

Laboratory Report

Cyprus Industrial Minerals Company

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

Report No: 80-020

References:

Key: Cyclosorb

Date of Report: 1/24/80

Date of Work Request / By: 1/22/80 CRM

Copies: HTM, MFW, GJG CRM,
LDM, GDL, MMK, CJP,
LEF, FILE

Reported By: C.J. Parmentier/M.M. Kazazian

Approved By: G. J. Gill

Classification:

Status: Complete as requested.

Subject: A competitive talc sample labeled as, "Cyclosorb".

Objective: Characterize the talc sample labeled as "Cyclosorb".
"Crown Z" is considering buying this product.

TEST/RESULTS

GEB	80.2
325 mesh	99.99%
Acid solubles (as CaO)	2.67%
Hegman	6.0
Water soluble substances	.05%
Water soluble iron	none
Tap Density (Numinco)	31.6 lbs/ft ³

Scanning Electron Microscope (SEM) study of "Cyclosorb" talc sample, revealed the presence of fibrous minerals. The fiber particle population density was estimated to be about 5%, however, weight percent from XRD indicated 3% Tremolite. Microscopic study revealed that the majority of the fibers present were asbestiform. Transmission Electron Microscope (TEM/SAED) confirmed the presence of asbestiform.

CYPR-MA08802-0013

CYPRUS

Lab Report: 80-020
Cyclosorb

M. M. Kazazain/C.J. Parmentie
January 24, 1980

Tremolite fibers. Some polygorsgite fibers were also observed.

ILLUSTRATION OF MICROGRAPHS

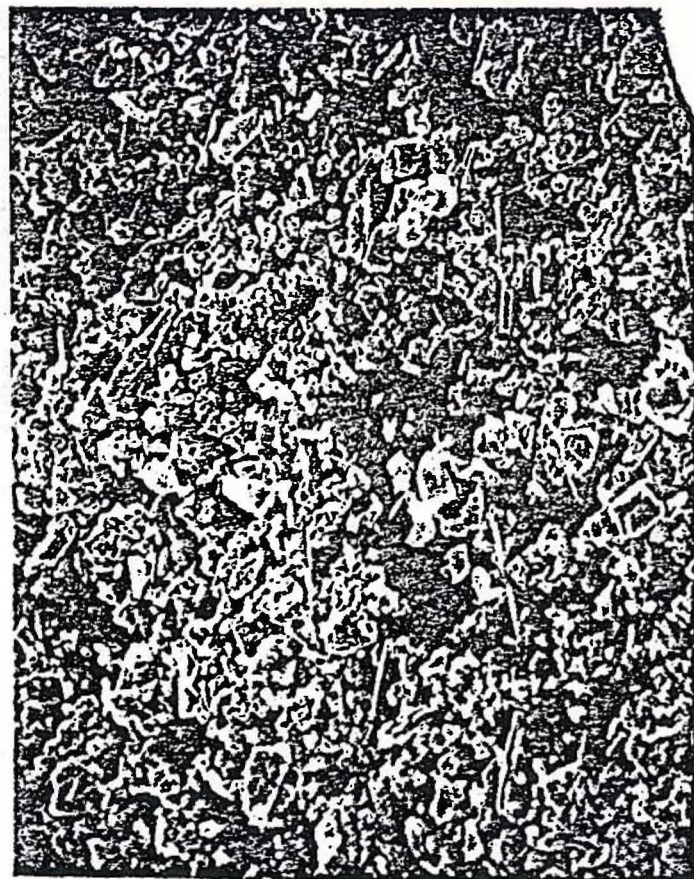
Micrographs "A" and "B" are representative area micrographs of "Cyclosorb" sample, illustrating fibrous minerals.

Micrograph "C" is a higher magnification of the fiber observed in micrograph "B" (yellow arrow).

