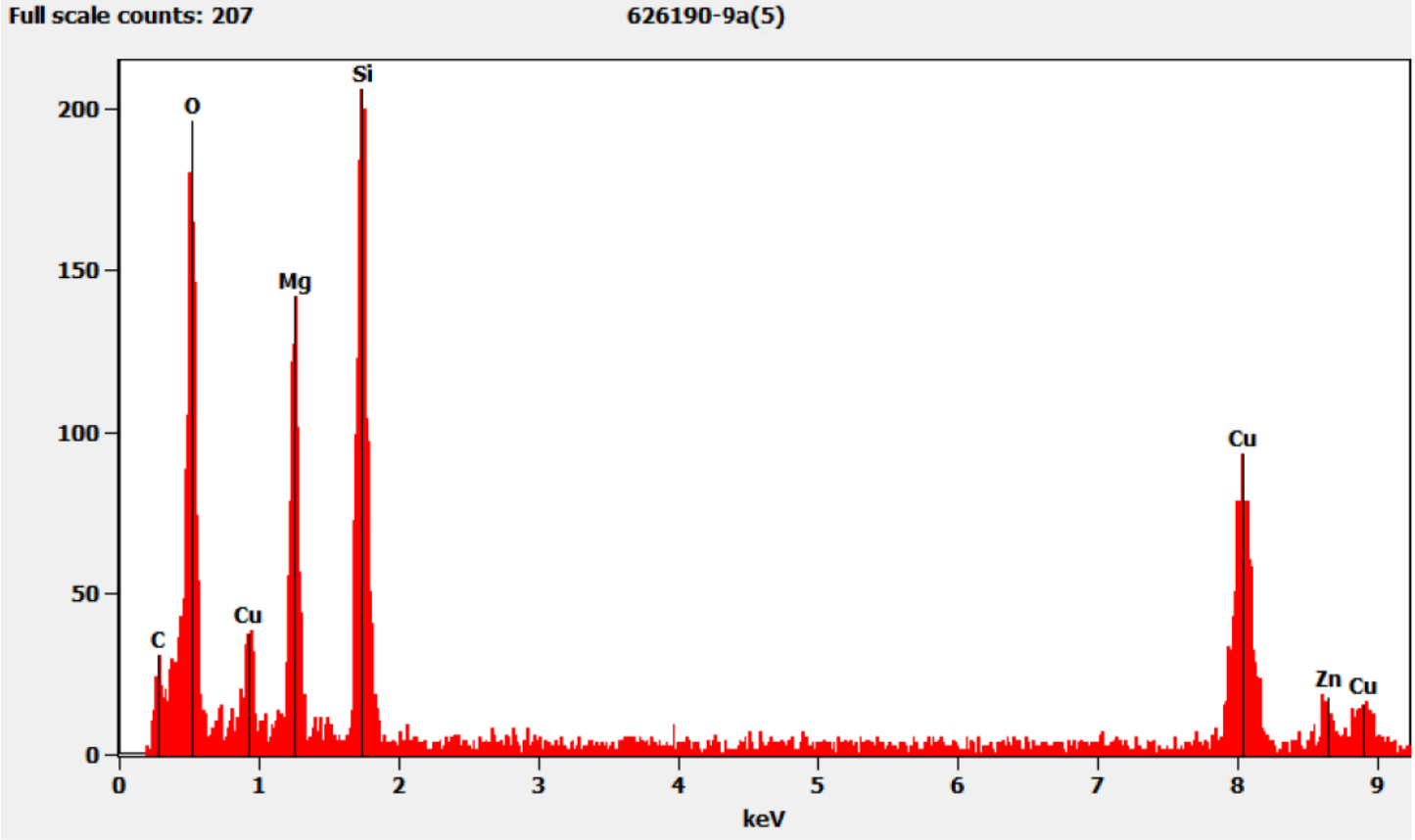
626190-9A, Talc Ribbon



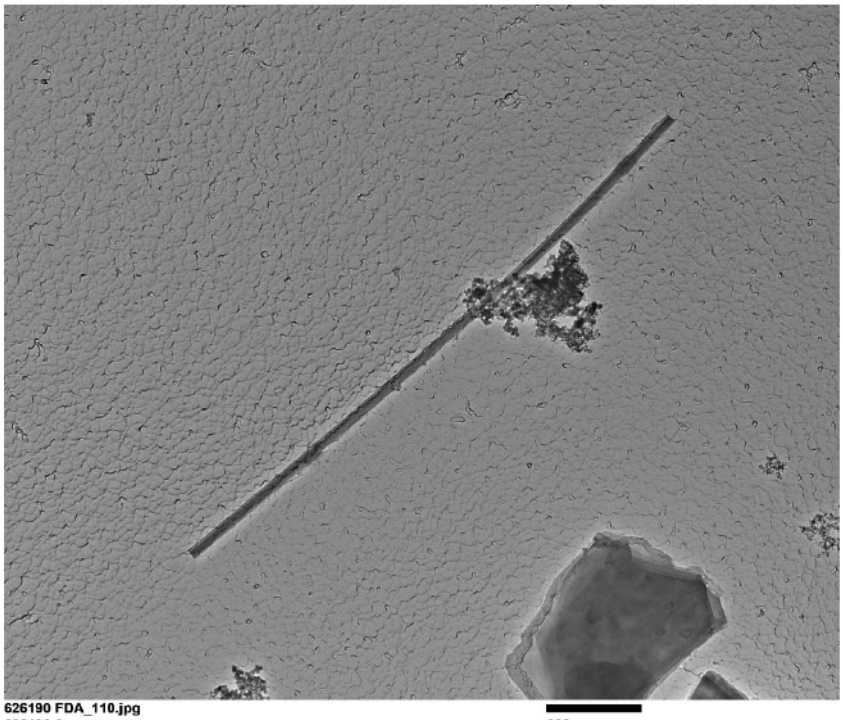
Diffraction Pattern from the Talc Ribbon pictured above



Chemistry from the Talc Ribbon pictured above



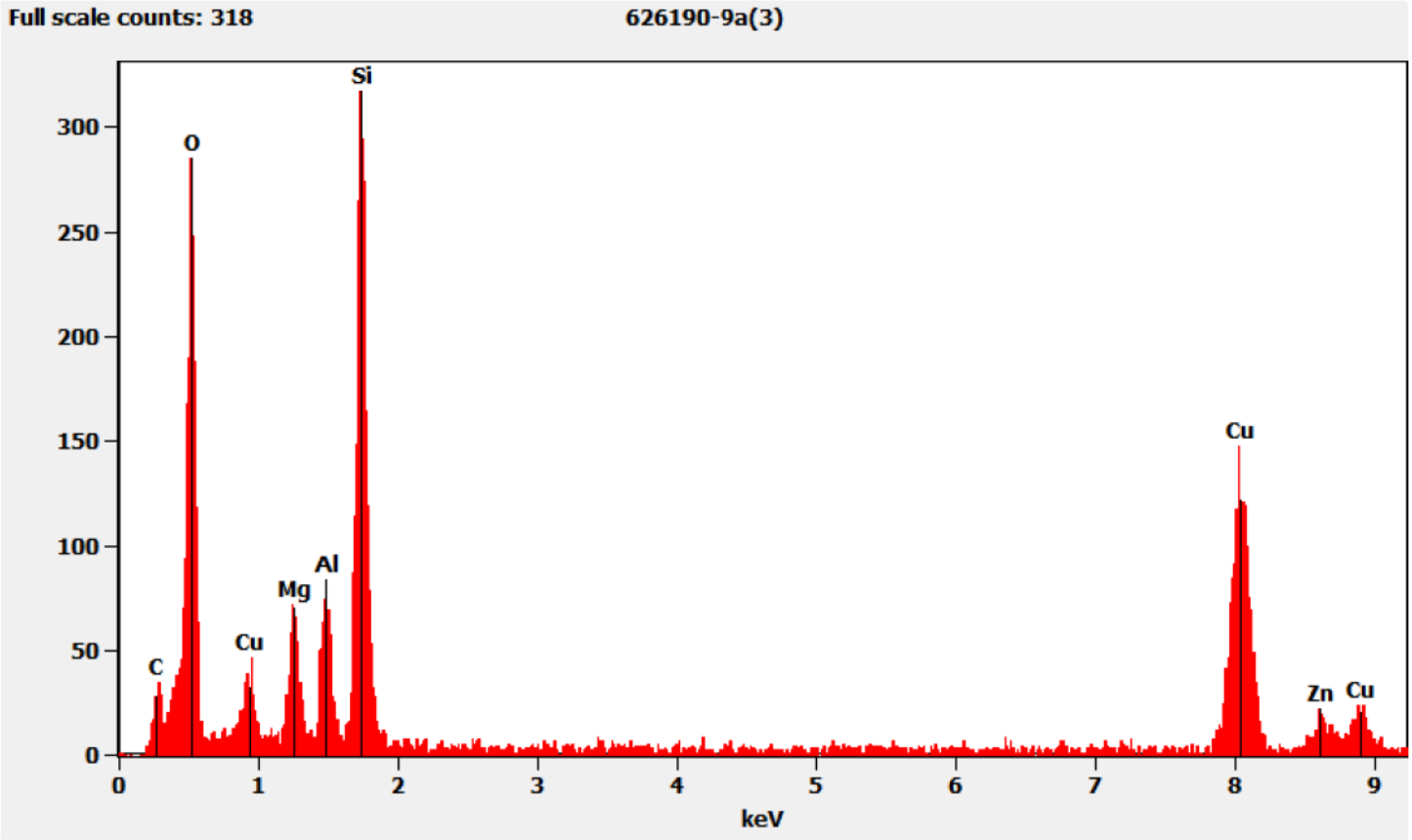
626190-9A, Fiber containing Magnesium, Aluminum, and Silicon



626190 FDA_110.jpg
626190-9a
SiMgAl Fiber
Cal: 0.002858 µm/pix
13:25 5/21/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

800 nm
HV=100kV
Direct Mag: 3600 x
AMA Analytical Services, Inc

Chemistry from the Fiber containing Magnesium, Aluminum, and Silicon pictured above



626190-10A, 10B, 10C/Client Sample: 03242021-10

PLM

All three aliquots of sample 03242021-10 were analyzed by (b)(6) on May 28, 2021. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-10A	No Asbestos Detected
626190-10B	No Asbestos Detected
626190-10C	No Asbestos Detected

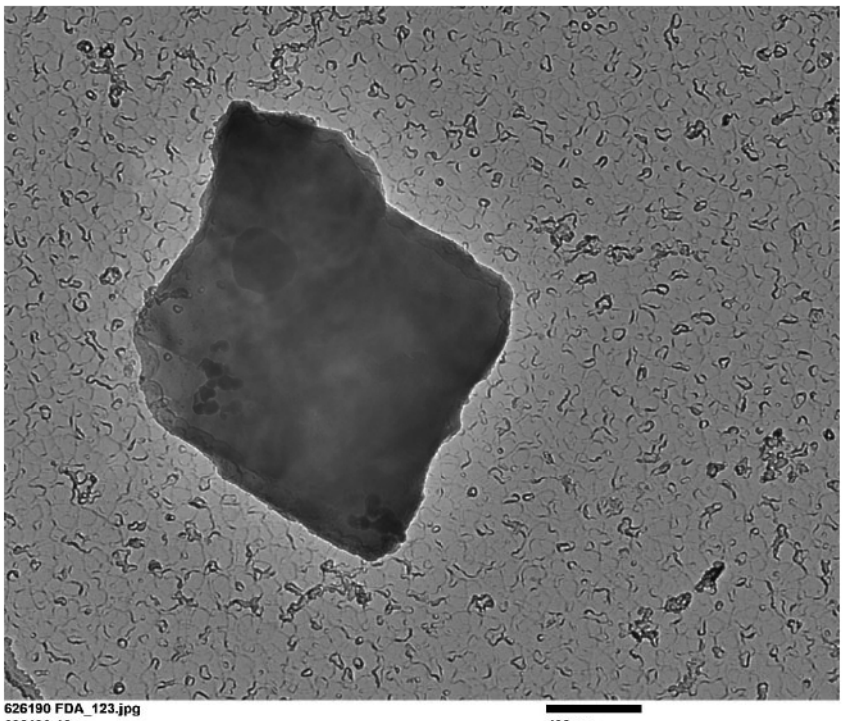
TEM

(b)(6) analyzed aliquot 10A on May 21, 2021. Andreas Saldivar analyzed aliquots 10B and 10c on May 27, 2021. The primary particles observed were talc and mica; iron and titanium particles were also observed along with some talc fibers/ribbons. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-10A	No Asbestos Detected
626190-10B	No Asbestos Detected
626190-10C	No Asbestos Detected

Below are pictures, diffraction patterns, and chemistry from some of the observed particles. The copper peaks in the chemistry spectra are from the TEM grid. The unidentified (and some identified) peaks in chemistry spectra are zinc and carbon, which are from the TEM specimen holder.

