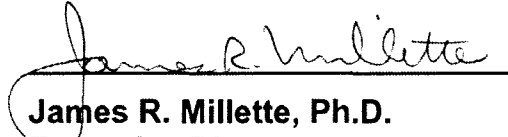


Report of Results: MVA9391
Characterization of Three Samples of
Imerys Talc

Prepared for:

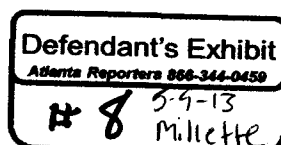
Law Offices of G. Patterson Keahey
One Independence Plaza, Suite 612
Birmingham, AL 35209

Respectfully Submitted by:


James R. Millette, Ph.D.
Executive Director

MVA Scientific Consultants
3300 Breckinridge Boulevard
Suite 400
Duluth, GA 30096

07 March 2013



Report of Results: MVA9391

Characterization of Three Samples of Imerys Talc

INTRODUCTION

This report includes the results of analysis and characterization of three samples of Imerys talc. The three white powder samples in one pound containers were received from Lyn Arnold of the Law Offices of G. Patterson Keahey, Birmingham, AL on 05 February 2013 and were assigned MVA laboratory identification numbers as shown below. As shown in the chain of custody form, the samples of Imerys Talc America, Inc. (Luzenac) products were produced to the Keahey law firm by counsel for Luzenac, Craig D. Martin, Esq. of Brady, Radcliff & Brown, LLP of Mobile, AL. According to the information provided by Ms. Arnold, the original one pound containers were sent sealed in the same condition in which they had been received. It was requested that the samples be analyzed for asbestos. Analyses were conducted over the period of 13 February through 06 March 2013.

SAMPLES

<u>MVA #</u>	<u>Luzenac Label Description</u>
Y0151	Mistron 400C Powder Lot #S07124-00
Y0152	Nicron 504 Powder Lot #T01019
Y0153	Nicron 403 Powder Lot #T06010-65

ANALYSIS PROCEDURES

The containers were shaken and a representative portion was collected with a spatula from each sample from the approximate center of the container. Portions of the sub-samples were prepared and analyzed for asbestos by polarized light microscopy (PLM), scanning electron microscopy (SEM), analytical electron microscopy (AEM) and x-ray diffraction (XRD).

The samples were examined with an Olympus SZ-40 stereomicroscope at magnifications from 7X to 40X. Portions of the particulate found in the samples were mounted in Cargille refractive index liquids for analysis by polarized light microscopy (PLM) using an Olympus BH-2 polarized light microscope (PLM) with a magnification range from 100X to 1,000X. The PLM analyses followed the analytical procedures recommended by the U.S. Environmental Protection Agency (1). The PLM results for asbestos are given in terms of percent by volume. The sample was also analyzed by analytical electron microscopy (AEM) using a Philips CM120 transmission electron microscope (TEM) equipped with an Oxford INCA EDS (energy dispersive spectrometry) x-ray analysis system. For TEM analysis, the powder sample was dispersed in asbestos-free water, the particulate was filtered onto a membrane filter, and the filter was prepared for TEM grids using direct preparation procedures.



Representative portions from the samples were also examined and analyzed by scanning electron microscopy (SEM) using a JEOL JSM-6490LV coupled with a Thermo Scientific Noran System SIX x-ray energy dispersive spectrometry (EDS) system. SEM analysis for asbestos is based on consistency in morphology and x-ray elemental analysis with known standard asbestos materials. SEM results must be confirmed with either PLM or TEM analyses.

Quantitative XRD analysis was done by DCM Science Laboratory, Inc. in Wheat Ridge, CO by scanning over a range of 3° to 45° 2 θ using 40kV, 25mA Cu K α radiation. Mineral phases were identified with the aid of computer-assisted programs accessing a CD-ROM powder diffraction database. Mineral concentrations were based on relative peak heights and reference intensity ratios measured by DCM Science Laboratory, Inc.

