

000000 5 5

SNEAD 82 SP80278

Speed.
No. CC3
HARTING, MN
LOS ANGELES, CHICAGO, LOS AN, OH
MCKINSON, TALENTIST GROVE, GA
U.S.A.
82

PLAINTIFF'S
EXHIBIT
CAM-86

PLAINTIFF'S
EXHIBIT
tabbies
Lehman-4
9/8/82 P2

McCRONE 0001

COL 00477

June 21, 1976

Dr. Ian Stewart
McGrene Associates
2620 South Michigan Avenue
Chicago, IL 60616

Dear Ian,

This is to confirm a conversation I had with Gene Grieger concerning future TEM-EELS analyses of talc for Celgate-Palmolive Company. To save time I asked Gene if our supplier could send a sample directly to your lab which you would not analyze until we had a chance to screen an identical sample in our laboratory by x-ray diffraction and optical microscopy. If the material were found asbestos-free by us we would telephone you the O.K. to go ahead, if not, we would ask you to discard it. This would save time since I am now re-packaging talc for shipment to you after we have analyzed it. By the proposed method we will save the 2 to 3 days required for the sample to travel from Piscataway to Chicago.

Gene indicated there are no problems with this arrangement as far as McGrene Associates is concerned. This will be a convenience for us, and I certainly appreciate your willingness to work in this way.

Sincerely,



J. P. Sisko

JPS:ls

cc: G. R. Grieger

McGr.

COL 00478

RECEIVED JUN 24 1976

COLGATE-PALMOLIVE COMPANY

A Delaware Corporation

RESEARCH AND DEVELOPMENT DEPARTMENT

909 River Road • Piscataway, New Jersey 08854

June 22, 1976

Mr. Gene R. Grieger
McCrone Associates
2820 South Michigan Avenue
Chicago, IL 60616

Dear Gene,

This is to confirm our telephone conversation of yesterday concerning tale lot number 6-13-14 for our Jeffersonville plant. Please run TEM-EDS analysis for asbestos on this sample. I will telephone you a Purchase Order number to cover costs.

Yours truly,



J. P. Simko

JPS:ls

Show this number
and price on in-
voice, packing
slip and package.

635737

BILL TO

COLGATE-PALMOLIVE COMPANY

A DELAWARE CORPORATION

105 HUDSON STREET, JERSEY CITY, N.J. 07302

ATTENTION

DATE 7/29/76

YOUR NUMBER

McCrone Associates

2820 South Michigan Avenue

Chicago, Illinois 60616

Attn: Dr. Ian Stewart

RECEIVED AUG 2 1976

SHIP TO

25 98 GREENE ST.
JERSEY CITY, N.J. 07302
14 908 RIVER RD.
PISCATAWAY, N.J. 08854
13 20 GRAND ST.
JERSEY CITY, N.J. 07302
16 RECEIVING STATION
JEFFERSONVILLE,
INDIANA 47130
19 RECEIVING STATION
KANSAS CITY, KAN. 64105
22 710 CARLTON ST.
BERKELEY, CALIF. 94710
26 600 PARK AVE.
NEW YORK, N.Y. 10022
23

ATTN: Receiving Clerk

DISCOUNT TERMS

1 2/10 N/30
2 N/30
3 1/10 N/30
4 Net Cash
5 Trade

SHIPPING TERMS

1 FOB Destination
2 FOB Shipping Pt.
(Pre-Pay & Bill/See Below
3 FOB Shipping Pt. (Collect)
City

FROM: 7/26/76
TO: 12/31/76

IF ABOVE DATE CANNOT BE MET NOTIFY

YOU ARE AUTHORIZED TO FURNISH THE ARTICLES LISTED HEREON IN ACCORDANCE WITH THE TERMS AND CONDITIONS ON THE FACE AND BACK OF THIS ORDER.

QUANTITY AND UNIT	SYMBOL NUMBER	PRICE
	This purchase order based to cover the following analysis: (as required):	
	1. Transmission Electron Microscopy and Selected Area Electron Diffraction Analysis on talc samples (TEM/SAEDA)	\$300. each sample
	2. X-ray analysis	50. each
	TAX EXEMPT.	
	5500 (off) GRC	

VENDOR TO PROTECT ALL METAL PARTS AGAINST CORROSION BY SUITABLE PROTECTIVE SEALING.

ALL INVOICES and bills of lading authorized transportation charges, must be supported by prepaid freight bill or
copy of original bill of lading. ALL
ARK PACKAGES with purchase order number, symbol number, contents and quantity. Acceptance of bill
of lading is to be deemed a certification that you have read and agreed to the terms and conditions on the back of this
invoice. PAYMENT WILL NOT BE MADE AGAINST PRO FORMA INVOICE.
SAVE UNLOADING space and time for heavy loads by telephoning 201-433-1300 extension 209.

COLGATE-PALMOLIVE COMPANY

NEW JERSEY SALES TAX MUST BE BILLED UNLESS EXEMPTED BY ATTACHED CERTIFICATE.

McCRONE 0004

COL 00480

Colgate- Palmolive Company

MA 5259

Invoice no.	Date	Amount	
10175	31 Mar 76	2,000	
10245	19 Apr 76	900.00	Invoice 10246, 19 Apr 76 1,800
10287	22 Apr 76	600	
10363	14 May 76	1,000	
10576	24 May 76	875.00	
177	25 Jun 76	300.00	4-15-16 635-229 Simpl #5-28-29 P# 635-382
178	25 Jun 76	300.00	" #4-29-30 " 635-357
179	25 Jun 76	300.00	" 4-27-28 " 635-217
227	12 Jul 76	300.00	" 6-13-14 P# 635-503*

\$300 6-23-24 P# 635-53
Ltr dtd 7-6-76
Billed 7/30

2 on Blanket

Walter C. McCrone Associates, Inc.

McCRONE 0005

COL 00481

RECEIVED AUG 9 1976

August 9, 1976

Mrs. Nancy Macrone
Macrone Associates
2820 South Michigan Avenue
Chicago, IL 60616

Dear Nancy,

This is to confirm our telephone conversation of this date with respect to TSM-SALT analysis of talc samples from Colgate-Palmolive. My records show the following lot numbers and purchase order numbers which should accompany billing of these items:

<u>Lot #</u>	<u>PO #</u>
6-13-14	635503
6-22-24	635516
7-18-19	635737
7-24-25	635737

Purchase order number 635737 is a blanket number which will cover future requests. We also submitted a lot, number 6-21-22, for which we did not request analysis.

If there are any discrepancies where requests are not covered by purchase order numbers, please let me know. I believe that this brings us up to date. Thank you.


J. P. Sinko

JPS:ls

cc: Mr. G. Greiger

McCRONE 0006

COL 00482

COLGATE-PALMOLIVE COMPANY

A Delaware Corporation

RESEARCH AND DEVELOPMENT DEPARTMENT

909 River Road - Piscataway, New Jersey 08854

August 6, 1976

Mr. Gene Greiger
McCrone Associates
2820 South Michigan Avenue
Chicago, IL 60616

Dear Gene,

Enclosed is a talc sample coded O-II for asbestos analysis by TEM-SAED.
Charges for this sample should be made to Purchase Order #635737.
Thank you.

Joe

J. P. Sinko

JPS:ls

C 5133-2

COL 00483

COLGATE-PALMOLIVE COMPANY

A Delaware Corporation

RESEARCH AND DEVELOPMENT DEPARTMENT

909 River Road • Piscataway, New Jersey 08854

RECEIVED AUG 13 1976

August 11, 1976

Mr. Gene Greiger
McCrone Associates
2820 South Michigan Avenue
Chicago, IL 60616

Dear Gene,

This is to confirm our telephone conversation of August 10 requesting TEM-
SAED analysis of talc lot 8-6-7. Please charge our blanket purchase order
number to this work. Thanks.



J. P. Simko

JPS:ls

C 5135-2

McCRONE 0008

COL 00484



walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

31 August 1976

Dr. Joseph Simko, Jr.
Colgate-Palmolive Company
R&D Department
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed the sample of talc designated as 8-6-7.

We found this talc to be free of asbestiform minerals, both amphiboles and serpentines. This is an excellent quality talc, that is very platy and with a high percentage of fine plates.

Thank you for consulting McCrone Associates. If there are any further questions concerning this report or the data contained therein, please feel free to contact me.

Very truly yours,

Gene R. Grieger
Gene R. Grieger
Senior Research Physicist

GRG:fe
ref: 5500

2520 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0009

COL 00485



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

31 August 1976

Dr. Joseph Simko
Colgate-Palmolive Company
R&D Department
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have examined a sample designated by Code C-II.

This sample was completely free from asbestiform materials, both amphibole and serpentine. The material was platy and showed a moderate level of fine particles. In general, therefore, it was an excellent sample of talc.

If there should be any questions regarding these results, please feel free to contact us.

Very truly yours,

Gene R. Grieger

Gene R. Grieger
Senior Research Physicist

GRG:fe
ref: 5500



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

31 August 1976

Dr. Joseph Simko, Jr.
Colgate-Palmolive Company
909 River Road
Placataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, I have analyzed a sample of talc designated as 8-10-11.

In this sample we found no amphiboles and no serpentines. We found this sample to be free of all asbestiform minerals. The sample consisted of a large portion of fines approximately 15-25% most of which were platy. There was a small portion, 5-7%, which was not platy and just general irregular particles which were also thin enough to be transparent to the electron beam. The difference here was that they were not thin sheets with well defined crystalline edges. There was also somewhat less than one percent of talc fibers and shards.

This material seems to be quite good in general and better than the average that we have seen. As I mentioned previously, there was slightly less fines than in Sample 8-6-7 which we analyzed previously.

Thank you for consulting McCrone Associates and if you should have any questions concerning these results please contact us.

Very truly yours,

Gene R. Grieger
Gene R. Grieger
Senior Research Physicist

GRG:fe
ref: 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/342-7100 • CABLE: CHEMICRONE

McCRONE 0011

COL 00487



8-10-11
(50,000X)

walter c. m^ccrone associates, inc.

McCRONE 0012

COL 00488



8-10-11
(50,000X)

walter c. mc crone associates, inc.

McCRONE 0013

COL 00489



file

walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

15 September 1976

Dr. Joseph P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of talc designated as 8-28-29. We found no asbestiform minerals in this talc. We did, however, find a few extremely fine talc ribbons and particles of rolled talc, of which we took electron photomicrographs, and they are included with this report. Again we found that there was a fairly substantial portion of this talc which was fine in nature, less than 5 μm in general. The talc constitutes an excellent cosmetic quality talc and is extremely platy.

If there are any further questions concerning this report or the data contained therein, please contact me.

Yours sincerely,

Gene R. Grieger
Senior Research Physicist

GRG:fe
enclosures
ref: 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/642-7100 • CABLE: OHEMICRONE

McCRONE 0014

COL 00490



walter c. m^ccrone associates, inc.

McCRONE 0015

COL 00491



walter c. mc crone associates, inc.

McCRONE 0016

COL 00492



file
walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

5 October 1976

Dr. J. P. Simko, Jr.
Colgate-Palmolive Company
R&D Department
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed two samples of talc. These talcs were designated as 9-8-9 and 9-9-10. These two samples were extremely similar in that both showed a high percentage of fines, some rolled talc and fine talc ribbons.

In Sample 9-8-9 we found one approximately 1 μ m long which appeared morphologically to be similar to chrysotile. However, the SAED pattern positively eliminated this as a possibility.

In Sample 9-9-10 we also found one particle which, although similar in size to chrysotile, was different morphologically and gave no diffraction pattern.

Both samples were platy and with the exception of the two fibers mentioned (one from each sample) there was nothing which remotely resembled chrysotile or amphibole.

If there are any further questions concerning this report or the data contained therein, please contact me.

Very truly yours,

Gene R. Grieger
Senior Research Physicist

GRG:fe
enclosures
ref: 5500

* 600

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0017

COL 00493



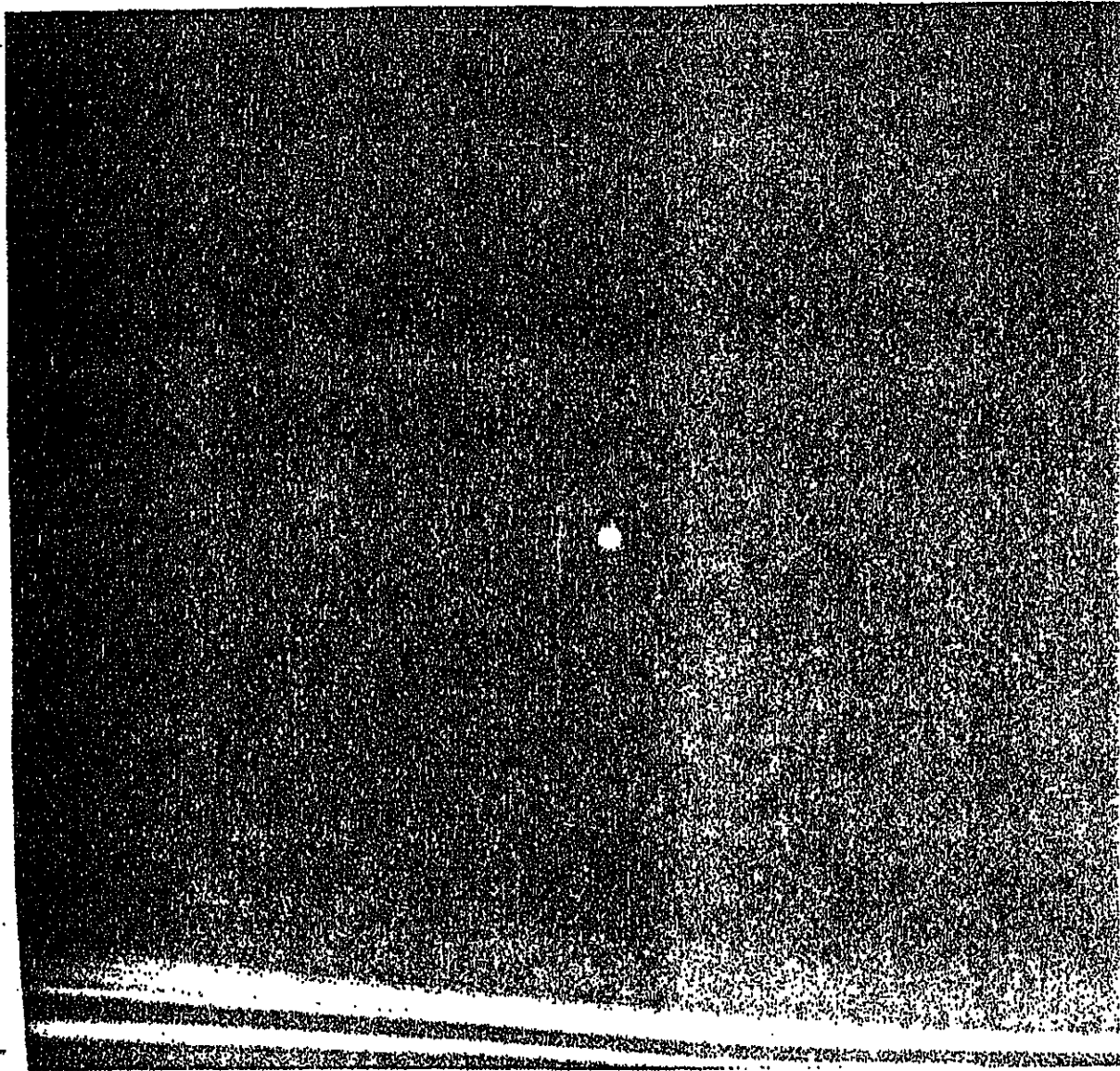
9-9-10

(50,000 X)

walter c. mc crone associates, inc.

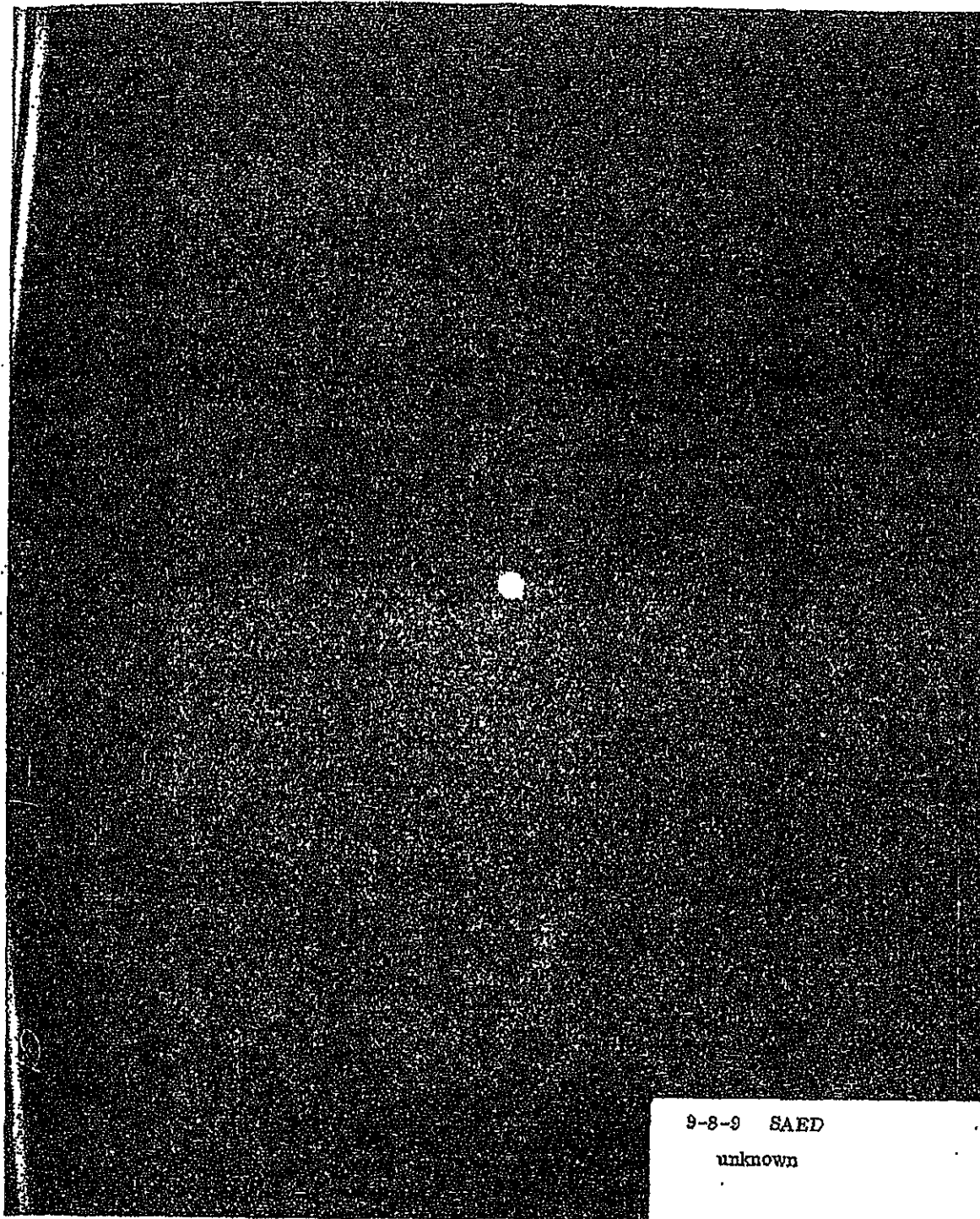
McCRONE 0018

COL 00494



McCRONE 0019

COL 00495



9-8-9 SAED

unknown

walter c. mc crone associates, inc.

McCRONE 0020

COL 00496



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

28 October 1976

Dr. J. P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of talc designated as Lot 10-7-8.

We found this talc to be completely free from asbestiform minerals. There were, however, some talc ribbons and some shards. The particles seem to be generally equiaxial and not as platy as some of the talc which we have analyzed. This talc generally seemed to be less platy than most cosmetic talcs which we have analyzed, and there were not as many fines in this material as we have found in some previous samples.

Thank you for consulting McCrone Associates. If there are any further questions concerning this report or the data contained herein, please contact me.

Yours sincerely,

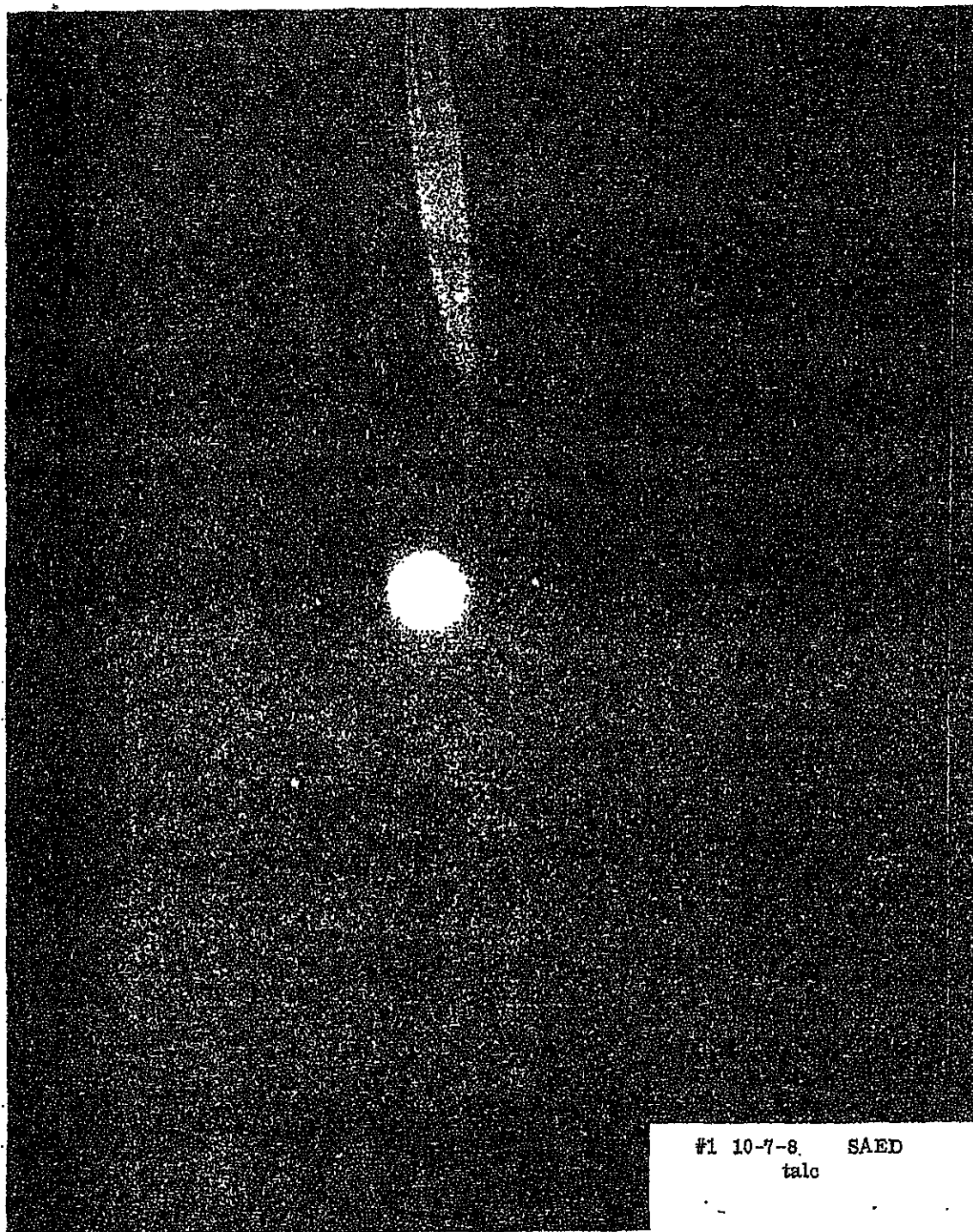
Gene R. Grieger
Gene R. Grieger
Senior Research Physicist

GRG:fe
encl.
ref: 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0021

COL 00497



#1 10-7-8. SAED
talc

walter c. mcCrone associates, Inc.

McCRONE 0022

COL 00498

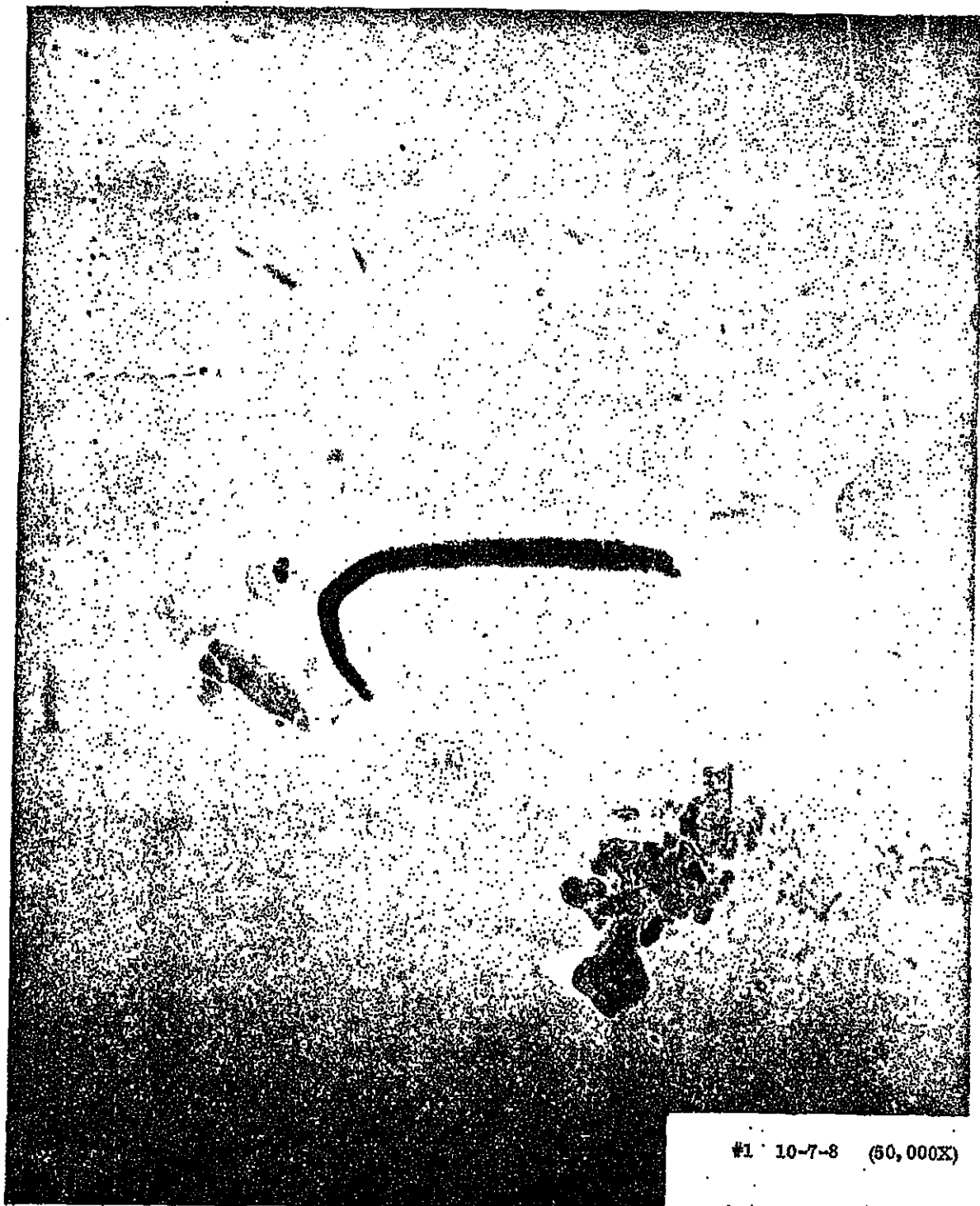


10-7-8 (12,000X)

walter c. mcCrone associates, inc.

McCRONE 0023

COL 00499



#1 10-7-8 (50,000X)

walter c. mccrone associates, inc.

McCRONE 0024

COL 00500

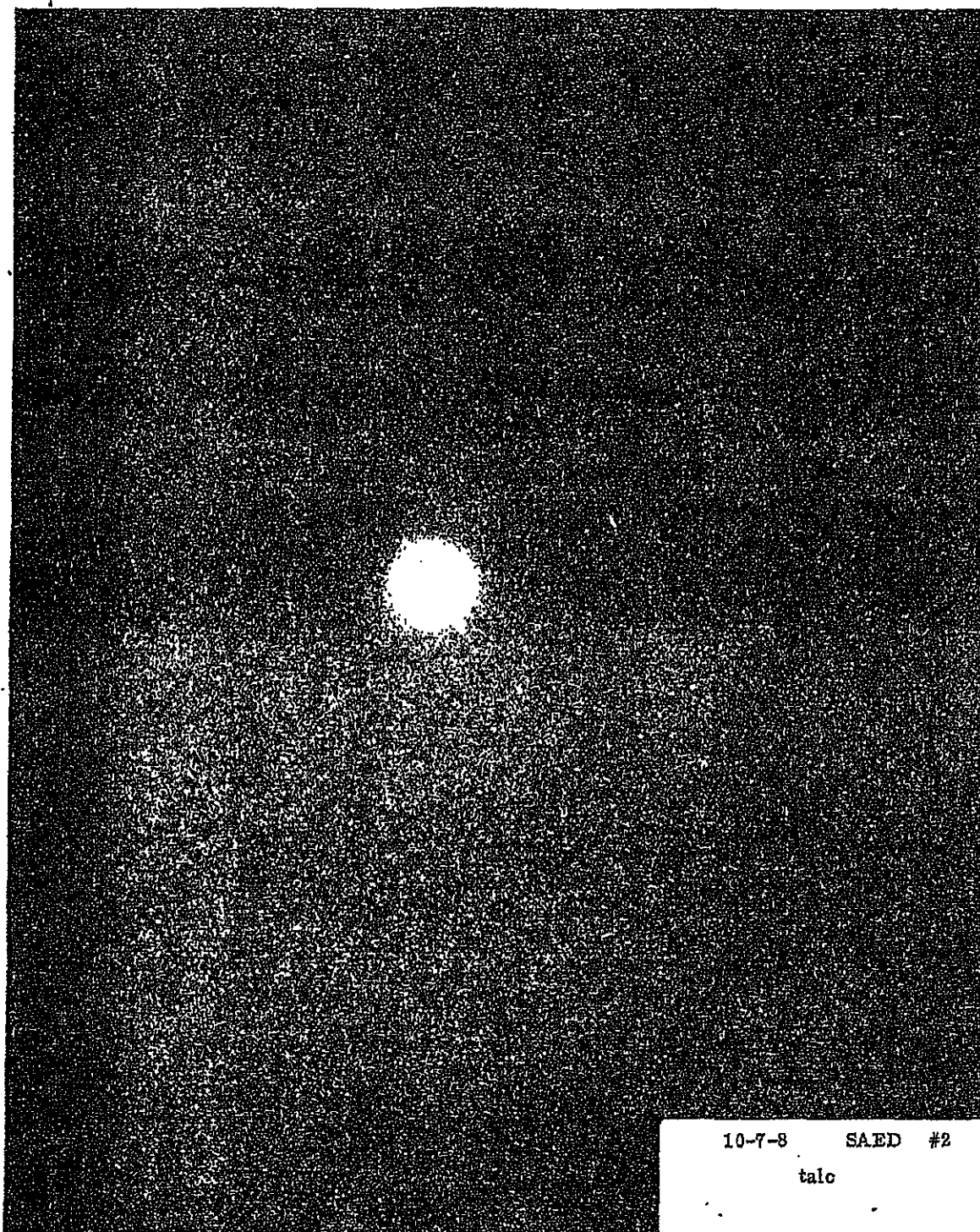


10-7-8 (12,000X)

walter c. mcCrone associates, inc.

McCRONE 0025

COL 00501



10-7-8 SAED #2
talc

walter c. macrone associates, inc.

McCRONE 0026

COL 00502



MA 5500 #2
10-7-8 (50,000X)

walter c. mocrone associates, inc.

McCRONE 0027

COL 00503

COLGATE-PALMOLIVE COMPANY

A Division of Colgate-Palmolive

RESEARCH AND DEVELOPMENT DEPARTMENT

909 River Road • Piscataway, New Jersey 08854

November 1, 1976

Mr. Gene Grubger
McCrone Associates
2820 South Michigan Avenue
Chicago, IL 60616

Dear Gene,

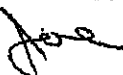
Enclosed are three talc samples for TEM-SABD analysis for
asbestiform minerals. Please do sample 4915 first and as soon
as possible. The other two are important but of lower priority.
Two are finished product talcs, both different, and one is a
raw material as follows:

4915	Finished Product
68-130	" "
Mag	Raw material talc

I will phone purchase orders. Only 4915 may go on our blanket
purchase order.

Many thanks.

Sincerely,


J. P. Simko, Jr.

JPS:ls

Enclosure



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

18 November 1976

Dr. J.P. Simko, Jr.
Colgate Palmolive
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction we have analyzed a sample of talc designated as 10-20-21. We found this material to be free of asbestiform minerals; the only non - talc that we found was some sodium chloride crystals. The transmission electron micrographs and selected area diffraction patterns of these salt crystals are included with this report.

Thank you for consulting McCrone Associates. If there are any further questions concerning this report or the data contained therein, please feel free to contact me.