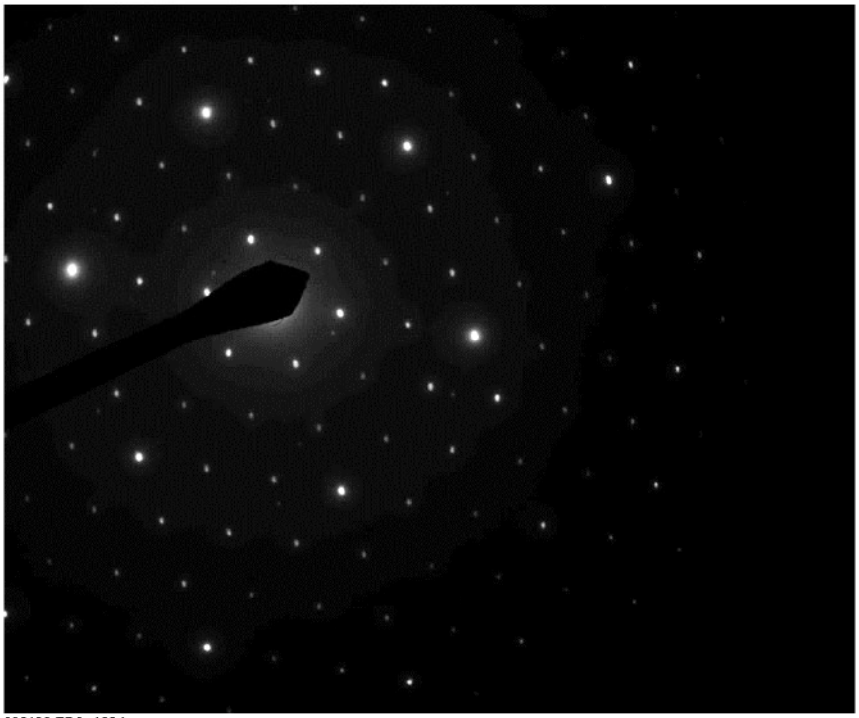
626190-10A, Talc Particle



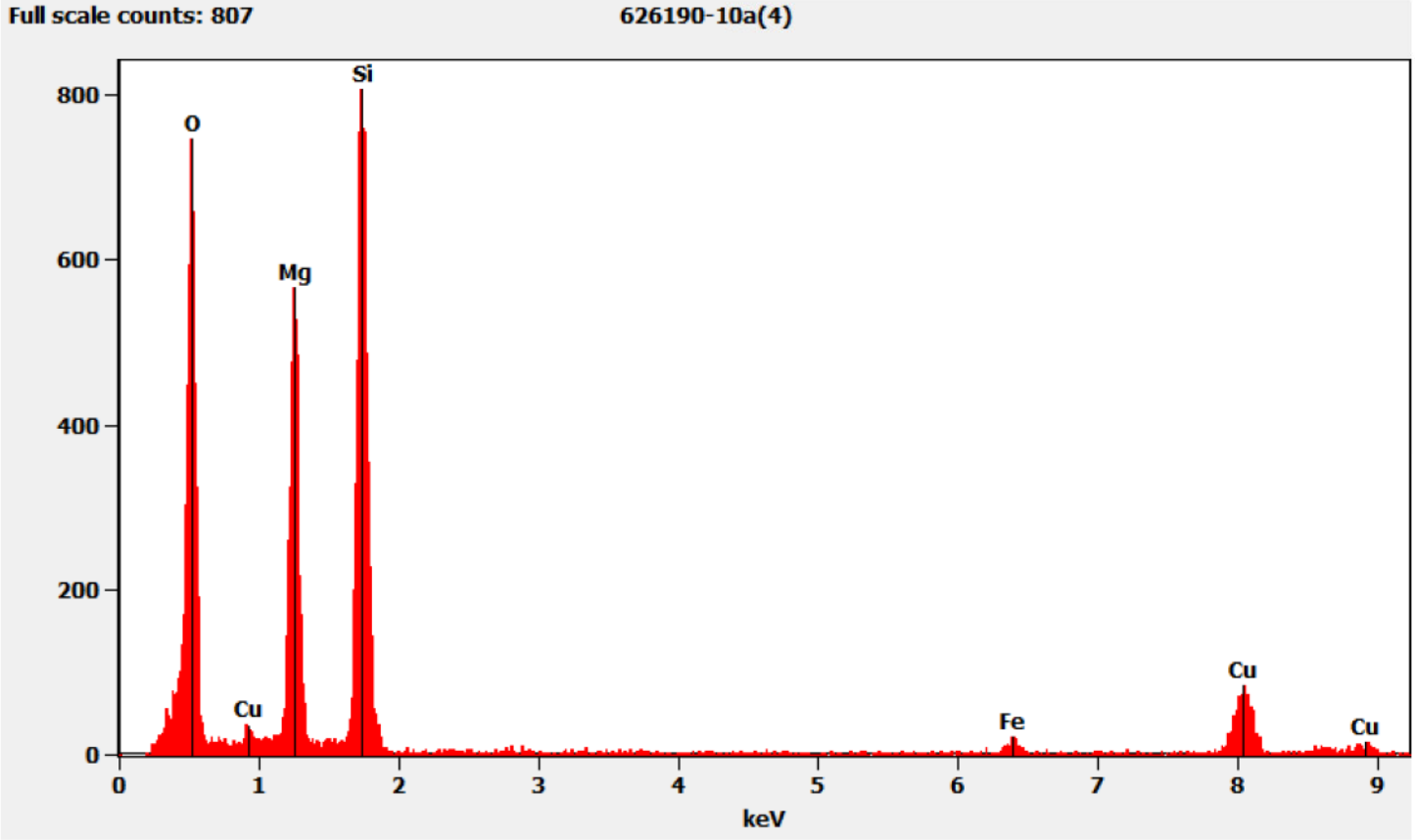
626190 FDA_123.jpg
626190-10a
Talc Particle
Cal: 0.001429 µm/pix
14:51 5/21/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

400 nm
HV=100kV
Direct Mag: 7200 x
AMA Analytical Services, Inc

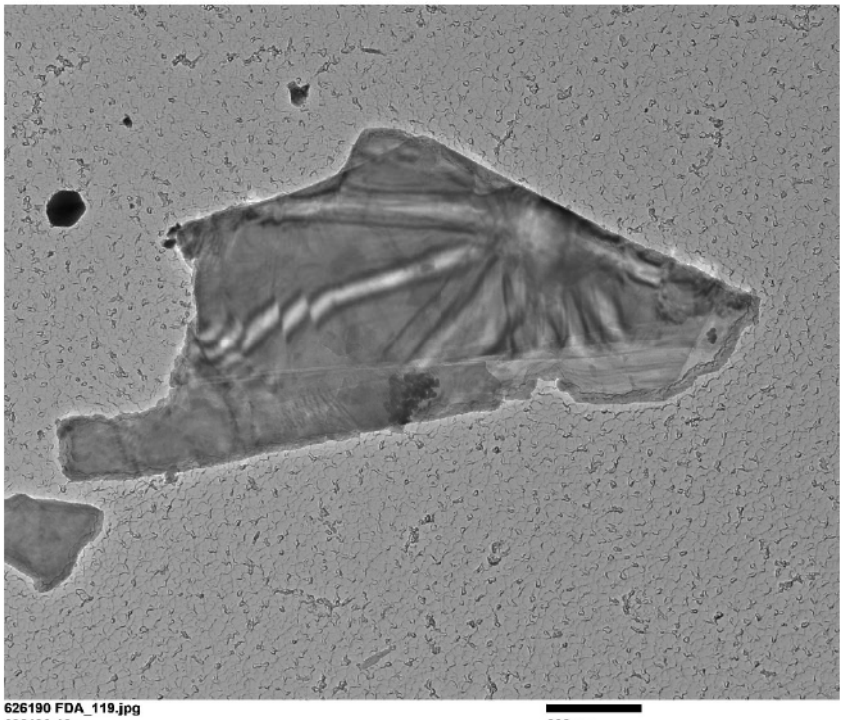
Hexagonal Diffraction Pattern from the Talc Particle pictured above



Chemistry from the Talc Particle pictured above



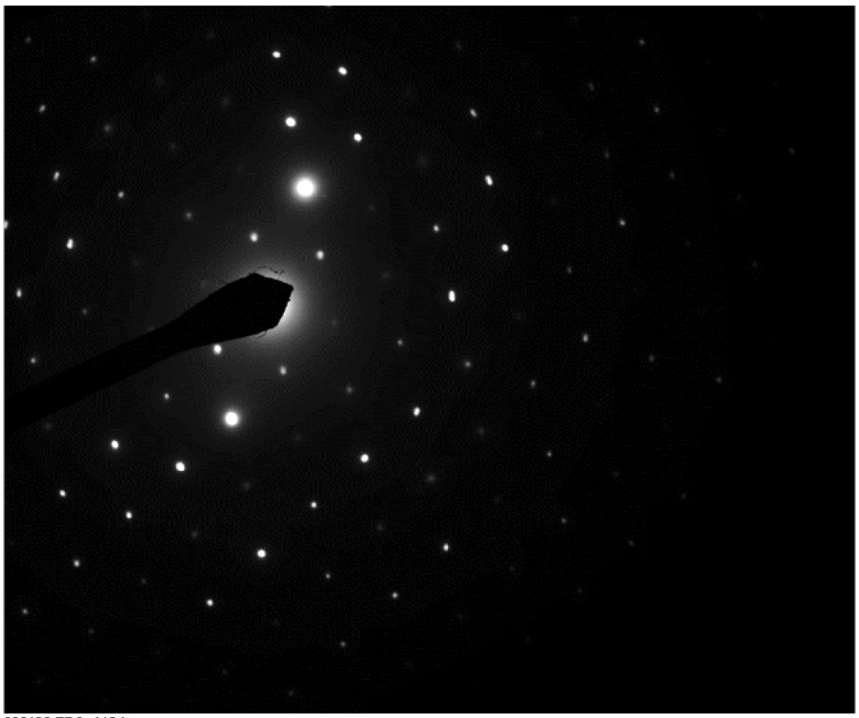
626190-10A, Mica Particle



626190 FDA_119.jpg
626190-10a
Mica Particle
Cal: 0.002858 µm/pix
14:29 5/21/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