RESULTS

As is summarized in Table 1, no asbestos was detected by PLM, TEM or SEM in any of the three Luzenac talc samples (Y0151-Mistron 400C; Y0152-Nicron 504; Y0153-Nicron 403). The TEM count sheets are shown in Appendix 1.

PLM found Sample Y0151 to contain primarily platy talc with some talc ribbons, and a trace (less than 1% by volume) of carbonate and a trace to 1% by volume of lizardite. Sample Y0152 contained primarily platy talc with some talc ribbons and traces of lizardite and a trace to 2% by volume of carbonate. Sample Y0153 contained primarily platy talc with some talc ribbons and traces of lizardite and 2-5% by volume of carbonate.

As shown in Table 2, XRD detected no amphibole or chrysotile minerals (Appendix 2).

**Table 1. Results of Microscopical Analysis of Imerys Talcs
MVA Scientific Consultants**

Microscope Technique	Y0151 Mistron 400C	Y0152 Nicron 504	Y0153 Nicron 403
PLM	NAD*	NAD	NAD
TEM	NAD**	NAD	NAD
SEM	NAD***	NAD	NAD

*NAD - No Asbestos Detected – The Analytical Sensitivity of PLM is less than 1% by Volume.

**NAD - No Asbestos Detected – The Analytical Sensitivity of TEM is less than 0.001% by weight.

***NAD - No Asbestos Detected – The Analytical Sensitivity of SEM has not been determined.

**Table 2. Results of X-ray Diffraction Analysis of Imerys Talcs
DCM Sciences (% by Weight)**

Phase	Y0151 Mistron 400C	Y0152 Nicron 504	Y0153 Nicron 403
Talc	93%	95%	90%
Lizardite	5%	-	-
Dolomite	-	3%	8%
Unaccounted	<5%	<5%	<5%

APPENDIX 1

TEM Count Sheets

MVA Project#	9391
MVA Sample#	Y0151
Client I.D.:	Mistron 400C
Instrument:	Philips 420
Magnification:	20,400
Acc. Voltage:	100

Amt Prepped:	0.01016g
Filter Area (mm ²):	1256
Filter Type:	PC
Analyses Analyzed:	20
Opening (mm ²):	0.01

Analyst: JRM
Date: 2/16/2013
Page: of
Comments: 1 ml

9391report-lmerysTalc030713s.docx

MVA Project#	9391
MVA Sample#	Y0152
Client I.D.:	Nicron 504
Instrument:	Philips 420
Magnification:	20,400
Acc. Voltage:	100

Amt Prepped:	0.00727
er Area (mm ²):	1256
Filter Type:	PC
ings Analyzed:	20
Opening (mm ²):	0.01

Analyst: JRM
Date: 2/16-17/2013
Page: of
Comments: 1 ml

9391report-lmerysTalc030713s.docx

MVA Project#	9391
MVA Sample#	Y0153
Client I.D.:	Nicron 403
Instrument:	Philips 420
Magnification:	20,400
Acc. Voltage:	100

Amt Prepped:	0.01256
er Area (mm ²):	1256
Filter Type:	PC
ings Analyzed:	20
Opening (mm ²):	0.01

Analyst: JRM
Date: 2/17/2013
Page: of
Comments: 1 ml

9391report-lmerysTalc030713s.docx

APPENDIX 2

DCM XRD Report



12421 W. 49th Avenue, Unit #6
Wheat Ridge, CO 80033 (303) 463-8270

X-Ray Diffraction Analysis
Page 1 of 1

Client:
MVA Scientific Consultants
3300 Breckinridge Blvd., Suite 400
Duluth, GA 30096

Analysis Date: 2-8-13
Reporting Date: 2-12-13
Receipt Date: 2-7-13
Client Job No.: 3926
Project Title: MVA9391
DCMSL Project: MVA64