Very truly yours,

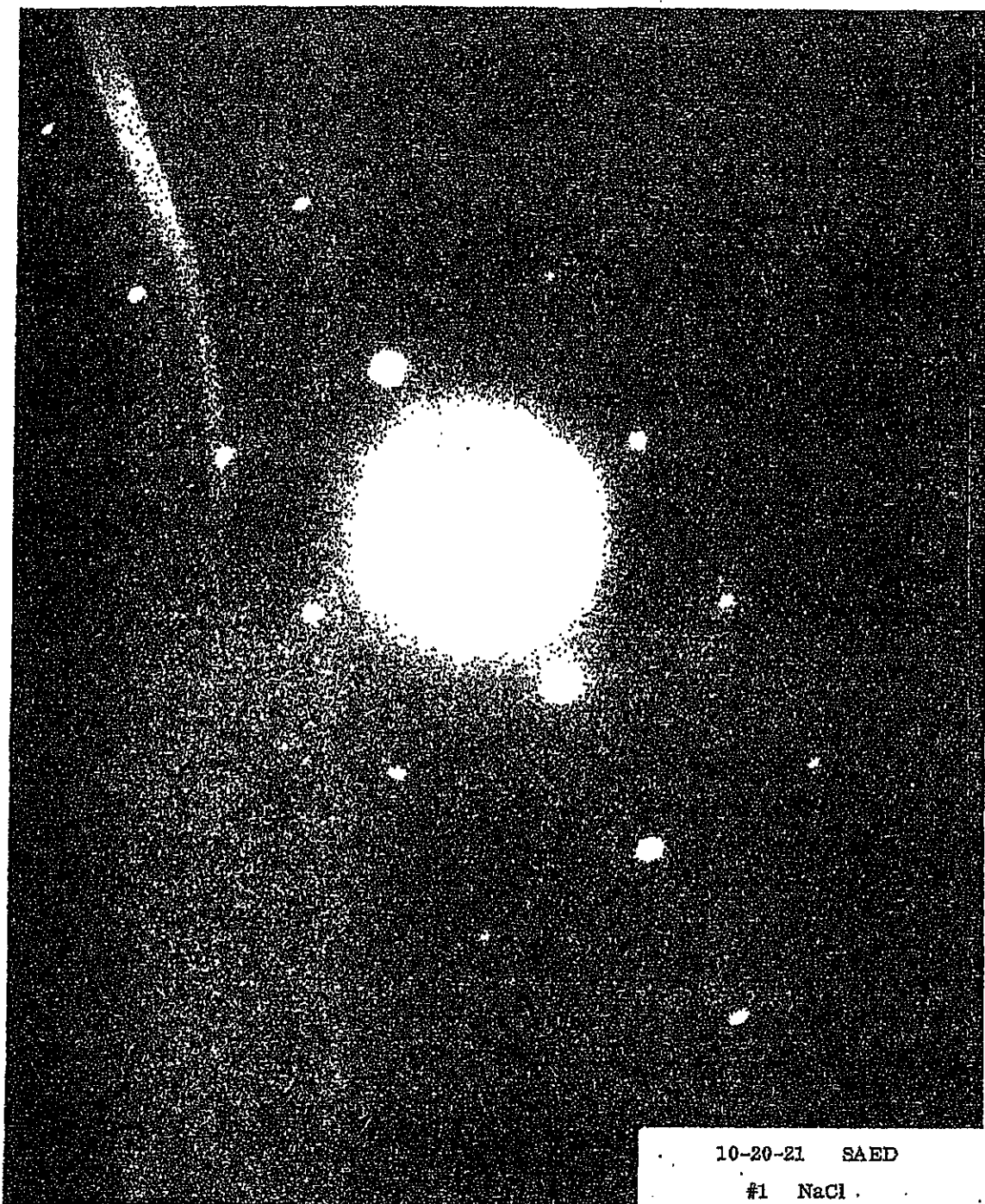
Gene R. Grieger
Gene R. Grieger
Senior Research Physicist

GRG:jd
Ref. MA 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/642-7100 • CABLE: CHEMICRONE

McCRONE 0029

COL 00505



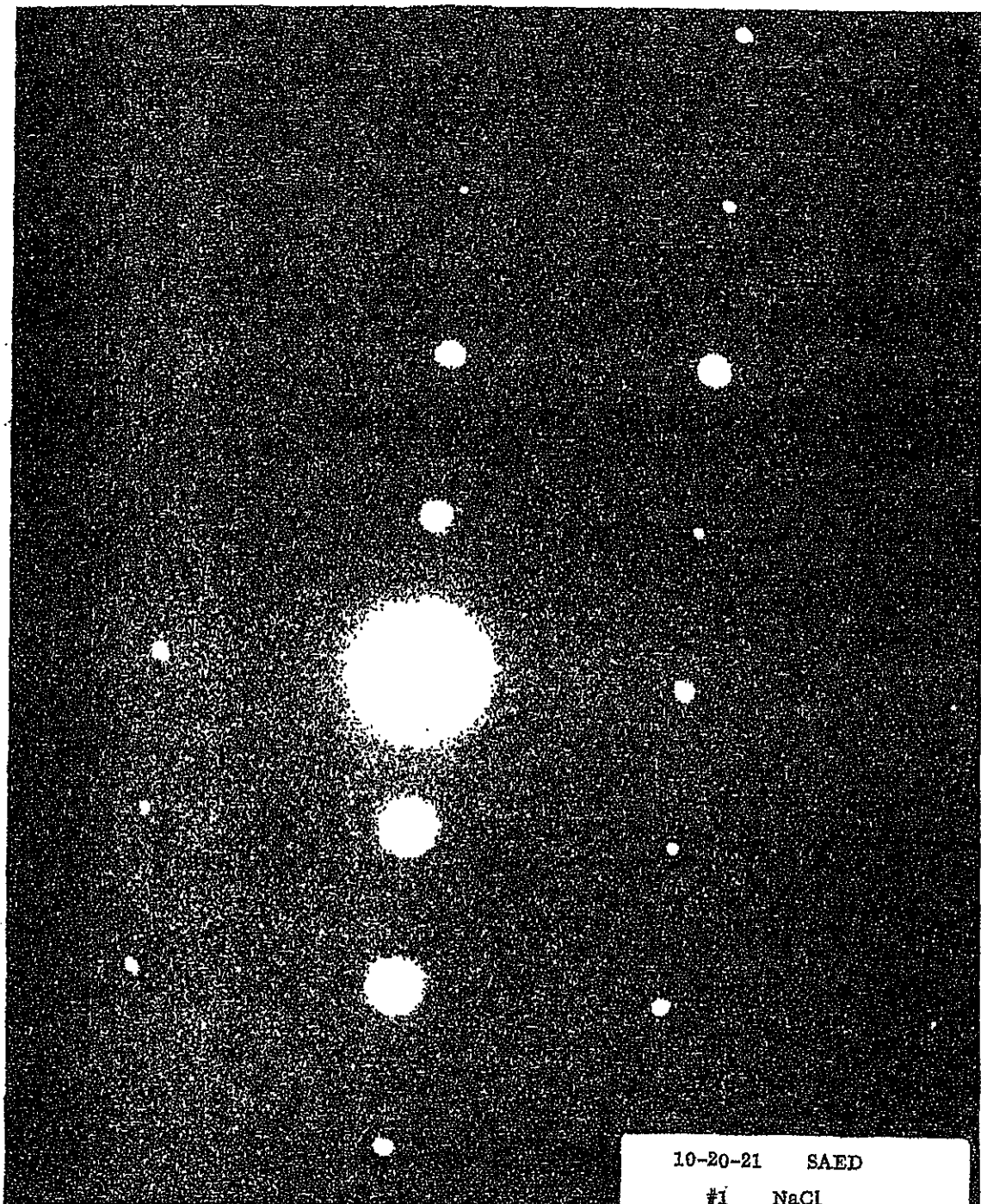
10-20-21 SAED

#1 NaCl

walter c. mc crone associates, inc.

McCRONE 0030

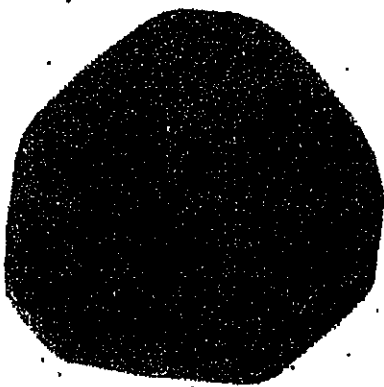
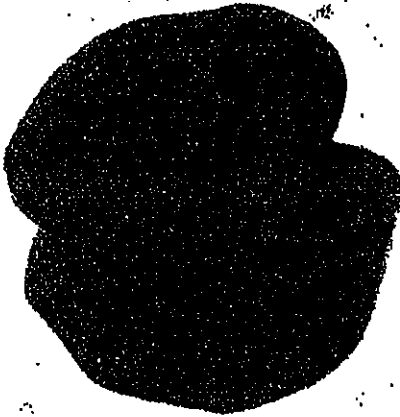
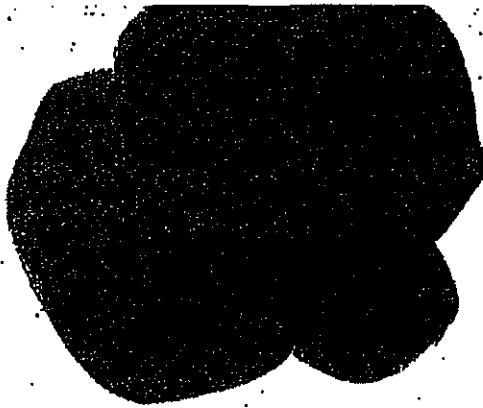
COL 00506



walter c. mccrone associates, inc.

McCRONE 0031

COL 00507



10-20-21 (50,000X)

#1 NaCl

walter a. mc crone associates, inc.

McCRONE 0032

COL 00508

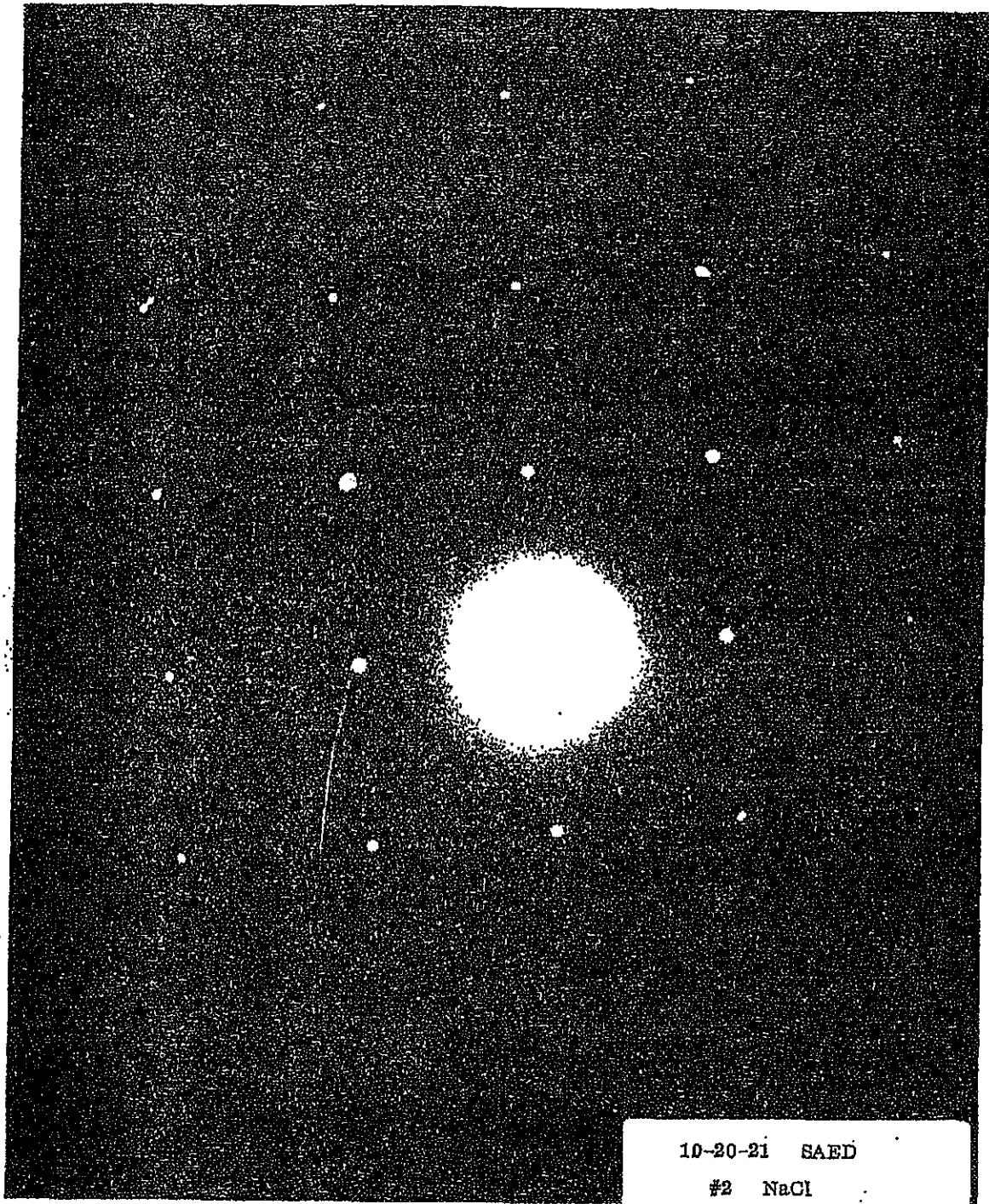
10-20-21 (50,000X)

#2 NaCl

walter c. m^ccrone associates, inc.

McCRONE 0033

COL 00509



10-20-21 SAED

#2 NaCl

walter c. mccrone associates, inc.

McCRONE 0034

COL 00510



walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

18 November 1976

Dr. J.P. Simko, Jr.
Colgate Palmolive
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction we have analyzed a sample of talc designated as 10-20-21. We found this material to be free of asbestiform minerals; the only non - talc that we found was some sodium chloride crystals. The transmission electron micrographs and selected area diffraction patterns of these salt crystals are included with this report.

Thank you for consulting McCrone Associates. If there are any further questions concerning this report or the data contained therein, please feel free to contact me.

Very truly yours,

Gene R. Grieger
Senior Research Physicist

GRG:jd
Ref. MA 5500



File
walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

18 November 1976

Dr. J. P. Simko
Colgate Palmolive
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area diffraction we have examined a sample of talc designated as 4915. In this talc we found one fiber of tremolite approximately 2 micrometers by 1/2 micrometer. Using selected area diffraction and zone analysis to give the angles between spots we positively identified this as tremolite. We examined a further preparation from this sample and found no other tremolite. This particular fiber would not represent more than a few parts per million, less than 5 parts per million of asbestiform minerals and certainly may well just be stray contamination.

Thank you for consulting McCrone Associates, if there are any further questions concerning this report or the data contained therein please feel free to contact me.

Very truly yours,

Gene R. Grieger
Senior Research Physicist

GRG:jd
Ref. MA 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/642-7100 • CABLE: CHEMICRONE

McCRONE 0036

COL 00512



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

18 November 1976

Dr. J.P. Simko
Colgate Palmolive
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area diffraction we have examined a sample of talc designated as 4915. In this talc we found one fiber of tremolite approximately 2 micrometers by 1/2 micrometer. Using selected area diffraction and zone analysis to give the angles between spots we positively identified this as tremolite. We examined a further preparation from this sample and found no other tremolite. This particular fiber would not represent more than a few parts per million, less than 5 parts per million of asbestiform minerals and certainly may well just be stray contamination.

Thank you for consulting McCrone Associates, if there are any further questions concerning this report or the data contained therein please feel free to contact me.

Very truly yours,

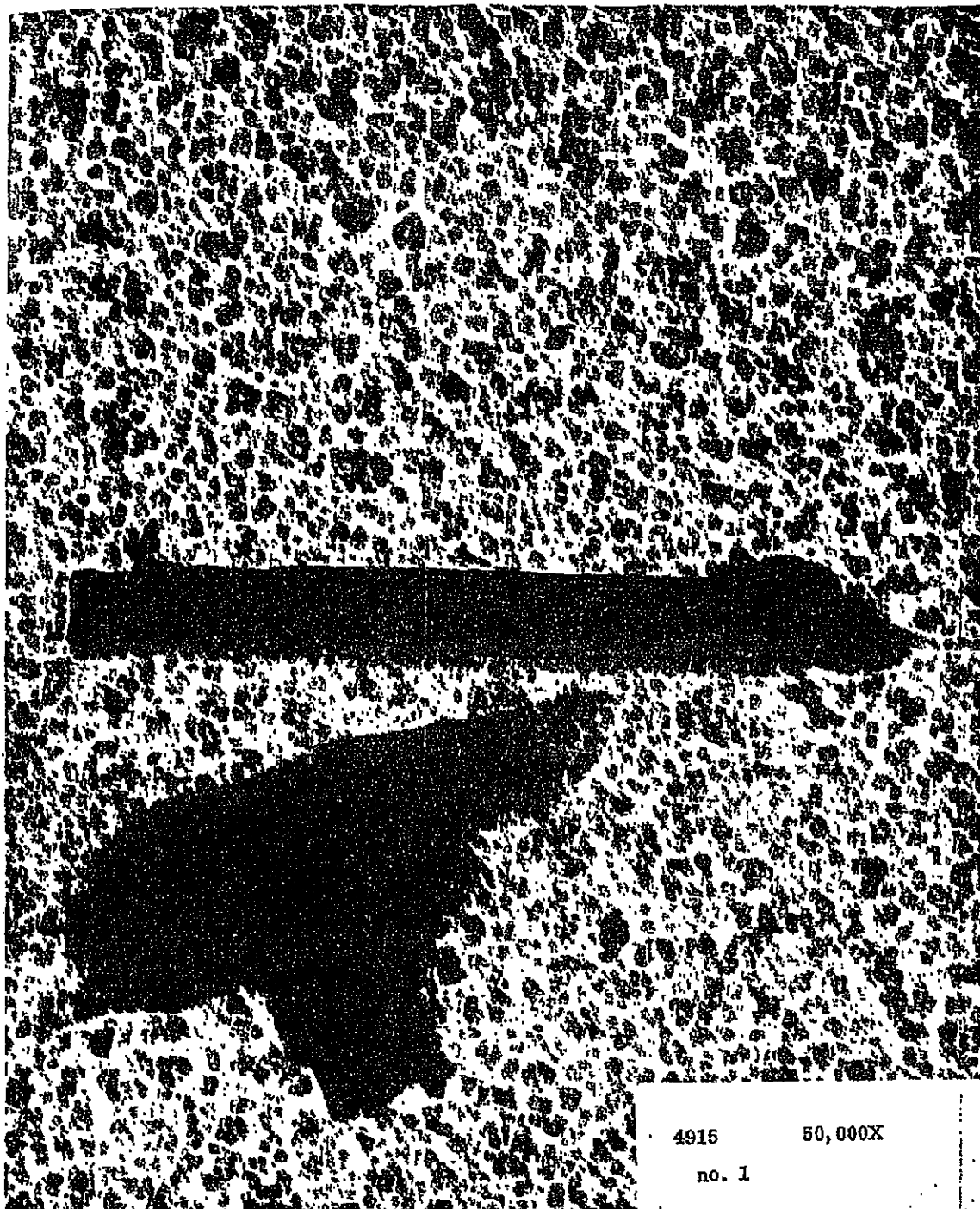
Gene R. Grieger
Gene R. Grieger
Senior Research Physicist

GRG:jd
Ref. MA 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 812/842-7100 • CABLE: CHEMICRONE

McCRONE 0037

COL 00513



4915

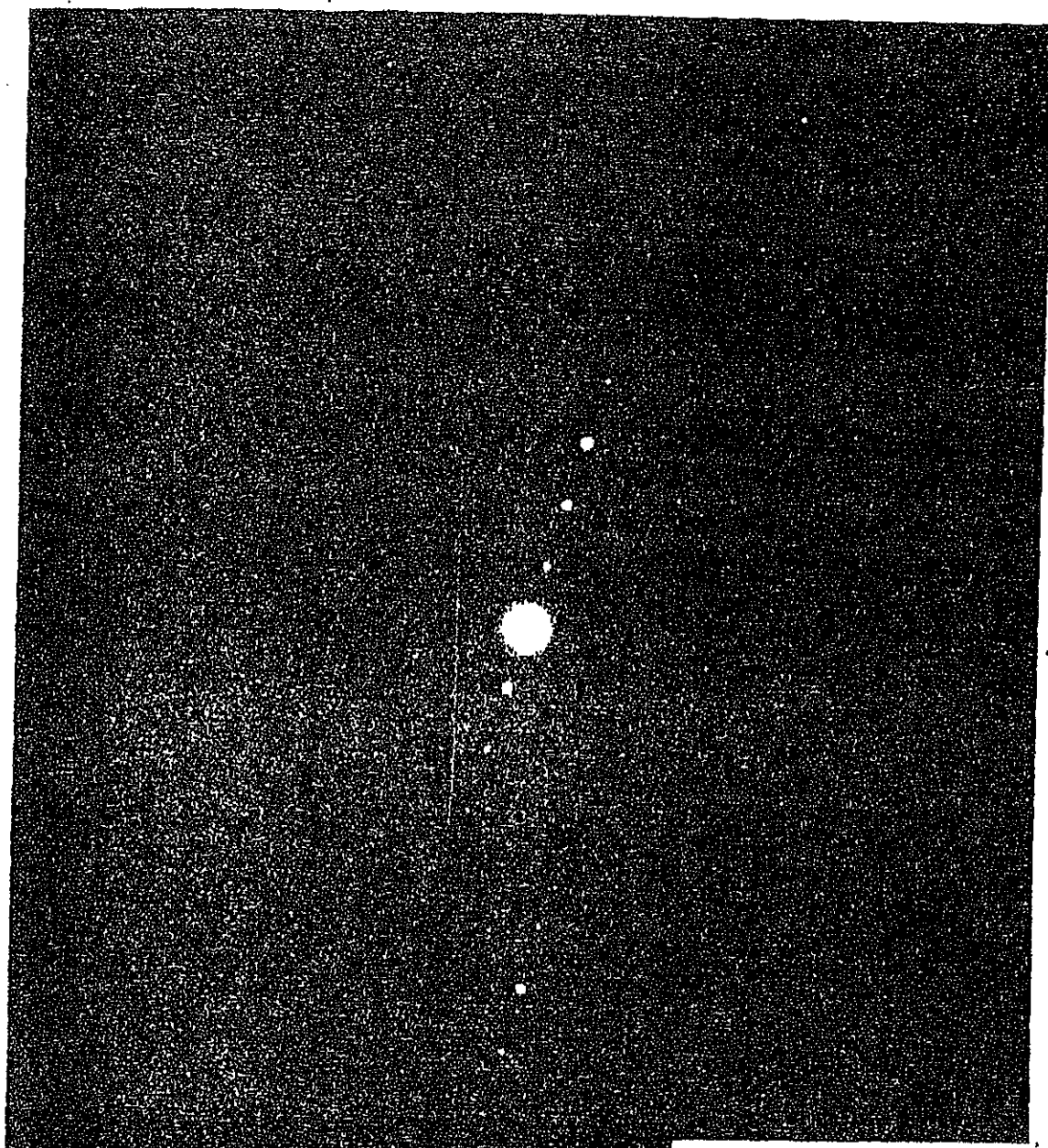
50,000X

no. 1

walter c. mc crone associates, inc.

McCRONE 0038

COL 00514



4915 no. 1 SAED

Tremolite

walter c. mc crone associates, inc.

McCRONE 0039

COL 00515

636155

Show this number
and prefix on in-
voices, packing
slips and packages.

YOU ARE AUTHORIZED TO FURNISH THE ARTICLES LISTED HEREON IN ACCORDANCE WITH THE TERMS AND CONDITIONS ON THE FACE AND BACK OF THIS ORDER.		
QUANTITY AND UNIT	SYMBOL NUMBER	PRICE
	Transmission Electron Microscopy and Selected Area Electron Diffraction Analysis of two Talco samples labelled as follows: 66-130 Mag This is a one time request: NOTE: Samples sent under separate cover to Mr. Gene Grieger of McCrone on 11/1/76	<i>affair</i> 5000/27
TAX EXEMPT		

VENDOR TO PROTECT ALL METAL PARTS AGAINST CORROSION BY SUITABLE PROTECTIVE SEALING.

SELLERS INVOICES that include authorized transportation charges, must be supported by prepaid freight bill or copy of original bill of lading.
MARK PACKAGES with purchase order number, symbol number, contents and quantity. Acceptance of this order is to be deemed a certification that you have read and agreed to the terms and conditions on the back hereof. **PAYMENT WILL NOT BE MADE AGAINST PRO FORMA INVOICE.**
RESERVE UNLOADING space and time for heavy loads by telephoning: 201-432-1300 extension 309.

COLGATE-PALMOLIVE COMPANY

E

NEW JERSEY SALES TAX MUST BE BILLED UNLESS EXEMPTED BY ATTACHED CERTIFICATE

McCRONE 0040

COL 00516

file
 walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

2 December 1976

Dr. Joseph P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have examined two samples of talc which were shipped to us as special lots. These talcs were designated as MAG 11-1-76 and 68-130, dated 11/1/76.

The first set of these two talcs, MAG 11/1/76, was an excellent example of talc. It was extremely platy, had an excellent particle size distribution and no asbestiform minerals. We did, however, find some slight traces of sodium chloride in this material, but that was the only extraneous material which we could find in this sample.

The second sample, 68-130 dated 11/1/76, showed some rolled talc, talc ribbons, talc fibers and an extremely high percentage of fines, but otherwise was extremely platy and again did not show any asbestiform minerals, nor was there any platy antigorite. This did not look as good a sample of talc as the MAG 11-1-76 sample in that it had a lot of fibers, even though they were talc.

Thank you for consulting McCrone Associates. If there are any further questions concerning this report or the data contained herein, please feel free to contact us.

Yours sincerely,

Gene R. Grieger
Senior Research Physicist

GRG:fe
ref: 5500 - P.O. 686155

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: OHEMICRONE

McCRONE 0041

COL 00517



walter c. mc crone associates, inc.

McCRONE 0042

COL 00518



walter c. mc crone associates, inc.

McCRONE 0043

COL 00519

COLGATE-PALMOLIVE COMPANY

A Delaware Corporation

RESEARCH AND DEVELOPMENT DEPARTMENT

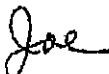
909 River Road • Piscataway, New Jersey 08854

December 7, 1976

Gene Grieger
McCrone Associates
2820 South Michigan Avenue
Chicago, IL 60616

Dear Gene,

Enclosed is a talc sample labeled ABE. Please do TEM and SAED on it.
Charge to our blanket purchase order. Thanks.



J. P. Simko

JPS:ls

Enclosure

C 5135-2

McCRONE 0044

COL 00520



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

3 January 1977

Dr. Joseph P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of talc identified as talc ABE and dated 12/6/76. We found this talc to be completely free of asbestiform minerals. We did, however, find that it had a few fine talc ribbons and some talc fibers. We also found this to be fairly low to moderate in fines and not as platy as the sample designated as MAG which we previously analyzed.

Thank you for consulting McCrone Associates and if there are any further questions concerning this report or the data contained herein, please feel free to contact me.

Very truly yours,

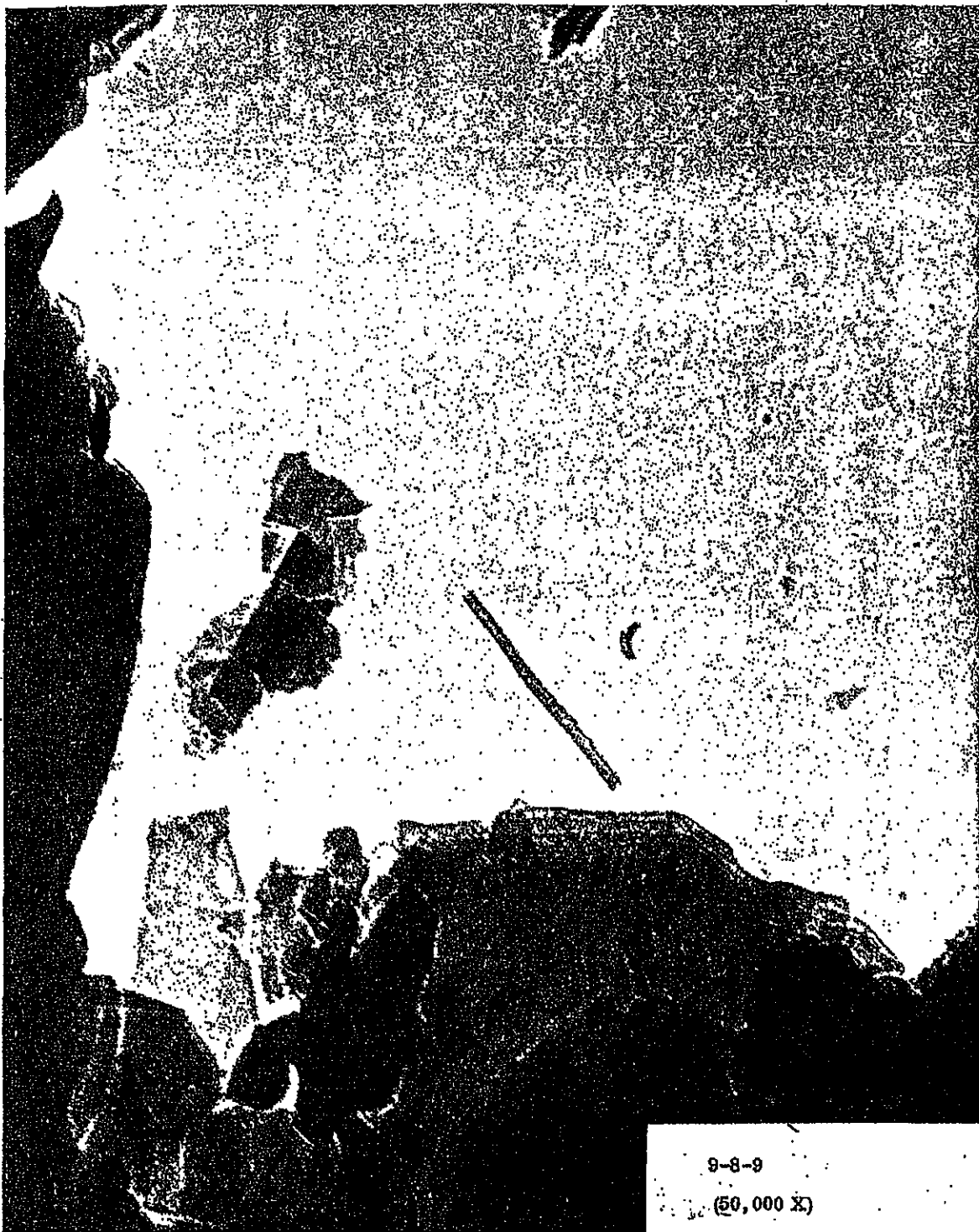
Gene R. Grieger
Senior Research Physicist

GRG:fe
encl.
ref: 5500

2820 SOUTH MICHIGAN AVENUE - CHICAGO, ILLINOIS 60618 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0045

COL 00521



walter c. m^ocrone associates, inc.

McCRONE 0046

COL 00522



file

walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

17 January 1977

Dr. Joseph P. Simko
Colgate-Palmolive
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction we have analyzed your latest sample of talc designated as Lot 1-5-8. The date on this sample was erroneously given as 1-5-76 and should be 1-5-77. In this talc we found no indication of asbestiform minerals. This talc is extremely platy, and in general better than the average talc which we have seen from this supplier. Because of its platiness we find some fine talc ribbons and fine rolled talc fibers which appear inevitable on grinding such platy material.

Thank you for consulting McCrone Associates. If there are any further questions concerning this report or the data contained therein, please feel free to contact me.

Very truly yours,

Gene R. Grieger
Senior Research Physicist

GRG:jd
Ref. MA 5500

2220 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0047

COL 00523



file

walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

21 January 1977

Mr. J. P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Mr. Simko:

We have completed our determination of the asbestos content of the talc samples which you submitted to us (Talc ABE), using the techniques of x-ray diffraction and light microscopy.

The results are given in the attached sheet and the x-ray diffraction pattern. If there should be any questions concerning these results please contact us.

Yours sincerely,

Ralph J. Hinch, Jr.
Research Chemist

RJH:fe
attach.
ref: 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/642-7100 • CABLE: CHEMICRONE

McCRONE 0048

COL 00524

Date January 12, 1977

Client Colgate-Palmolive MA Project 5500

Sample Description Talc ABE

X-RAY DIFFRACTION

Serpentine Content none detected

Amphibole Content none detected

Comments Present: dolomite and
trace of α - SiO_2 .