800 nm
HV=100kV
Direct Mag: 3600 x
AMA Analytical Services, Inc

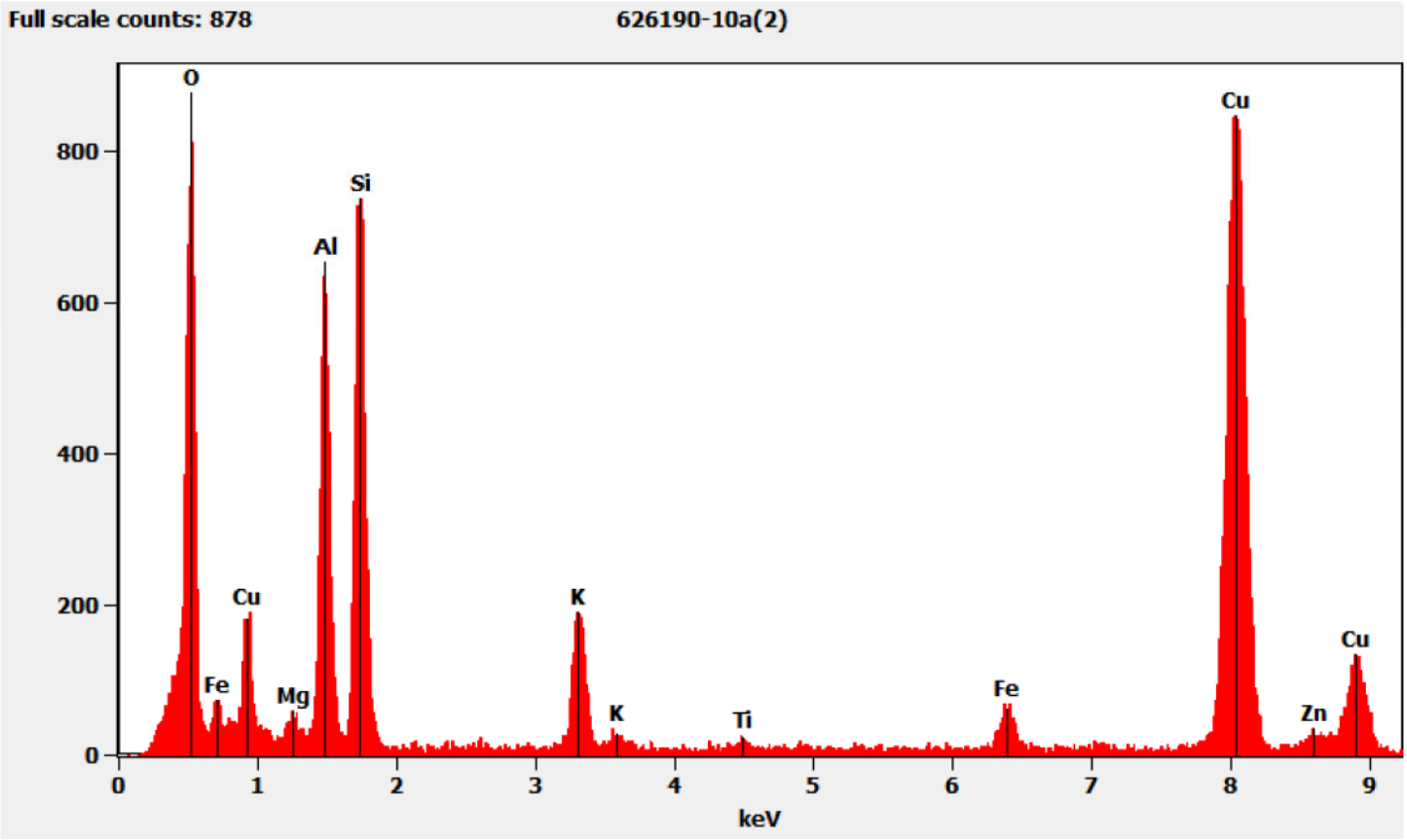
Hexagonal Diffraction Pattern from the Mica Particle pictured above



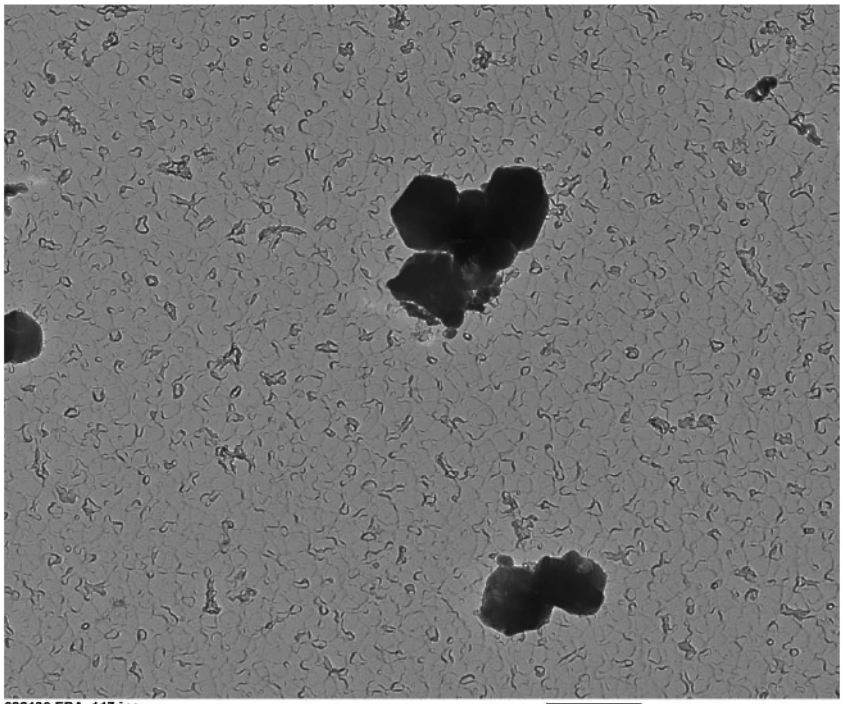
626190 FDA_118.jpg
626190-10a
Mica Particle Dif
14:28 5/21/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

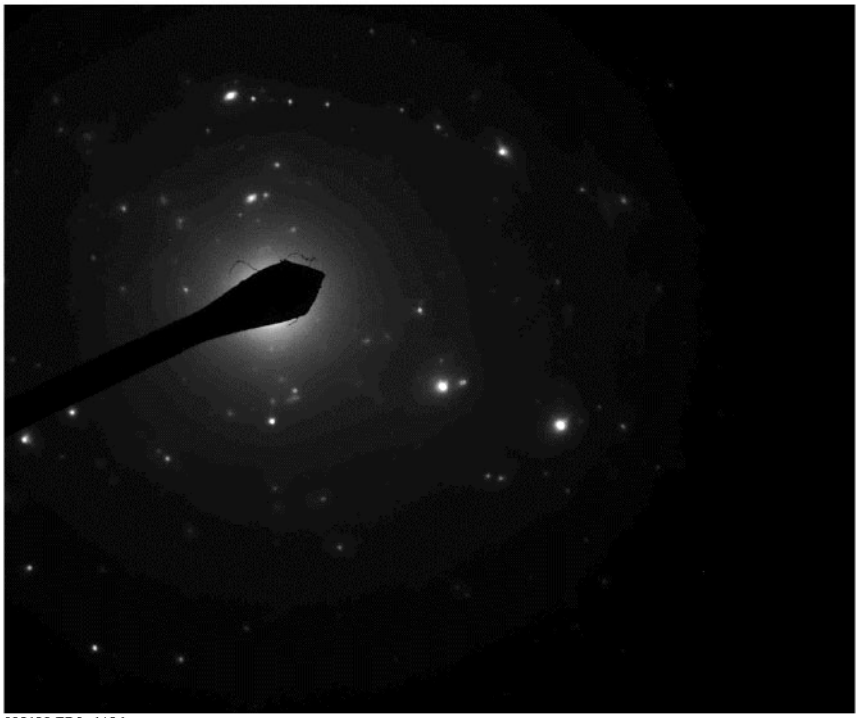
Chemistry from the Mica Particle pictured above



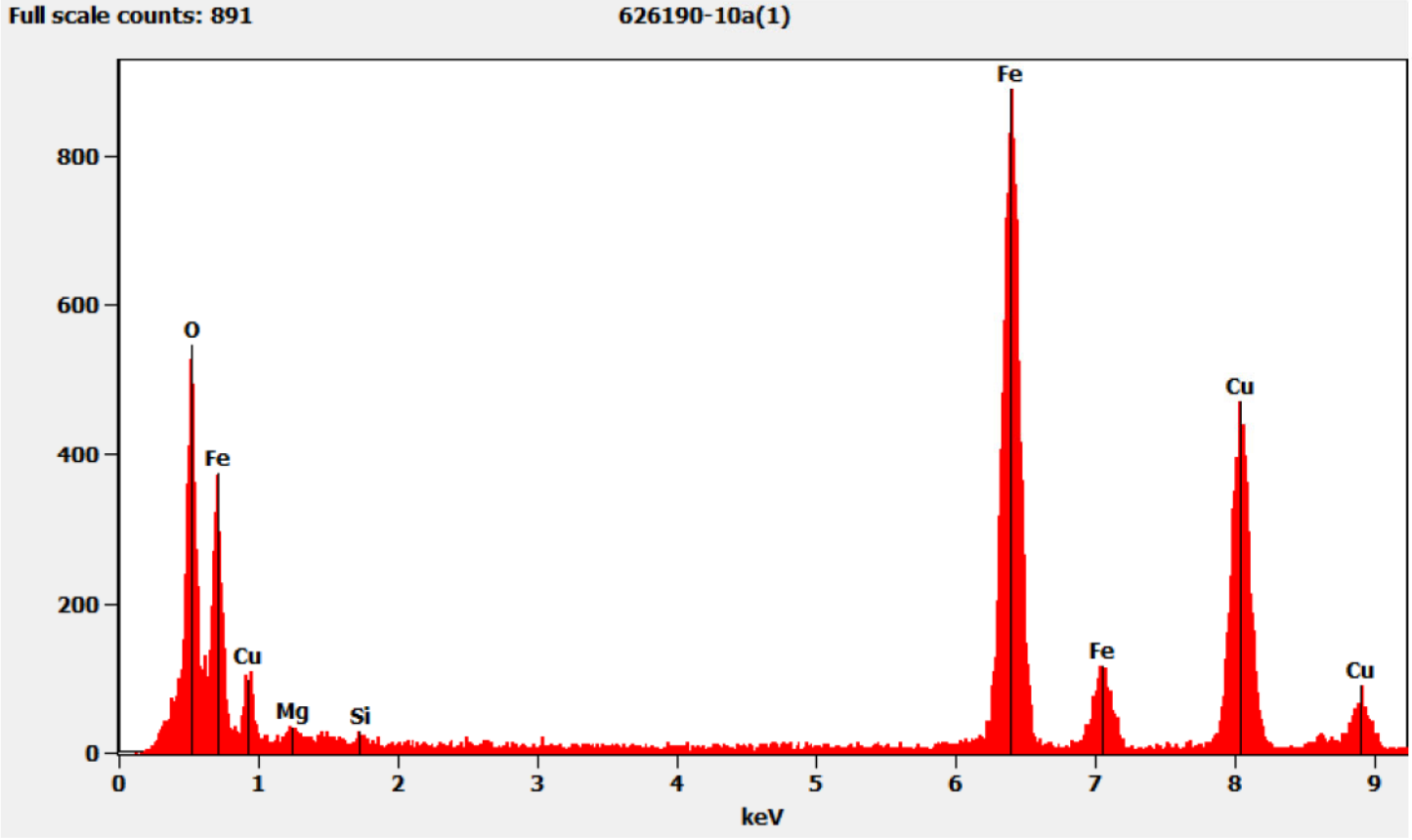
626190-10A, Iron Particles



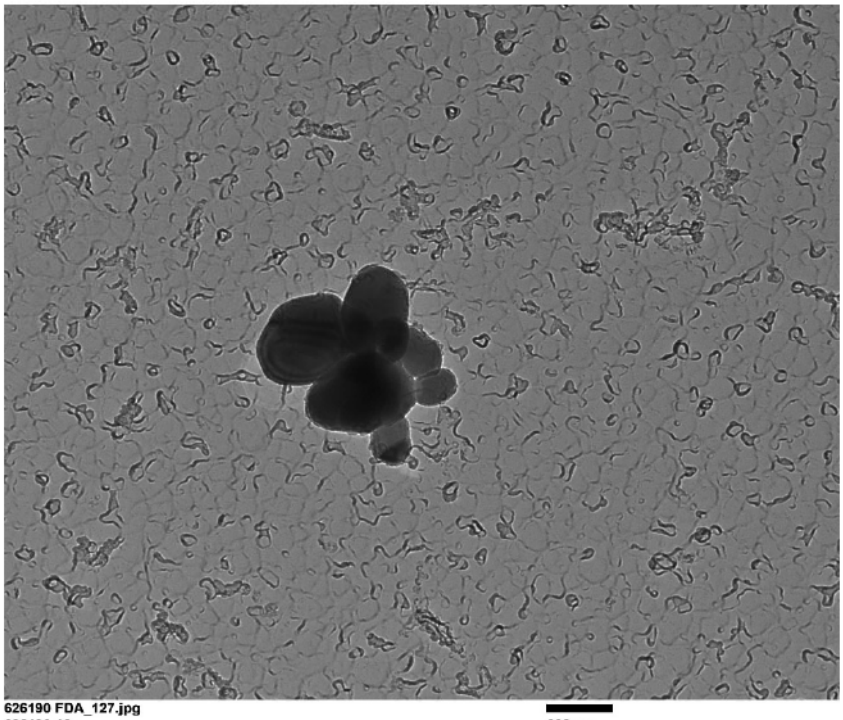
Diffraction Pattern from Iron Particles pictured above