Client Sample No.:	9391 Y0151	9391 Y0152	9391 Y0153
	IMERYS Talc	IMERYS Talc	IMERYS Talc
<u>Phase</u>			
Talc	93	95	90
Lizardite	5	-	-
Dolomite	-	3	8
Unaccounted	<5	<5	<5

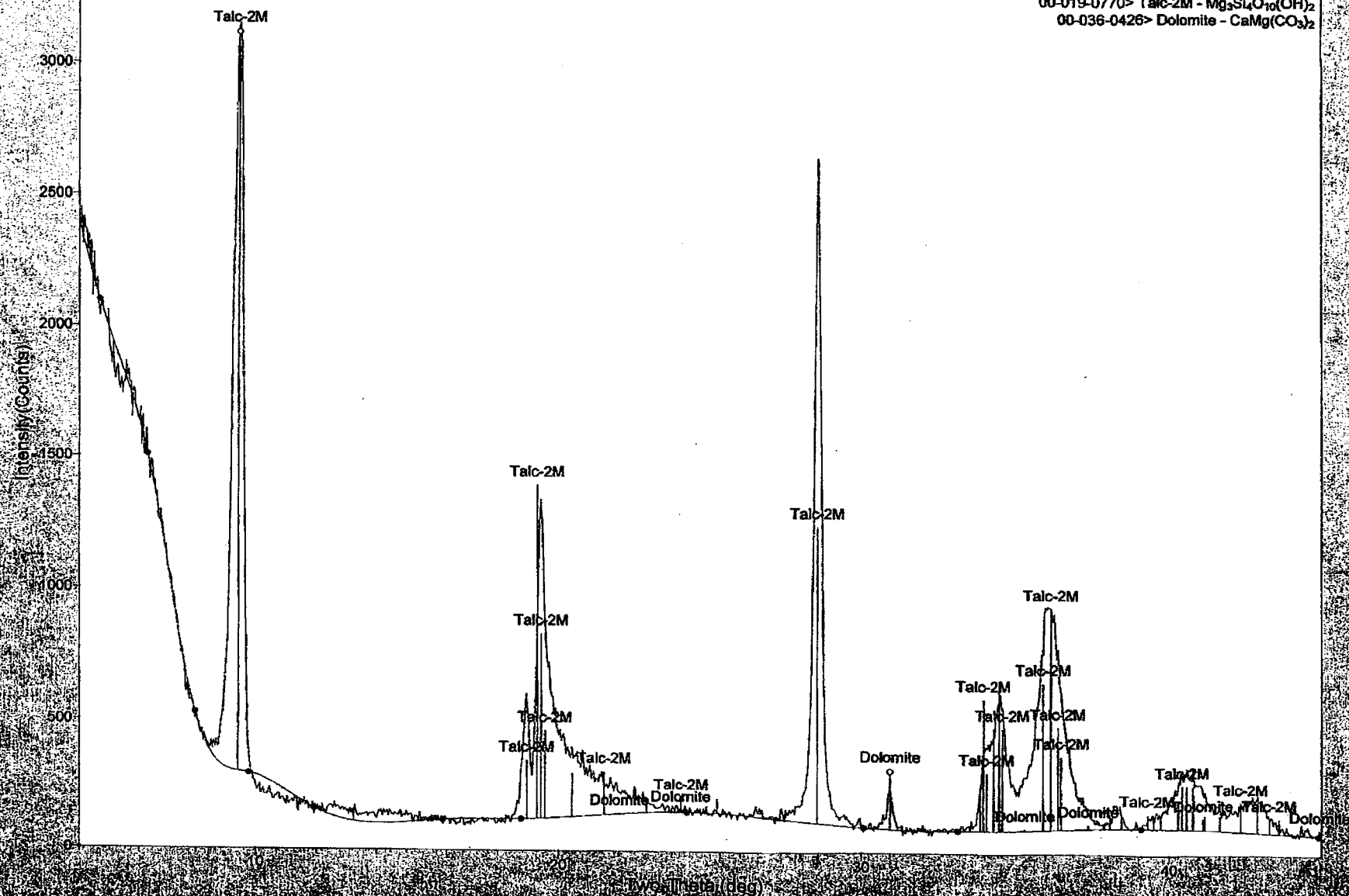
The samples were prepared for x-ray diffraction analysis and scanned over a range of 3° to 45° 2 θ Cu K α radiation, 40kV, 25 mA. Mineral phases were identified with the aid of computer-assisted programs accessing a cd-rom powder diffraction database. Estimates of mineral concentrations are based on relative peak heights an reference intensity ratios (RIR) measured in-house.