R. J. Kline, Jr.

LIGHT MICROSCOPY

Serpentine Content none detected

Amphibole Content none detected

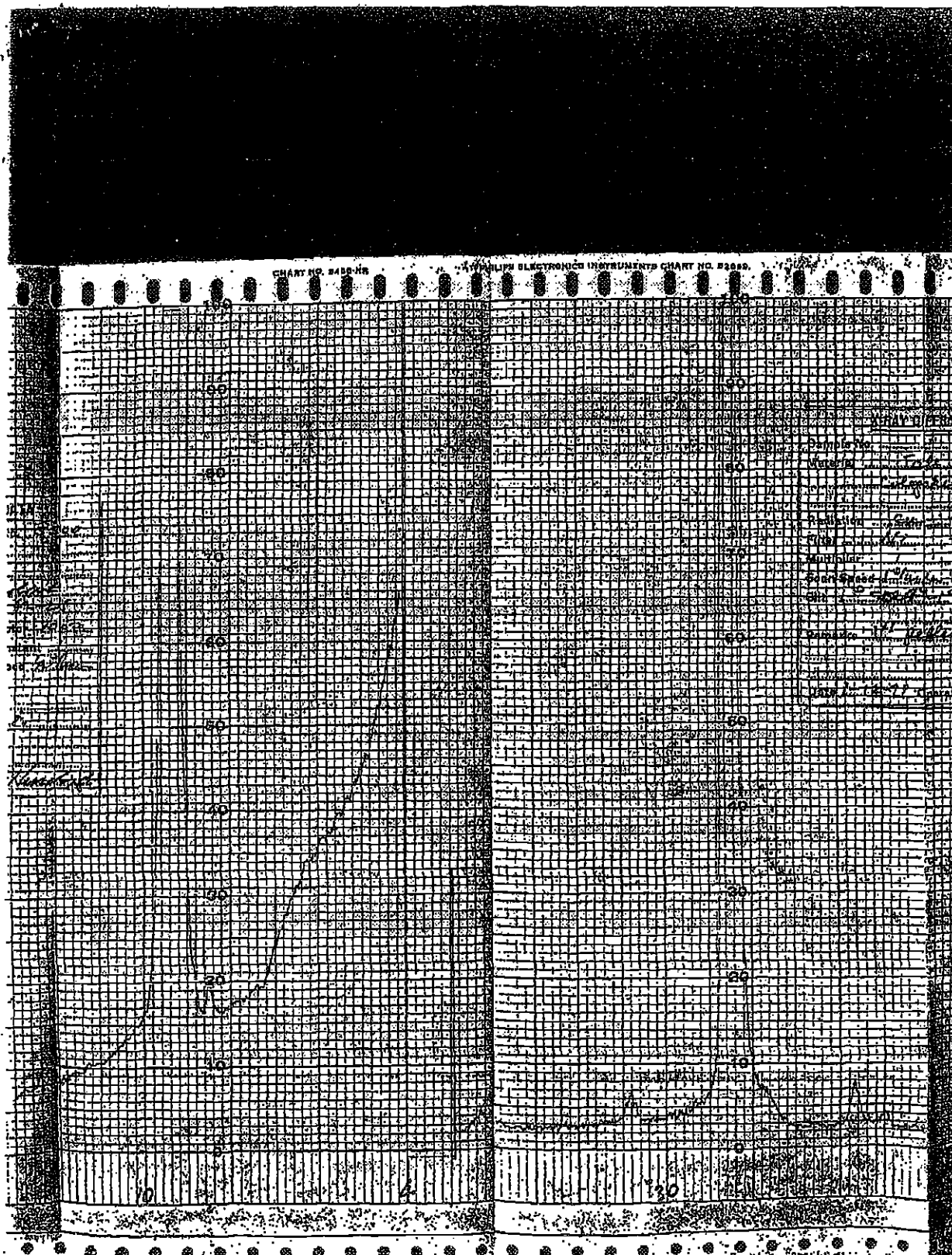
Comments 1.2% dolomite & 1.2% α -quartz

W.C. McCrone

walter c. mccrone associates, inc.

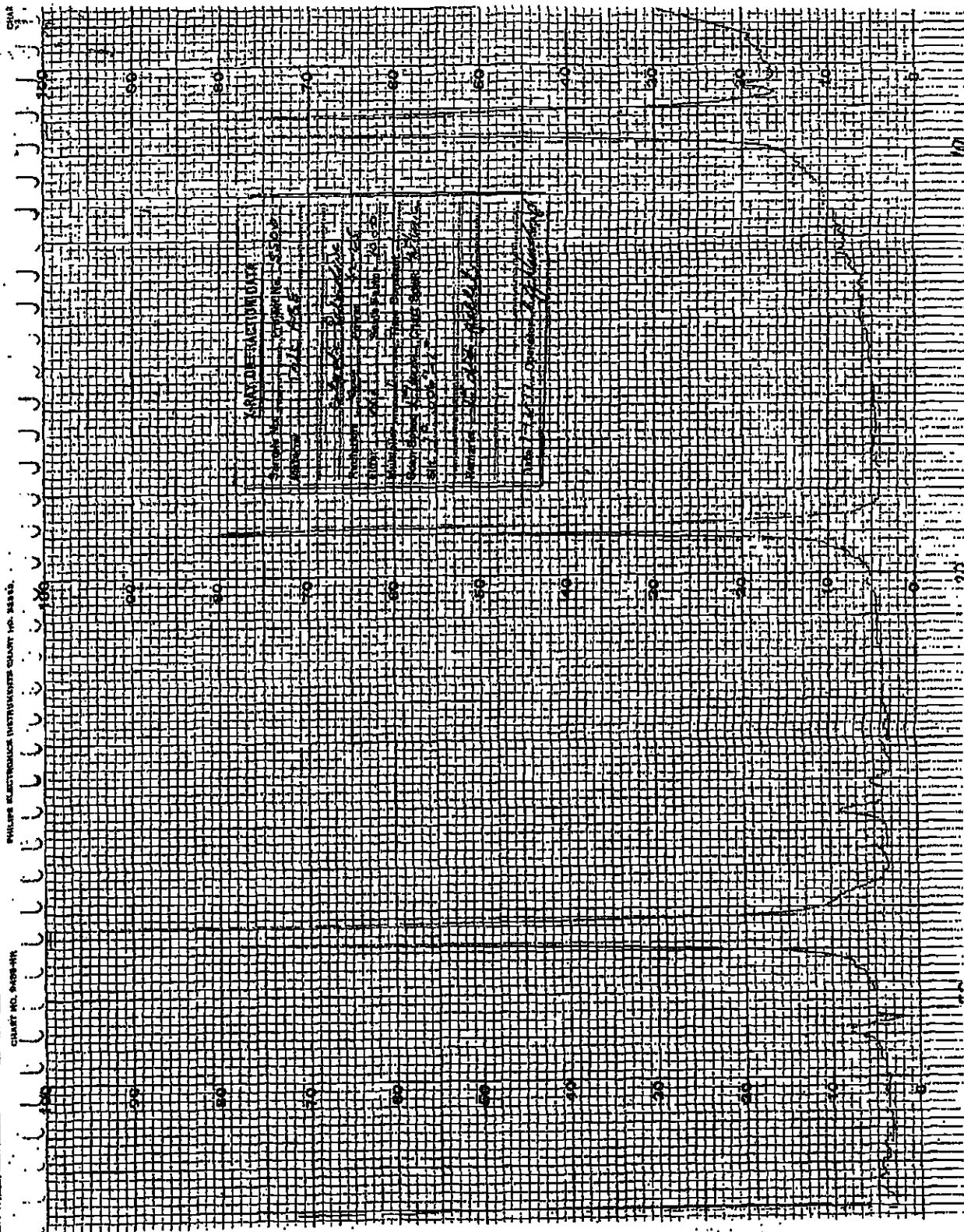
McCRONE 0049

COL 00525



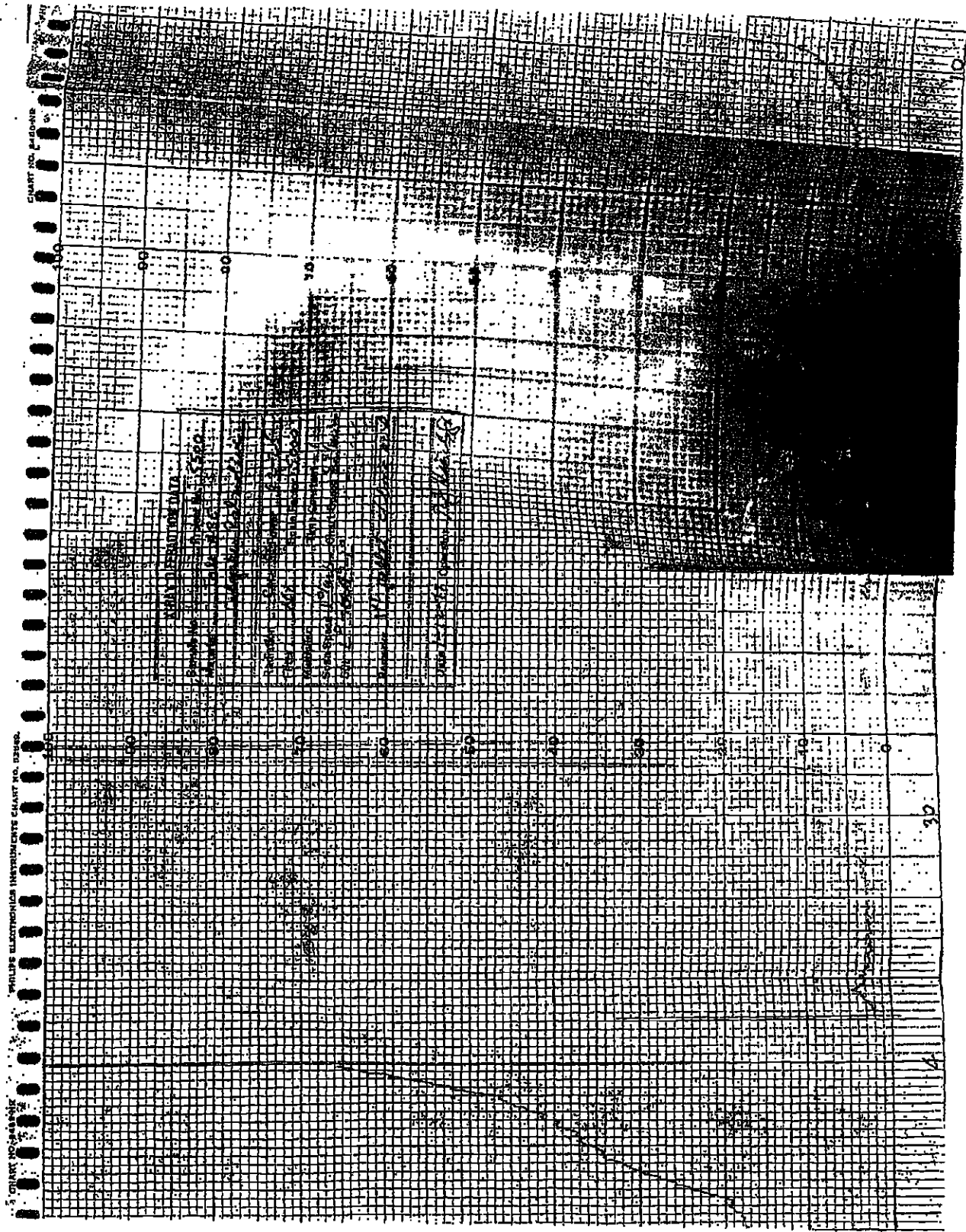
McCRONE 0052

COL 00528



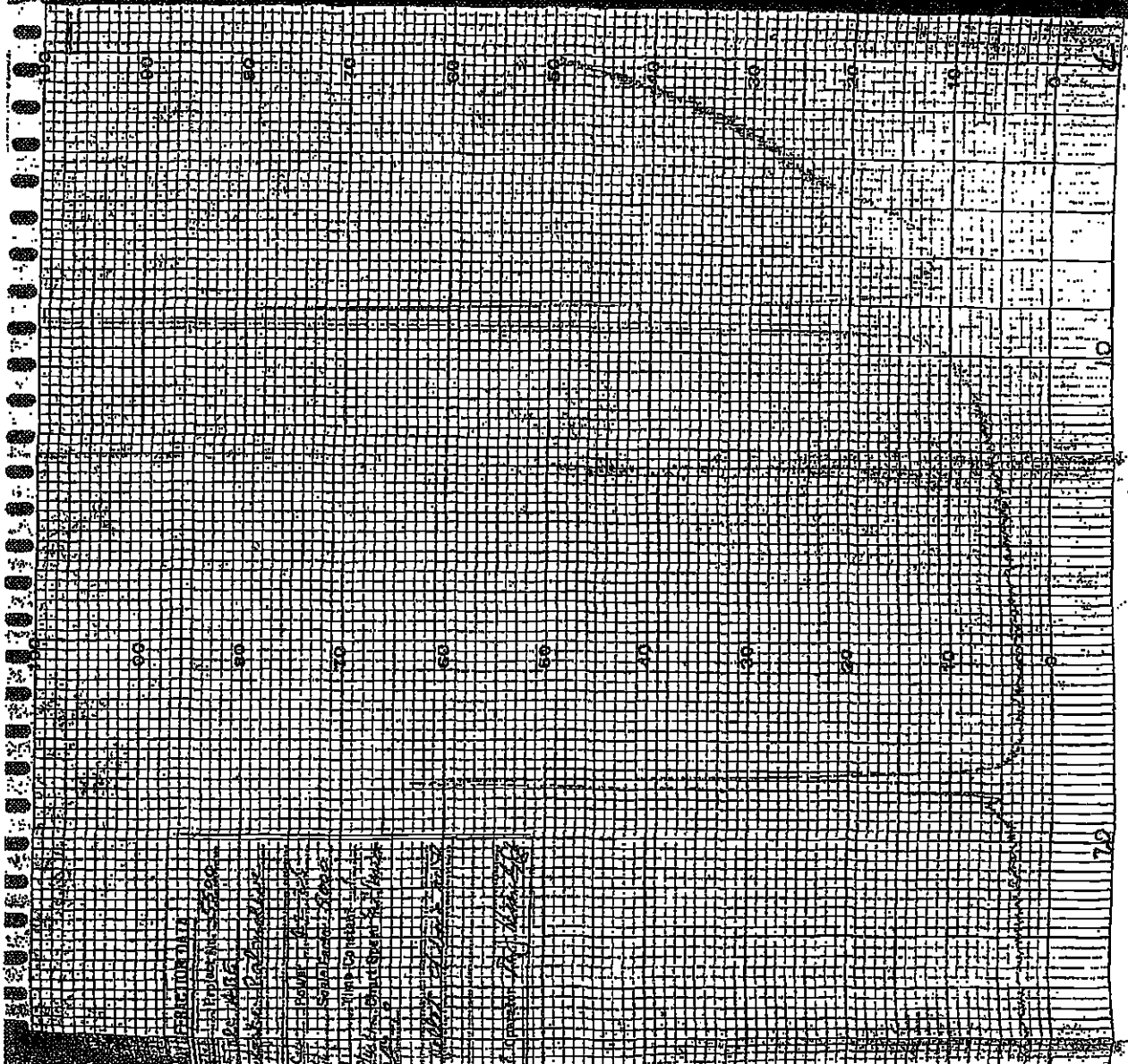
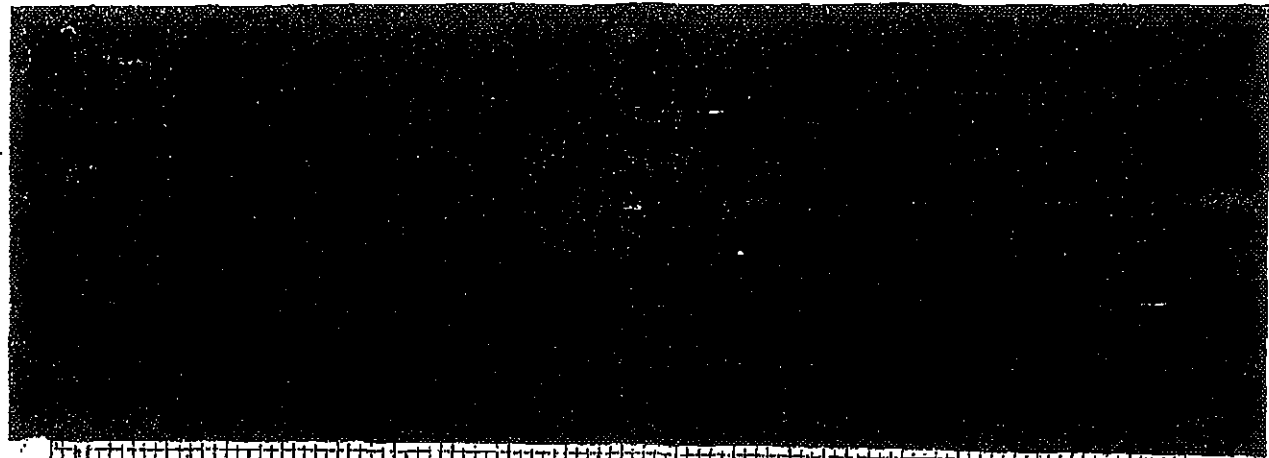
McCRONE 0053

COL 00529



McCRONE 0054

COL 00530



RECEIVED FEB 03 1977

COLGATE-PALMOLIVE COMPANY

A Delaware Corporation

RESEARCH AND DEVELOPMENT DEPARTMENT

909 River Road • Piscataway, New Jersey 08854

February 1, 1977

Mr. Gene Grieger
McCrone Associates
2820 South Michigan Avenue
Chicago, IL 60616

Dear Gene,

Enclosed is a sample of talc labeled 4166. Please do TEM-SAED analysis for asbestos minerals. Charge to our open purchase order number.
Thanks.



J. P. Simko

JPS:ls

Enclosure

Q 5136-2

McCRONE 0056

COL 00532



file

walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

10 February 1977

Dr. Joseph P. Simko
Colgate Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction we have analyzed a talc designated as lot 1-21-22 from the 1977 series. We found no asbestiform minerals in this talc and the talc was not extremely platy. What plates there were, were rather thick. We did find some shards, some sodium chloride, and a moderate to high level of fines.

Thank you for consulting McCrone Associates. If there are any further questions concerning this report, please contact me.

Very truly yours,

Gene R. Grieger
Senior Research Scientist

GRG:jd
Ref. MA 5500

2520 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0057

COL 00533



file

walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

11 February 1977

Dr. Joseph P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of talc designated by the number 4166. In this talc we found no asbestiform minerals. The plates which we found were rather thick and the material was not very platy. There were some shards and moderate to high fines.

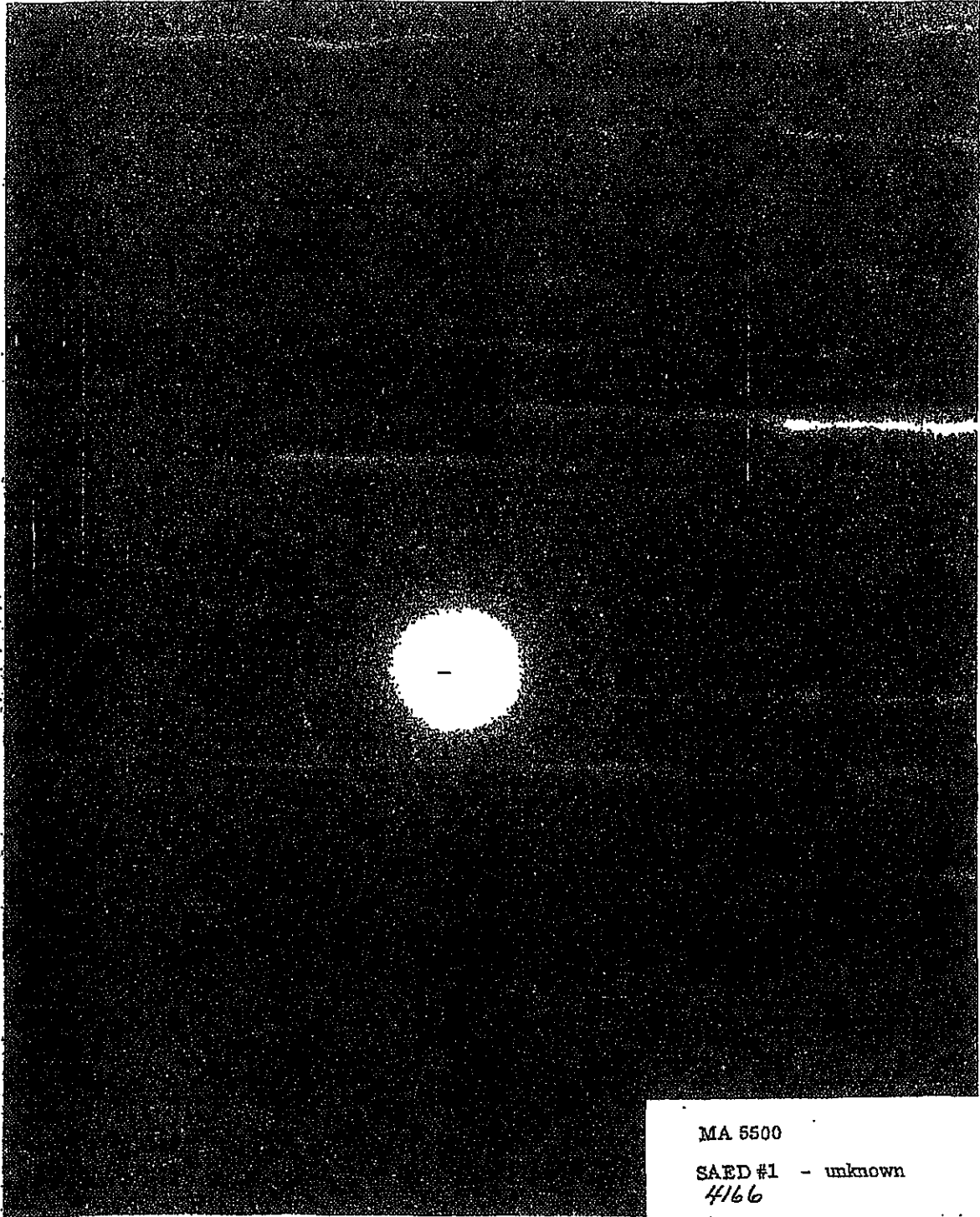
We did find three fibers in this sample. Two of these were organic and did not diffract. The third was quite obviously not chrysotile but did give a weak ring pattern consisting of one ring which could not be positively identified.

Thank you for consulting McCrone Associates and if you should have any questions concerning these results, please contact us.

Sincerely,

Gene R. Grieger
Gene R. Grieger
Senior Research Physicist

GRG:fe
ref: 5500



MA 5500

SAED #1 - unknown
4/66

walter c. mc crone associates, inc.

McCRONE 0059

COL 00535



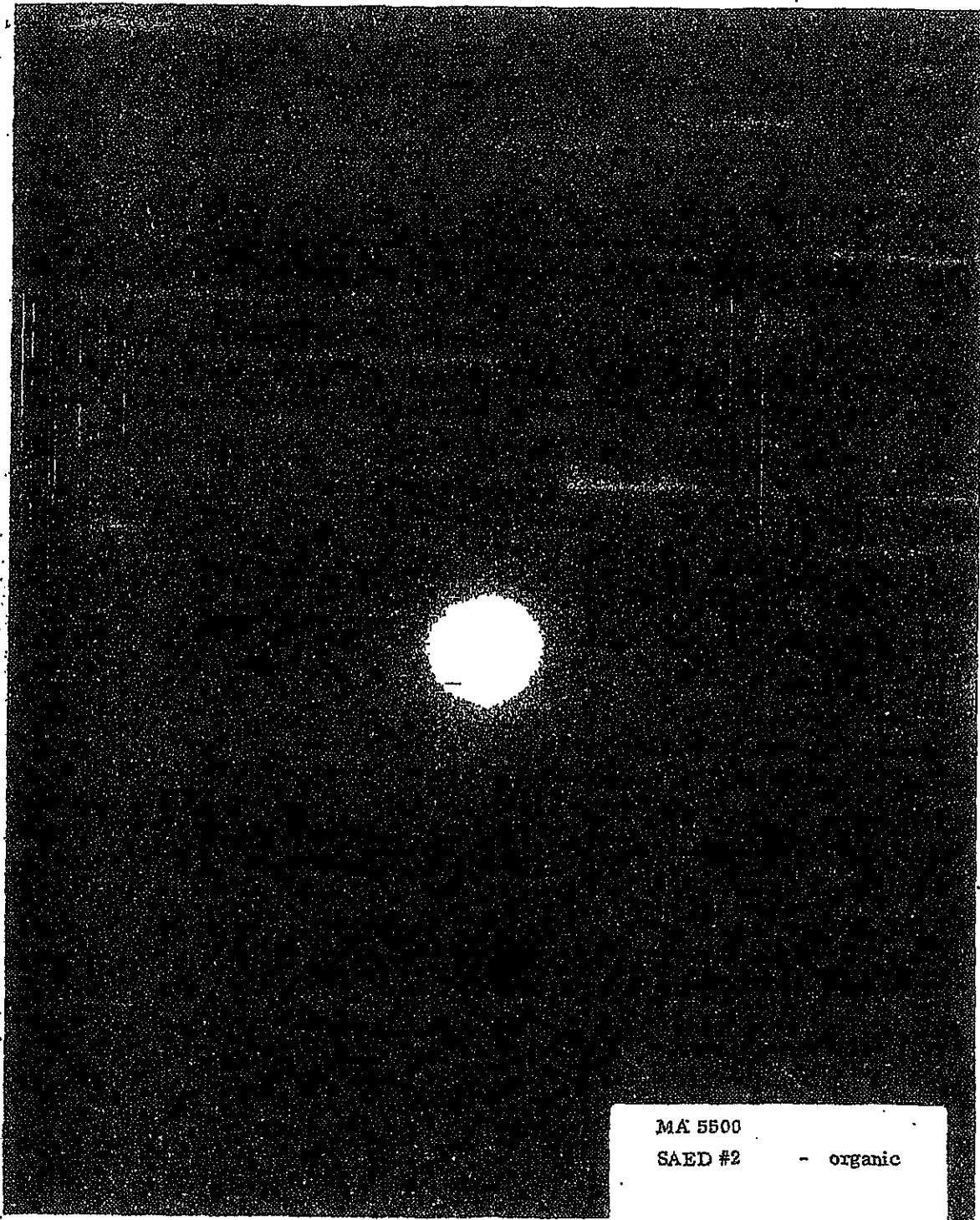
MA 5500

4166 (50,000X) #1

walter c. mc crone associates, inc.

McCRONE 0060

COL 00536

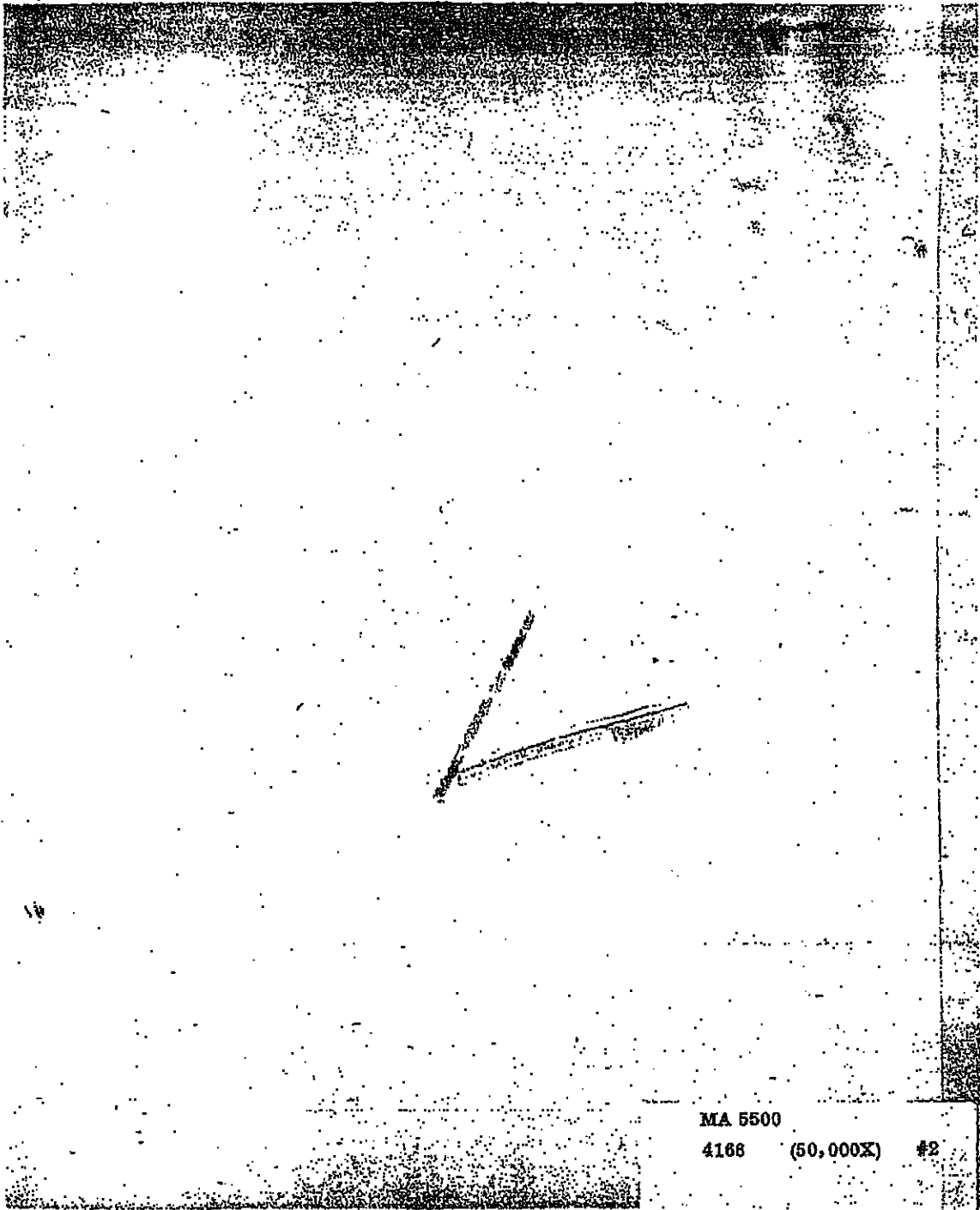


MA 5500
SAED #2 - organic

walter c. mcCrone associates, Inc.

McCRONE 0061

COL 00537



MA 5500

4168

(50,000X)

#2

McCRONE 0062

COL 00538



free
walter c. mccrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

12 August 1977

Dr. Joseph P. Simko
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of talc designated as Lot 7-24-25 from the 1977 series.

Morphologically, this was a poor quality talc in that it seemed to have a lot of fibrous material in it. However, none of this fibrous material was an asbestiform mineral, but was talc fibers, rolled talc, talc shards and talc ribbons. The percentage of fines present were moderate to high with some platy talc, but mostly small equiaxial particles in the 2 to 3 μ m range.

Thank you for consulting McCrone Associates and if you should have any further questions concerning these results, please contact us.

Very truly yours,

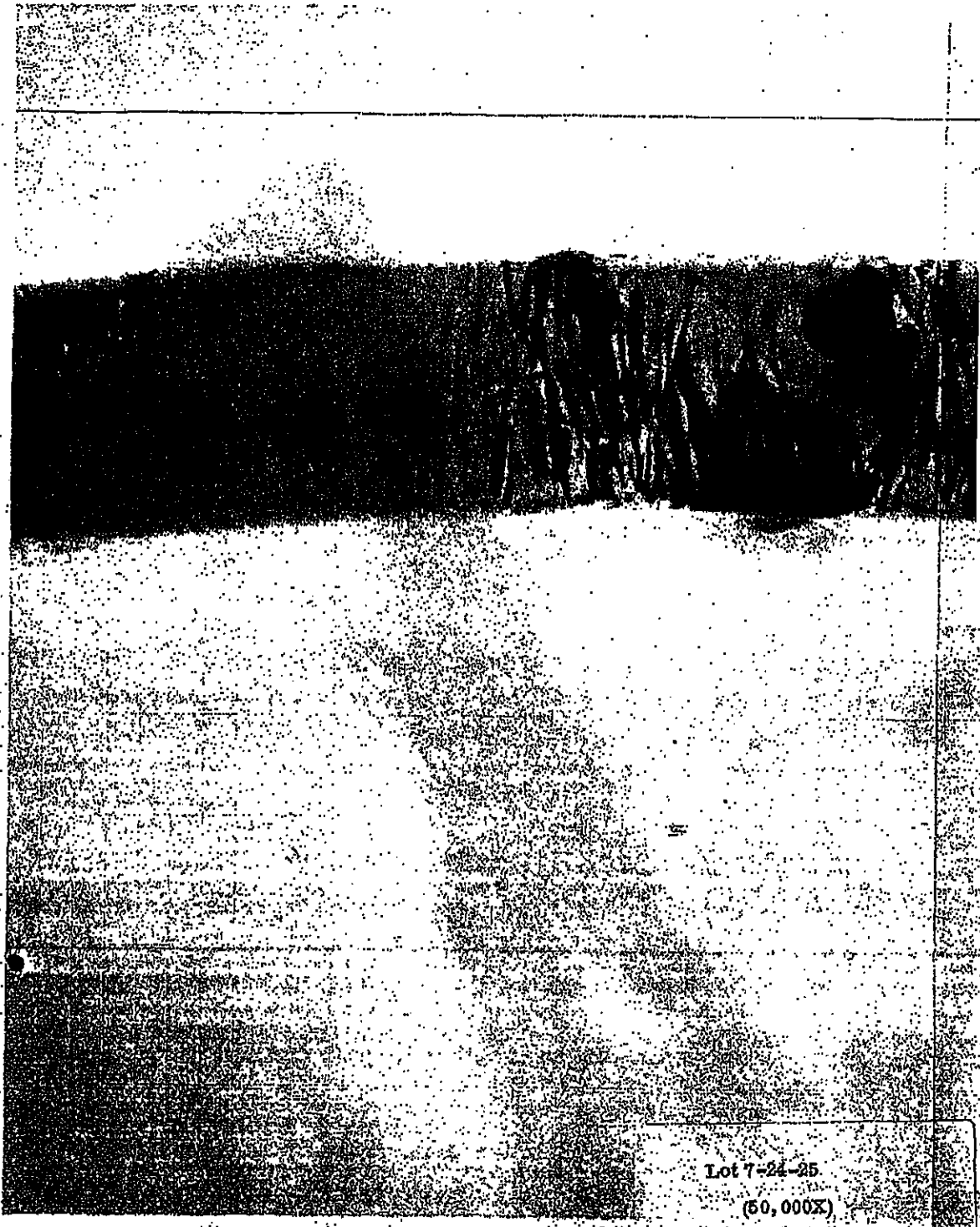
Gene R. Grieger
Senior Research Physicist

GRG:fe
encl.
ref: 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0063

COL 00539



Lot 7-24-25.
(50,000X)

walter c. mc crone associates, inc.