Chemistry from the Iron Particles pictured above



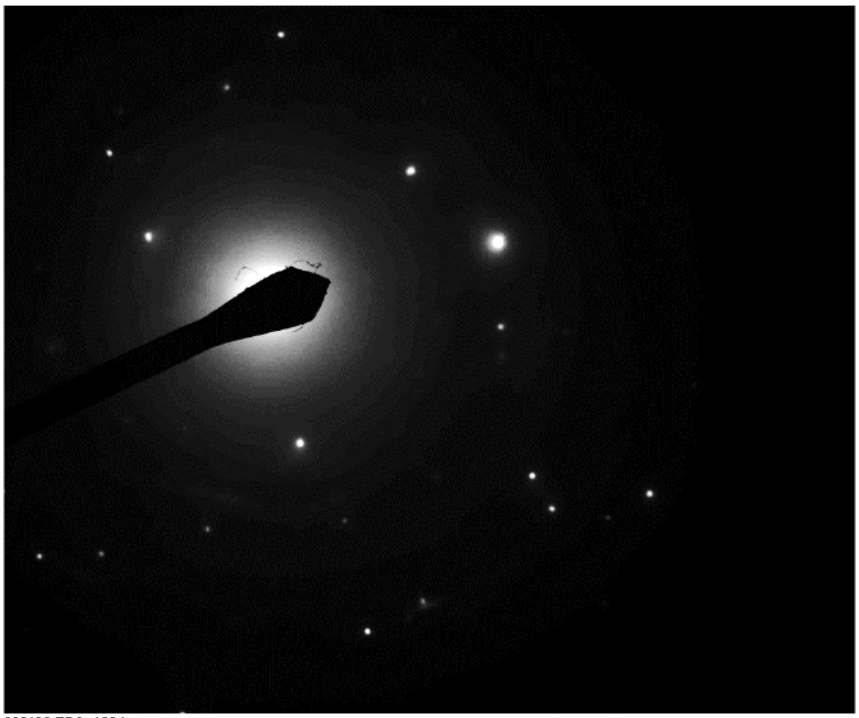
626190-10A, Titanium Particles



626190 FDA_127.jpg
626190-10a
Ti Particles
Cal: 0.001029 µm/pix
15:33 5/21/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

200 nm
HV=100kV
Direct Mag: 10000 x
AMA Analytical Services, Inc

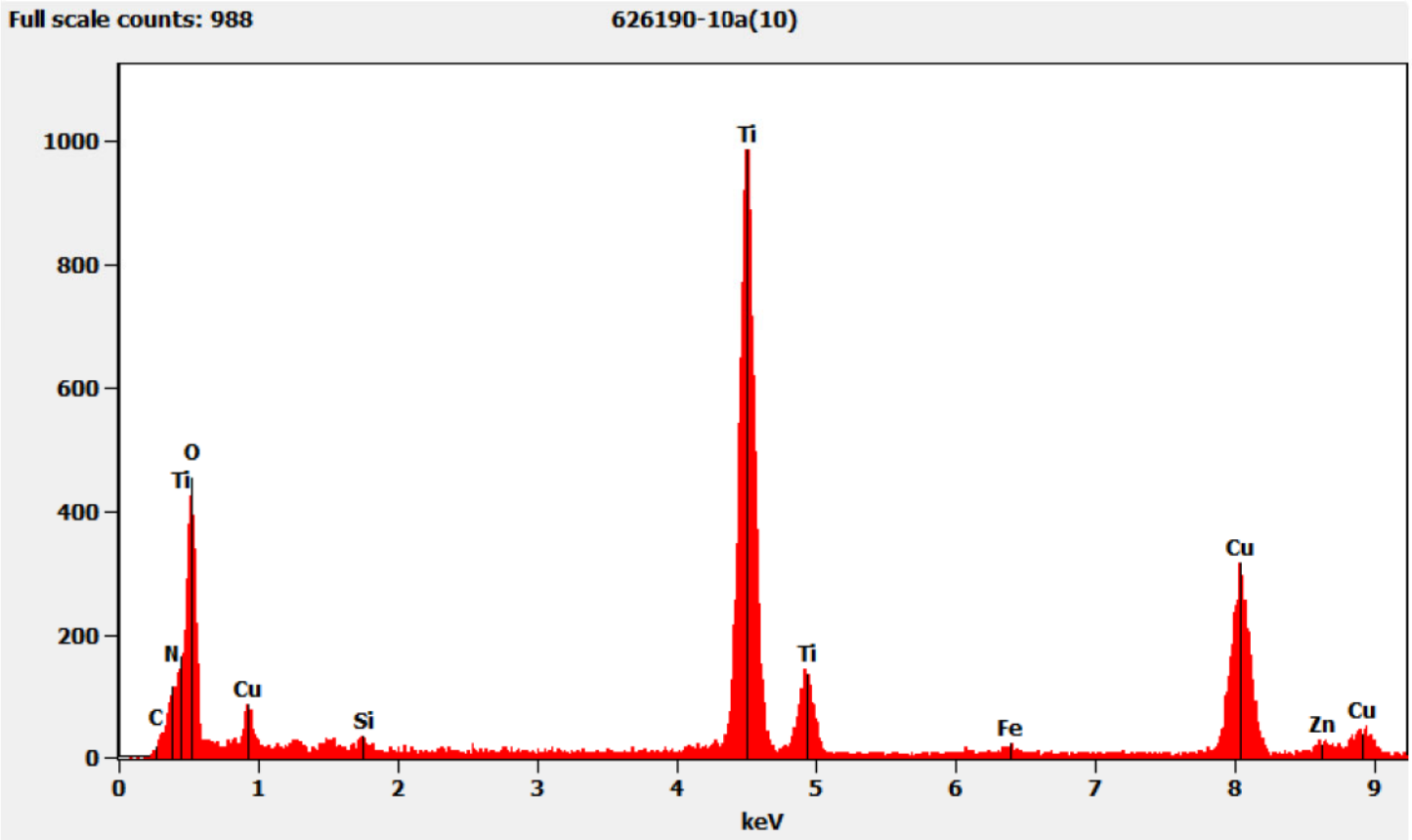
Diffraction Pattern from the Titanium Particles pictured above



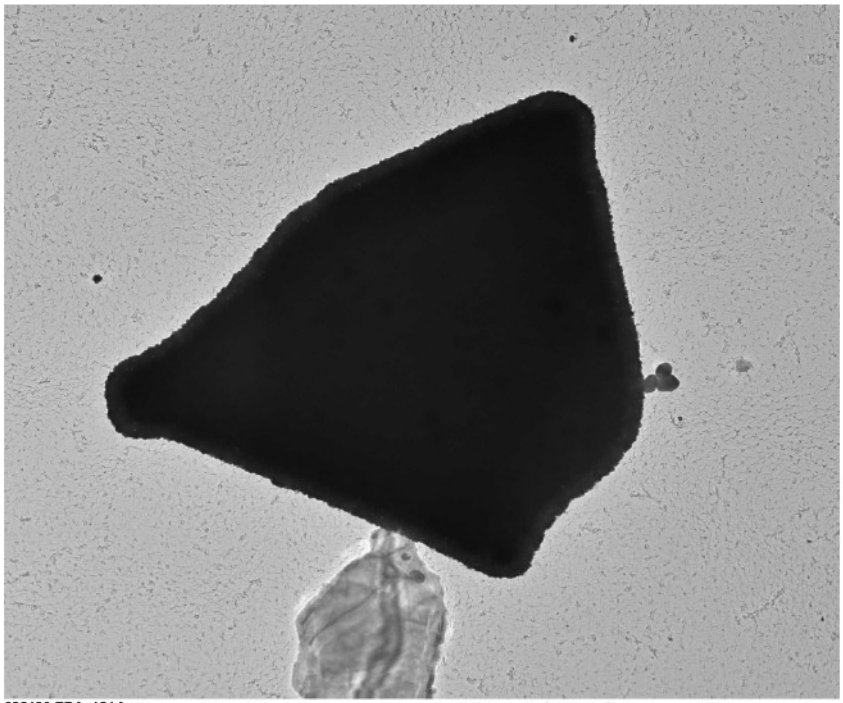
626190 FDA_126.jpg
626190-10a
Ti Particles Dif
15:30 5/21/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

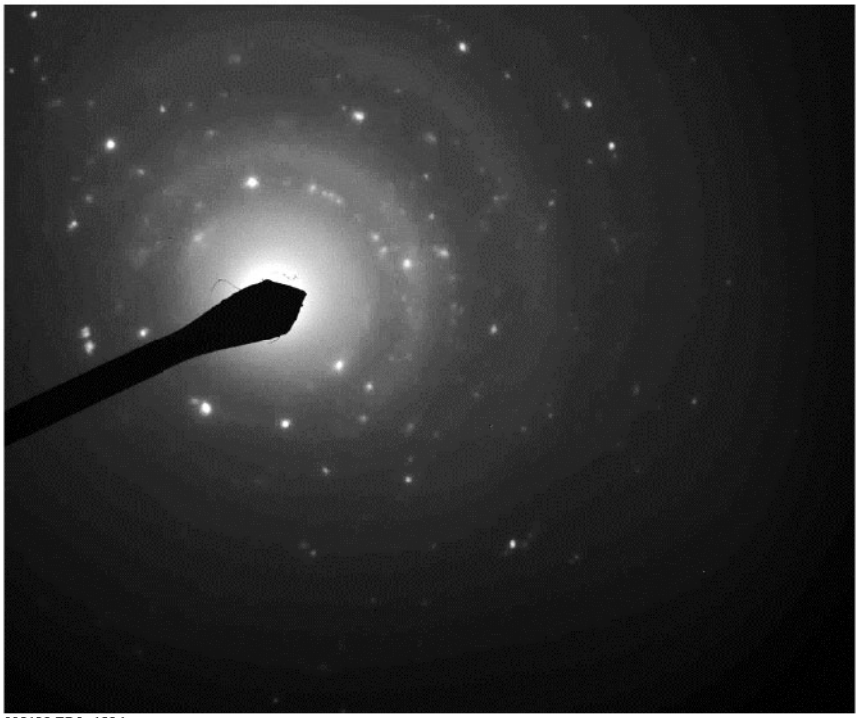
Chemistry from the Titanium Particles pictured above