Ron Schott, Analyst

Two Theta (deg)

[MVA64-3.MDI] <PW1710> 9391Y0153:IMERYS TALC <

00-019-0770> Talc-2M - $\text{Mg}_3\text{Si}_4\text{O}_{10}(\text{OH})_2$
00-036-0426> Dolomite - $\text{CaMg}(\text{CO}_3)_2$



9391

**Chain of Custody – One pound (1 lb.) each samples of
Imerys Talc America, Inc. (Luzenac) products
produced to plaintiff's counsel by counsel for Luzenac
Received by plaintiff's counsel: January 17, 2013 via FedEx**

Products Received: Nicron 403 Nicron 504 Mistron 400C

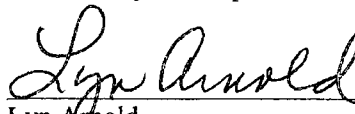
MVA #5

Luzenac Product Produced			Origin
Nicron 403	Nicron 504	Mistron 400C	Counsel for Luzenac
Y0153	Y0152	Y0151	

Received from: Craig D. Martin, Esq.
Brady, Radcliff & Brown, LLP
P. O. Box 1668
Mobile, AL 36633

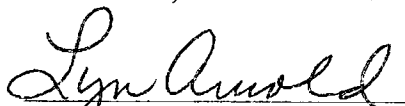
Received by: G. Patterson Keahey, P.C.
One Independence Plaza, Suite 612
Birmingham, AL 35209

Received by: Receptionist and delivered to desk of Lyn Arnold, Legal Assistant


Lyn Arnold

Received on: January 17, 2013 via FedEx

**January 18, 2013: FedEx package (box) opened by Lyn Arnold, Legal Assistant and
John Harris, Office Administrator**


Lyn Arnold

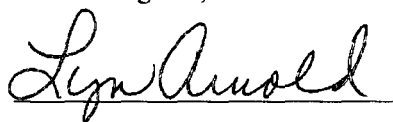

John Harris

9391

**Chain of Custody – One pound (1 lb.) each samples of
Imerys Talc America, Inc. (Luzenac) products
produced to plaintiff's counsel by counsel for Luzenac
Received by plaintiff's counsel: January 17, 2013 via FedEx
Dansby Sanders v. Bill Vann Company (Mobile Co. Circuit Court
Civil Action No.: 2010-900327)**

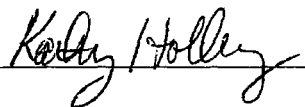
Products Received: Nicron 403 Nicron 504 Mistrion 400C

FROM: G. Patterson Keahey, P.C.
One Independence Plaza, Suite 612
Birmingham, AL 35209

By: 

Date: 2-4-13

TO: James R. Millette, Ph.D.
MVA Scientific Consultants
3300 Breckinridge Boulevard, Suite 400
Duluth, GA 30096

Received by: 

Date: 2/5/13

FROM: James R. Millette, Ph.D.
MVA Scientific Consultants
3300 Breckinridge Boulevard, Suite 400
Duluth, GA 30096

By: _____

Date: _____

TO: G. Patterson Keahey, P.C.
One Independence Plaza, Suite 612
Birmingham, AL 35209

Received by: _____

Date: _____

Nyctal Talc