McCRONE 0064

COL 00540



Lot 7-24-25

(50,000X)

walter c. mc crone associates, inc.

McCRONE 0065

COL 00541



file
walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

8 March 1977

Dr. Joseph P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of talc designated as Lot 2-10-11 of the 1977 series. In this sample we found moderate fines, somewhat thicker plates and also a fine inorganic material which was too widely dispersed to allow for electron diffraction identification of, but is believed to be NaCl. We did not find any asbestiform minerals in this sample.

Thank you for consulting McCrone Associates. If there are any further questions concerning this report please feel free to contact me.

Very truly yours,

Gene R. Grieger
Senior Research Physicist

GRG:fe
ref: 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0066

COL 00542



file
walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

10 March 1977

Dr. Joseph P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed a sample designated as Lot no. 2-22-23 from the 1977 series. In this talc we found no asbestiform minerals. The talc seemed to have moderate to high levels of fines and the plates were a little bit on the thick side. We also found a few ribbons and shards, but, from their diffraction pattern, these were undoubtedly talc.

If there should be any further questions please feel free to contact me.

Very truly yours,

Gene R. Grieger
Senior Research Physicist

GRG:fe
ref: 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0067

COL 00543

file copy



walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS - MICROSCOPY - SMALL PARTICLE PROBLEMS - SOLID-STATE CHEMISTRY

13 April 1977

Dr. Joseph P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of talc designated as Lot 3-31-4-1, and found no asbestiform minerals in this sample. Although the talc did include a high percentage of fines and some shards, it was extremely platy but did not show large thin plates. Instead, small almost round equiaxial particles were the predominant talc form present.

If there are any further questions concerning this report or the data contained herein, please contact me.

Very truly yours,

Gene R. Grieger
Senior Research Physicist

GRG:fe
ref: 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 512/842-7100 • CABLE: CHEMICORNE

McCRONE 0068

COL 00544



file
walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

12 July 1977

Dr. Joseph Simko
Colgate-Palmolive
909 River Road
Pliscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction we have analyzed a sample of talc designated as M O N - 8, 040, dated 6/13/77.

In this sample we find no asbestiform minerals. The particles generally seem to be equiaxial with moderate fines. Some of the material is platy and there is a fine fiber which may be organic in nature. This fiber is very similar to a ribbon. This is not bacterial debris.

Thank you for consulting McCrone Associates and if there are any further questions concerning this report, or the data contained therein, please feel free to contact me.

Very truly yours,

Gene R. Grieger
Senior Research Physicist

GRG:jd
Ref. MA 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICORONE

McCRONE 0069

COL 00545



file
walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

13 October 1977

Dr. Joseph P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of talc designated as Lot 9-21-22 from the 1977 series. We did not find any asbestiform minerals in this sample. We did find, however, that there were moderate fines with some of the talc platy and a rather high percentage of sodium chloride in this sample.

This same sample was also analyzed by x-ray diffraction and in it we again found no asbestiform minerals. We did find, however, that there was present chlorite and some alpha silicon dioxide (quartz).

Thank you for consulting McCrone Associates and if you should have any questions concerning this analysis, please contact me.

Sincerely,

Gene R. Grieger
Senior Research Physicist

GRG:fe
ref: 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60615 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0070

COL 00546

Date October 3, 1977

Client Colgate-Palmolive MA Project 5500

Sample Description MTR Talk. Code M6670-2-Lot 9-21-77

X-RAY DIFFRACTION

Serpentine Content none detected

Amphibole Content none detected

Comments Present: chlorite & α - SiO_2

R. J. - Kinch for

LIGHT MICROSCOPY

Serpentine Content _____

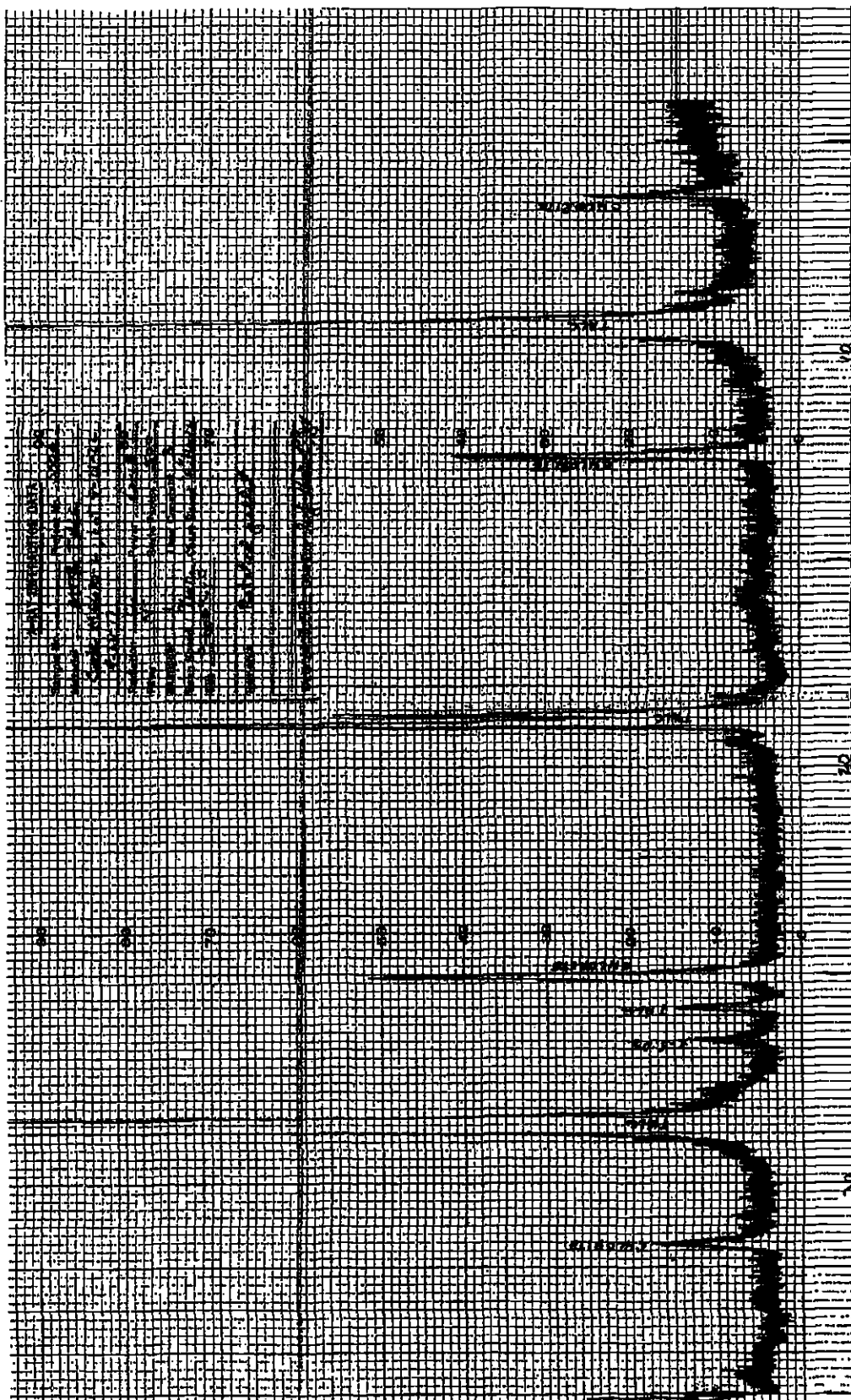
Amphibole Content _____

Comments _____

walter c. mcCrone associates, inc.

McCRONE 0071

COL 00547



McCRONE 0072

COL 00548

MR-5500

COLGATE-PALMOLIVE COMPANY

A Delaware Corporation

RESEARCH AND DEVELOPMENT DEPARTMENT

909 River Road • Piscataway, New Jersey 08854

201/463-1212

November 7, 1977

Mr. Gene Grieger
McCrone Associates
2820 South Michigan Avenue
Chicago, IL 60616

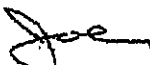
Dear Gene:

I'm enclosing two samples of talc for optical microscope examination. We're not certain about the composition for the following reasons:

- (a) we see a possible weak amphibole line by x-ray at $2\theta = 10.55^\circ$ and lines at $2\theta = 10.35^\circ$ and 10.75° in sample 1615 but none of these in the French Talc.
- (b) dispersion staining shows proper colors from tremolite in both cases but the morphology isn't right.

We want to know more about what these material(s) might be. Charge our open purchase order number for this work.

Sincerely,



J. P. Simko, Jr.

JPS:ls

Enclosure



walter c. m^ccrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

file

15 November 1977

Dr. Joseph P. Simko
Colgate-Palmolive
R & D Department
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

I have completed the analysis of your sample bearing the designation: MTR-Talc-Code M-6670-2, Lot No.-10-26-77, 10-27-77, preshipment sample, for the determination of the asbestiform material content.

This specimen was found to consist, primarily, of platy talc ranging from small to moderately large ($>10\ \mu\text{m}$) sizes. Talc shards, talc ribbons, infrequent uneven fibrous aspect nonasbestiform silicate material and occasional chunky inorganic particles are to be noted in this sample. This electron microscopical examination did not reveal the presence of asbestiform material in the sample.

Thank you for consulting us once again. If any questions should arise concerning this analysis, please do not hesitate to contact me directly.

Sincerely,

Richard J. Shimps
Research Chemist

RJS:jd
Ref. MA 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60618 • 312/842-7100 • CABLE: OHEMICRONE

McCRONE 0074

COL 00550



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

16 November 1977

Dr. J. P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

This letter confirms the telephoned results of our microscopical examination of your two samples, French Talc - Lot 5854 - 11/8 and Talc 1615 - Lab #4811 - 11/8.

You had noted in your letter of November 7 that both samples contain particles which show the right microscopical dispersion staining colors for tremolite but the wrong morphology. We have identified these particles as apatite.

We also found a small amount of tremolite in Talc 1615 but none in the French talc. This is consistent with your XRD results. The other minerals identified are noted on the enclosed laboratory report sheets. If you have any questions please let me know.

With best wishes,

Sincerely,

Lucy B. McCrone
Senior Research Scientist

LBM:fe
encl.
ref: 5500

8820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0075

COL 00551

Date 9 November 1977

Client COLGATE-PALMOLIVE COMPANY

MA Project 5500

Sample Description FRENCH TALK, LOT 5854 11/3

X-RAY DIFFRACTION

Serpentine Content _____

Amphibole Content _____

Comments _____

LIGHT MICROSCOPY

Serpentine Content none detected

Amphibole Content none detected

Comments Apatite, quartz, calcite and dolomite are present in the talk. The amount of quartz is greater than in Talk 1615.

Larry B. McCrone

walter c. mcCrone associates, Inc.

McCRONE 0076

COL 00552

Date 9 NOVEMBER 1977

Client COLGATE-PALMOLIVE COMPANY

MA Project 5500

Sample Description TALC 1615, LAB #4811, 11/3

X-RAY DIFFRACTION

Serpentine Content _____

Amphibole Content _____

Comments _____

LIGHT MICROSCOPY

Serpentine Content none detected

Amphibole Content tremolite detected

Comments A small amount of tremolite is present, mainly as relatively equant prismatic fragments - a few of these would be called fibers by OSHA. Other minerals present besides talc are apatite, a little quartz and dolomite.

Lucy B. McCrone

walter c. mcCrone associates, inc.

McCRONE 0077

COL 00553



walter c. mccrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

5 January 1978

Dr. Joseph P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of pre-shipment talc designated as Lot 11-27-28 of the 1977 series. In this sample we found no asbestiform minerals.

In this sample we found moderate levels of fines and the sample again indicated predominantly equiaxial particles which were not extremely platy with some indication of shards. Some sodium chloride was also present. The sample, however, did not exhibit any fibers that we could detect.

Thank you for consulting McCrone Associates and if you should have any further questions concerning this analysis please contact me.

Sincerely,

Gene R. Grieger
Senior Research Physicist

GRG:fe
ref: 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0078

COL 00554



walter c. mc crone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

25 January 1978

Dr. J. P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

I have finished the transmission electron microscopical examination of your sample, designated as Lot 1-5-6, for asbestiform material content.

This sample was found to contain platy material ranging from the submicrometer size ranges to plates in excess of 20 μm . Little material of any other morphological type was found to be present. No asbestiform material was detected.

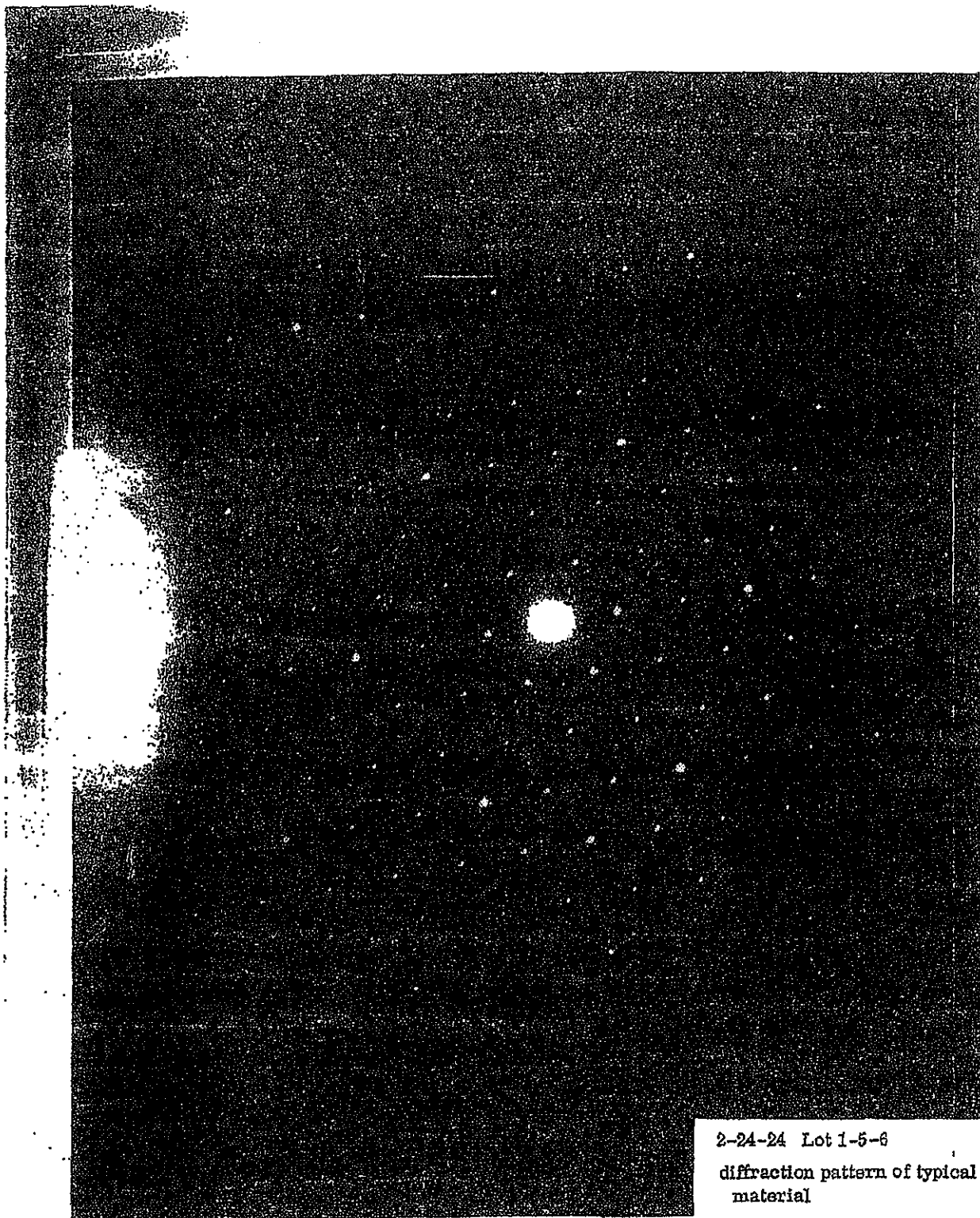
Representative electron micrographs of the sample are appended.

Thank you for consulting us once again. If any questions should arise concerning the analyses we are performing for you, please do not hesitate to call.

Sincerely,

Richard J. Shimps
Research Chemist

RJS:fe
encl.
ref: 5500



2-24-24 Lot 1-5-6
diffraction pattern of typical
material

walter c. mcCrone associates, inc.

McCRONE 0080

COL 00556



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

23 February 1978

Dr. Joseph P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

I have completed my transmission electron microscopical examination of your sample, designated Lot 2-6-7, for asbestiform material.

The sample contains material ranging from the submicrometer size ranges to particles in excess of 25 μm . Although the predominant material is basically platy it occurs mainly in chunky masses. No asbestiform material is found to be present although fibrous aspect inorganic particles are common and range in morphological types from shards to an apparent fiber bundle.

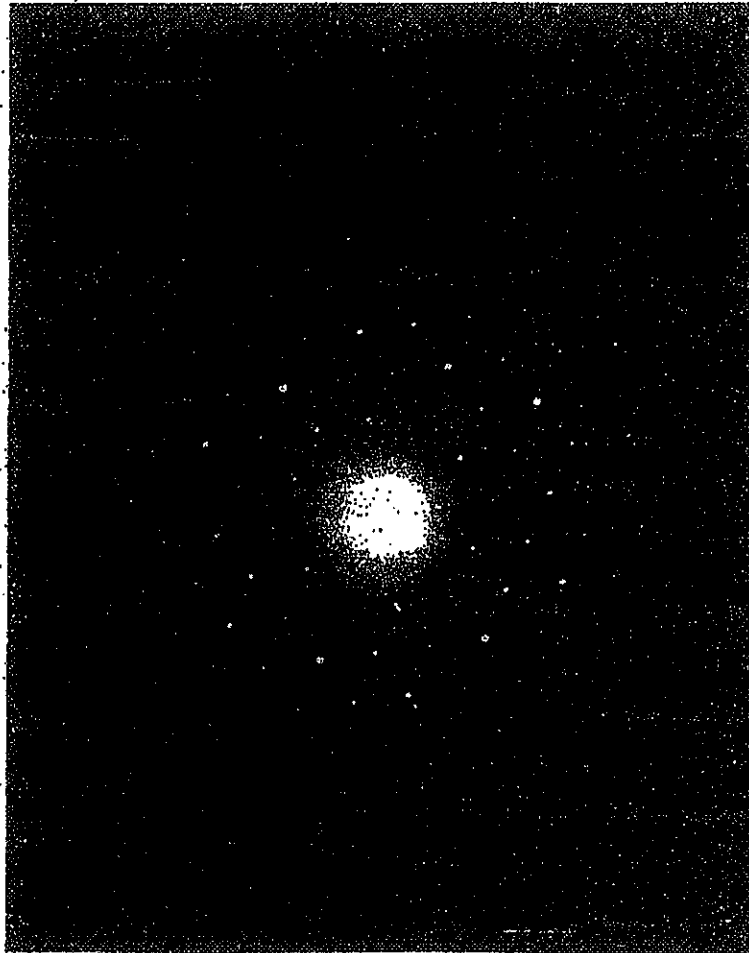
Representative electron micrographs showing the sample material, typical fibers and electron diffraction patterns are appended for your further information.

Thank you for consulting us once again. If any questions should arise concerning this data, please do not hesitate to call.

Sincerely,

Richard J. Shimps
Research Chemist

RJS:fe
encl.
ref: 5500



2-25-10 2-6-7 32,000X

Diffraction pattern of 2-25-11

walter c. mcCrone associates, inc.

McCRONE 0082

COL 00558



2-25-11 2-6-7 20,000X

fiber

walter c. mcCrone associates, Inc.

McCRONE 0083

COL 00559



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

7 April 1978

Dr. Joseph P. Simko, Jr.
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of talc, designated as 3-16-17, for asbestiform minerals.

We did not find any asbestiform minerals in this talc and it appeared to be quite typical of the previous talc which we have examined for you in that only some of the talc was platy and there were moderate fines.

Thank you for consulting McCrone Associates and if you should have any further questions concerning this report, please feel free to call me.

Yours sincerely,

Gene R. Grieger
Senior Research Physicist

GRG:fe
ref: 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0084

COL 00560

CHARLES MATHIEU, Inc.

CABLE ADDRESS
"MATBUOAR"
A. S. C. CODE USED

Importers

(201) 277-0510

P.O. BOX AM

18-22 BANK STREET

SUMMIT, NEW JERSEY 07901

REPRESENTATIVE IN U.S.A. OF FOREIGN MINES

May 17, 1978

Mr. Ian M. Stewart
Walter C. McCrone Assoc., Inc.
2820 S. Michigan Avenue
Chicago, Illinois 60616

Dear Mr. Stewart:

Confirming our telephone conversation of the other day we are writing to request that, effective immediately, you perform on talc samples sent to you the following tests to determine the absence of fibrous, asbestos particles:

- MA 5500
- (1) x-ray diffraction
 - (2) optical microscopy
 - (3) TEM - SAED

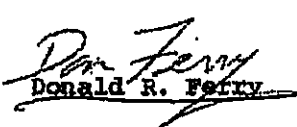
These samples will be forwarded to you from either our plant in Alpine, Alabama or South Plainfield, New Jersey and marked for Colgate Palmolive Company. The test results should be forwarded to us at P.O. Box AM, Summit, New Jersey 07901. Please send the report in duplicate.

As you remember, you have been performing the TEM tests for Colgate Palmolive Company and they have now asked us to perform the whole test procedure and certify the various lots to them. Therefore, please use this letter as a blanket order, authorizing you to perform the tests above so that we may certify the absence of asbestiform minerals to Colgate Palmolive Company.

Thank you for your cooperation with the above.

Very truly yours,

CHARLES MATHIEU, INC.


Donald R. Ferry

DRF:ab

Not responsible for damages incurred by carriers. All quotations and contracts subject to conditions beyond our control.
Prices are based upon existing tariff rates and customs regulations.

McCRONE 0085

COL 00561



7 *me*
walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

2 June 1978

Mr. Donald R. Ferry
Charles Mathieu, Inc.
P. O. Box AM
18-22 Bank Street
Summit, New Jersey 07901

Dear Mr. Ferry:

We have completed our examination of your talc sample identified as:

Talc RMPS, M-6670-9, Lot 5-2-3

using the CTEA J4-1 method supplemented by transmission electron microscopy with selected area electron diffraction. Neither method indicated the presence of asbestiform minerals present.

The J4-1 results are presented on the attached summary sheet. The electron microscopical examination showed the talc to be present as equi-axed grains rather than as extremely thin plates. There was little or no indication of fibrous or rolled talc present.

Thank you for consulting McCrone Associates and if you should have any questions concerning these results, please contact us.

Very truly yours,

Gene R. Grieger
Gene R. Grieger
Senior Research Physicist

GRG:fe
encl.
ref: 5500

cc: J. P. Sinko, Jr.
Colgate-Palmolive Co.

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0086

COL 00562

Date 5-18-78

Client Colgate-Palmolive MA Project 5500

Sample Description Talc RMPS, M-6670-9, Lot 5-2-3

X-RAY DIFFRACTION

Serpentine Content none detected

Amphibole Content none detected

Comments Present: chlorite & α -SiO₂

Rif Kinsch

LIGHT MICROSCOPY

Serpentine Content _____

Amphibole Content _____

Comments _____

walter c. mcrone associates, inc.

McCRONE 0087

COL 00563

Received 9/28/78
COLGATE-PALMOLIVE COMPANY

A Delmon Corporation

RESEARCH AND DEVELOPMENT DEPARTMENT

909 River Road - Piscataway, New Jersey 08854

September 26, 1978

Ian Stewart
McCrone Associates
2820 South Michigan Avenue
Chicago, IL 60616

Dear Ian,

As discussed, I have enclosed two millipore filters containing particulate matter which we want identified. The samples were obtained by filtering a liquid product followed by washing with water. Photomicrographs of each are also enclosed. Codes are 10033 and 60007, please give priority to 10033.

Specifically in sample 10033 we are interested in identifying the black-appearing particles. By light microscope these appear to be held in a yellowish mass of material whose identity is also unknown. Information concerning the yellowish mass is desired but is secondary to the black. I suspect the black material is amorphous carbon. If so the surface layers will be contaminated with a variety of organic and inorganic components. I have had SEM with Energy dispersive x-ray run with the following results:

Black Particles contain: ^{2.4}Al, ^{2.7}Mg, ¹²Ca, ^{15.4}Si, ⁶S, ⁸Cl, ^{1.8}K, ¹²Na
Background filter contains: ³Al, ⁶Mg, ⁴Ca, ⁷⁰Si, ¹²Na, ⁴S

A second possibility for the source of the black contaminant is a dye used in the product. This is an organic containing C, H, O, N, S and Na.

Sample 60007 has black particles together with what appears to us a crystalline substance. In this case we are interested in the identity of the crystalline phase.

The millipore is 0.22 micron GS.

A purchase order will follow under separate cover. If I can be of any help please call.

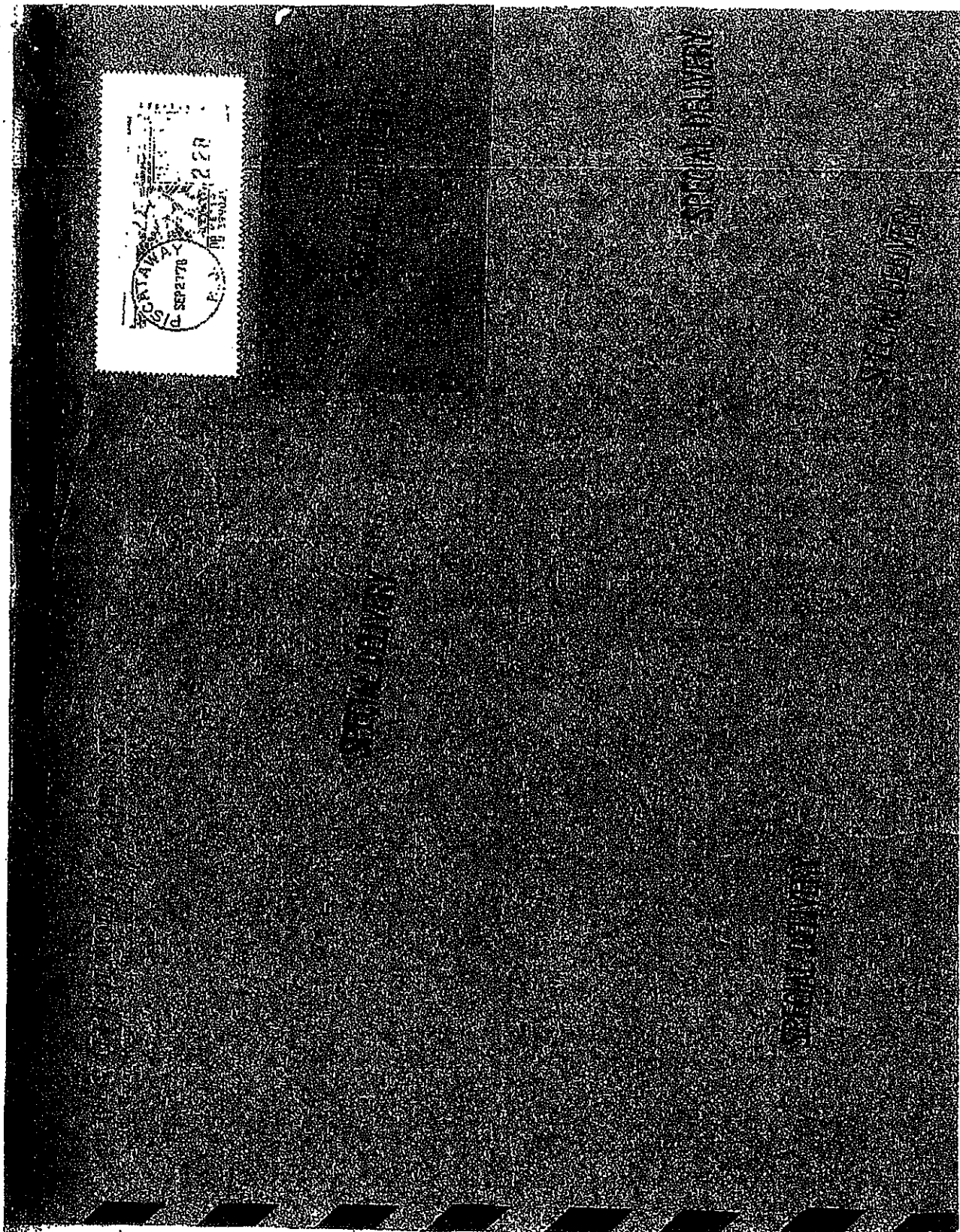
Sincerely,



J. P. Simko

JPS:ls

Enclosures



McCRONE 0090

COL 00566

17 October 1978

Dr. J. P. Sisko
Colgate-Palmolive Company
R&D Department
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Sisko:

This letter will confirm and summarize the results we obtained on the particles from the filters you sent us on 26 September and identify as 10033 and 60007. Your letter indicated that the black particles on filter 10033 was of highest priority and you were particularly interested in determining whether these black particles were amorphous carbon. During the analyses we were in frequent contact and I shall therefore just briefly summarize our conclusions here.

Sample 10033

Black particles are a mixture of amorphous carbon and graphite. Conclusion is based on electron microprobe analysis of black particles which show approximately 80% C and x-ray diffraction which shows a mixture of phases, one amorphous and graphite and the other unidentified.

Yellowish mass. This material is very homogeneous and contains approximately 37% Si, 12% C, 35% Al, 4% K, 3% Al, 2% P and 2% Na. Based on x-ray diffraction this phase probably contains about 50% Ca and 20% CaO. The Ca phase is however, an inversion of the relative intensities of the 3, 15 and 18 lines and very broad diffuse lines indicative of small particle size.

Sample 60007

Yellowish mass. Consist of very fine particles. Electron probe shows 20% Si, 37% C, 30% Ca, 12% K, 0.8% Al and 0.8% P. Electron probe data suggested possibly a clay but x-ray data again indicates Ca predominant.

McCRONE 0091

COL 00567

Dr. J. P. Simko
Page two

At this point you indicated that you did not wish any further work performed on these samples. We shall discard your samples in two weeks unless we hear otherwise from you.

Yours sincerely,

Dr. M. C. Everett
Manager, Electronics
Group

McCRONE 0092

COL 00568



walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

17 October 1978

Dr. J. P. Sinko
Colgate-Palmolive Company
R&D Department
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Sinko:

This letter will confirm and summarize the results we obtained on the particles from the filters you sent us on 26 September and identified as 10033 and 60007. Your letter indicated that the black particles on filter 10033 were of highest priority and you were particularly interested in determining whether these black particles were amorphous carbon. During the analyses we were in frequent contact and I shall therefore just briefly summarize our conclusions here.

Sample 10033.

Black particles are a mixture of amorphous carbon and graphite. Conclusion is based on electron microprobe analysis of black particles which shows approximately 80% C and x-ray diffraction which shows a mixture of 3 phases, one amorphous, one graphite and the third unidentified.

Yellowish mass. This material is very inhomogeneous and contains approximately 3% Si, 12% C, 35% Cu, 4% Fe, 3% Al, 2% P and 2% Na. Based on x-ray diffraction this phase probably contains about 50% CaF and 20% CuCO_3 . The CaF shows, however, an inversion of the relative intensities of the 3.15 and 1.93 lines and very broad diffuse lines indicative of small particle size.

Sample 60007.

Yellowish mass. Consist of many fine particles, electron probe shows 20% Si, 8% C, 10% Ca, 12% Fe, 0.8% K, 12% Al and 0.8% P. Electron probe data suggested possibly a clay but x-ray data again indicates CaF predominant.

Dr. J. P. Simko
Page two

At this point you indicated that you did not wish any further work performed on these samples. We shall discard your samples in two weeks unless we hear otherwise from you.

Yours sincerely,

Ian M. Stewart.

Ian M. Stewart
Manager, Electron Optics
Group

IMS:fe
ref: 5500

McCRONE 0094

COL 00570

\$400

This letter will ^{confirm and} summarize the results we obtained on the particles from the filter you sent us on September 26th and identified as 10033 and 60007. Your letter indicated that the black particles on filter 10033 were of highest priority and you were particularly interested in determining whether these black particles were amorphous carbon. During the analysis we were in frequent contact and I shall therefore just briefly summarize our conclusions here.