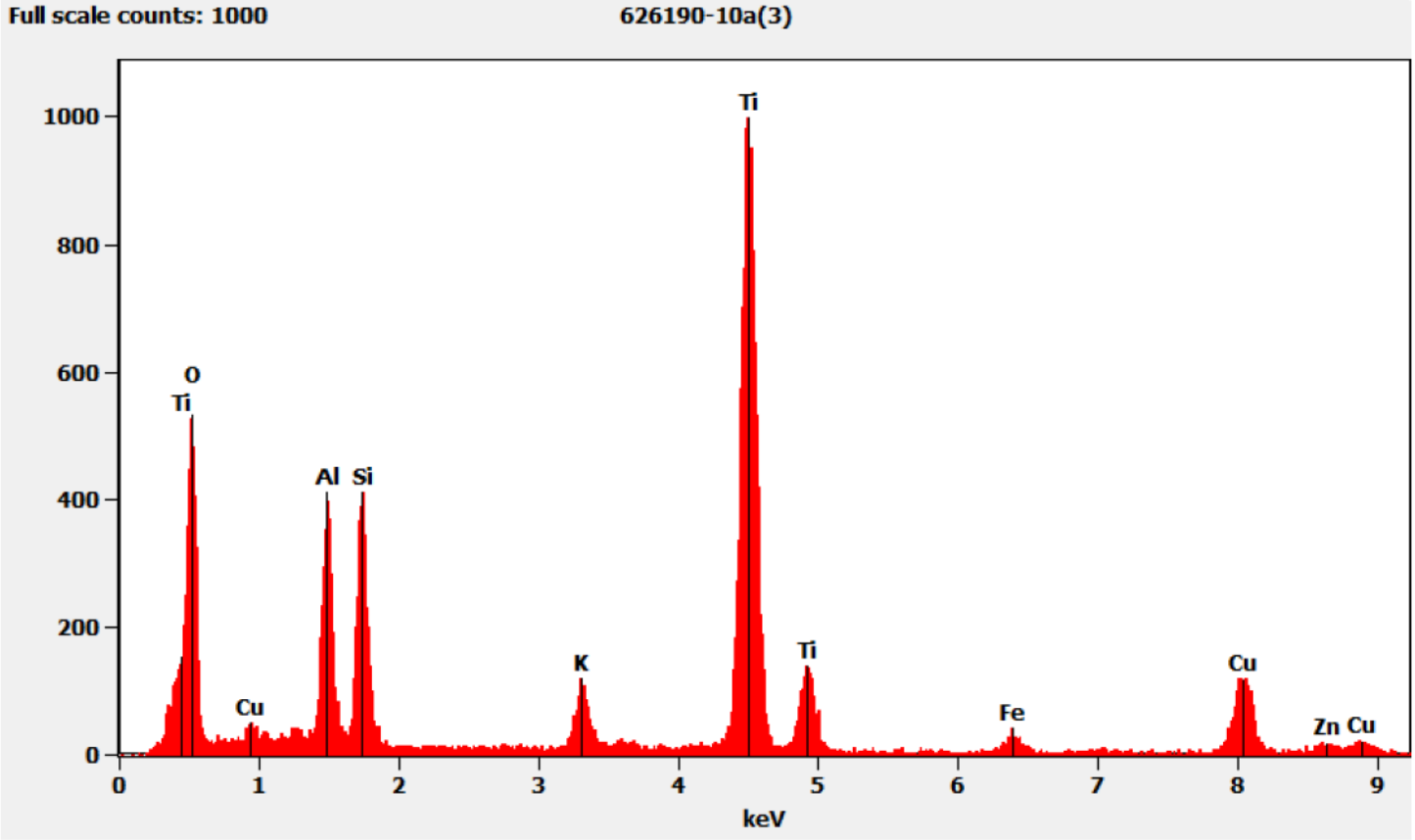
626190-10A, Mica Particle with Titanium



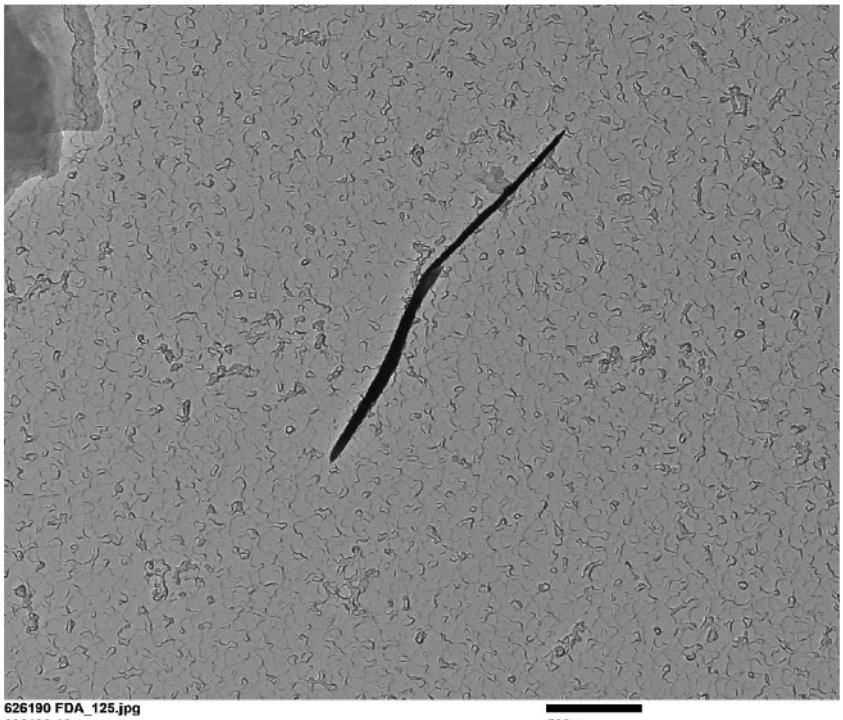
Hexagonal Diffraction Pattern from the Mica Particle with Titanium pictured above



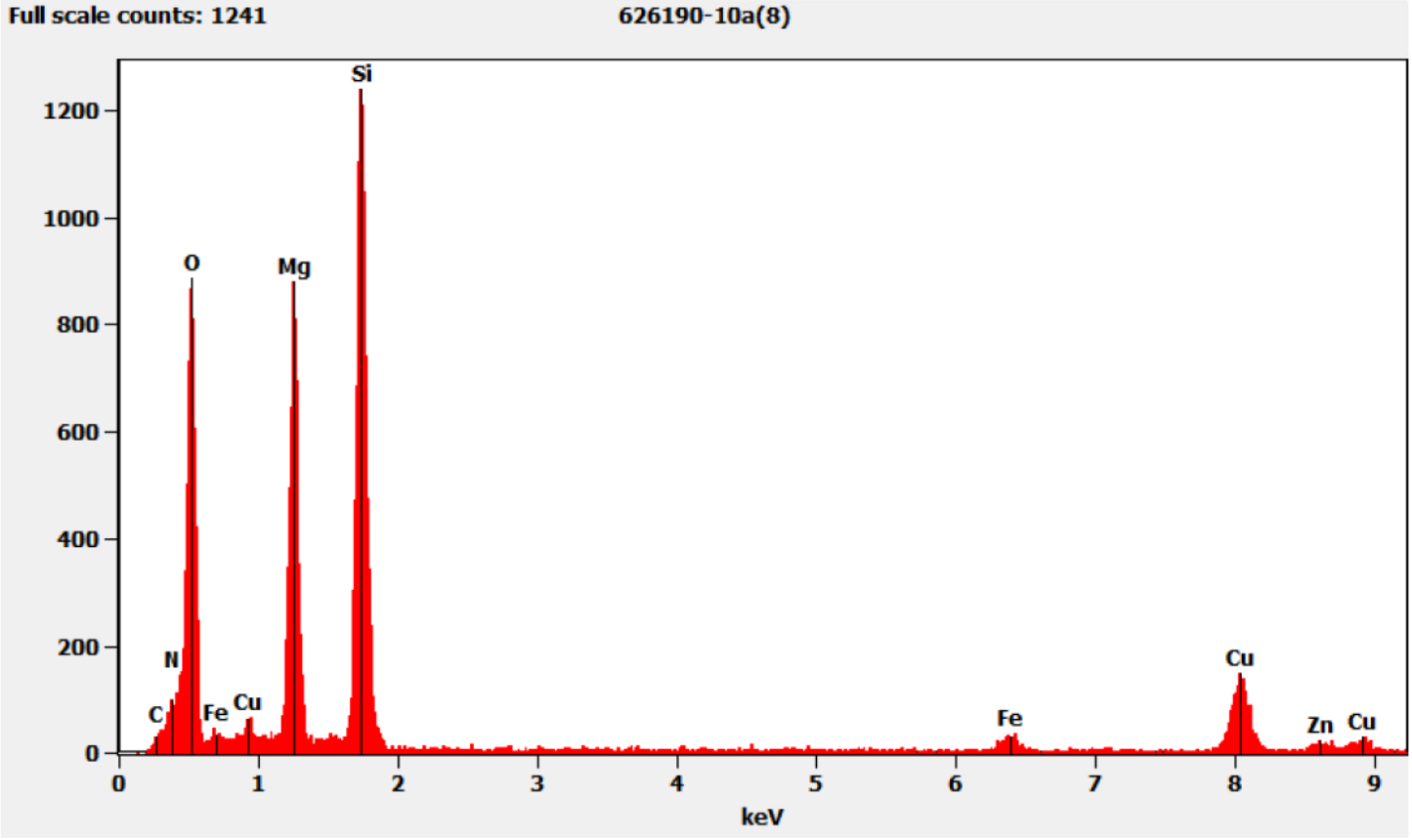
Chemistry from the Mica Particle with Titanium pictured above



626190-10A, Talc Ribbon



Chemistry from the Talc Ribbon pictured above



626190-11A, 11B, 11C/Client Sample: 03242021-11

PLM

All three aliquots of sample 03242021-11 were analyzed by (b)(6) on May 28, 2021. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

626190-11A	No Asbestos Detected
626190-11B	No Asbestos Detected
626190-11C	No Asbestos Detected

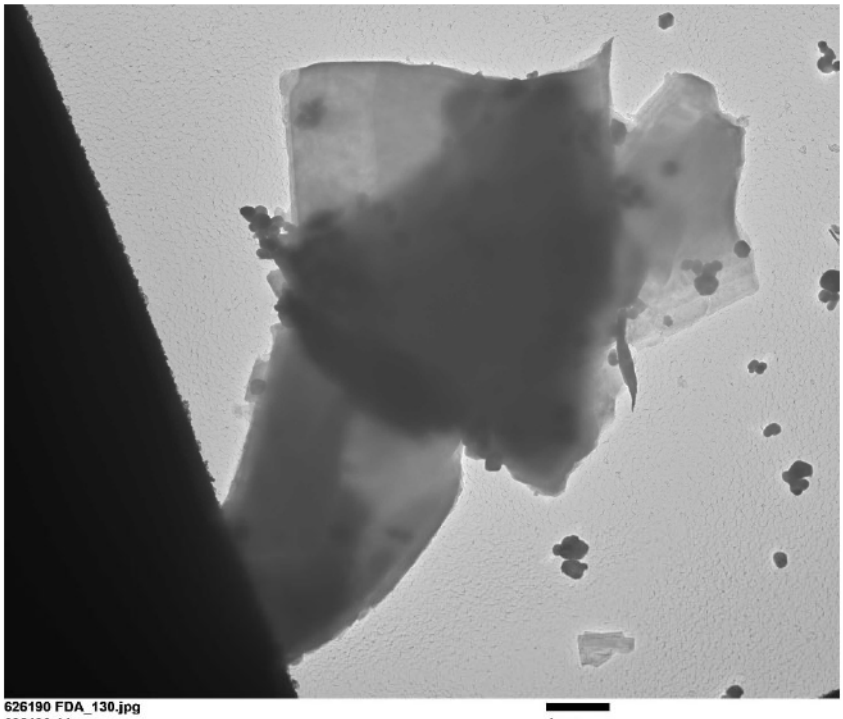
TEM

(b)(6) analyzed aliquot 11A on May 21, 2021. Andreas Saldivar analyzed aliquots 11B and 11C on May 27, 2021. The primary particle observed was talc; titanium particles were also observed along with a few talc fibers/ribbons. No asbestos or non-asbestos amphibole variants were observed during analysis. The results were calculated using the equations detailed in the *Calculations* section above.