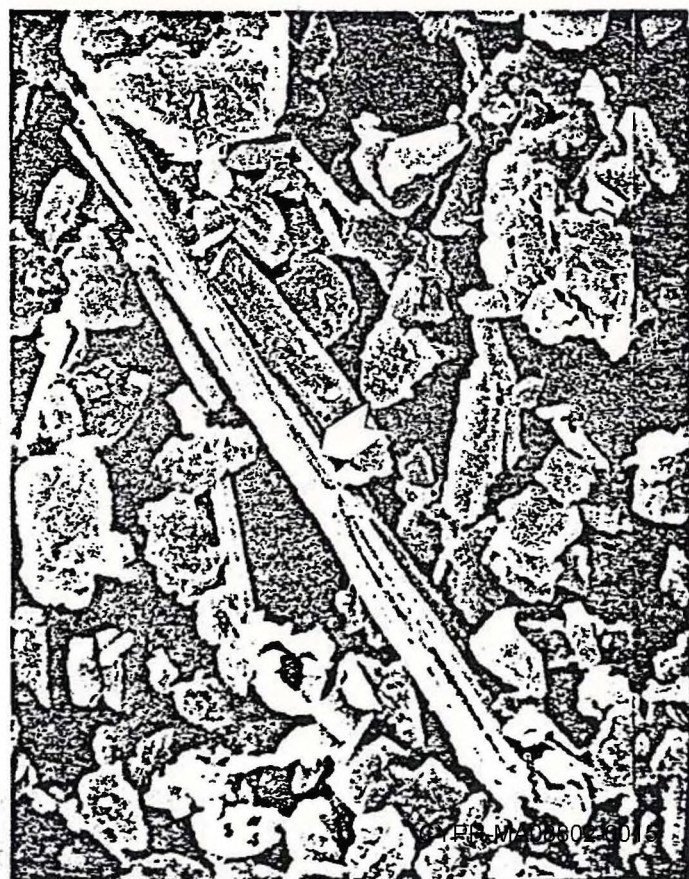
Micrograph "D" illustrates the morphology of the fibers at high magnification revealed by the (pink arrows).

*See attached CRC report for XRD, PSD, and SA.

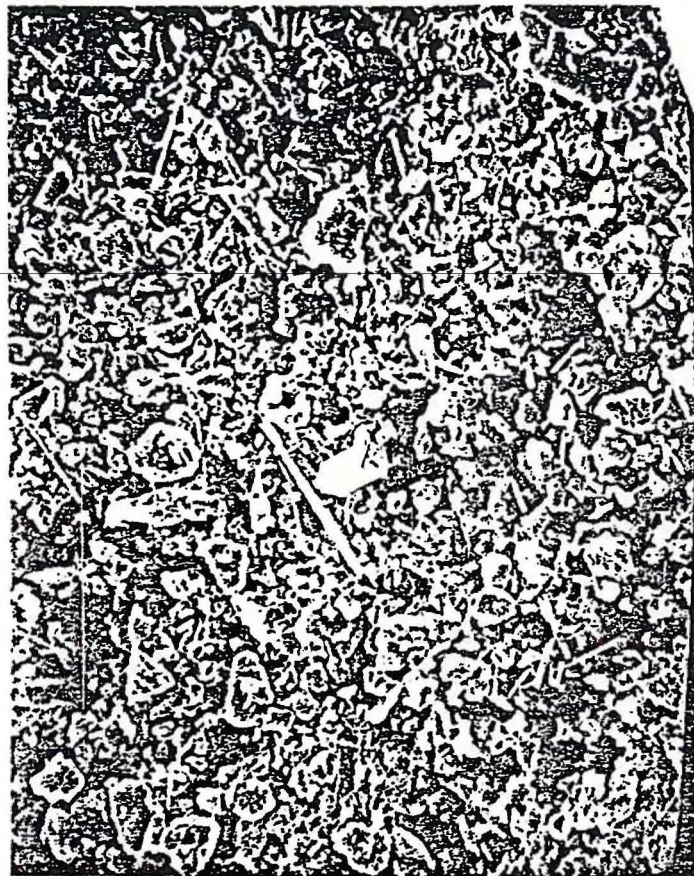
MMK:cw
enc.