Black particles are a mixture of amorphous carbon and graphite. Conclusions are based on electron microprobe analysis of black phase which shows ~ 80% C and X-Ray diffraction which shows a mixture of 3 phases, one amorphous, one graphite and the third unidentified.

yellowish mass. This material is very inhomogeneous and contains approx. 3% Si, 12% C, 35% Cu, 4% Fe, 3% Al, 2% P and 2% W. Based on X-Ray diffraction this phase probably contains about 50% Cu₂F and 50% CuCO₃. The Cu₂F shows however a variation of the relative intensities of the 215 and 193 lines and very broad diffuse halos in the 2θ range 7-22° parallel

COL 00571

Sample 60007

Yellowish mass. Composed of many
fine particles. Electron probe shows
20% Si, 8% Al, 10% Ca, 12% Fe, 0.8% K, 12% Al
and 0.8% K. Electron probe data suggests
possibly a clay, but X-Ray data again
indicates Ca K predominant.

At this point you indicated that you did not wish any
further work performed on these samples. We shall discard
your samples in 2 weeks unless we hear otherwise from
you.

Y. S.
1/2

Diagram illustrating a 3x3 grid structure. The grid is composed of 9 cells. Above the grid, there are three boxes labeled "Column no." with arrows pointing to the first, second, and third columns respectively. To the right of the grid, there are three boxes labeled "Row no." with arrows pointing to the first, second, and third rows respectively.

PARTICLE
MOUNTED ON

- ☐ Beryllium plate no. _____
☐ Carbon plate no. _____
☐ Aluminum stub no. _____
☐ X-ray pin, box no. _____
☐ Copper grid no. _____

PHOTOGRAPH NO. 1

13-416

2.75
~~2.55~~
2.55
1.36
1.249
1.11

PHOTOGRAPH NO. 2

1645

Ca Silicate Hydrate

3.36	2.82	7.25	11-5
100	100	100	

m CaCO_3 15-192

3.30	2.73	3.58
100	100	100

Date 10/1/70 X-ray film no. X-5399
Sample size _____
Description of sample _____

Exposure time _____ hr. Environment _____ Camera _____ mm
K.V. _____ ma _____ Tube _____ filter _____

[illegible]

Comments

Comments
X ~~CoE~~ # 5-565 (30-50%)
● plus CaPO_3 (20%)
Conclusions

Conclusions

Diagram illustrating a 3x3 grid structure. The grid is labeled with "Column no." and "Row no." indicating the numbering system for the cells.

6007-7

☐ Beryllium plate no. _____
☐ Carbon plate no. _____
☐ Aluminum stub no. _____
☐ Xray pin, box no. 5
☐ Copper grid no. _____

PHOTOGRAPH NO. 1

~.2(mm)

A hand-drawn diagram consisting of a horizontal line that passes through the center of a circle. The line extends to the left of the circle and ends within the circle on the right side. The circle is drawn with a single continuous line.

PHOTOGRAPH NO. 2

Date 12-5-78 X-ray film no. X-335d

Description of sample

Exposure time 10 hr. Environment air Camera 127 mm.

K.V. 42 ma 25 Tube PF6 filter Ni

[illegible]

Comments damaged broad line

Conclusions

conclusions Si per ASTM (30-50)
5-565

EHA data

Sample No	Description	Si	C	Ca	Fe	K	Al	P	Na	Comments
10033 ①	black particle	2	80	3	-	-	-	-	-	
10033 ②	black particle	-	80	-	-	-	-	-	-	
10033 ⑤	yellowish mass	3	12	35	4	-	3	2	3	yellowish mass is very small inhomogeneous
10033 ⑥	yellowish mass with many black particles	4	12	35	4	-	2	2	-	
60007 ⑦	yellowish mass	20	8	10	12	0.8	12	0.8	-	

X-ray data

Sample No Description

10033 black particles (not done yet)

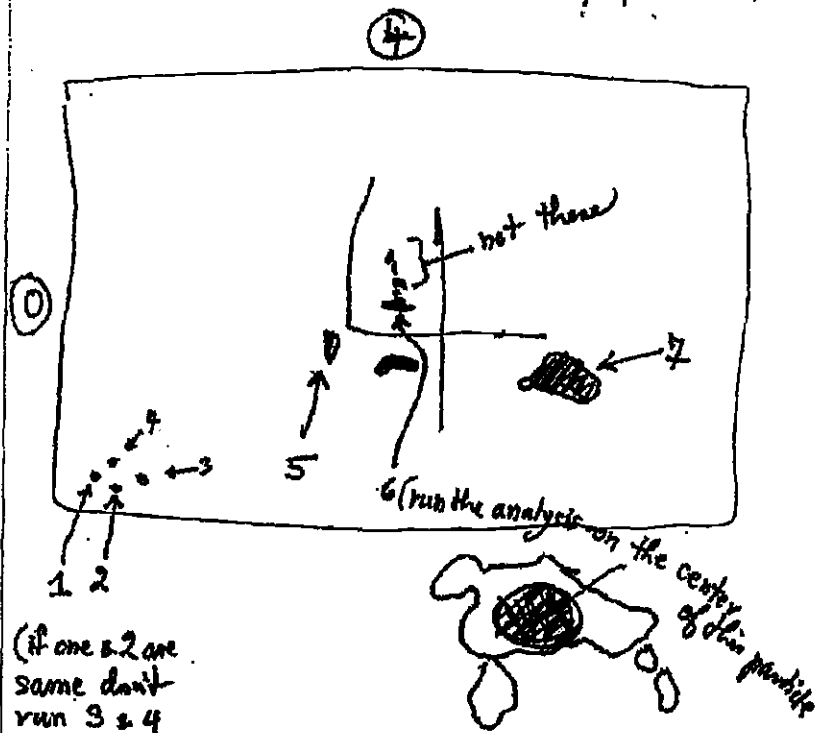
10033 ⑤ yellowish mass (with a few black particles)

Si (very fine particle size that gave broad lines) ~30-50% of sample is Si + 20% CaCO₃

60007 ⑦ yellowish mass

Si (very fine particle size that gave broad lines) ~30-50% of sample is Si

10/4/78.



(if one & 2 are same don't run 3 & 4)

1-4 (black particles from filter that looked similar to those in the yellow matrix)

5 yellow matrix from filter

6 — " — " with 50% (D) occlusions

7 yellow matrix from 60057

McCRONE 0102

COL 00578

ID: 87
FID: NA AL SI P S CL K CA FE
PST: CPS: 437
MEM: A1 ET= 83S 2DT: 8
1K 20 EV/CH

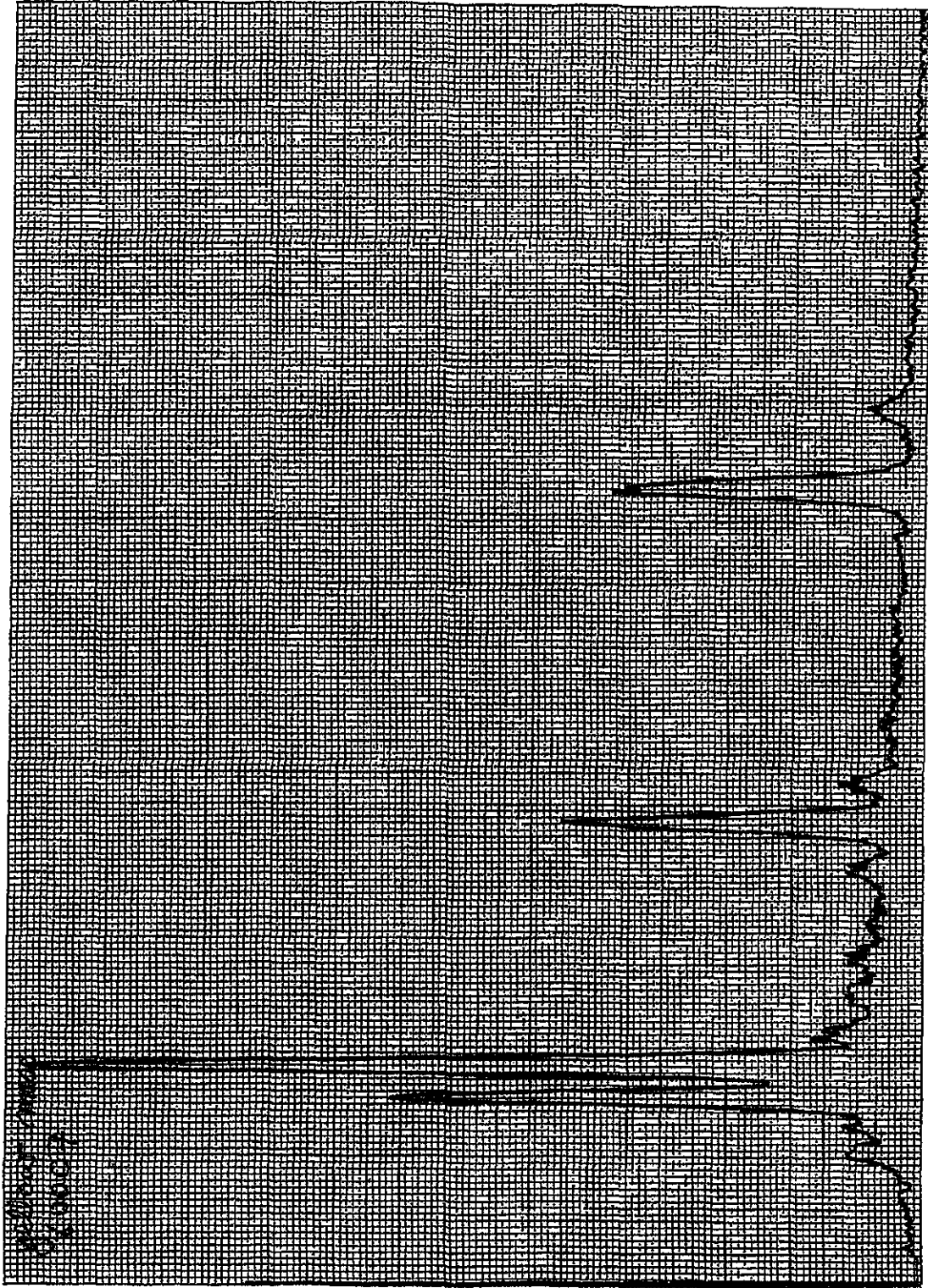
00.00 00-10 KEV 10.22
E=00.00 C= 775 I= #

McCRONE 0103

COL 00579

10 X 10 TO 1/4 INCH 7 X 10 INCHES
H&S REUPPEL & SONS CO. MADE IN U.S.A.

46 1320



McCRONE 0104

COL 00580

ID: 616 EDS-II
FND: AL SI P CA FE
PST: CNT = 1K CPS: 526
MEM: A1 ET= 39S %DT: 10
1K 20 EU/CH

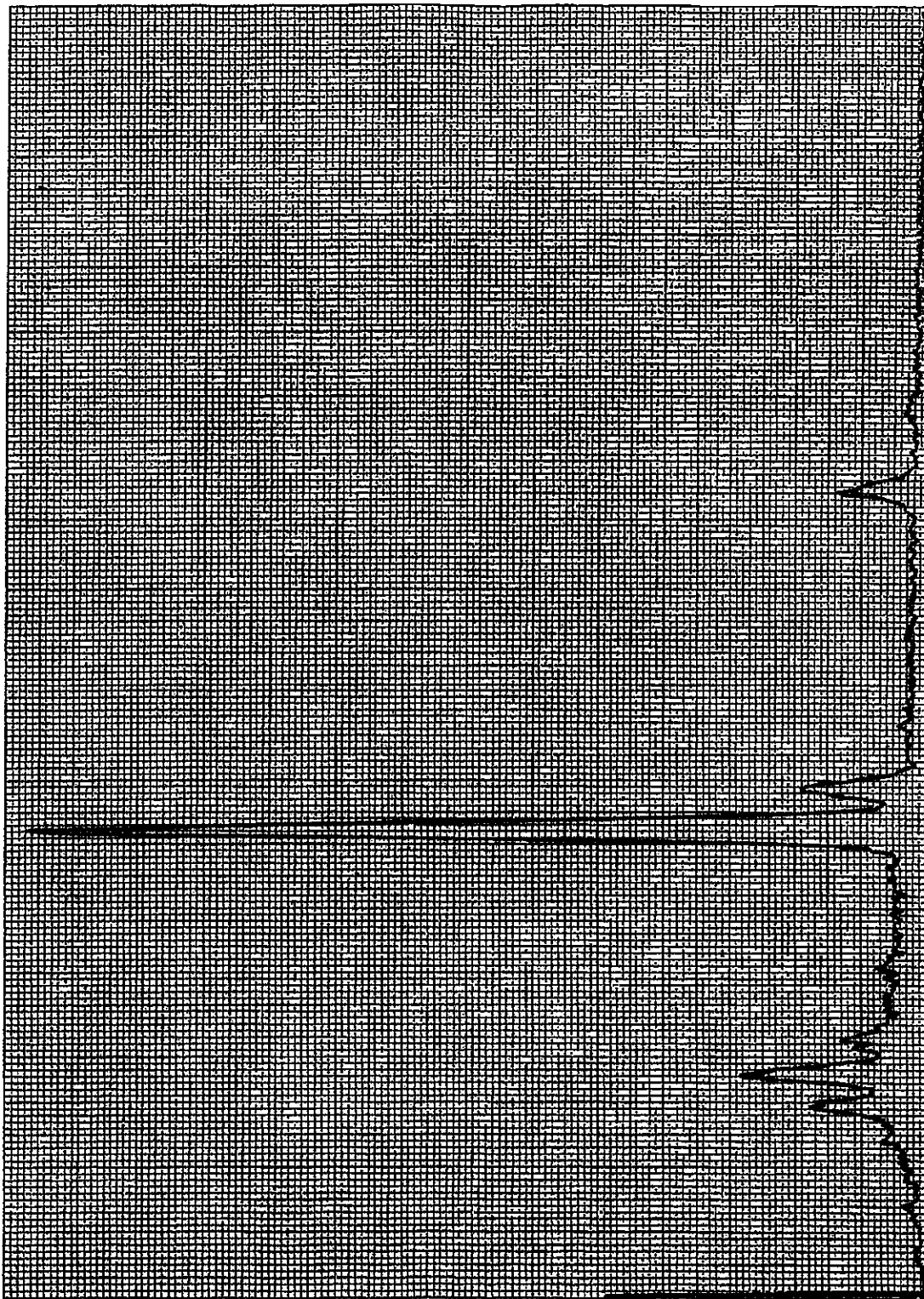
00.00 00-10 KEV 10.22
E=00.00 C= 362 I= #

McCRONE 0105

COL 00581

K&E 10 X 10 TO 1/4 INCH 7 X 10 INCHES
KODAK SAFETY FILM & SUPPLY CO. MADE IN U.S.A.

46 1320



McCRONE 0106

COL 00582

ID:1
FND:SI CA
PST:LT= 100S
MEN:A1 ET= 107S
512

EEDS-II
CPS: 142
%DT: 8
20 EU/CH

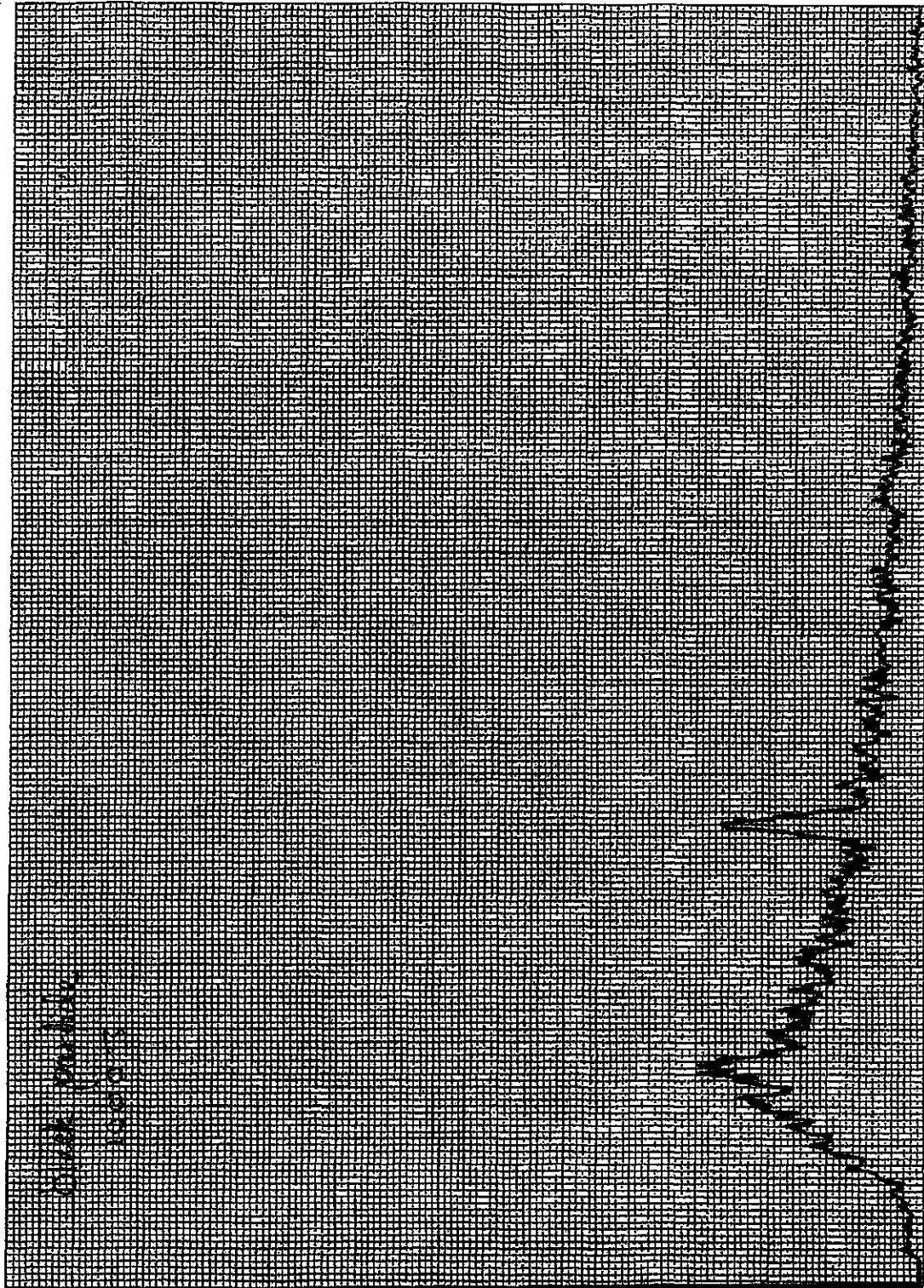
00.00 00-10 KEV 10.22
E=00.00 C= 1000 I= #

McCRONE 0107

COL 00583

K&S 18 X 10 TO 1/4 INCH 7 X 10 INCHES
K&S RUPPEL & EMMETT CO. MADE IN U.S.A.

46 1320



McCRONE 0108

COL 00584

ID:2 EEDS-11
FND:
PST:LT= 100S CPS: 76
MEM:A1 ET= 106S ZDT: 7
512 20 EW/CH

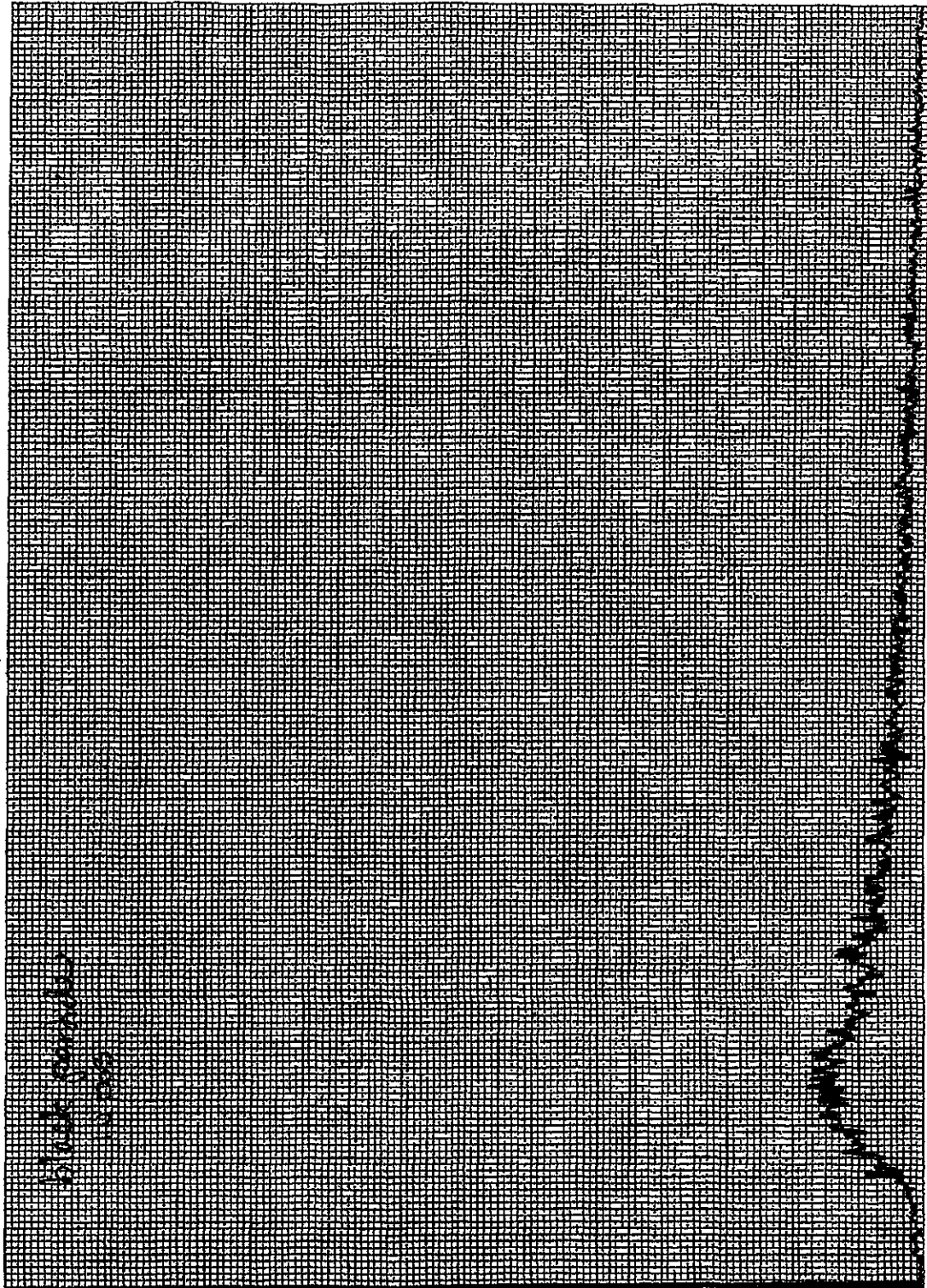
00.00 00-10 KEU 10.22
E=00.00 C= 1000 I= #

McCRONE 0109

COL 00585

19 X 10 TO 1/4 INCH 2 X 10 INCHES
K&E K&E FILM & PHOTO CO. MAX HALL

46 1320



McCRONE 0110

COL 00586

ID:5 EDS-II
FND:NA AL SI P CA FE
PST: CNT= 1K CPS: 624
MEM: A1 ET= 355 %DT: 12
1K 20 EV/CH

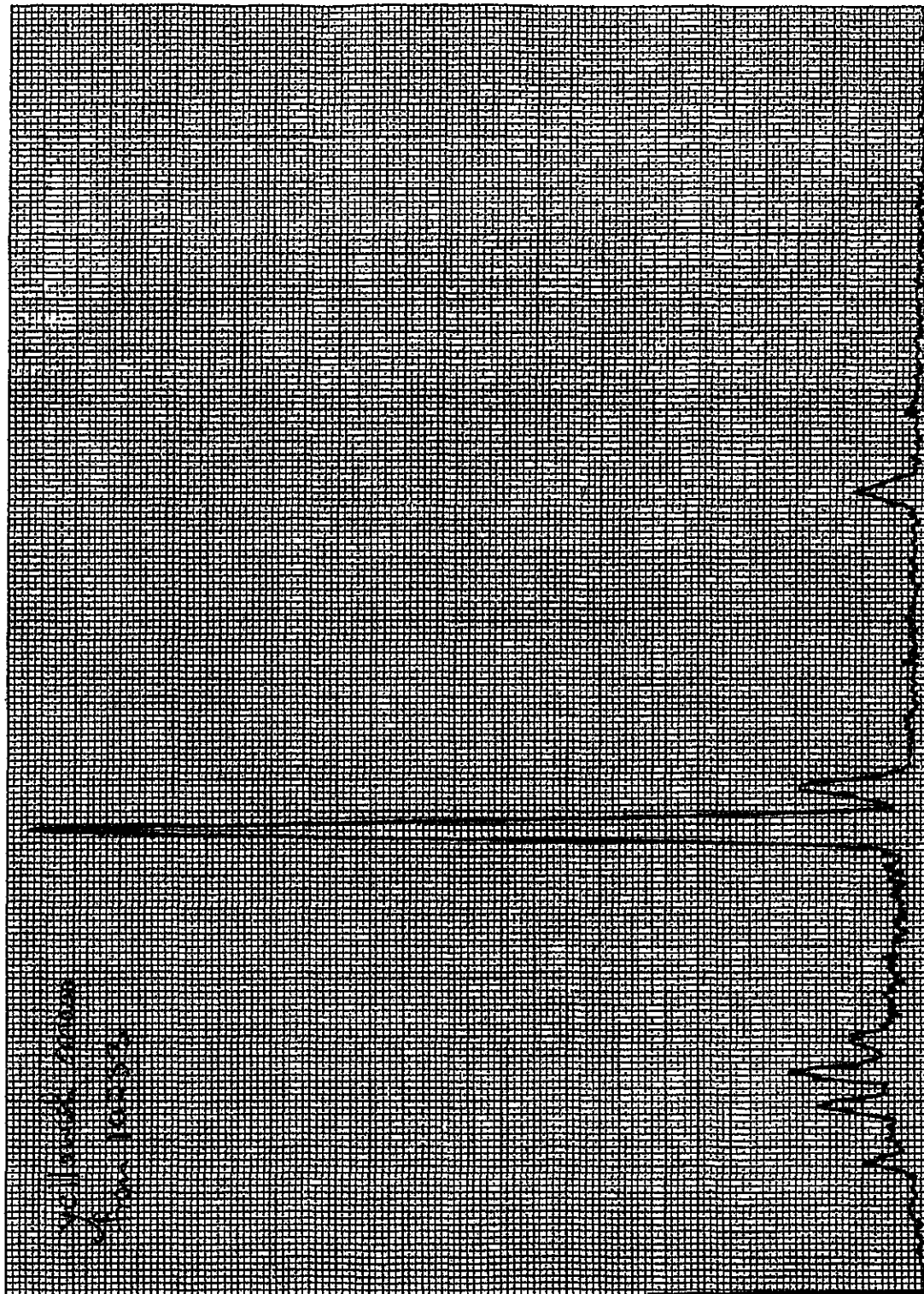
00.00 00-10 KEV 10.22
E=00.00 C= 318 1= #

McCRONE 0111

COL 00587

K&E 10 X 10 TO 1/4 INCH 7 X 10 INCHES
KODAK SAFETY FILM & CHEMICAL CO. MADE IN U.S.A.

46 1320

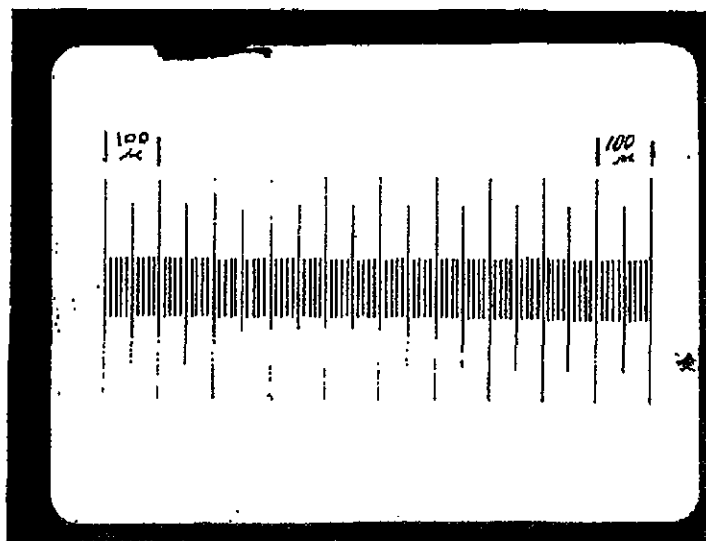
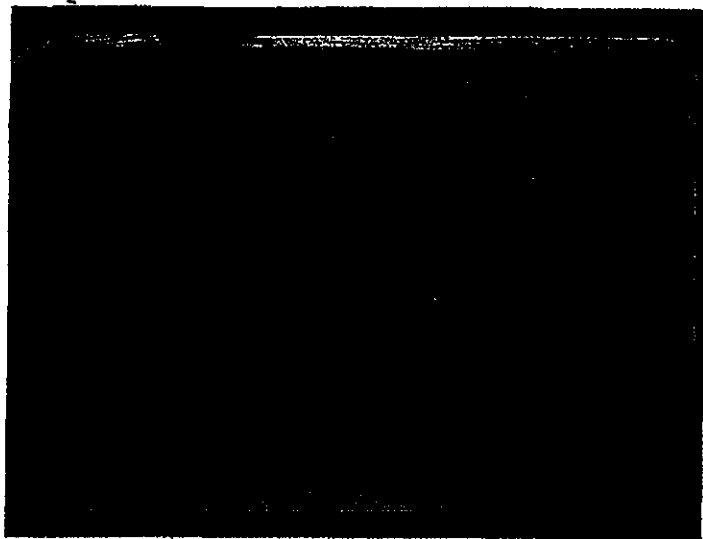


McCRONE 0112

COL 00588

10032

33

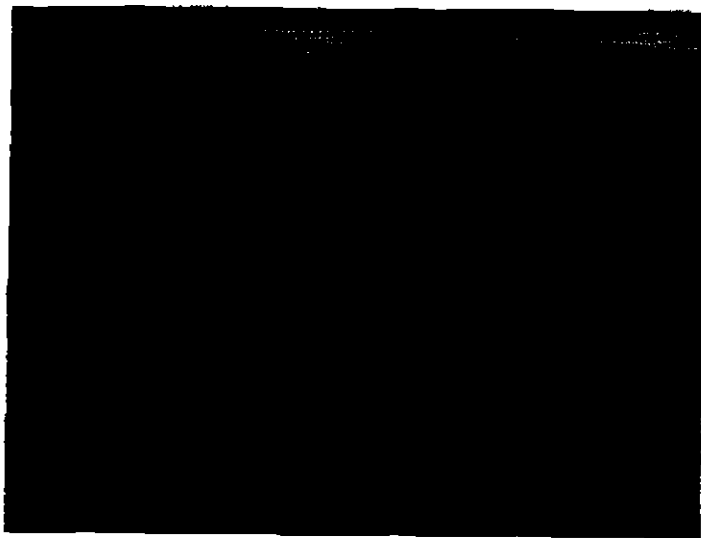


McCRONE 0113

COL 00589

60007

100



McCRONE 0114

COL 00590



walter c. mc crone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

file

22 November 1978

Mr. D. R. Ferry
Charles Mathieu, Inc.
P.O. Box AM
18-22 Bank Street
Summit, New Jersey 07901

Dear Mr. Ferry:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of talc designated as "Lot 11-2-3, 1978 Series". We found no asbestiform minerals in this sample of talc and the platy talc and talc fines were both moderately distributed statistically. There were a few shards in this talc which are quite typical.

We also analyzed the sample using x-ray diffraction and in this we found no serpentines and no amphiboles. We did however, find some chlorites and some alpha-SiO₂.

Thank you for consulting McCrone Associates and if there are any further questions concerning this report or the data contained herein, please feel free to contact me.

Very truly yours,

Gene R. Grieger
Senior Research Physicist

GRG:jd
Ref. MA 5500
cc: Dr. Joseph P. Sinko, Jr.

Date 11-7-78

Client Charles Mathieu MA Project 5500

Sample Description MTR Talc, Lot 11-2-3, M-6670-9

X-RAY DIFFRACTION

Serpentine: Detected _____ Not Detected ✓

Amphibole: Detected _____ Not Detected ✓

Other Phases Present: Chlorite ✓ α -SiO₂ ✓

Dolomite _____ Calcite _____ Magnesite _____ Mica _____

Other: _____

Comments: _____

DJ Kinsley

LIGHT MICROSCOPY

Chrysotile _____ % α -SiO₂ _____ %

Tremolite-Actinolite _____ total % _____ % fibrous

Nonfibrous Serpentine _____

Others: _____

Comments: _____

walter c. mocrone associates, inc.

McCRONE 0116

COL 00592



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

22 January 1979

Mr. D. R. Ferry
Charles Mathieu, Inc.
P. O. Box AM
18-22 Bank Street
Summit, New Jersey 07901

Dear Mr. Ferry:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of talc designated as Lot #12-19-20 of the 1978 series. We found this talc to be completely free of asbestos minerals, both amphiboles and serpentines. We found this talc to be slightly platier than the previous talcs which we have examined and it was an excellent quality talc.

We also examined this material using x-ray diffraction. The results of our x-ray diffraction analysis indicates that we could not detect any amphibole or serpentine minerals in this talc using x-ray diffraction techniques. We did, however, find slight traces of chlorite and alpha-SiO₂. We could detect no other minerals in this talc. The x-ray diffraction data are included with this report.