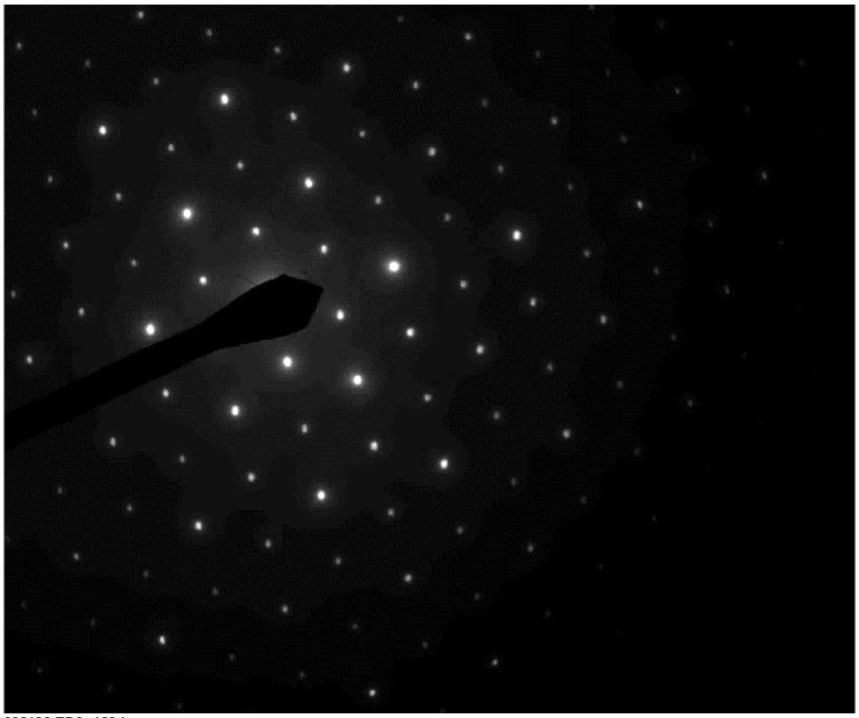
626190-11A	No Asbestos Detected
626190-11B	No Asbestos Detected
626190-11C	No Asbestos Detected

Below are pictures, diffraction patterns, and chemistry from some of the observed particles. The copper peaks in the chemistry spectra are from the TEM grid. The unidentified (and some identified) peaks in chemistry spectra are zinc and carbon, which are from the TEM specimen holder.

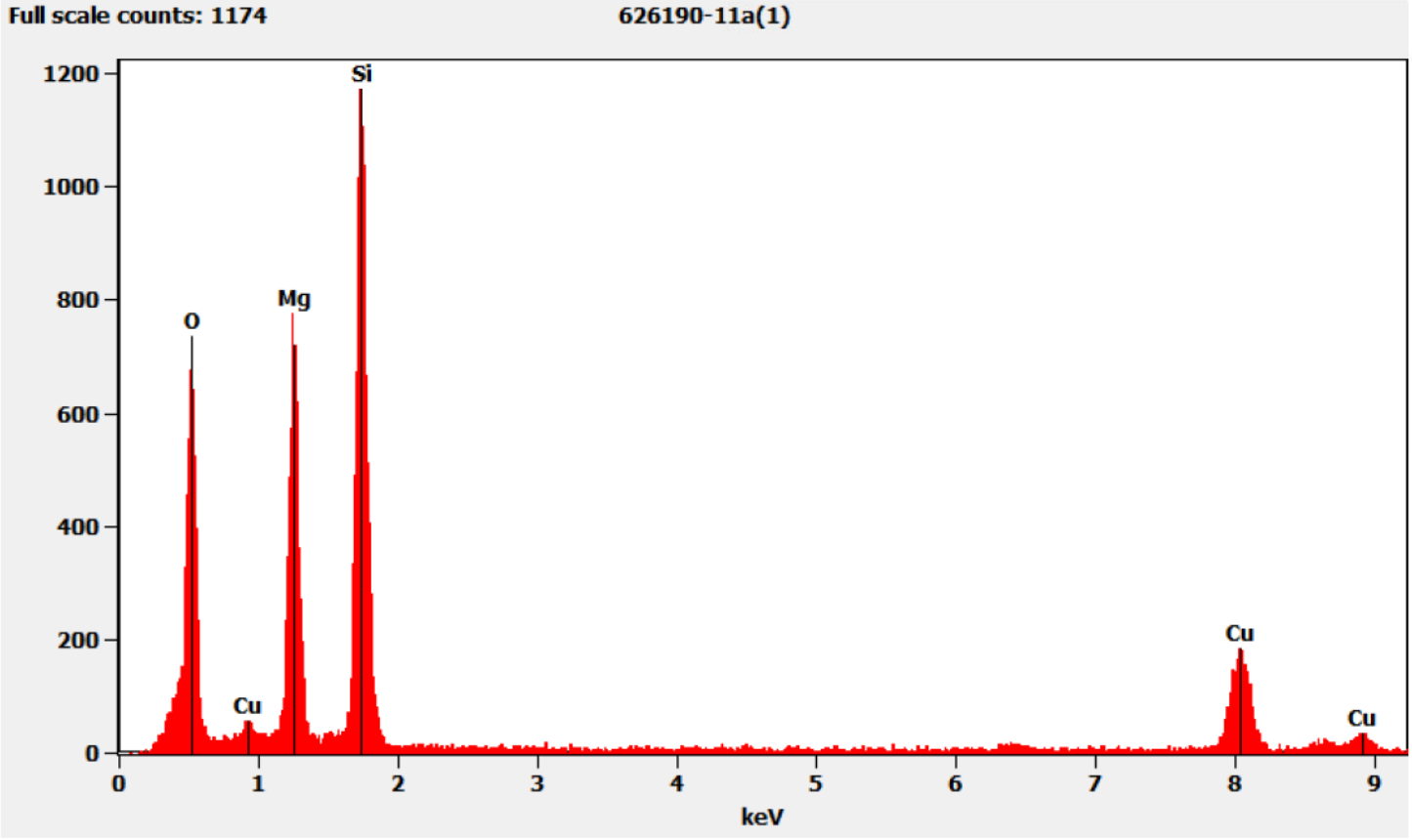
626190-11A, Talc Particle



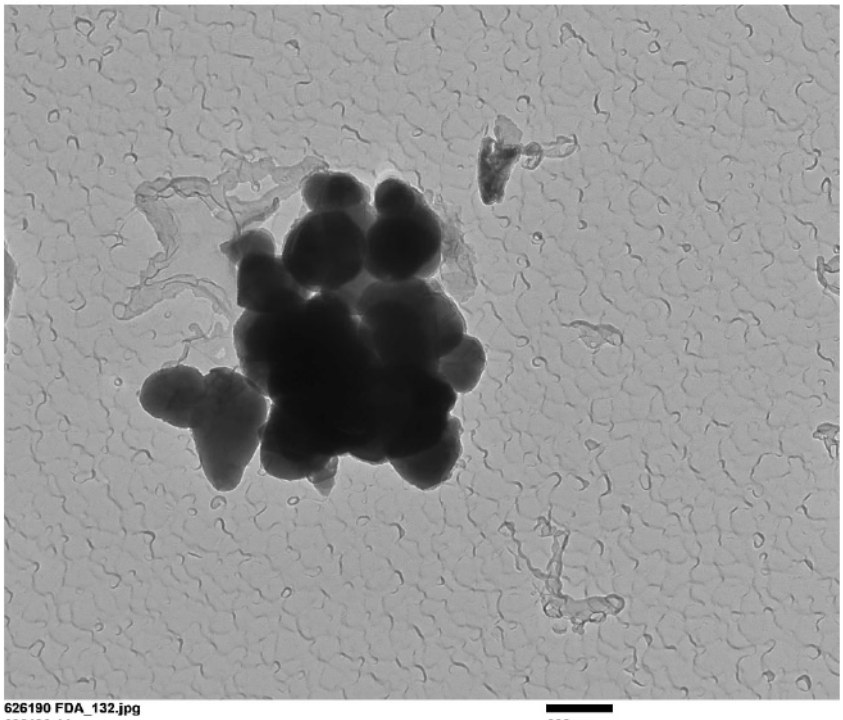
Hexagonal Diffraction Pattern from the Talc Particle pictured above



Chemistry from the Talc Particle pictured above



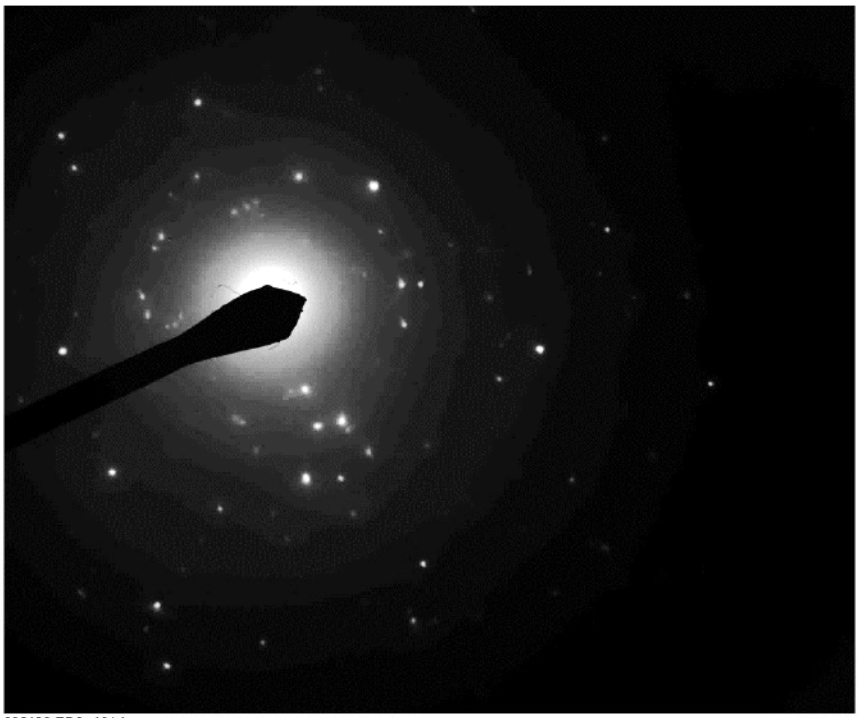
626190-11A, Titanium Particles



626190 FDA_132.jpg
626190-11a
Ti Particles
Cal: 0.001029 µm/pix
15:56 5/21/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