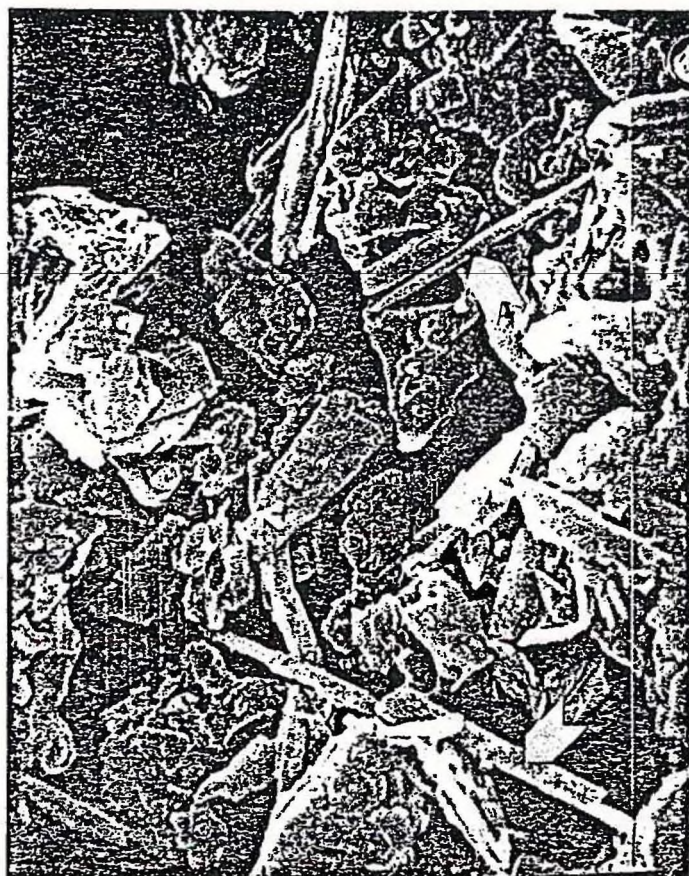
Cyclosorb Proj. # 80-020 SEM x 550 @ 30° 1.22.80



Cyclosorb Proj. # 80-020 SEM x 2400 @ 30° 1.22.80



Cyclosorb, Proj. # 80-020 SEM x 550 @ 30° 1.22.80



Cyclosorb Proj. # 80-020 SEM x 5500 @ 30° 1.22.80

Laboratory Report

Cyprus Research Company

2435 Military Avenue
West Los Angeles, California
Telephone 213) 478-0462

Filing No. 80-0023-CIMT-LA

References: 80 007 80-020

Key: Cyclosorb

Date of Report: 1/24/80

Date of Work Request / By: 1/22/80

Copies: M.KAZAZIAN, ✓ R.C. CLOUD,
P. COLVILLE, FILE

Reported By: R.C.CLOUD/P. COLVILLE

Approved By: L.E. FERREIRA *LF*

Classification:

Status: COMPLETE

Subject: Cyclosorb

Objective: XRD, PSD, SA

Results

X-ray diffraction analysis:

Talc	>80 %
Mica	<10 %
Calcite	~5 %
Dolomite	~2 %
Tremolite	3.1 %

Surface area = 4.5 m²/g

See attached curve for particle size distribution

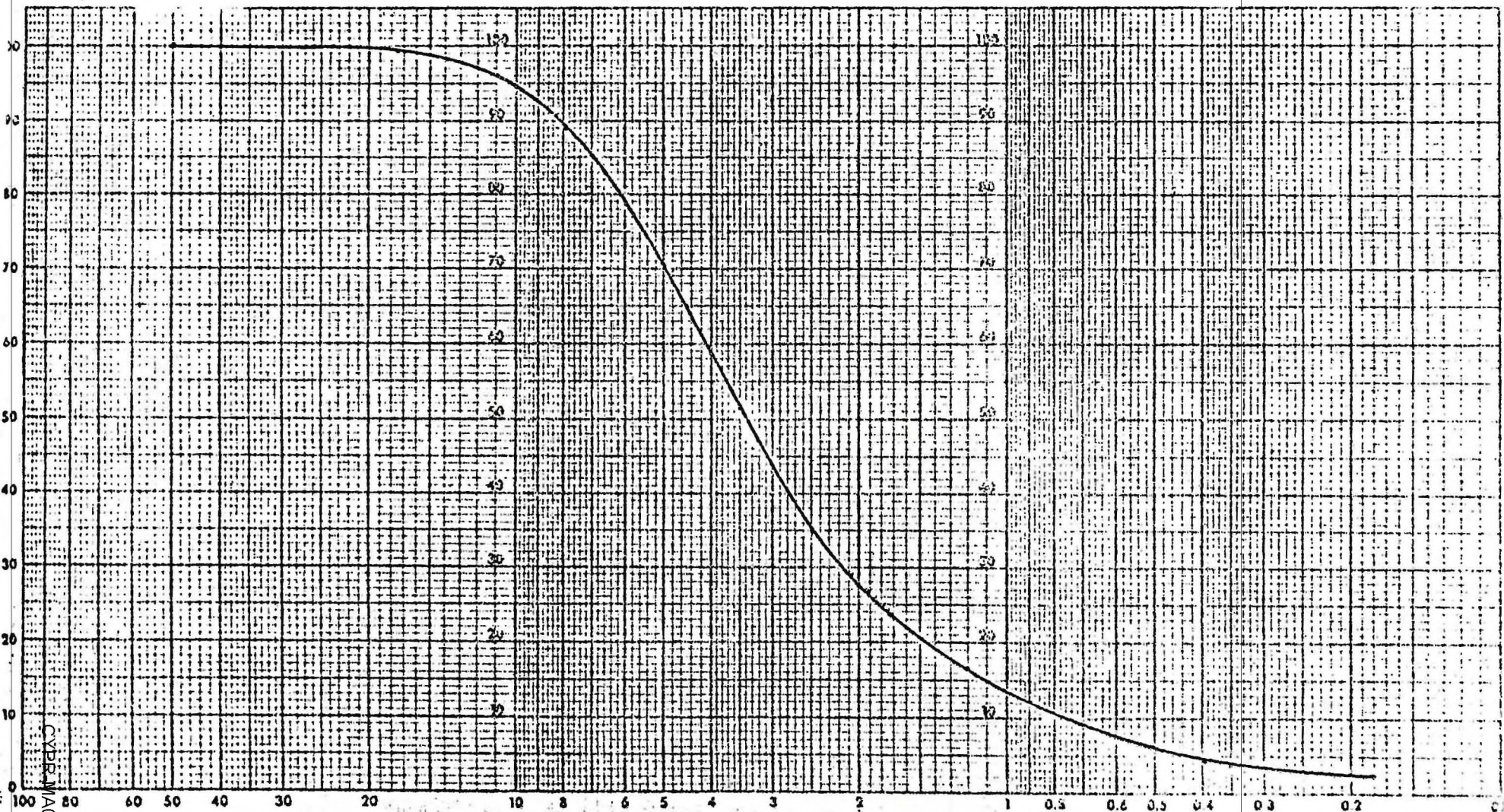
P. Colville. R.C. Cloud
P. COLVILLE/R.C. CLOUD
PC/RCC/bb