We thank you for consulting McCrone Associates and if you have any questions concerning this report or the data contained herein, please call me.

Yours sincerely,

Gene R. Grieger
Senior Research Physicist

GRG:fe
attach.
ref: 5500
cc: Dr. J. P. Simko - Colgate-Palmolive

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0118

COL 00594

Date 1-2-79

Client Charles Mathieu, Inc. MA Project 5500

Sample Description Talc Lot No. 12-19-20; M-6670-9

X-RAY DIFFRACTION

Serpentine: Detected _____ Not Detected ✓

Amphibole: Detected _____ Not Detected ✓

Other Phases Present: Chlorite ✓ α -SiO₂ ✓

Dolomite _____ Calcite _____ Magnesite _____ Mica _____

Other: _____

Comments: _____

Roly G. Kline, Jr.

LIGHT MICROSCOPY

Chrysotile _____ % α -SiO₂ _____ %

Tremolite-Actinolite _____ total % _____ % fibrous

Nonfibrous Serpentine _____

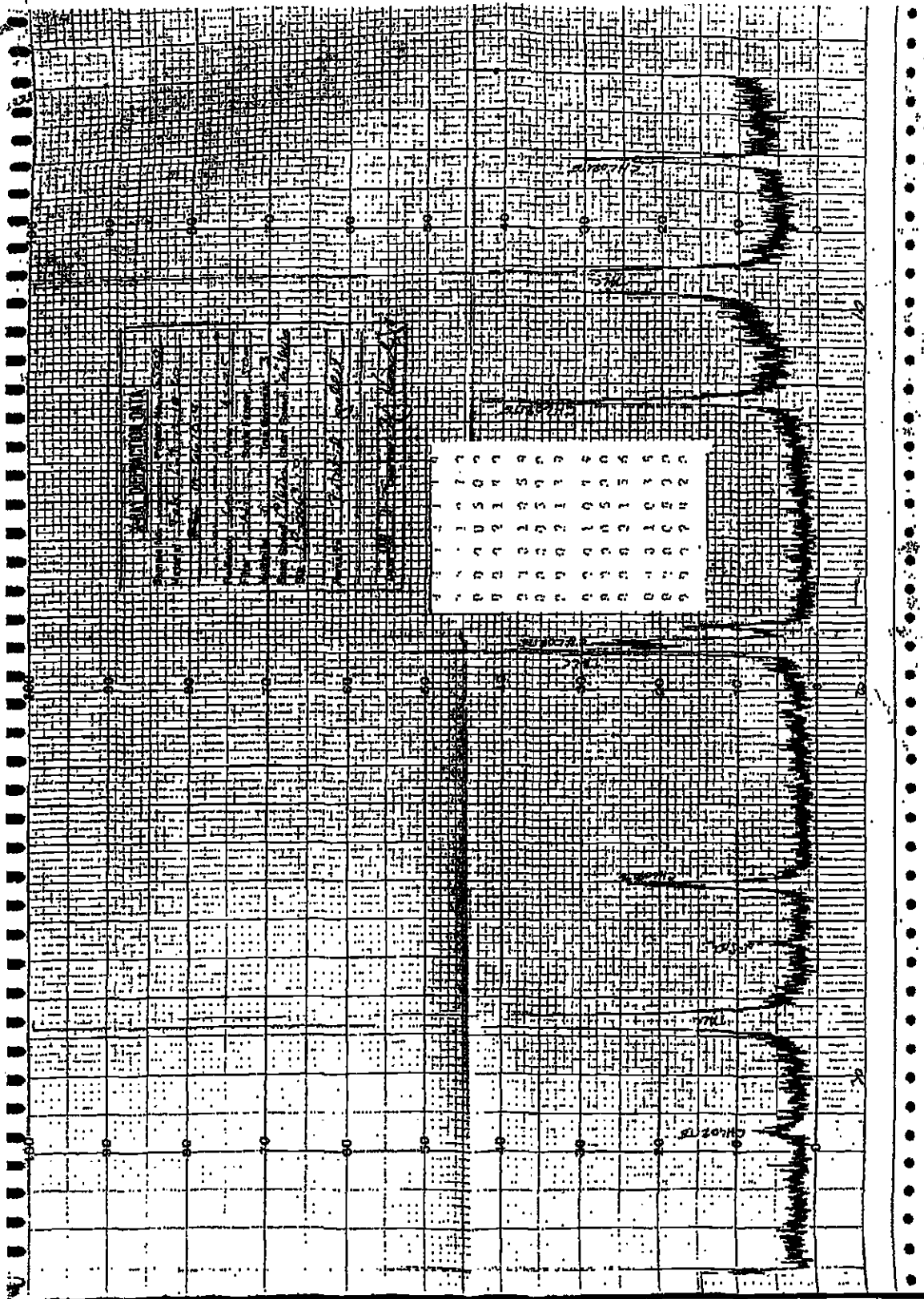
Others: _____

Comments: _____

walter c. mcrone associates, inc.

McCRONE 0119

COL 00595



Date 1-29-79
Client Colgate-Palmolive MA Project 5500
Sample Description RMP5, M-6277, Lot 881800

X-RAY DIFFRACTION

Serpentine: Detected _____ Not Detected ✓

Amphibole: Detected _____ Not Detected ✓

Other Phases Present: Chlorite ✓ α -SiO₂ ✓ (trace)

Dolomite ✓ Calcite ✓ Magnesite ✓ Mica _____

Other: _____

Comments: _____

R. J. Kline

LIGHT MICROSCOPY

Chrysotile _____ % α -SiO₂ _____ %

Tremolite-Actinolite _____ total % _____ % fibrous

Nonfibrous Serpentine _____

Others: _____

Comments: _____

walter c. mcrone associates, inc.

McCRONE 0121

COL 00597

COLGATE-PALMOLIVE COMPANY

A Delaware Corporation

RESEARCH AND DEVELOPMENT DEPARTMENT

909 River Road • Piscataway, New Jersey 08854

RECEIVED FEB 7 1979

February 2, 1979

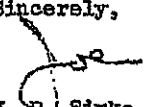
Mr. Ian Stewart
McCrone Associates
2820 South Michigan Avenue
Chicago, IL 60616

Dear Ian,

Enclosed are two samples coded 60016 and 10016 for microprobe and microdiffraction studies. These are residues trapped on 0.22 micron millipore filter discs and are similar to sample 10033 I sent you September 26. We want the same information on these as on 10033 (reported in your letter dated 10/17/78). We are concerned if any toxic elements are present, what are the black specks, and what other crystals are present? I would guess the two samples are similar and might differ in the proportions present.

A purchase order has been sent under separate cover.

Sincerely,


J. P. Simko, Jr.

JPS:ls

Enclosure

cc: P. A. Minger
J. P. Hauschild

X-3447

57.3 mm dia

Spl - Fluorogard 1602

<u>d</u>	<u>t/50</u>	<u>Ca F (480F)</u>
3.12	100	3.15-94
1.92	90	1.93-100
1.64	50	1.65-35
1.36	10	1.37-12
1.25	10	1.25-10
1.16	10	1.12-16

McCRONE 0124

COL 00600

Anna has killed

Sample #1407 Igard 10.02 Book # 6342 Pg # 43

black particles mixed organic + assorted "chud" silicate etc
also some that could be graphite (very fine)

yellow mass high Ca + F

Sample Fluorigard 14.02 Book # 6342 Pg # 43

dark brown particles iron oxide

yellow mass high Ca + F

From #2

Anna

Chant would like XRD on the
high Ca + F particles

3/8/79

Please X-ray
in #1

Sample

in glass
cappillary

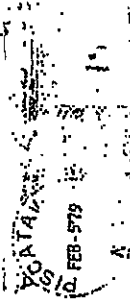
give data to

2-26-79
Fluorigard 14.02
Pg # 43

Colgate

J. P. Sileo
COLGATE-PALMOLIVE COMPANY
100 River Road - Hightstown, New Jersey - 08520
C 5713-4

Mr. Ian Stewart
McCrone Associates
2820 South Michigan Avenue
Chicago, IL 60616

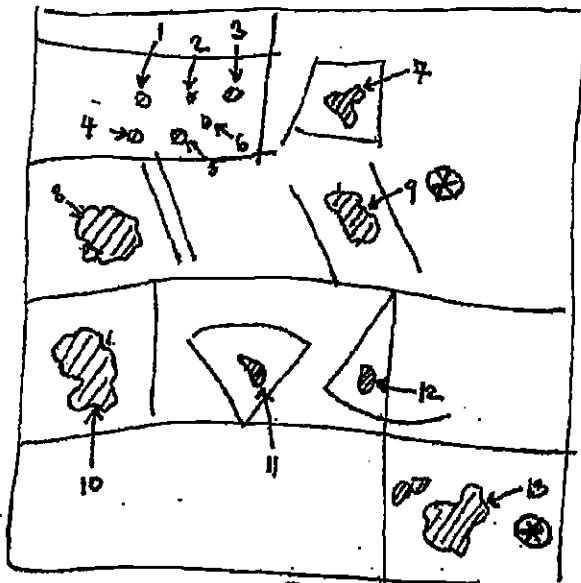


COL 00603

McCRONE 0127

7

8



OK-2

for Ian Steward

- 1 30 μ equant
- 2 20 μ equant
- 3 40 μ equant
- 4 20 μ flake
- 5 15 μ flake
- 6 20 μ equant
- 7 80 μ equant
- 8 100 μ granitic
- 9 100 μ granitic
- 10 100 μ granitic
- 11 30 μ equant + granitic
- 12 30 μ - " + granitic
- 13 100 μ granitic

Black
particles

yellowish mass
brownish particles + yellowish mass
dark brown
particles
yellowish mass

Fluorigard 10

① Book # 6342
Pg # 43

② Fluorigard 1602
Book # 6342
Pg # 43



walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

9 February 1979

Mr. Donald Ferry
Charles Mathieu, Inc.
P.O. Box AM
Summit, New Jersey 07901

Dear Mr. Ferry:

Using x-ray diffraction and transmission electron microscopy with selected area electron diffraction, we have analyzed a sample of talc designated as Monital 100, Lot 881800. Both techniques show this talc to be completely free from asbestiform minerals. Electron microscopy showed this talc is extremely platy. Because of its platiness there were some rolled talc shards, but this we normally find with platy talc.

The results of our x-ray analysis also indicated that no amphiboles and serpentines were present. We did find some chlorides and traces of alpha-SiO₂, dolomite, calcite and magnesite. The results of that investigation are included with this report.

Thank you for consulting McCrone Associates and if there are any further questions concerning this report or the data contained herein, please feel free to contact me.

Very truly yours,

Gene R. Grieger
Senior Research Physicist

GRG:fe
encl.
ref: 5500
cc: Joseph Sinko - Colgate-Palmolive Co.

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: OHEMORONE

McCRONE 0129

COL 00605



walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

9 February 1979

Mr. Donald Ferry
Charles Mathieu, Inc.
P.O. Box AM
Summit, New Jersey 07901

Dear Mr. Ferry:

Using x-ray diffraction and transmission electron microscopy with selected area electron diffraction, we have analyzed a sample of talc designated as Monital 100, Lot 881800. Both techniques show this talc to be completely free from asbestiform minerals. Electron microscopy showed this talc is extremely platy. Because of its platiness there were some rolled talc shards, but this we normally find with platy talc.

The results of our x-ray analysis also indicated that no amphiboles and serpentines were present. We did find some chlorides and traces of alpha-SiO₂, dolomite, calcite and magnesite. The results of that investigation are included with this report.

Thank you for consulting McCrone Associates and if there are any further questions concerning this report or the data contained herein, please feel free to contact me.

Very truly yours,

Gene R. Grieger
Senior Research Physicist

GRG:fe
encl.
ref: 5500
cc: Joseph Sinko - Colgate-Palmolive Co.

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/542-7100 • CABLE: CHEMICRONE

McCRONE 0130

COL 00606

Date 1-29-79

Client Colgate-Palmolive MIA Project 5500

Sample Description RMPs, M-6277, Lot 881800

X-RAY DIFFRACTION

Serpentine: Detected _____ Not Detected ✓

Amphibole: Detected _____ Not Detected ✓

Other Phases Present: Chlorite ✓ α -SiO₂ ✓ (trace)

Dolomite ✓ Calcite ✓ Magnesite ✓ Mica _____

Other: _____

Comments: _____

R. J. Kline

LIGHT MICROSCOPY

Chrysotile _____ % α -SiO₂ _____ %

Tremolite-Actinolite _____ total % _____ % fibrous

Nonfibrous Serpentine _____

Others: _____

Comments: _____

walter c. mocrone associates, inc.

McCRONE 0131

COL 00607

Speed Letter.

To WALTER C. McCRONE ASSOC., INC.
2870 SOUTH MICHIGAN AVE.
CHICAGO, ILL. 60616

From C. MATHIAS, INC. Rec'd 26 Sept
18-22 BANK ST.
P.O. Box AM-
SUMMIT, N.J. 07901

Subject 6040 MONITAL TALC
-- NO. 2 & 10 FOLD

Message GENTLEMEN: ENCLOSE IS A SAMPLE OF MONITAL TALC FOR
YOUR ROUTINE INVESTIGATION OF ASBESTIFORM MINERALS FOR
COLGATE-PALMOLIVE CO. PLEASE PERFORM YOUR USUAL WORK ON
THIS SAMPLE AND FORWARD THE REPORT TO US. (COPY TO J. SIMPSON)

Date 4-24-77 Signed Don Ferry

Reply

-- NO. 8 FOLD

-- NO. 10 FOLD

Wilson Jones

BRAND FOR NAME STAMP © 1964-1976 WILSON JONES

Date _____ Signed _____

Retain white copy, return pink copy

176

McCRONE 0134

COL 00609



file
walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

4 May 1979

Mr. Donald Ferry
Charles Mathieu, Inc.
P.O. Box AM
Summit, New Jersey 07901

Dear Mr. Ferry:

Using transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of talc designated as Monotel 6040, lot #492400.

We found this talc to be platy and of excellent quality. There were no asbestiform minerals contained in this talc, neither amphiboles nor serpentines.

Thank you for consulting McCrone Associates and if you have any questions regarding this report please feel free to contact me.

Sincerely,

Gene R. Grieger
Senior Research Physicist

GRG:fe
ref: 5500

cc: J.P. Simko - Colgate

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0135

COL 00610

Date 4-26-79

Client C. Mathieu MA Project 5500

Sample Description Talc - 6040 Monital; Lot 492400

X-RAY DIFFRACTION

Serpentine: Detected _____ Not Detected ✓

Amphibole: Detected _____ Not Detected ✓

Other Phases Present: Chlorite ✓ α -SiO₂ ✓

Dolomite ✓ Calcite ✓ Magnesite ✓ Mica _____

Other: _____

Comments: _____

Rf Kinley Jr

LIGHT MICROSCOPY

Chrysotile _____ % α -SiO₂ _____ %

Tremolite-Actinolite _____ total % _____ % fibrous

Nonfibrous Serpentine _____

Others: _____

Comments: _____

walter c. mcrone associates, inc.

McCRONE 0136

COL 00611

JD 8 May 1979 MA 5500 \$300

Charles Mathieu
co. Joseph Simko

Dear Mr. M. Ferry:

X-Ray diffraction and with
Using transmission electron microscopy and selected area
electron diffraction we have analyzed a sample of Montal 6040 talc, designated
as Lot #590300. We found this talc to be completely free from asbestos-form
minerals both amphibole and serpentine. There were however, a few talc shards
some in but the bulk of the talc is
in this but the predominant form was platy.

Thank you for consulting McCrone Associates, Inc. GRG

McCRONE 0137

COL 00612

Speed Letter.

To WALTER C. McCRONE ASSOC.
2820 SOUTH MICHIGAN AVE.
CHICAGO ILL. 60616

From C. MATHIAS INC.
1822 BANK ST.
P.O. BOX 19, M.

Subject SUMMIT, N.J. 07901

—No. 9 & 10 FOLD

MESSAGE

GENTLEMAN: ENCLOSED IS A SAMPLE OF MONITOR TALE FOR
YOUR ROUTINE INVESTIGATION OF ADHESIFORM MINERALS FOR
COLGATE-PALMOLIVE CO. PLEASE PERFORM YOUR USUAL WORK ON
THIS SAMPLE AND FORWARD THE REPORTS TO US.

Date 5-2-79

Signed Don F. Long

REPLY

Rec'd 4 May 79
to Ralph

—No. 1 FOLD

—No. 12 FOLD

Date

Signed

Wilson Jones Company
CHALKLINE FORM 4100S, 8-1/2" x 11"
© 1975 - PRINTED IN U.S.A.

RECIPIENT—RETAIN WHITE COPY, RETURN PINK COPY

McCRONE 0138

COL 00613



walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

file

9 May 1979

Mr. Donald Ferry
Charles Mathieu, Inc.
18-22 Bank Street
P.O. Box AM
Summit, New Jersey 07901

Dear Mr. Ferry:

Using x-ray diffraction and transmission electron microscopy with selected area electron diffraction, we have analyzed a sample of Monital 6040 talc designated as Lot #590300.

We found this talc to be completely free from asbestiform minerals both amphibole and serpentine. There were, however, a few talc shards in this sample but the bulk of the talc is predominantly platy.

If you should have any questions concerning this analysis, please contact me.

Sincerely,

Gene R. Grieger
Senior Research Physicist

GRG:fe
ref: 5500
cc: Joseph Simko - Colgate

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0140

COL 00615

Date 5-4-79

Client C. Mathieu, Inc. MA Project 5500

Sample Description Monital 6040 Tale; M-6277; Lot 590300

X-RAY DIFFRACTION

Serpentine: Detected _____ Not Detected ☒

Amphibole: Detected _____ Not Detected ☒

Other Phases Present: Chlorite ☒ α -SiO₂ ☒

Dolomite _____ Calcite _____ Magnesite ☒ Mica _____

Other: _____

Comments: _____

R. J. Kinley, Jr.

LIGHT MICROSCOPY

Chrysotile _____ % α -SiO₂ _____ %

Tremolite-Actinolite _____ total % _____ % fibrous

Nonfibrous Serpentine _____

Others: _____

Comments: _____

walter c. mocrone associates, inc.

McCRONE 0141

COL 00616

2/19

Dear Ms. Palenik:

Attached please find the letter from
Dr. J. P. Simko which was to accompany
the 4 samples he sent you yesterday.

There was a slight mix-up and the letter
was left behind.

Sorry for the inconvenience.

Maryanne Bechtold
Secretary to Dr. Simko

McCRONE 0142

COL 00617

RECEIVED AUG 22 1983

COLGATE-PALMOLIVE COMPANY

A Delaware Corporation

RESEARCH AND DEVELOPMENT DEPARTMENT

909 River Road • Piscataway, New Jersey 08854

August 18, 1983

Ms. Deborah Palenik
McCrane Associates
2820 South Michigan Ave.
Chicago, IL 60616

Dear Ms. Palenik:

Enclosed are 4 samples of Talc for analysis for Asbestos by TEM-SAED. Lot Nos. are: 12873, 12877, 13080 and 13081. Lot 12873 has been previously analyzed by your laboratory but we want to check it again.

I understand cost per analysis will be approximately \$350. I am having a purchase order sent under separate cover.

Sincerely,

J. P. Simko, Jr.

J. P. Simko, Jr.
Sr. Section Head
Analytical Department

JPS:me6

cc: W. Schubert
J. H. Callahan

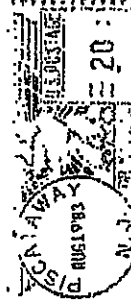
5500 / DPP

00000-1

McCRONE 0143

COL 00618

Dr. J. P. Simko, Jr.
COLGATE-PALMOLIVE COMPANY
500 River Road - Piscataway, New Jersey - 08854
C 2142-4



[Handwritten signature]

Ms. Deborah Palenik
McCrone Associates
2820 South Michigan Ave.
Chicago, IL 60616

RECEIVED AUG 22 1983

McCRONE 0144

COL 00619

(OPEN)

Individual						Charge Summary	
Date	Description	Amount		Cost	Total Charge		
	TGM	300					
	w/ Lt mirror	60					
	+for x-ray	<u>75</u>					
8-31-80	RME	(4 hrs) Rpt 8 Sep 80					
	INV 7389 \$300-8						
9-6-80	RME	4 hrs - 19 Sep 80 rpt INV #7442 \$300-8					
16 Mar 81	rpt inv 8357	17 Jul 81	\$300				
27 Oct 83	rpt INV 5208	10 Jan 83	1050				

PROJECT LEADER _____ \$ _____
 ROUGH DRAFT _____ BILLED TO CLIENT \$ _____
 REPORT RECEIVED _____ INVOICE NO. (S) _____

McCRONE 0145

COL 00620



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

27 October 1983

Dr. J. P. Simko, Jr.
Colgate-Palmolive Company
R&D Department
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

This letter concerns the asbestos analysis of three talc samples labelled 12873, 13080 and 13081. Sample 12877 was found broken when the sample box was opened and could not be analyzed.

The samples were analyzed by transmission electron microscopy. Chrysotile asbestos was detected in all three samples. The examination was not done quantitatively so no amount of asbestos can be determined.

Thank you for consulting McCrone Associates. If you have any questions please do not hesitate to call.

Sincerely,

Deborah P. Palenik
Mgr., Electron Optics Group

DPF:fe
Ref: 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE CHEMICORNE

McCRONE 0146

COL 00621

Dear Mr. Simko,

350
~~\$ 750.00~~
~~\$ 950.00~~
1050—

Thank you for

This letter concerns the ^{analysis} of three talc samples labelled 12873, 13080 and 13081. Sample 12873 was found broken when the sample box was opened and could not be analyzed.

The samples were analyzed by transmission electron microscopy. Crystalline asbestos was detected in all three samples. The examination was not done quantitatively so no amount of asbestos can be determined.

If you have any questions, please do not hesitate to call. Thank for consulting McCrone Associates.

Sincerely
D.P.

McCRONE 0147

COL 00622

COLGATE-PALMOLIVE COMPANY

A Delaware Corporation

RESEARCH AND DEVELOPMENT DEPARTMENT

909 River Road • Piscataway, New Jersey 08854

October 31, 1983

Ms. Deborah Palenik
McCrone Associates
2820 South Michigan Ave.
Chicago, IL 60616

Dear Ms. Palenik,

Enclosed is a single talc sample Lot No. S09063 for analysis
by TEM-SAED for asbestos. Please expedite this work. A Purchase
Order No. is being sent separately.

Many thanks.

Sincerely,

J. P. Simko, Jr.

Dr. J. P. Simko, Jr.

JPS:mab

cc: P. A. Munger
W. Schubert
C. Schwarz, E-1-5

020420

5500 / DPP

ORIGINAL PURCHASE ORDER

D 5217-12

Show this number
and prefix on in-
voices, packing
slip and purchase

6337-15

BILL TO

COLGATE-PALMOLIVE COMPANY

A DELAWARE CORPORATION

Mail Invoices To:

25 RPI 82130 A. Grinner

ATTN: Colgate Palmolive Co.
909 River Road
Piscataway, NJ 08854

DATE

11/3/83

SHIP TO

McCrone Associates

2828 South Michigan Avenue

Chicago, Illinois 60608

RECEIVED NOV

7 1983

J. M

J. Wituck

DISCOUNT TERMS		SHIPPING TERMS		WANTED BY	
1	☐ 2/10 N/30	1	☐ FOB Destination	Please Rush	
2	☐ 1/10 N/30	2	☒ FOB Shipping Pt.		
3	☐ N/45	(Pre-Pay & Bill) See Below		IF ABOVE DATE CANNOT BE MET NOTIFY	
4	☒ N/30	3	☐ FOB Shipping Pt. (Collect)		
5	☐	City Matches "Rec. Pkt." Code			
6	☐ NET CASH				

YOU ARE AUTHORIZED TO FURNISH THE ARTICLES LISTED HEREON IN ACCORDANCE WITH THE TERMS AND CONDITIONS ON THE FACE AND BACK OF THIS ORDER.

QUANTITY AND UNIT	SYMBOL NUMBER	PRICE
1 ea.	Talc Sample for analysis for asbestos: cost approx. \$350	
	Note: This is a one time request.	
	Samples sent under separate cover to Ms. Deborah Palenik at McCrone Associates.	
	TAX EXEMPT	

VENDOR TO PROTECT ALL METAL PARTS AGAINST CORROSION BY SUITABLE PROTECTIVE SEALING.

SELLERS INVOICES that include authorized transportation charges, must be supported by prepaid freight bill or COLGATE-PALMOLIVE COMPANY copy of original bill of lading.

MARK PACKAGES with purchase order number, symbol number, contents and quantity. Acceptance of this order is to be deemed a certification that you have read and agreed to the terms and conditions on the back hereof. PAYMENT WILL NOT BE MADE AGAINST PRO FORMA INVOICE.

RESERVE UNLOADING space and time for heavy loads by telephoning 201-547-2910

BY

J. Wituck

McCRONE 0149

COL 00624

MAY BE REPRODUCED

ST 4 (10/72, 8/83)

To be completed by purchaser and
given to and retained by vendor.
Read instructions on back of this
Certificate.

THIS CERTIFICATE MAY NOT
BE USED IN CONNECTION
WITH THE PURCHASE
OF SERVICES

State of New Jersey

DIVISION OF TAXATION

SALES TAX

EXEMPT USE CERTIFICATE

FORM ST-4

PUBLISHED &
CERIMAN IN ADVERTISING 21-00000

131-815-595/001

TO McCrone Associates

(Name of Vendor)

Date 11/3/83

Address

City

State

Zip

The undersigned purchaser certifies that it is not required to pay the New Jersey Sales and/or Use Tax on the purchase or purchases covered by this Certificate because the tangible personal property purchased will be used for an exempt purpose.

Said tangible personal property will be used for the following exempt purposes: For use or consumption directly and exclusively in research and development, in the experimental or laboratory sense.

The exemption on the sale of said tangible personal property to be used for the above described exempt purpose is provided in subsection N.J.S.A. 54:32B-8-2 (See reverse side for listing of principal exempt uses of tangible personal property and fill in the block with proper subsection citation).

I, the undersigned purchaser, have read and complied with the instructions and rules promulgated pursuant to the New Jersey Sales and Use Tax Act with respect to the use of the Exempt Use Certificate, and it is my belief that the vendor named herein is not required to collect the sales or use tax on the transaction or transactions covered by this Certificate. The undersigned purchaser hereby swears (under the penalties for perjury and false swearing) that all of the information shown in this Certificate is true.

A VENDOR SHOULD READ AND
COMPLY WITH THE INSTRUCTIONS
GIVEN ON BOTH SIDES OF AN
EXEMPTION CERTIFICATE.

COLGATE-PALMOLIVE COMPANY

NAME OF PURCHASER (See instructions on back of Division of Taxation)

Robert F. Murphy
SENIOR BUYER
CENTRAL ENGINEERING DEPARTMENT
105 HUDSON ST.,
JERSEY CITY, N. J. 07302
(EQUIPMENT PURCHASING SECTION)

McCRONE 0150

COL 00625

Talk

50906B

No asbestos

10-10-73

10-10-73

McCRONE 0151

COL 00626



walter c. mcCrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

16 November 1983

Dr. J. P. Sinko, Jr.
Colgate-Palmolive Company
Research & Development Department
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Sinko:

This report summarizes the asbestos analysis of one talc sample labelled Lot #S09063 which was sent to us under P.O. #633715.

The sample was examined by transmission electron microscopy and no asbestos was detected. This technique has a detection limit of 0.1% by weight.

Thank you for consulting McCrone Associates. If you have any questions, please do not hesitate to call.

Sincerely,

Deborah P. Palenik
Manager, Electron Optics Group

DPP:cb
Ref: 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE CHEMICRONE

McCRONE 0152

COL 00627

~~\$600.00~~ \$350.00

Dear Mr. Sinko,

This report summarizes the ^{asbestos} analysis of one tale sample sent under P.O. # 633715_{re} labeled 509063. The sample was examined by transmission electron microscopy and no asbestos was detected. This technique has a detection limit of 0.1% by weight.

Thank you for ^{Thermo} consulting Micro-Association. If you have any questions please do not hesitate to call.

Sincerely

Dpp

McCRONE 0153

COL 00628

04426

4

4

Stud.

McCRONE 0154

COL 00629

COLGATE-PALMOLIVE COMPANY

A Delaware Corporation

RESEARCH AND DEVELOPMENT DEPARTMENT

909 River Road • Piscataway, New Jersey 08854

RECEIVED NOV 21 1974

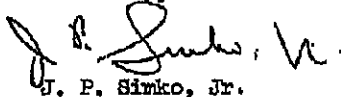
November 18, 1974

Dr. Ian Stewart
McCrone Associates
2820 South Michigan Avenue
Chicago, IL 60616

Dear Ian:

Enclosed are three samples of talc I would like analyzed for chrysotile and tremolite using TEM and SAED. Samples are labeled A, F and S. Charges for this work should carry our purchase order No. 632768.

Sincerely,



J. P. Simko, Jr.
Research Associate

JP8:ls

Anslem

C 8137-3

McCRONE 0155

COL 00630

319

1A 17KX

1B DP

2A ^{1A} DP

2B 17KX

3A DP

3B 17KX

"A" organic film some

tail rubbers. small tail
plate. may be amorphous.

"F"

large tail plate very heavy
organic film no tail rubbers
or fibrous tail.

"S"

some tail rubbers

" " rubbers

" " rubbers

ORIGINAL PURCHASE ORDER

DS217-9

RECEIVED NOV 25 1974

Show this number
and prefix on in-
voices, packing
slips and packages.

632768

BILL TO

COLGATE-PALMOLIVE COMPANY

A DELAWARE CORPORATION

105 HUDSON STREET, JERSEY CITY, N.J. 07302

ATTENTION:

J. WITRYK

DATE 11-22-74

McCrone Associates

2820 South Michigan Avenue

Chicago, Illinois 60616

SHIP TO

25	88 GREENE ST. JERSEY CITY, N.J. 07302
14	308 RIVER RD. PISCATAWAY, N.J. 08854
13	20 GRAND ST. JERSEY CITY, N.J. 07302
16	RECEIVING STATION JEFFERSONVILLE, INDIANA 47130
18	RECEIVING STATION KANSAS CITY, KAN. 64105
22	710 CARLTON ST. BERKELEY, CALIF. 94710
26	380 PARK AVE. NEW YORK, N.Y. 10022
23	

ATTN: Receiving Clerk

DISCOUNT TERMS

- 1 ☐ 2/10 N/30
- 2 ☐ N/30
- 3 ☐ 1/10 N/30
- 4 ☐ Net Cash
- 5 ☒ Trade

SHIPPING TERMS

- 1 ☐ FOB Destination
- 2 ☒ FOB Shipping Pt.
(Pre-Pay & Bill) See Below
- 3 ☐ FOB Shipping Pt. (Collect)
- 4 ☐ City

WANTED BY

ASAP

IF ABOVE DATE CANNOT BE MET NOTIFY

YOU ARE AUTHORIZED TO FURNISH THE ARTICLES LISTED HEREON IN ACCORDANCE WITH THE TERMS AND CONDITIONS ON THE FACE AND BACK OF THIS ORDER.

QUANTITY AND UNIT	SYMBOL NUMBER	PRICE
	Transmission Electron Microscopy and electron diffraction analysis of three talc samples for chrysotile and tremolite	
	NOTE: This is a ~~yes~~ one time order for a specific job	
	CONFIRMING - DO NOT DUPLICATE	
	address as above:	
	Attention: Dr. I. Stewart	
	TAX EXEMPT	
	MA4476/MS	

VENDOR TO PROTECT ALL METAL PARTS AGAINST CORROSION BY SUITABLE PROTECTIVE SEALING.

SELLERS INVOICES that include authorized transportation charges, must be supported by prepaid freight bill or copy of original bill of lading.

MARK PACKAGES with purchase order number, symbol number, contents and quantity. Acceptance of this order is to be deemed a certification that you have read and agreed to the terms and conditions on the back hereof. PAYMENT WILL NOT BE MADE AGAINST PRO FORMA INVOICE.

COLGATE-PALMOLIVE COMPANY

BY

J. Witryk

NEW JERSEY SALES TAX MUST BE BILLED UNLESS EXEMPTED BY ATTACHED CERTIFICATE.

McCRONE 0157

COL 00632

PROJECT COST RECORD

PROJECT TITLE: 3 talc samples PROJECT NO.: MA 4426
 SPONSOR: COLGATE-PALMOLIVE COMPANY DATE RECEIVED: 12 2 74
 ADDRESS: 909 River Road P.O. NO.: 692768
Piscataway, New Jersey 08854 COMMITMENTS: \$
 Contact: J. Witruk Telephone No. (201) 468 1212

SUMMARY OF PROBLEM:

Lab Notebook References:

No. pp. Initials
 No. pp. Initials
 No. pp. Initials
 Photomicrographic record no.

Sample disposal:
 returned
 filed (where)
 discarded

DIRECT COSTS

Individual time (Exclusive of oper. time on inst. below)				Travel				Charge Summary	
Date	Name	Hours	Charge	Date	Traveler	Destination	Cost		
								Individuals	\$
								Instrument	
								Travel	
								Outside	
								Other	
Instrument time				Outside Services				Total Charge	
	Date	Hours	Charge		Date	Company	Cost	\$	
SEM				Photo					
TEM				Photo					
XRD				Materials					
EMP				Supplies					
IMP									
ESCA									
								OK for billing	
								Project Ldr	<u> </u>
								Group Ldr	<u> </u>

PROJECT LEADER IMS TOTAL CHARGE \$
 ROUGH DRAFT BILLED TO CLIENT \$
 REPORT RECEIVED INVOICE NO. (S)

McCRONE 0158

COL 00633

10 December 1974

Dr. J. P. Simko, Jr.
Celgate-Palmolive Company
908 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

Using the electron microscope we have analysed three samples of talc identified as Samples A, F and S.