200 nm
HV=100kV
Direct Mag: 10000 x
AMA Analytical Services, Inc

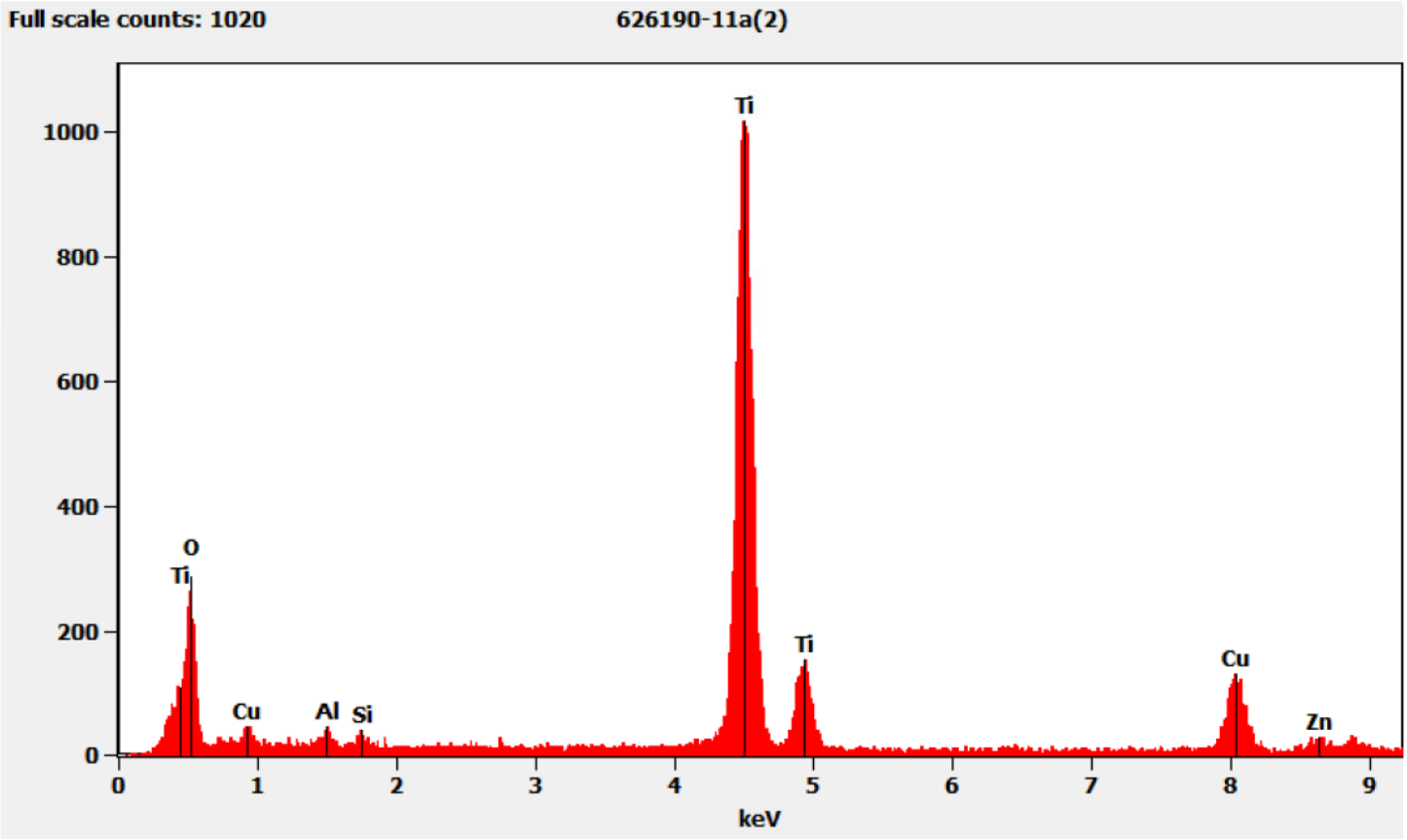
Diffraction Pattern from the Titanium Particles pictured above



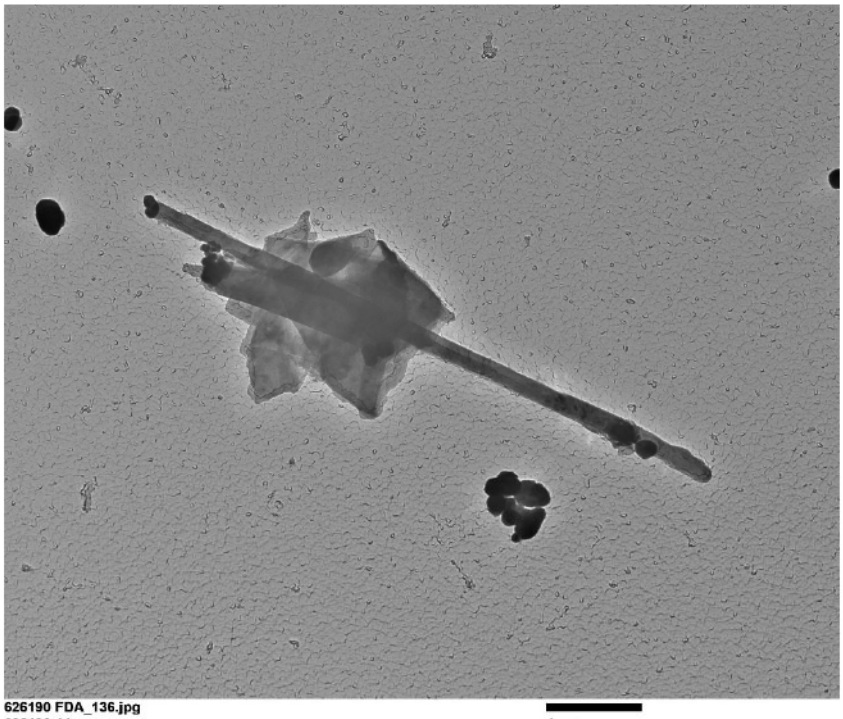
626190 FDA_131.jpg
626190-11a
Ti Particles Dif
15:55 5/21/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Titanium Particles pictured above



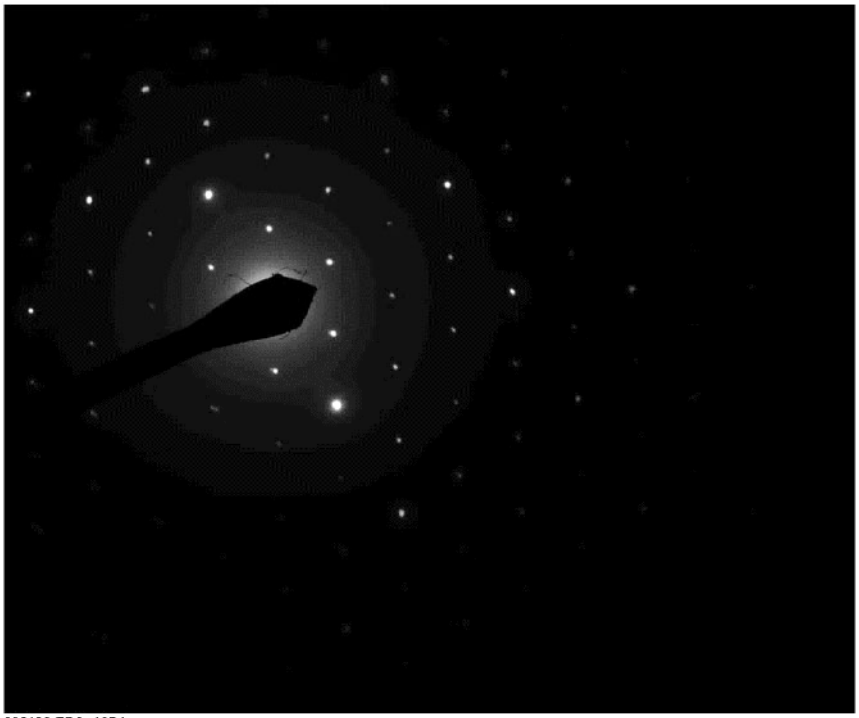
626190-11A, Talc Fiber



626190 FDA_136.jpg
626190-11a
Talc Fiber
Cal: 0.003548 µm/pix
16:07 5/21/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

1 µm
HV=100kV
Direct Mag: 2900 x
AMA Analytical Services, Inc

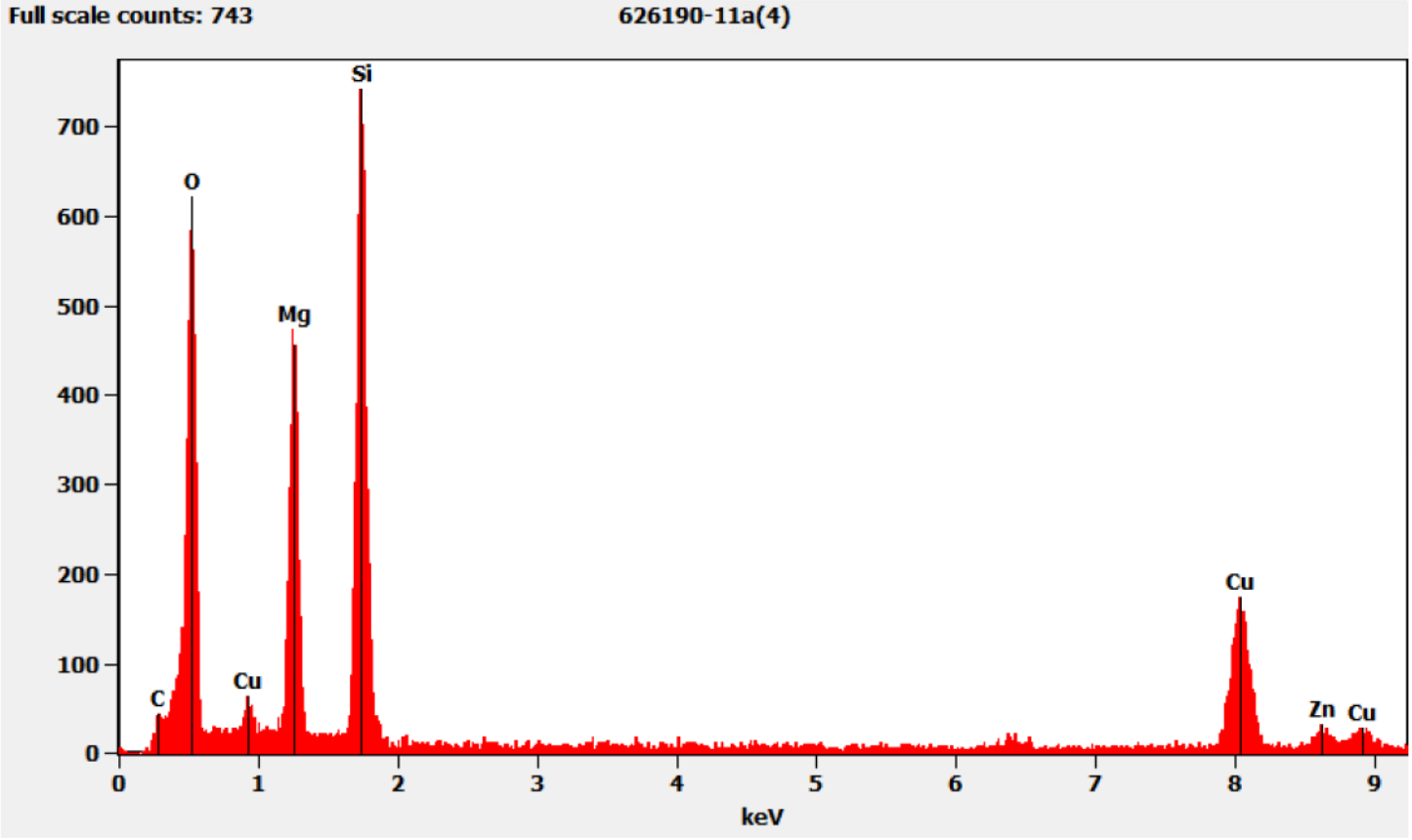
Hexagonal Diffraction Pattern from Talc Fiber pictured above



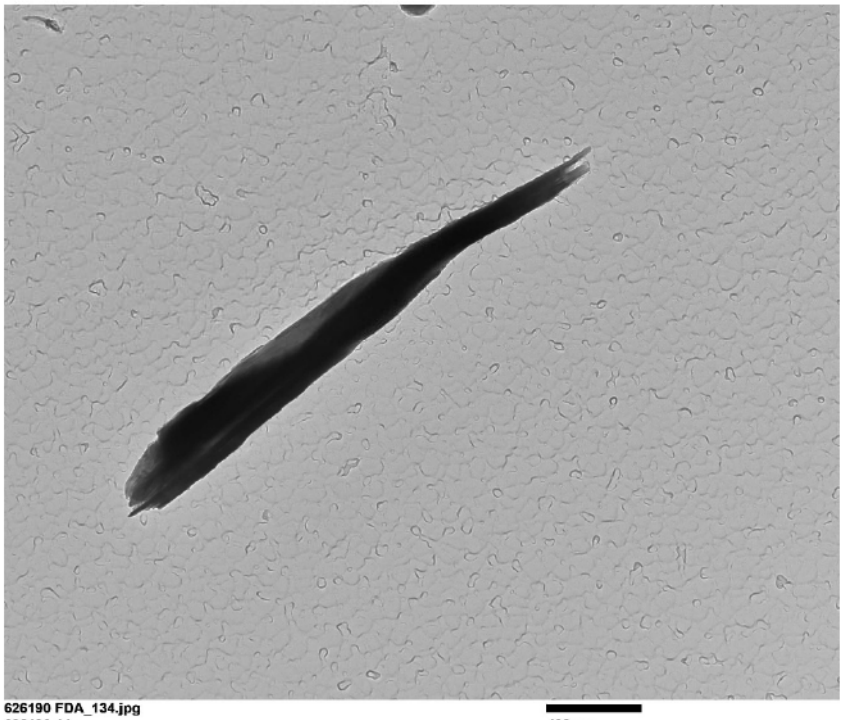
626190 FDA_137.jpg
626190-11a
Talc Fiber Dif
16:08 5/21/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Talc Fiber pictured above