PARTICLE SIZE DISTRIBUTION

SAMPLE IDENTIFICATION Cyclosorb 80 T 007
 Density 2.75 g/cc LIQUID H₂O Density g/cc Viscosity cp
 Preparation

DATE 1/24/80
 BY R.C. CLOUD
 TEMPERATURE 32 °C
 RATE 124 START DIA. 50 μ m

80-0023



EQUIVALENT SPHERICAL DIAMETER, μ m

CYBER-M 00802-001



walter c. mccrone associates, inc.

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

18 March 1980

Mr. Joseph Blashka
Crown Zellerbach
Camas, Washington 98607

Dear Mr. Blashka:

At the request of Mr. Gordon Gill of Cyprus Minerals I am submitting a revised version of my report of 11 March 1980 which will clarify the position with regard to the fibrous tremolite detected in your talc sample, C-Z, Camas.

Yours sincerely,

Richard M. Ellis, Jr.
Research Microscopist

RME:gb
Ref: MA 8802
cc: Lou Murino
Gordon Gill



walter c. mccrone associates, inc.

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

11 March 1980

Mr. Joseph Blashka
Crown Zellerbach
Camas, Washington 98607

Dear Mr. Blashka:

I have completed my asbestos analysis of talc sample C-Z, Camas. The sample was examined using transmission electron microscopy (TEM) and selected area electron diffraction (SAED). The sample was found to contain amphibole fibers, probably tremolite. The amount is less than 10%.

Thank you for consulting McCrone Associates. Please call us if you require further information.

Sincerely yours,

Richard M. Ellis, Jr.
Research Microscopist

RME:gb
Ref: MA 8802
cc: Mr. Lou Murino
Cyprus Industrial Minerals

Cyprus Industrial Minerals Company

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

Purchase Order

Ship To:
Acknowledgement Requested

Rec'd
30 Jan 80

Vendor

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

Invoice in triplicate

To: Cyprus Industrial Minerals
555 S. Flower St.
Los Angeles, CA 90071
Attn: International Dept.

Date	Ship Via		Date Required	Terms
1-11-80				
Quantity Ordered	Quantity Received	Description	Unit Price	Total
1		Talc sample C-Z, Camas. Determination for asbestiform content with special attention to fibrous tremolite. Report results directly to: Mr. Joseph Blashka Crown Zellerbach Camas, WA 98607 cc results: Mr. Lou Murino Cyprus Industrial Minerals 555 S. Flower St. Los Angeles, CA 90071		

36955

Above order number must appear
on all papers and packages
relative to this order.

INV 636888
L. Murino 8862/RE
Approved

CYPRUS