Sample A contained two fibers of amphibole which we believe to be tremolite. Also in sample A there were indications of talc ribbons and talc shards. By talc ribbons we mean thin plates of talc which have a greater than three to one axial ratio and therefore appear, just as ribbons appear, to be long thin flat plates of talc which are much greater in one dimension than in the second dimension. There was also some indication of an organic film present.

In sample F, we found large plates of talc. In general sample F showed larger plates of talc than did sample A. There was also an extremely heavy organic film but no evidence of talc ribbons or talc fibers. These organic contaminants are soluble in isopropyl alcohol and bubble up when struck by the electron beam. It was extremely difficult to analyse this talc because of the high concentration of organic material on the surface of the grid.

Sample S showed some talc shards, which may be described as thin bundles of talc ribbons, which are extremely small. These ribbons are frequently rolled and therefore might be confused for chrysotile bundles but they obviously are not, since they show hexagonal outlines which, ordinarily, chrysotile does not show. There were also some talc ribbons and other silicate particles which were long and fibrous, and frequently broken or bent at sharp angles.

In conclusion, then, the only asbestos-form minerals that we found were in sample A and were two amphibole fibers. This is a rather low number when you consider the area we looked at. However, it may be indicative of trace amounts of amphibole.

McCRONE 0159

COL 00634

Dr. J. P. Simko

Page two

in the tale mine. Samples F and S showed no amphiboles but did show larger plates of tale than Sample A, which sample F also showing high amounts of organic contamination. Thank you for consulting McCrone Associates. If there are any questions concerning this report or the data contained herein, please feel free to contact me.

Very truly yours,

Gene R. Grieger
Senior Research Physicist

GRG:ahn
enclosures
ref:MA4428

McCRONE 0160

COL 00635

MEMO FROM

GENE GRIEGER

Colgate - Palmolive

Sample A

50KX

#1

~~50KX~~

MEMO FROM

GENE GRIEGER

Colgate - Palmolive

Sample A

#2

50KX

MEMO FROM
GENE GRIEGER

Colgate - Polunoline
Sample A-1
SAED
Tremolite

MEMO FROM
GENE GRIEGER

Colgate - Polunoline
Sample A-2
SAED
Tremolite

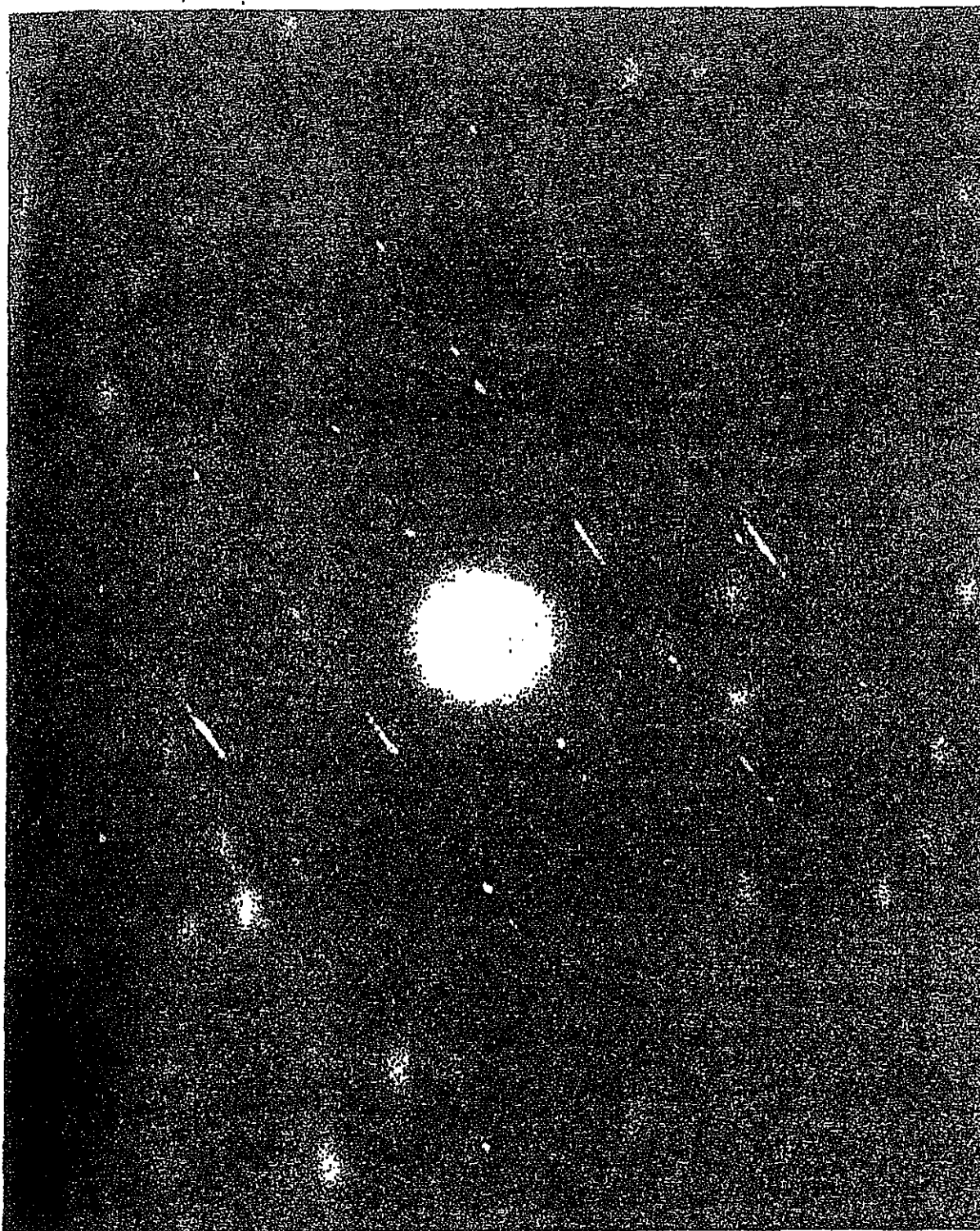


Walter C. McCrone Associates, Inc.

Sample A-1 SAED

McCRONE 0163

COL 00638



Walter C. McCrone Associates, Inc. Sample A-2 SAED
Translife

McCRONE 0164

COL 00639



Walter C. McCrone Associates, Inc.

Sample A, no. 1 (50KX)

McCRONE 0165

COL 00640



Walter C. McCrone Associates, Inc.

Sample A, no. 2

(50KX)

McCRONE 0166

COL 00641



030802



8



3

SMEAD 82 8P86278

Speed.
No. CC3
HASTINGS, MN
LOS ANGELES-CHICAGO-LOS AN, OH
MCKINNEY, TX-LOCUST GROVE, CA

McCRONE 0167

COL 00642

COLGATE-PALMOLIVE COMPANY

A Division of Colgate-Palmolive Company

RESEARCH AND DEVELOPMENT DEPARTMENT

909 River Road • Piscataway, New Jersey 08854

January 28, 1974

Dr. Ian Stewart
McCrone Associates
2820 South Michigan Avenue
Chicago, Illinois 60616

Dear Dr. Stewart:

Enclosed are three samples of talc which we want analyzed for chrysotile and tremolite. I have discussed these with you by telephone and I want transmission electron microscopy and electron diffraction analysis done.

Charges for this work should carry our purchase order No. 614953.

If I can be of any assistance please contact me: (201) 463-1212 ext. 379.

Sincerely,

J. P. Sinko, Jr.

J. P. Sinko, Jr.
Research Associate

JPS:jk

P. S. Dr. Schnelber of our company has not received promised literature.

MA-3805/1ms

PROJECT COST RECORD

PROJECT TITLE: Talc analysis PROJECT NO.: MA 3805
 SPONSOR: COLGATE-PALMOLIVE COMPANY DATE RECEIVED: 1 30 74
 ADDRESS: R&D Department P.O. NO.: 614953
909 River Road COMMITMENTS: \$ 2-300/san
Piscataway, New Jersey 08854
 Contact: J. P. Simko, Jr. Telephone No. (201) 463 1212 X 379

SUMMARY OF PROBLEM:

Lab Notebook References:

No. pp. Initials

No. pp. Initials

No. pp. Initials

Photomicrographic record no.

Sample disposal:

returned

filed (where)

discarded

DIRECT COSTS

Individual time (Exclusive of oper. time on inst. below)				Travel				Charge Summary	
Date	Name	Hours	Charge	Date	Traveler	Destination	Cost		
								Individuals	\$
								Instrument	
								Travel	
								Outside	
								Other	
Instrument time				Outside Services				Total Charge	
	Date	Hours	Charge		Date	Company	Cost		\$
SEM				Photo				OK for billing	
TEM				Photo				Project Ldr	
XRD				Materials				Group Ldr	
EMP				Supplies					
IMP									
ESCA									

PROJECT LEADER IMS

TOTAL CHARGE \$ 750

ROUGH DRAFT

BILLED TO CLIENT \$ 750

REPORT RECEIVED

INVOICE NO. (S) 7468

McCRONE 0169

COL 00644

\$750.

Review

IMS
R2M
DAB
JSM
FE

5 February 1974

Mr. J. P. Simko, Jr.
Colgate-Palmolive Company
R and D Department
909 River Road
Piscataway, NJ 08854

Dear Mr. Simko:

We have finished our analysis of your samples designated 816, Cashmere Bouquet, and N. C. Regal.

In none of the samples did we detect transolite; however, chrysotile was detected in all of them. We, of course, cannot give a definite value for the amount present but we have made rough estimates, accurate within an order of magnitude, so that you might make a comparison. Sample 816 contains ~ 0.001 to 0.01% chrysotile, Cashmere Bouquet ~ 0.0005%, and N. C. Regal ~ 0.0001 to 0.001%. In general the samples show a high level of materials other than talc. Representative photomicrographs are included with this report.

Thank you for consulting McCrone Associates. If you have any questions please do not hesitate to call.

Yours sincerely,

Richard Shimps
Research Technician

Enclosures
RS:mg
Ref. 8806

McCRONE 0170

COL 00645

Calagato Polymolite

Sample 516 .01 to .001%

actual estimate .005% chrysotile

Cashmere Bouquet - no amphiboles

N.C. Royal <.001% Chrysotile

probably .0005%

All samples show high levels of
materials other than talc



Cashmere Bouquet
Diffraction pattern of previously
shown chrysotile fibers

Walter C. McCrone Associates, Inc.

McCRONE 0172

COL 00647



Cashmere Bouquet
Chrysotile fibers (51,000X)

Walter C. McCrone Associates, Inc.

McCRONE 0173

COL 00648



N. C. Regal, chrysotile fiber
(150,000X)

Walter C. McCrone Associates, Inc.

McCRONE 0174

COL 00649



N.C. Regal, general view (51,000X)

Walter C. McCrone Associates, Inc.

McCRONE 0175

COL 00650



516 -- Diffraction pattern of
chrysotile fibers shown in
other photo

Walter C. McCrone Associates, Inc.

McCRONE 0176

COL 00651



N.C. Regal, diffraction pattern
of chrysotile fiber shown in other
photo

Walter C. McCrone Associates, Inc.

McCRONE 0177

COL 00652



Cashmere Bouquet, general view
(12, 000X)

Walter C. McCrone Associates, Inc.

McCRONE 0178

COL 00653



Walter C. McCrone Associates, Inc.

McCRONE 0179

COL 00654

ITALIAN TALC AGENCIES.

Societa Talco E Grafite Val Chisone
Pinerolo (North Italy)

Societa Anonima Talco Enrico Trossi & C.
Leghorn, Italy

G. A. Baldinotto & Nipote
Torino

CHARLES MATHIEU, Inc.

Importers

P.O. BOX AM

18-22 BANK STREET

SUMMIT, NEW JERSEY 07901

REPRESENTATIVE IN U.S.A. OF FOREIGN MINES

CABLE ADDRESS
"MATEUGAR"
A. Z. C. CODE USED

Rec'd 12 Jan 79
(201) 277-0510

January 10, 1979

Mr. Gene R. Grieger
Senior Research Physicist
Walter C. McCrone Associates, Inc.
2820 South Michigan Avenue
Chicago, IL 60616

Dear Mr. Grieger:

Confirming our telephone conversation of today, enclosed please find a sample of talc marked "Monital 100, Lot 881800" which is a new source for the Colgate Palmolive Company, their specification No. M-6277.

Please test this sample with the usual CTFA J4-1 method and report the results to us and Dr. Sinko in the usual manner.

Thank you for your cooperation with the above.

Very truly yours,

CHARLES MATHIEU, INC.

Donald R. Ferry
Donald R. Ferry

DRF:eb
cc: Dr. J. P. Sinko

Not responsible for damages incurred by carriers. All quotations and contracts subject to conditions beyond our control.
Prices are based upon existing tariff rates and customs regulations.

McCRONE 0180

COL 00655



walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

File

6 July 1979

Mr. Donald Ferry
Charles Matthieu, Inc.
P. O. Box AM
Summit, NJ 07901

Dear Mr. Ferry:

Using x-ray diffraction, transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of Colgate talc, designated as monotal 6040, Lot 592200.

X-ray diffraction did not detect either amphibole or serpentine. We did, however, find that some chlorite, a trace of α -SiO₂, some dolomite, calcite and a trace of magnesite were present in this talc.

The results of our electron microscopic examination confirm that there are no asbestiform minerals, amphibole or serpentine, present in this sample either. The talc is platy and has a well-characterized crystal structure.

Thank you for consulting McCrone Associates.

Very truly yours,

Gene R. Grieger
Senior Research Physicist

GRG:smg
enclosures
MA-5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0181

COL 00656

Mr. Donald Ferry
Charles Matthieu Inc.

cc: Joe Simko

Colgate-Palmolive Co.

Dear Mr. Ferry:

~~RED DASH~~ P.O. Box AM

Tamworth NJ

Piscataway, NJ 08854

07901

Using transmission electron microscopy and selected area electron

diffraction we have analyzed a sample of Colgate talc, designated as monetal 8040,

Lot 59220B. The results of the examination indicate that there is no asbestos.

minerals present in this sample either amphibole or serpentine. The tarc is platy

and well characterized crystal structure. We also examined the sample using X-ray

~~diffraction. We did not detect either amphibole or serpentinite using x-ray diffraction~~

other. We did however, find that some chloride, a trace of α -SiO₂, some dolomite

calcite and a trace of magnesite were present in this late. Thank you for consulting

McCrone Associates, VPI, C.R.G.

cc $\frac{1}{0}$

COL 00658



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

#500.

Rev.
13
3

6 July 1979

Mr. Donald Ferry
Charles Matthieu, Inc.
P. O. Box AM
Summit, NJ 07901

Dear Mr. Ferry:

Using x-ray diffraction, transmission electron microscopy and selected area electron diffraction, we have analyzed a sample of Colgate talc, designated as monotal 6040, Lot 592200.

X-ray diffraction did not detect either amphibole or serpentine. We did, however, find that some chlorite, a trace of α -SiO₂, some dolomite, calcite and a trace of magnesite were present in this talc.

The results of our electron microscopic examination confirm that there are no asbestiform minerals, amphibole or serpentine, present in this sample either. The talc is platy and has a well-characterized crystal structure.

Thank you for consulting McCrone Associates.

Very truly yours,

Gene R. Grieger
Senior Research Physicist

GRG:smg
enclosures
MA-5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0184

COL 00659

MA 6500. usual billing.

Dr. J. Simko.

CS Dept Palmdale.

D. R. Ferry.

Charles Mattieu

Dear Dr. Simko, Mr. Ferry.

We have completed our analysis of talc
Monital # 6040 Lot 791000 received August 1st,
and find it free from asbestosiform minerals.

The talc was examined first by X-Ray diffraction
which showed neither serpentines nor amphibole present.

An examination was then performed by electron microscope,
combined with selected area electron diffraction. This
examination showed little evidence of fibrous materials
present. High aspect-ratio particles observed in this talc
were identified by ^{electron} diffraction as ribbons or shards of talc.
The majority of the ~~tal~~ talc consisted of good, platy talc.

As usual if you have any questions on this work,
please feel free to call me.

Y. S.
MS.

McCRONE 0185

COL 00660



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

6 September 1979

Mr. D. R. Ferry
Charles Mathieu, Inc.
P. O. Box AM
Summit, New Jersey 07901

Dear Mr. Ferry:

We have completed our analysis of talc Monital #6040 Lot 791000 received 1 August, and find it free from asbesiform minerals.

The talc was examined first by x-ray diffraction which showed neither serpentines nor amphiboles present. An examination was then performed by electron microscopy combined with selected area electron diffraction. This examination showed little evidence of fibrous materials present. High aspect ratio particles observed in this talc were identified by electron diffraction as ribbons or shards of talc. The majority of the talc consisted of good, platy talc.

As usual, if you have any questions on this work, please feel free to call me.

Yours sincerely,

Ian M. Stewart
Manager, Electron Optics Group

IMS:fe
Ref: 5500
cc: Dr. J. Simko - Colgate

2520 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0186

COL 00661

Date 8-29-79

Client C. Mathieu, Inc MA Project 5500

Sample Description Talc, monitrol 6040, Lot 791000

X-RAY DIFFRACTION

Serpentine: Detected _____ Not Detected ☒

Amphibole: Detected _____ Not Detected ☒

Other Phases Present: Chlortite ☒ α -SiO₂ _____

Dolomite ☒ Calcite _____ Magnesite ☒ Mica _____

Other: _____

Comments: _____

Rf Hines, Jr

LIGHT MICROSCOPY

Chrysotile _____ % α -SiO₂ _____ %

Tremolite-Actinolite _____ total % _____ % fibrous

Nonfibrous Serpentine _____

Others: _____

Comments: _____

walter c. mcCrone associates, inc.

McCRONE 0188

COL 00663

Speed Letter.

To WALTER C MCCRONE ASSOC. INC.

2829 SOUTH MICHIGAN AVE

CHICAGO, ILL. 60616

From CYPRUS INDUSTRIAL MINERALS

651 METUCHEN ROAD

SOUTH PLAINFIELD, N.J. 07080

Kept to:
COLGATE

Subject Monoblend Talc H-6277 (6040 Monital Talc)

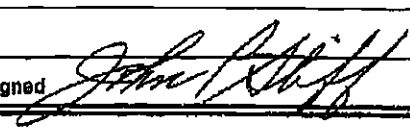
Rec'd 17 Oct 79

MESSAGE

Gentlemen:

Enclosed is a sample of Monoblend Talc H-6277 (Monital Talc) for
your routine investigation for asbestos minerals for Colgate-Palmo-
live Co. Please perform your usual work on this sample and forward
the results to us with a copy to J. Simpos.

Date 10-15-79

Signed 

REPLY

NO. 3 FOLD

NO. 10 FOLD

Date

Signed

Wilson Jones
SUN. MCCRONE ASSOC. INC.
SUN. MCCRONE ASSOC. INC.

RETAIN WHITE COPY, RETURN PINK COPY

576

McCRONE 0189

COL 00664

Date 10-18-79

Client Cyprus Industrial Minerals MA Project 5500

Sample Description Talc M-6277, Lot 1091300

X-RAY DIFFRACTION

Serpentine: Detected _____ Not Detected ☒

Amphibole: Detected _____ Not Detected ☒

Other Phases Present: Chlorite ☒ α -SiO₂ ☒

Dolomite ☒ Calcite ☒ Magnesite ☒ Mica _____

Other: _____

Comments: _____

RJ Nimick

LIGHT MICROSCOPY

Chrysotile _____ % α -SiO₂ _____ %

Tremolite-Actinolite _____ total % _____ % fibrous

Nonfibrous Serpentine _____

Others: _____

Comments: _____

walter c. mocrone associates, inc.

McCRONE 0190

COL 00665



Figure 1 — General view
of talc (22,500X)

walter c. mc crone associates, Inc.

McCRONE 0191

COL 00666

MA 5500 copy to Joe Simko (Colgate)

Dear Mr. Schiff OK_{rs}

We have completed our analysis of the sample of talc labeled Monoblend Talc M-6277 (Monital Talc) lot 1091300. No asbestiform minerals were detected using X-ray diffraction and Transmission Electron Microscopy. The talc showed ~~the~~ typical blocky ^{and platy} particles and ~~a~~ talc ribbons. The ribbons were differentiated from asbestiform minerals by selected area electron diffraction. TEM photomicrographs taken at 22,500x is ~~enclosed~~ enclosed. Please contact us if you have

any questions concerning the work. Thank you for consulting.

Walter C. McCrone Associates,

VTY

Richard M. Ellis Jr.

Des Micros.

McCRONE 0194

COL 00669



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

12 November 1979

Mr. John P. Shiff
Cyprus Industrial Minerals
651 Metuchen Road
South Plainfield, New Jersey 07080

Dear Mr. Shiff:

We have completed our analysis of the sample of talc labeled "Mono-blend Talc M-6277 (Monital Talc) Lot 109 1300". No asbestiform minerals were detected using x-ray diffraction and transmission electron microscopy. The talc showed typical blocky and platy particles and talc ribbons. The ribbons were differentiated from asbestiform minerals by selected area electron diffraction. A TEM photomicrograph taken at 22,500X is enclosed.

Thank you for consulting McCrone Associates and if you have any questions concerning this work, please contact us.

Yours sincerely,

Richard M. Ellis, Jr.
Research Microscopist

RME:fe
Encl.
Ref: 5500

cc: Dr. Joe Simko, Jr. - Colgate-Palmolive Co.

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

•McCRONE 0195

COL 00670

Speed Letter.

To Walter McCrone Associates Inc.

From Cyprus Industrial Minerals Co.

2828 South Michigan Ave.

651 Metuchen Road

Chicago, Ill. 60607

South Plainfield, N.J. 07080

Subject Test for Asbestos Fibers

-No. 5 11/70 D

MESSAGE

1 - Sample Monoblend Code M6277 Lot # 1291100

Rec'd

17 Dec 79

Please run your regular test for asbestos fibers on enclosed sample. Please send an additional copy of your report to J. Simko, Colgate Palmolive Co., Research Center, 909 River Road, Piscataway, N.J. 08854

Date 12/13/79

Signed

J.P. Stiff
J.P. Stiff

REPLY

-No. 9 FOLD

-No. 10 FOLD

Date

Signed

Wilson Jones
CHRYSLER CREDIT CORP.
6101 - NEW YORK, N.Y.

RETAIN WHITE COPY, RETURN PINK COPY

676

McCRONE 0196

COL 00671



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

file

8 January 1980

Mr. J. P. Stiff
Cyprus Industrial Minerals Company
651 Matuchen Road
South Plainfield, New Jersey 07080

Dear Mr. Stiff:

We have completed our asbestos analysis of talc sample Monoblend
Code M6277 Lot #1291100.

The x-ray diffraction analysis showed no detectable asbestiform
minerals. The TEM analysis likewise showed no detectable asbestiform
minerals. The sample was a typical talc and contained a few fibrous
ribbons.

Please contact us if you have any questions concerning the work.
Thank you for consulting McCrone Associates.

Sincerely,

Richard M. Ellis
Research Microscopist

RME:jr
Ref. MA 5500
Enclosures
cc: J. Simko

2620 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0197

COL 00672

Date 12-19-79

Client Colgate-Palmolive, Co MA Project 5500

Sample Description Monoblend M-6277, Lot #1291100

X-RAY DIFFRACTION

Serpentine: Detected _____ Not Detected ☒

Amphibole: Detected _____ Not Detected ☒

Other Phases Present: Chlorite ☒ α -SiO₂ ☒

Dolomite ☒ Calcite ☒ Magnesite ☒ Mica _____

Other: _____

Comments: _____

DJ Kincliff

LIGHT MICROSCOPY

Chrysotile _____ % α -SiO₂ _____ %

Tremolite-Actinolite _____ total % _____ % fibrous

Nonfibrous Serpentine _____

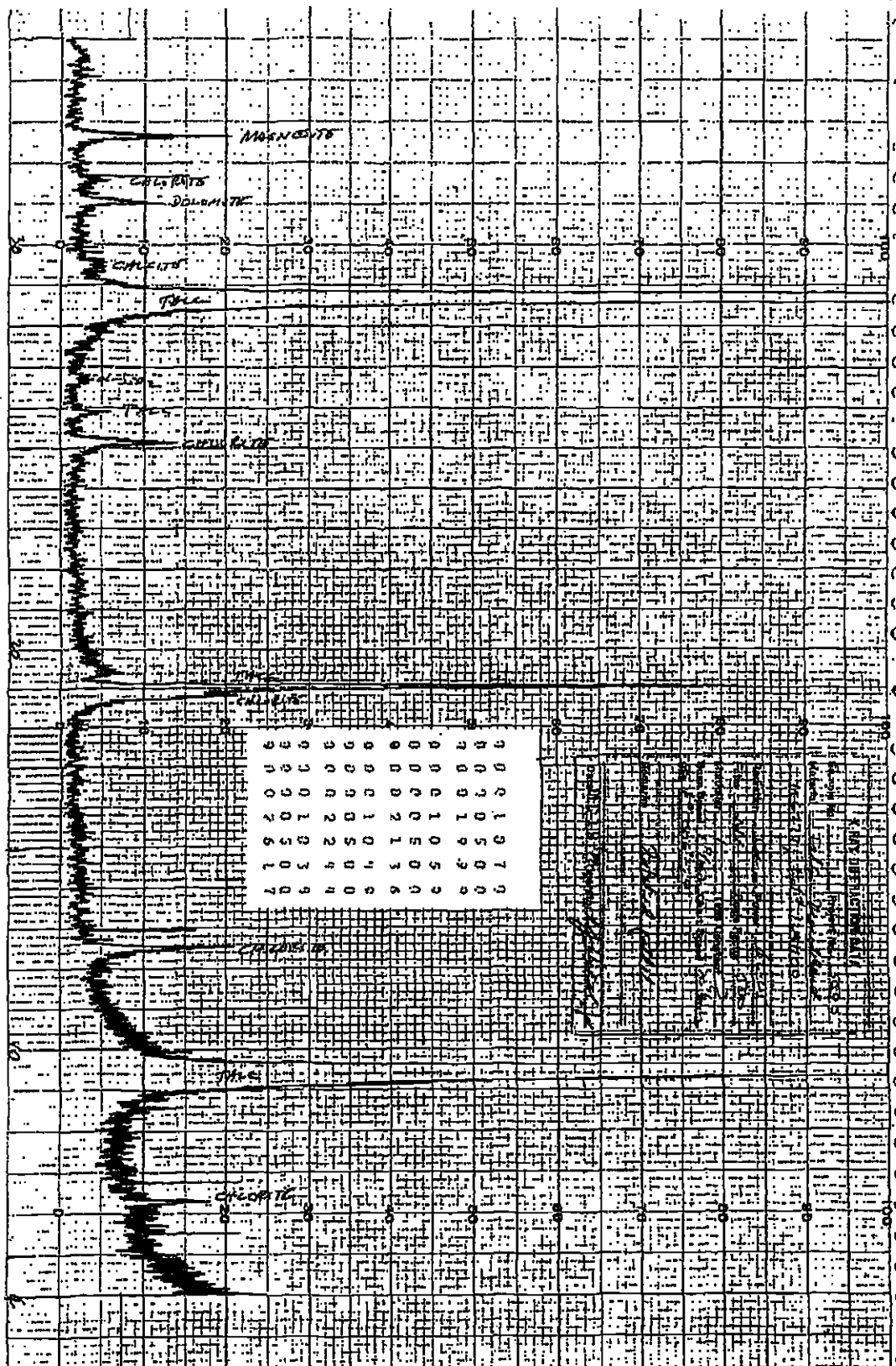
Others: _____

Comments: _____

walter c. mocrone associates, inc.

McCRONE 0198

COL 00673



W/H 5500

4 hrs.
1 hrs TEM

Bill # 300⁰⁰

OK_S

Dear Mr. Giff

We have completed our asbestos analysis of a talc sample Monoblend Code M627 Lot # 1291100. The X-ray diffraction analysis showed the sample to contain no detectable asbestiform minerals. The TEM analysis likewise showed no ~~detectable~~ detectable asbestiform minerals. The sample was a typical talc and contained a few fibrous ribbons.

Please contact us if you have any questions concerning the work. Thank you for consulting Walter C. McCrone Associates.

VS
R.M. Ellis
Res. Micros.

C.C. Joe Simko

McCRONE 0200

COL 00675

Cyprus Industrial Minerals Company

651 Metuchen Road
South Plainfield, N.J. 07080
Telephone (201) 754-4880

TWX 710-997-9528

*rec'd
2 Sep 80*

August 28, 1980

Walter C. McCrone Associates, Inc.
2820 South Michigan Avenue
Chicago, IL 60616

Gentlemen:

Enclosed is a sample of monoblend talc for your routine investigation of asbestiform minerals for Colgate Palmolive Co. Please perform your usual work on this sample and forward the report to us.

(Lot No. 802509)

Yours truly,
CYPRUS INDUSTRIAL MINERALS

JPS
JOHN P. Stiff

JPS/cr

MA 5500

CYPRUS

McCRONE 0201

COL 00676



walter c. mcgrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

8 September 1980

Mr. J. P. Stiff
Cyprus Industrial Minerals Company
651 Metuchen Road
South Plainfield, New Jersey 07080

Dear Mr. Stiff:

We have completed our asbestos analysis of a talc sample labeled Lot #601809.

The sample was examined with the transmission electron microscope. The sample contained no detectable asbestiform minerals.

Thank you for consulting McCrone Associates. If you should have any questions concerning this analysis please contact us.

Sincerely,

Richard M. Ellis, Jr.
Research Microscopist

RME:fa
Ref: 5500
cc: J. P. Simko, Jr.

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0202

COL 00677



walter c. m^ccrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

19 September 1980 .

Mr. J. P. Stiff
Cyprus Industrial Minerals Company
651 Matuchen Road
South Plainfield, New Jersey 07080

Dear Mr. Stiff:

I have completed my asbestos analysis on a talc sample labeled Lot #802509.

The sample was examined with the transmission electron microscope and selected area electron diffraction. The sample contained no detectable asbestiform minerals.

Thank you for consulting McCrone Associates. Please contact me if you have any questions.

Sincerely,

Richard M. Ellis, Jr.
Research Microscopist

RME:gb
Ref: 5500
cc: J. P. Simko, Jr.

2830 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0203

COL 00678

Cyprus Industrial Minerals Company

851 Metuchen Road
South Plainfield, N.J. 07080
Telephone (201) 754-4880

TWX 710-997-9528

January 13, 1981

Walter C. McCrone Associates, Inc.
2820 South Michigan Avenue
Chicago, Ill. 60616

*19 Jan 81
to Rick*

Gentlemen:

Enclosed is a sample of monoblend talc for your routine investigation of asbestiform minerals for Colgate Palmolive Co. Please perform your usual work on this sample and forward the report to us.

LOT# 110865

Yours truly,
CYPRUS INDUSTRIAL MINERALS CO.



KEITH B. LEHMAN

CYPRUS

McCRONE 0204

COL 00679



walter c. mcrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

16 March 1981

Mr. Lou Murino
Cyprus Industrial Minerals
555 South Flower Street
Los Angeles, California 90071

Dear Mr. Murino:

I have completed my asbestos analysis of a sample of Cyprus Monoblend Talc Lot #110865, submitted with K. Lehman's letter of 13 January 1981.

The sample was analyzed with the transmission electron microscope (TEM) and electron diffraction. The sample contained chrysotile asbestos at a level less than 0.1% by weight. The chrysotile was identified by its electron diffraction pattern.

Thank you for consulting McCrone Associates. Please contact us if you have any questions.

Sincerely,

Richard M. Ellis, Jr.
Research Microscopist

RME:fe
Ref: 5500
cc: Vern Alltus - Cyprus Industrial, NJ

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60618 • 312/842-7100 • CABLE: CHEMICRONE

McCRONE 0205

COL 00680

From

Please send this
sample to Lou Murino
Cyprus Minerals in
L A, Calif. The letter
is being typed. The
MA is 5500

McCRONE 0206

COL 00681

RECEIVED AUG 03 1981

Cyprus Industrial Minerals Company
Talc Division

555 South Flower Street
Los Angeles, California 90071
Telephone (213) 489-3700

TWX (910) 321-5753

July 30, 1981

Mr. Richard M. Ellis, Jr.
Research Microscopist
Walter C. McCrone Associates, Inc.
2820 South Michigan Avenue
Chicago, Illinois 60616

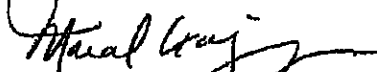
Dear Mr. Ellis:

In response to your January 1981 letter addressed to Mr. Lou Murino, we would like to receive the diffraction pattern of the chrysotile asbestos fibers which you observed in the Monoblend sample. Please send the diffraction pattern to me at:

Cyprus Industrial Minerals Company
2485 Military Avenue
W. Los Angeles, CA 90064

Thank you for your assistance.