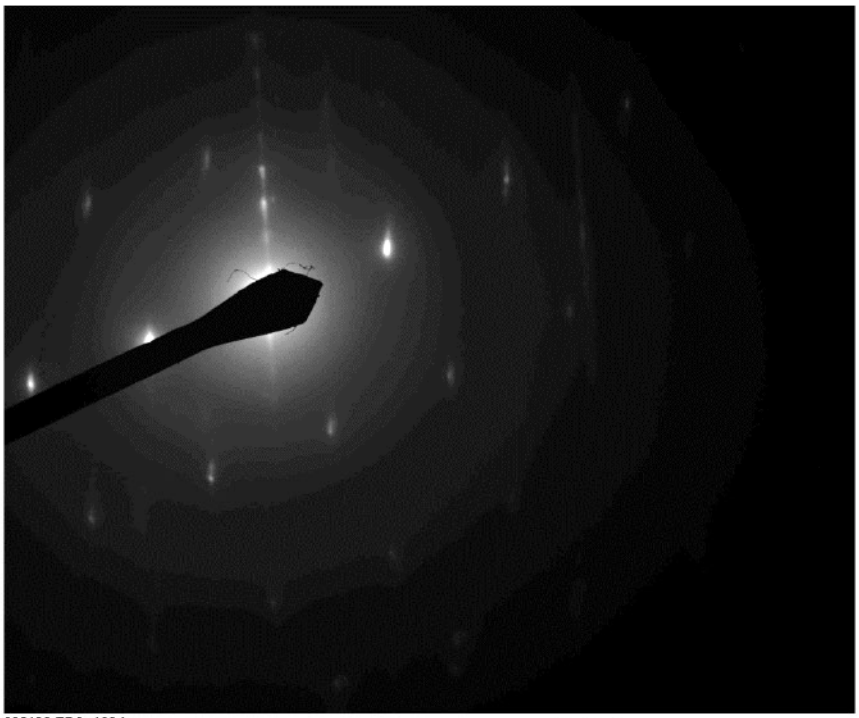
626190-11A, Talc Ribbon



626190 FDA_134.jpg
626190-11a
Talc Ribbon
Cal: 0.001429 µm/pix
16:00 5/21/2021
TEM Mode: Imaging
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

400 nm
HV=100kV
Direct Mag: 7200 x
AMA Analytical Services, Inc

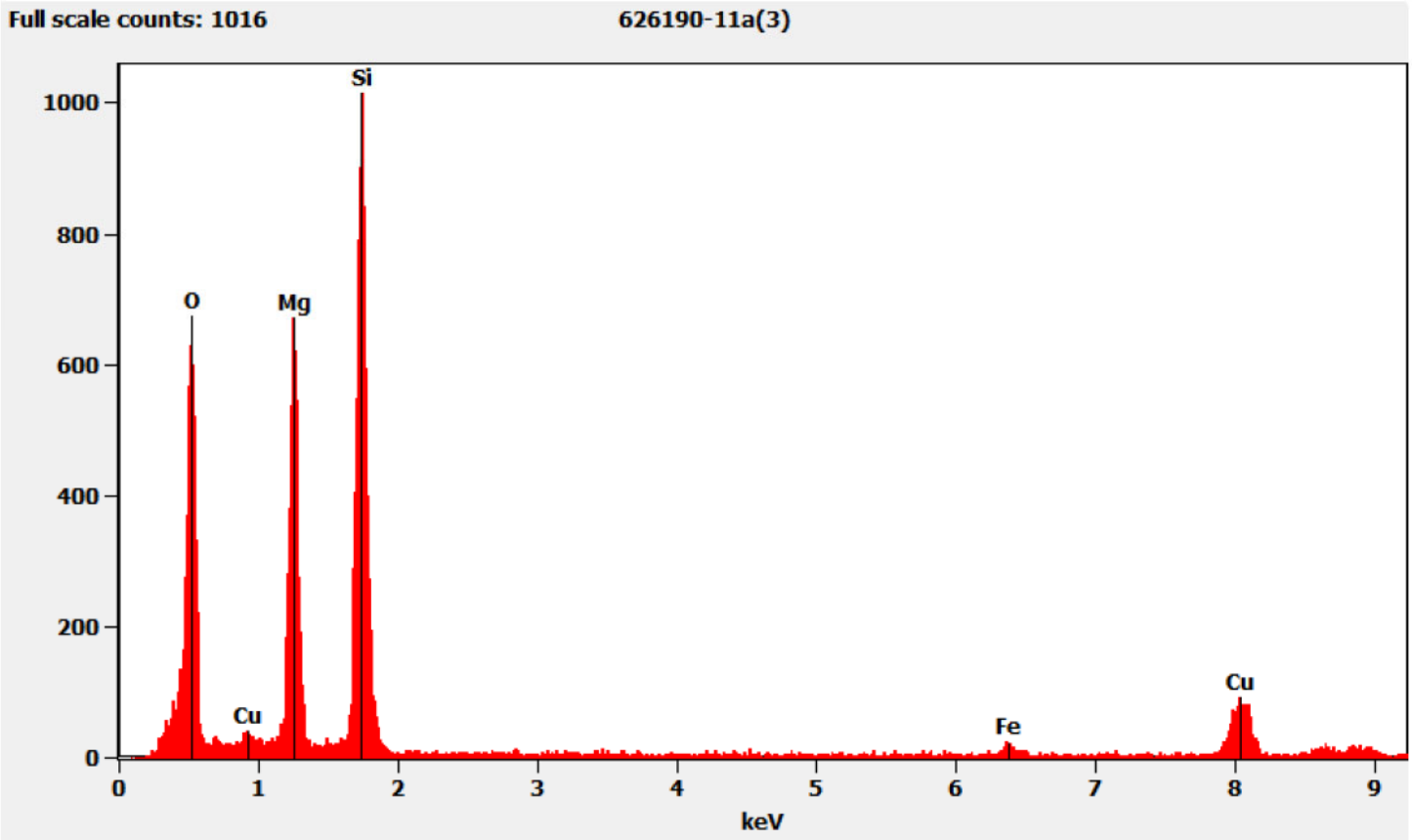
Diffraction Pattern from Talc Ribbon pictured above



626190 FDA_133.jpg
626190-11a
Talc Ribbon Dif
15:59 5/21/2021
TEM Mode: Diffraction
Microscopist: (b)(6)
Camera: NANOSPRT5, Exposure: 800 (ms) x 5 std. frames, Gain: 1, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

100 (1/Å)
HV=100kV
Cam Len: 0.2200 m
AMA Analytical Services, Inc

Chemistry from the Talc Ribbon pictured above



QC Discussion:
Microscope alignment and calibration for both the PLM and TEM scopes, and EDXA unit calibration were performed on each day of analysis as specified by method requirements and standard laboratory operating procedures. The analytical balance used for gravimetric reduction is verified weekly at three (3) tare levels using three NIST-traceable weights – 10.0-g, 0.1-g, 0.5-g – and on each day of operation using the 0.1-g and 0.5-g weights tared with an 8-mL glass vial. The muffle furnace is verified monthly at a temperature of 480°C. All equipment was functioning within normal operating parameters

Matrix blank samples were prepared at rate of 10% or greater alongside the client samples with each series of samples that were put into the muffle furnace together. The matrix blank samples were prepared using Sigma-Aldrich Talc Powder 18654 (Cas No. 14807-96-6; EC No. 238-877-9, Lot 82330). Analysis of the matrix blank samples was only required if asbestos, or the non-asbestos versions of the regulated minerals, was found on the associated client samples unless otherwise noted. Matrix blank sample numbers NB21-312/313, NB21-324/325 and NB21-329/330 were not analyzed since no asbestos was observed on the associated client samples.

A talc reference control sample was randomly selected from our library of TEM grid preparations made from Sigma-Aldrich Talc Powder, <10 micron (Product No. 643604-500G; Batch No. 10830AJ) spiked with various levels of Chrysotile ranging from 0.4%-10%. One (1) reference control sample, sample number 626190-RB1, was analyzed with this set. It was analyzed by (b)(6) on July 21, 2021 and found to be within acceptable limits.

Filtration blank samples were prepared alongside the client samples with each use of the filtration apparatus. Analysis of these samples was only required on those blanks associated with a client sample on which asbestos, or the non-asbestos versions of the regulated minerals, was found unless otherwise noted. Filtration blank sample numbers DI-Blank-01 through DI-Blank-11 were not analyzed since no asbestos was observed on the associated client samples.

TEM grid preparation (EB) blank samples were prepared with each batch of carbon coated filters. AMA policy is to analyze these blank samples whenever asbestos, or the non-asbestos versions of the regulated minerals, is detected on an associated client sample or when the laboratory blank identification number ends in a "0" or "5." Since no asbestos was observed on any of the client samples, only EB Blank IDs 56710, 56730 and 56740 were analyzed. (b)(6) analyzed these samples on July 21, 2021. No asbestos was detected on the TEM grid preparation blank samples.

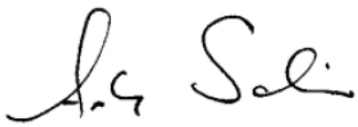
Our laboratory information management system (LIMS) randomly selected sample 626190-6A/03242021-6 for additional duplicate QC analysis. Independent preparations were made for the PLM and TEM portions of analysis. The duplicate QC analysis was performed by (b)(6) on May 28, 2021 for PLM and by (b)(6) on June 2, 2021 for TEM. The QC results were consistent with the original findings.

Our laboratory information management system (LIMS) randomly selected sample 626190-7A/03242021-7 for additional replicate QC analysis. Independent preparations were made for the PLM and TEM portions of analysis. The replicate QC analysis was performed by (b)(6) on May 28, 2021 for PLM and by Andreas Saldivar on June 2, 2021 for TEM. The QC results were consistent with the original findings.

Attachments:
The following items are attached to this case narrative for your reference:

1) Sample Log-In Sheet
2) Analytical Balance Verification Log
3) Daily PLM Scope Verification Log
4) Refractive Index Oil Verification Log
5) Daily TEM Scope Verification Log(s)
6) QC Results Summary for 626190
7) NB (Matrix) Blank Preparation Log
8) RB (Reference) Sample Bench Sheet(s)
9) EB (TEM Grid) Blank Preparation Log
10) EB (TEM Grid) Blank Bench Sheet(s)
11) Duplicate & Replicate QC Charts for (b)(6) for samples analyzed between 1/1/2021 & 5/28/2021
12) Duplicate & Replicate QC Charts for (b)(6) for samples analyzed between 1/1/2021 & 5/28/2021
13) Duplicate & Replicate QC Charts for (b)(6) for samples analyzed between 1/1/2021 & 5/28/2021
14) Duplicate & Replicate QC Charts for Andreas Saldivar for samples analyzed between 1/1/2019 & 5/28/2021
15) Raw Data Sheets
    a. PLM Gravimetric Reduction Bench Sheet
    b. TEM Gravimetric/Filtration Bench Sheet
    c. PLM Analysis
    d. TEM Analysis
    e. Duplicate QC Analysis
    f. Replicate QC Analysis

I certify that all information contained in this report pertaining to laboratory events, procedures, and protocols is true to the best of my knowledge and accurately describes the handling of this project by AMA Analytical Services, Inc., and its personnel.



7/23/2021

Andreas Saldivar
President

Date