Sincerely,



Maral M. Kazazian
Technical Services Manager

MMK:mc

CYPRUS

McCRONE 0207

COL 00682



walter c. mocrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

26 August 1981

Ms. Maral M. Kazazian
Cyprus Industrial Minerals Company
Talc Division
555 South Flower Street
Los Angeles, California 90071

Dear Ms. Kazazian:

In response to your letter of 30 July 1981, I have enclosed the diffraction pattern of the monoblend talc sample #110865. The diffraction pattern is of a chrysotile single fiber taken at 200 kV. The sample contained a very small amount of chrysotile and may have been a contaminant. The very small size of the single fibers (~340 Å diameter) make it difficult or impossible to get a diffraction pattern using less than 200 kV. You had mentioned that you were using low kV. I feel that this could be the problem with seeing the pattern.

Please contact me if you have any questions.

Sincerely,

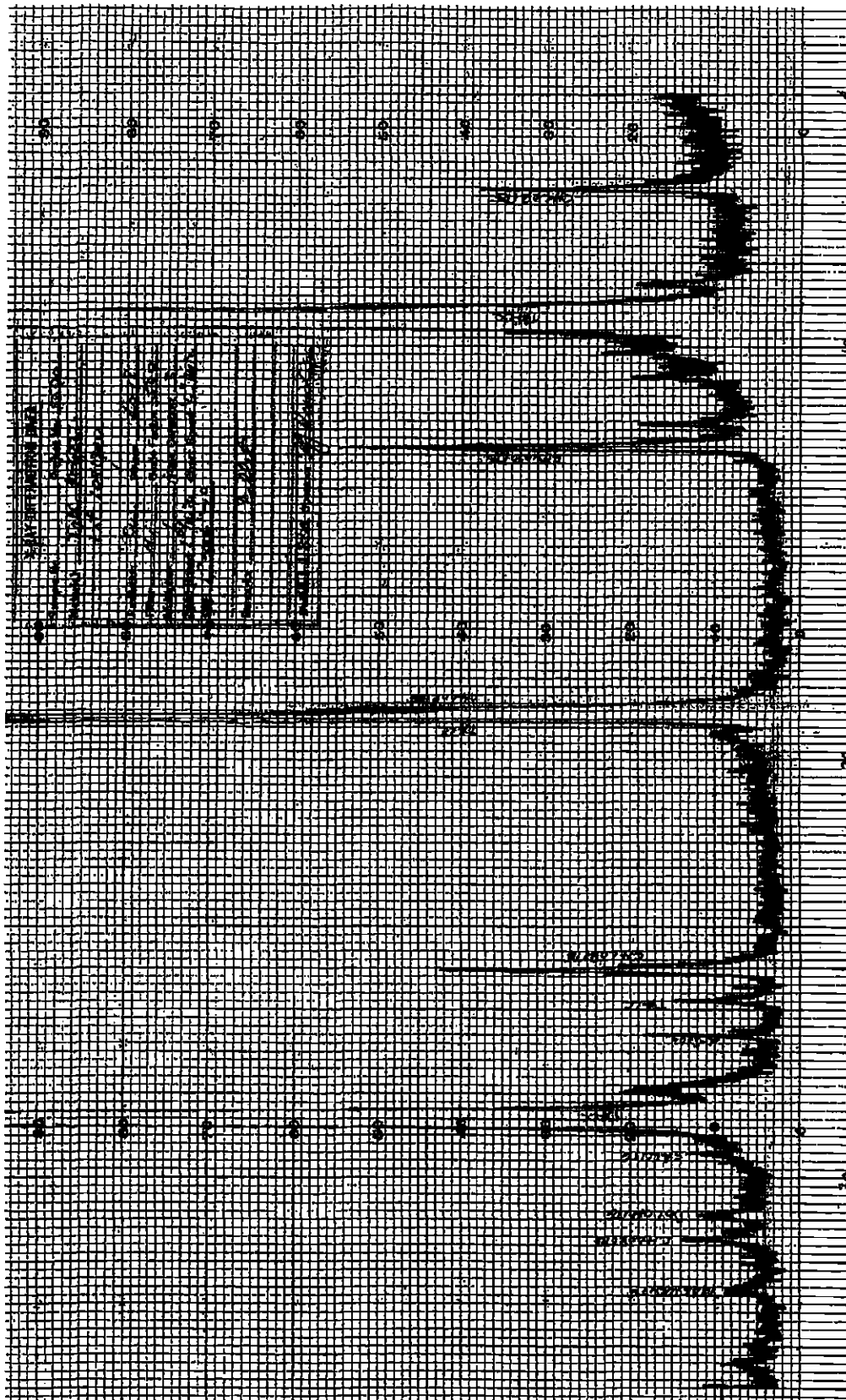
Richard M. Ellis, Jr.
Research Microscopist

RME:fe
Encl.
Ref: 5500

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE: CHEMICRONE

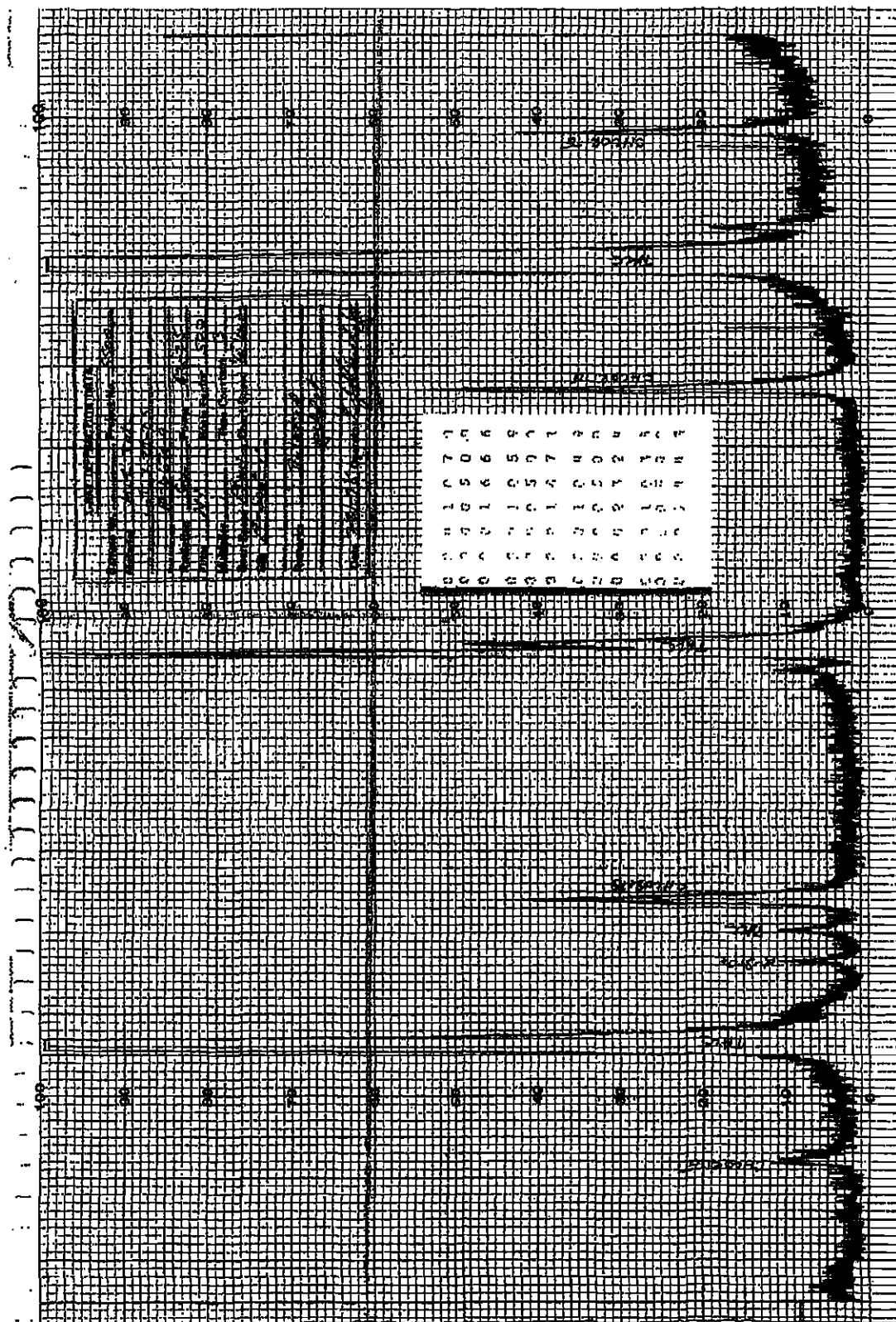
McCRONE 0208

COL 00683



McCRONE 0209

COL 00684



McCRONE 0210

COL 00685

12917

9

2

SNEAD 82 SP8878

Shed.
No. CCJ
NASTING, MN
LOS ANGELES-CHICAGO-LOGAN, OH
MCHESSON, TOLUCA-EL GROVE, GA
U.S.A.
82

McCRONE 0212

COL 00687

1 MAY 23 1964

096 142

COLGATE-PALMOLIVE COMPANY
A DELAWARE CORPORATION
300 PARK AVENUE, NEW YORK, N.Y. 10022

Walter McCrone Associates, Inc.
2820 S. Michigan Ave.
Chicago, ILL. 60616

BILL TO	
COLGATE-PALMOLIVE COMPANY	
8	P.O. BOX 2168
	BRAND CENTRAL STATION
	NEW YORK, N.Y. 10188
1	BOX 401
	JERSEY CITY, N.J. 07302
ATTN:	

WANTED BY
ASAP
IF ABOVE DATE CANNOT BE MET NOTIFY
PATRICK PIETRANTONIO
201-547-2592

ATTN: G. Roach or R. Peters

REC. TYP.	ACCOUNTING CODE	NO. CONTROL NO.	COMMITMENT	ESTIMATE	CARRIER MUST CALL 24 HRS. PRIOR TO DELIVERY.
2	190039	01			
		02			
CC2	K/P CC	10-28	(L.J.)	24-28	REC. PLANT CODE: JERSEY CITY - 1

You are authorized to furnish the articles listed hereon in accordance with the terms and conditions on the face and back of this order.

[illegible]

COLGATE-PALMOLIVE COMPANY

ALL INVOICES AND SHIPPING DOCUMENTS MUST CONTAIN AN APPLICABLE
BILL OF LADING NUMBER;
INVOICES THAT INCLUDE AUTHORIZED TRANSPORTATION CHARGES MUST BE
SUPPORTED BY PREPAID PRO BILL OR COPY OF ORIGINAL BILL OF LADING.
ALL PACKAGES AND INVOICES
IN PURCHASE ORDER NO. AND
AND AGREE TO THE TERMS AND CONDITIONS ON THE BACK HEREOF.
PAYMENT WILL NOT BE MADE AGAINST PRO FORMA INVOICE.

By _____
Not valid unless signed by authorized
signature

McCRONE 0213

COL 00688

PROJECT COST RECORD

PROJECT TITLE: talc RCT 1004C PROJECT NO.: 12917
 CUSTOMER NO.: 020420 DATE RECEIVED: 5 25 8
 SPONSOR: CODGATE-PAIMOLIVE COMPANY P.O. NO. 096142
 ADDRESS: 300 Park Ave 105 Hudson St COMMITMENTS: \$
New York, NY 10022 Jersey City N.J. 07302
 Contact: G. Roach or R. Petersen Telephone No.:
G. Roach - Jersey City

SUMMARY OF PROBLEM:

Lab Notebook References:

No. pp. Initials
 No. pp. Initials
 No. pp. Initials
 Photomicrographic record no.

Sample disposal:

returned
 filed (where)
 discarded

DIRECT COSTS

Individual time (Exclusive of oper. time on inst. below)				Travel				Charge Summary	
Date	Name	Hours	Charge	Date	Traveler	Destination	Cost		
7-20-83	RME	4						Individuals	\$
								Instrument	
								Travel	
								Outside	
								Other	
								Total Charge	\$
Instrument time									
	Date	Hours	Charge		Date	Company	Cost		
SEM				Photo				OK for billing Project Ldr <u> </u> Group Ldr <u> </u>	
TEM				Photo					
KRD				Materials					
EMP				Supplies					
IMP									
ESCA									
EMNA									
MOLE									

TOTAL CHARGE \$ 360
 BILLED TO CLIENT \$
 INVOICE NO. (S) 4786-7/27/83 360

PROJECT LEADER RME

McCRONE 0214

COL 00689



walter c. mcrone associates, inc.

CONSULTING; ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

26 July 1983

Ms. Grace

Mr. G. Roach
Colgate-Palmolive Company
300 Park Avenue
New York, New York 10022

Ms.
Dear Mr. Roach:

I have completed my asbestos analysis of a talc sample labeled RCT1004C, Lot #12873 and submitted under purchase order 096142.

The sample was examined with the transmission electron microscope and selected area electron diffraction. The sample was found to contain a very low level of chrysotile asbestos, probably less than 0.1% by weight. Because of the low amount, a second sample was prepared and examined to preclude the possibility of contamination. It too contained chrysotile. Two photomicrographs of chrysotile fibers are enclosed.

Thank you for consulting McCrone Associates. Please contact me if you have any questions regarding this analysis.

Sincerely,

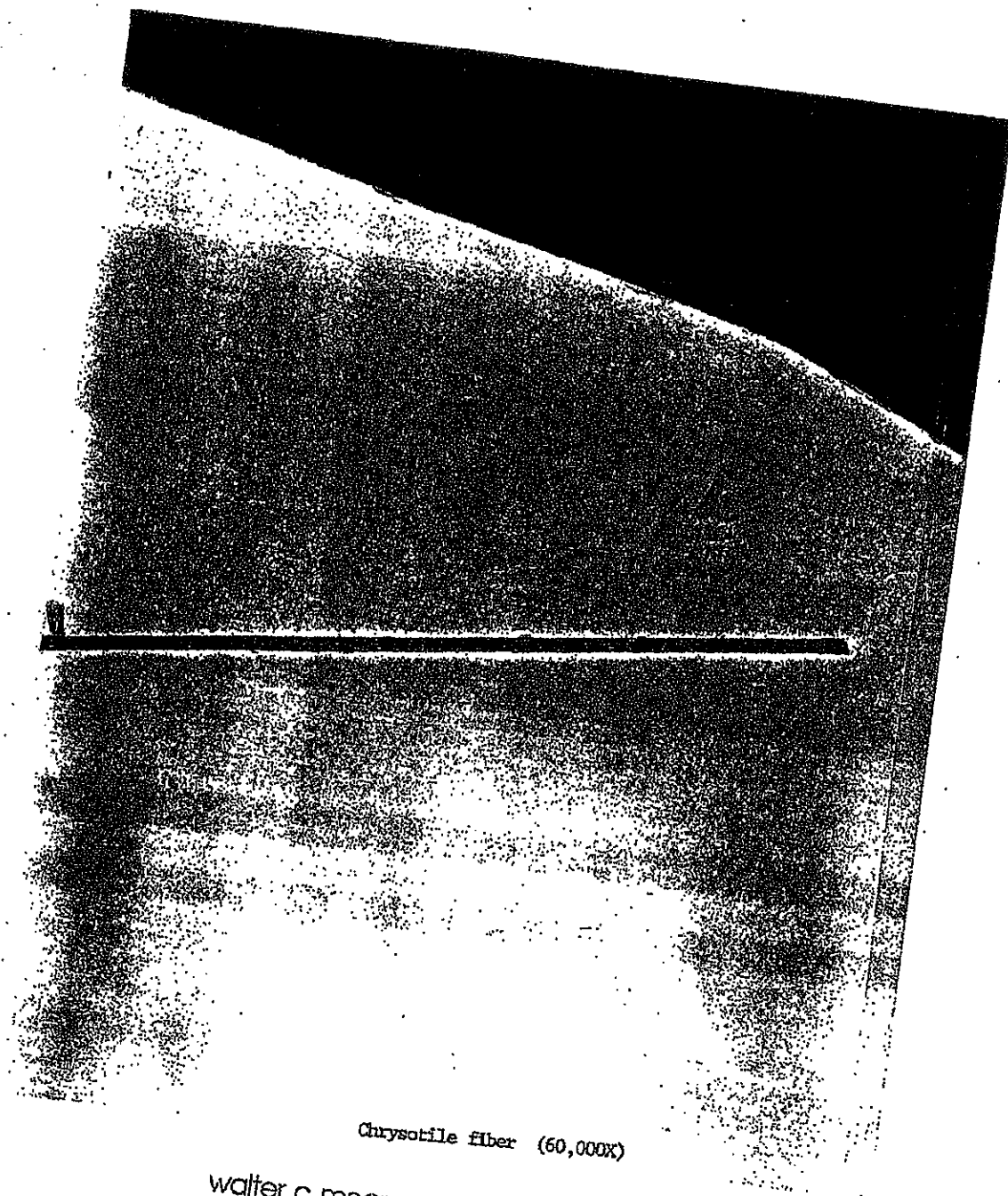
Richard M. Ellis, Jr.
Research Microscopist

RME:fe
Encl.
Ref: 12917

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE CHEMICRONE

McCRONE 0215

COL 00690

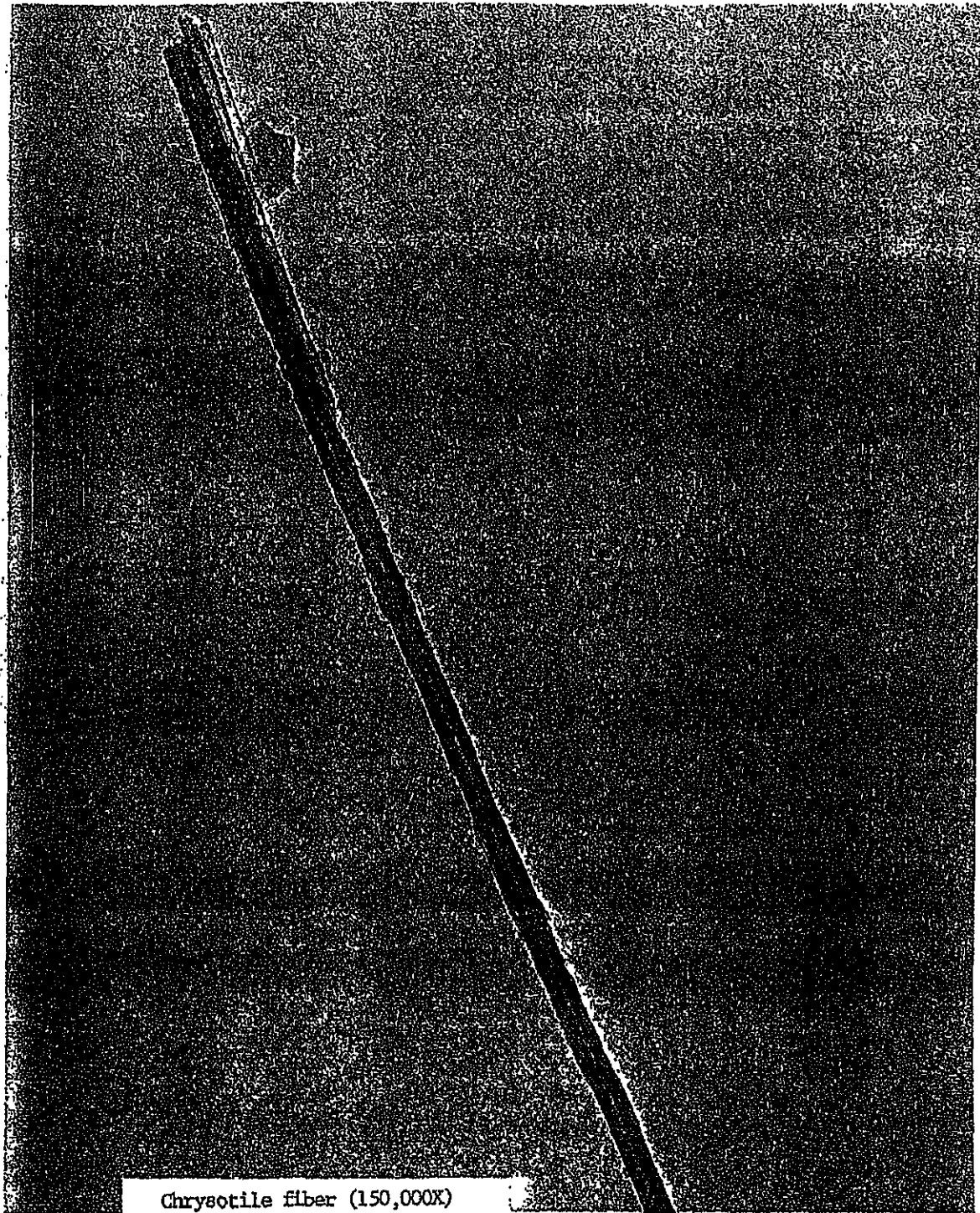


Chrysotile fiber (60,000X)

walter c. mcCrone associates, inc.

COL 00691

McCRONE 0216



Chrysotile fiber (150,000X)

walter c. mcCrone associates, inc.

McCRONE 0217

COL 00692

#360

MA 12917

Dear Mr. Roach

DPR

I have completed my asbestos analysis of a talc sample labeled RCT 1004 C Lot # 12873 and submitted under PO # 0096142.

The sample was examined with the transmission electron microscope and selected area electron diffraction. The sample was found to contain a very low level of chrysotile asbestos, probably less than 0.1% by weight. Because of the low amount a second sample was prepared and examined to preclude the possibility of contamination. It too contained chrysotile. Two photomicrographs of chrysotile fibers are enclosed.

Thank you for consulting The Green Associates. Please contact me if you have any questions.

Sincerely,

K.M. Ellis

McCRONE 0218

COL 00693

110071

8

1

SMEAD 82 SP60278

Standard.
No. CC3
HASTINGS, MN
105 ANSELITE CHICAGO, OH
MORRISON, TRACUST GROVE, PA
U.S.A.
62

McCRONE 0219

COL 00694

PROJECT COST RECORD

PROJECT TITLE: 6 supls tale for TEM PROJECT NO: 11871
 CUSTOMER NO.: 020420 DATE RECEIVED: 1 84
 SPONSOR: COLGATE-PAULMOLIVE CO. P.O. NO.: 634617
 ADDRESS: 909 River Rd. COMMITMENTS: \$
PISCATAWAY, NJ 08854

Contact: Dr. J. P. Linke, Jr. Telephone: (201) 878 7666
 cc report to: _____

<u>Sample disposal:</u> returned _____ discarded _____ consumed _____															
DIRECT COSTS															
(Exclusive of oper. time on inst. below)			Charge Summary												
Individual time															
Date	Name	Hours	Charge												
			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Individuals</td><td style="text-align: right;">\$</td></tr> <tr><td>Instrument</td><td> </td></tr> <tr><td>Travel</td><td> </td></tr> <tr><td>Outside.</td><td> </td></tr> <tr><td>Other</td><td> </td></tr> <tr><td>Total charge</td><td style="text-align: right;">\$</td></tr> </table>	Individuals	\$	Instrument		Travel		Outside.		Other		Total charge	\$
Individuals	\$														
Instrument															
Travel															
Outside.															
Other															
Total charge	\$														
Instrument time			OK for billing _____ Project leader _____ Group leader _____												
EMP	Date	Hours		Charge	Cost										

TOTAL CHARGE \$ 2180-
 INVOICE NO. 6121
 PROJECT LEADER _____



walter c. m^ccrone associates, inc.

CONSULTING: ULTRAMICROANALYSIS • MICROSCOPY • SMALL PARTICLE PROBLEMS • SOLID-STATE CHEMISTRY

27 April 1984

Dr. J. P. Simko, Jr.
Sr. Section Head, Analytical
Department
Colgate-Palmolive Company
909 River Road
Piscataway, New Jersey 08854

Dear Dr. Simko:

This report concerns the asbestos analysis by TEM of six talc samples submitted under your P.O. 634617. Chrysotile asbestos was detected in samples 0613BK, 2713EX and 1813AX. No asbestos was detected in samples S9073, A122831 and A113031. Since this technique is not quantitative, no asbestos concentration can be assigned.

Thank you for consulting McCrone Associates. If you have any questions, please do not hesitate to call.

Sincerely,

Deborah P. Palenik
Electron Microscopist

DFP:fe
Ref: 11871

2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616 • 312/842-7100 • CABLE CHEMICRONE

McCRONE 0221

COL 00696

\$ 2100.00

Dear Dr. Sinko,

This report covers the asbestos analysis by TEM of six tape samples under your P.O.# 634617. Chrysotile asbestos was detected in samples 0613BK, 2713EX and 1813MX. No asbestos was detected in samples ~~59~~ 59073, A122831 and A113031. Since this technique is not quantitative no asbestos concentration can be assigned.

Thank you for consulting McCrone Associates. If you have any questions, please do not hesitate to call.

Sincerely,
DWP



COLGATE-PALMOLIVE COMPANY

909 River Road
Piscataway, NJ 08854

Research and Development Division

JAN 27 1984

January 24, 1984

Ms. Deborah Palenik
McCrone Associates
2820 South Michigan Avenue
Chicago, IL 60616

Dear Ms. Palenik:

Enclosed are 6 samples of talc for analysis for asbestos by TEM and SAED. The three coded 0613BK, 1813AX and 2713EX are finished products and contain 1% magnesium, carbonate, 1% zinc stearate and perfume as additives. The remaining three S09073, A113031 and A122831 are raw material talc with no additives.

Please analyze these as soon as possible.

A purchase order to cover costs will follow. If there are any questions, my telephone number is (201) 878-7566.

Thank you.

Sincerely yours,

Dr. J. P. Simko, Jr.
Sr. Section Head
Analytical Department

JPS:web

cc: P. A. M^unger
W. Schubert

020420
840202008

11871

DPP

C51175

McCRONE 0223

COL 00698

Calgath
0613 BK
0 fiber

9073
0 fibers

2713 EX
~~1 fiber~~ Antigard
1 Chry still

712283
0 fiber

18031
0 fibers

1813 AX
Chry still

29

$$\begin{array}{r}
 3 \\
 350 \\
 \hline
 2100 \\
 2400 \\
 \hline
 5740 \\
 18200 \\
 \hline
 85 \overline{) 10260} \\
 \underline{85} \\
 176 \\
 \underline{170} \\
 60
 \end{array}$$

$$\begin{array}{r}
 480 \\
 \hline
 960 \\
 \hline
 480 \\
 \hline
 85 \overline{) 9600} \\
 \underline{85} \\
 1100 \\
 \underline{85} \\
 250 \\
 \hline
 80 \\
 60
 \end{array}$$

MAY BE REPRODUCED

ST 4 (10-72, 8-73)

To be completed by purchaser and
given to and retained by vendor.
Read instructions on back of this
Certificate.

THIS CERTIFICATE MAY NOT
BE USED IN CONNECTION
WITH THE PURCHASE
OF SERVICES.

State of New Jersey

DIVISION OF TAXATION

SALES TAX

EXEMPT USE CERTIFICATE

FORM ST-4

PURCHASER'S
CERTIFICATE OF AFFIDAVIT (H10002)

131-815-595/001

TO M²Crone Assoc.
(Name of Vendor)

Date 1/27/84

Address

City

State

Zip

The undersigned purchaser certifies that it is not required to pay the New Jersey Sales and/or Use Tax on the purchase or purchases covered by this Certificate because the tangible personal property purchased will be used for an exempt purpose.

Said tangible personal property will be used for the following exempt purpose: for use or consumption directly and exclusively in research and development, in the experimental or laboratory sense.

The exemption on the sale of said tangible personal property to be used for the above described exempt purpose is provided in subsection N.J.S.A. 54:32B-8-N (See reverse side for listing of principal exempt uses of tangible personal property and fill in the blank with proper subsection citation).

I, the undersigned purchaser, have read and complied with the instructions and rules promulgated pursuant to the New Jersey Sales and Use Tax Act with respect to the use of the Exempt Use Certificate, and it is my belief that the vendor named herein is not required to collect the sales or use tax on the transaction or transactions covered by this Certificate. The undersigned purchaser hereby swears (under the penalties for perjury and false swearing) that all of the information shown in this Certificate is true.

A VENDOR SHOULD READ AND
COMPLY WITH THE INSTRUCTIONS
GIVEN ON BOTH SIDES OF AN
EXEMPTION CERTIFICATE.

COLGATE-PALMOLIVE COMPANY

NAME OF PURCHASER (as registered with the Division of Taxation)

By Robert T. Murphy
SENIOR BUYER
CENTRAL ENGINEERING DEPARTMENT
105 HUDSON ST.,
JERSEY CITY, N. J. 07302
(EQUIPMENT PURCHASING SECTION)

McCRONE 0225

COL 00700

TERMS AND CONDITIONS

INVOICES - The Seller's invoice together with the original bills of lading or express receipts, properly signed by the carrier, shall be mailed on the day of shipment to the Purchaser. Individual invoices shall be issued for shipments applying against each purchase order. Monthly statements must be mailed as soon as possible after the first of each month.

WARRANTY - The Seller expressly warrants and agrees that there has been compliance with and no violation of any trademark rights, patent rights, copyright, or of any rule, law or regulation of the Federal Government or of any State or any of their respective agencies or political subdivisions, in the manufacture, production, sale and or shipment of the goods hereunder; and the Seller will indemnify and hold Purchaser harmless from any or all costs, damages, fines or expenses (including counsel fees and fees of expert witnesses) which may be incurred by the Purchaser by reason of any claim or suit arising out of the infringement of any trademark, patent right or copyright and/or by reason of any citation, claim or suit for damages and/or penalties brought against the Purchaser based upon any injuries, damages or violations resulting or claimed to have resulted from any alleged infringement or defect in such goods or ingredients or parts thereof.

EQUAL EMPLOYMENT OPPORTUNITY - The Equal Employment Opportunity Clause Section 202 of Executive Order 11246 as amended related to Equal Employment Opportunities and Implementing Rules and Regulations of the Secretary of Labor; Section 503 of the Rehabilitation Act of 1973; Section 402 of the Vietnam Era Veteran's Readjustment Assistance Act of 1974; and Executive Order 11625 relating to minority business enterprises are incorporated herein by specific reference..

CHANGES IN ORDER - This order cannot be changed, modified or discharged in any manner except by agreement in writing signed by a duly authorized representative of the Purchaser. The Purchaser reserves the right to (1) make changes in the order (2) cancel all or any part of the order at any time, by notice in writing. The Purchaser shall not be responsible for cost incurred by the Seller in connection with this order, after the date of receipt of the change or cancellation notice. Unless the Seller presents to the Purchaser an itemized statement of claim against the Purchaser within twenty (20) days after the receipt of notice of such change or cancellation, the Seller shall be conclusively deemed to have waived all claims against the Purchaser with respect thereto.

CANCELLATION FOR SELLER'S DEFAULT - Should the Seller fail (1) to effect delivery on or before the specified delivery date (s) (2) to deliver goods in all respects conforming with the requirements (3) in the due performance of each and all of the terms and conditions of this order, the Purchaser may cancel this order in whole or in part. Without prejudice to the foregoing, the Seller agrees to report promptly to the Purchaser any act or specified delays in shipment of the goods covered by this order.

SPECIFICATIONS, DRAWINGS, etc. - All specifications, drawings, plans, designs, samples, or other description referred to in this order shall be deemed an integral part of this order as fully as if set out in full herein and Seller warrants that all deliveries hereunder shall conform thereto, each delivery being subject to the inspection and approval of the Purchaser, whether or not any prior payment shall have been made thereon by the Purchaser.

NONCONFORMING MATERIAL - If Seller delivers defective material or material not conforming to the agreed-upon specifications, Purchaser may (1) hold such material at Seller's expense pending instructions as to disposal, (2) return it to Seller at Seller's expense, or (3) utilize it in the form received or after up-grading or other operations are performed on it, or utilize it in a different manner or in different proportions with other products than was intended, and Seller will be liable for any diminution in the value to Purchaser of the material and for any incidental or other damages suffered by Purchaser resulting from such defectiveness or nonconformity. No replacement of defective or nonconforming material will be made by Seller unless authorized by Purchaser.

PACKING - The Purchaser will allow no charges for boxing, packaging or crating unless by written agreement. Material must be packed, shipped and billed in conformity to classification requirements necessary to secure minimum freight rates.

OUR COUNT - The Purchaser's count will be accepted as final and conclusive on all shipments not accompanied by a packing ticket.

LIABILITY FOR DAMAGES - Whenever Seller shall, by virtue hereof, have property of the Purchaser in its possession, the Seller shall be deemed an insurer thereof and shall be responsible for its safe return to the Purchaser.

ASSIGNMENT - This order shall not be assigned or transferred without prior written consent of the Purchaser.

WAIVER - Purchaser shall not be deemed to have waived any of its rights hereunder unless such waiver shall have been signed by a duly authorized representative of the Purchaser. No such waiver, unless expressly stated therein, shall be effective as to any delivery or other transaction which occurs subsequent to the date of the waiver, nor as to any continuance of a default after such date.

DELIVERY INSTRUCTIONS

SHIPPERS MANIFEST -

A SHIPPERS MANIFEST is provided for each load and must accompany each shipment.

JERSEY CITY TRUCK DELIVERIES -

RESERVE UNLOADING SPACE AND TIME by telephoning 201-547-2910.

JERSEY CITY RAIL DELIVERIES -

Private siding on CONRAIL. Use only 40' flat cars.

JEFFERSONVILLE RAIL DELIVERIES -

Private siding on CONRAIL or BALTIMORE & OHIO RAILROAD.

KANSAS CITY RAIL DELIVERIES -

Private siding on KANSAS CITY SOUTHERN RAILROAD CO.

BERKELEY RAIL DELIVERIES -

Private siding on SOUTHERN PACIFIC RAILROAD.