



National Aeronautics and
Space Administration

Planetary Materials Branch

Lyndon B. Johnson Space Center
Houston, Texas 77058

Publication 65

JSC 18928

COSMIC DUST CATALOG

(PARTICLES FROM COLLECTION FLAG W7027)

COMPILED BY
COSMIC DUST PRELIMINARY EXAMINATION TEAM (CDPET)

AUGUST 1983

Volume 4
Number 2

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(Particles from Collection Flag W7027)

Compiled by

Cosmic Dust Preliminary Examination Team (CDPET)*

NASA Johnson Space Center
Houston, Texas 77058 U.S.A.

August, 1983

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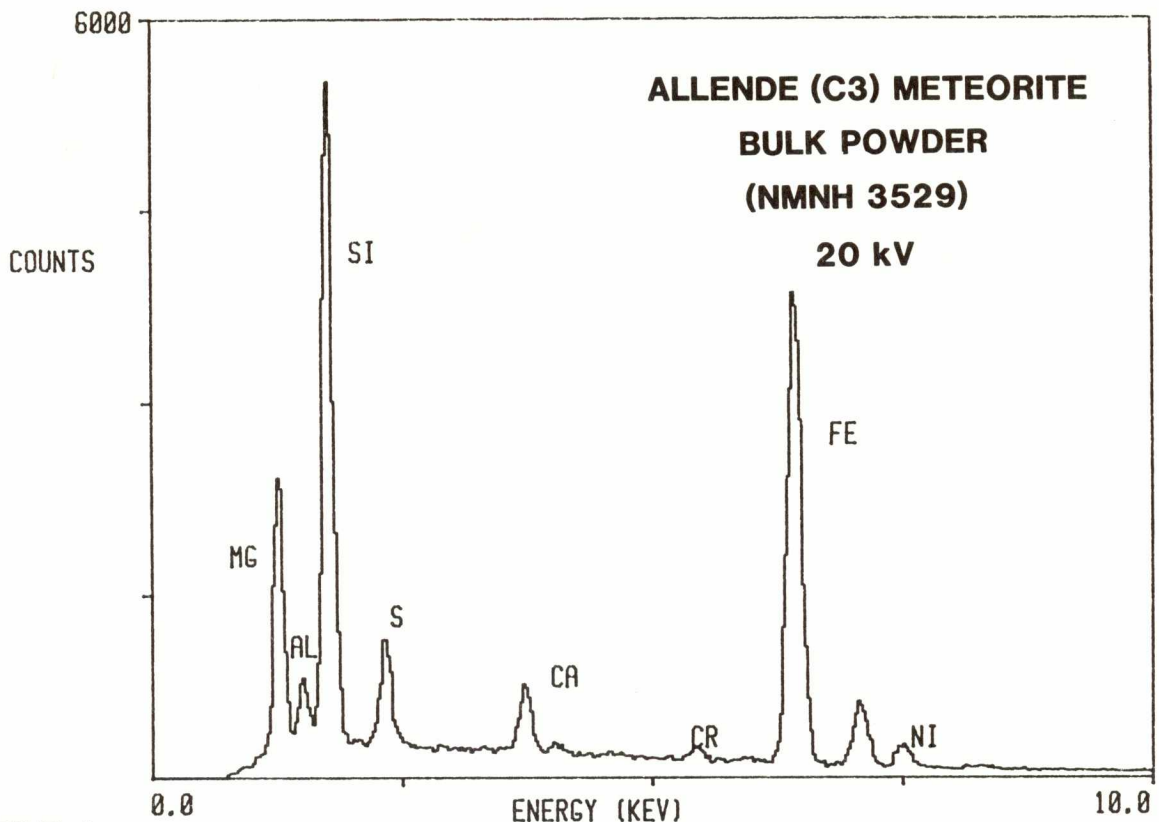
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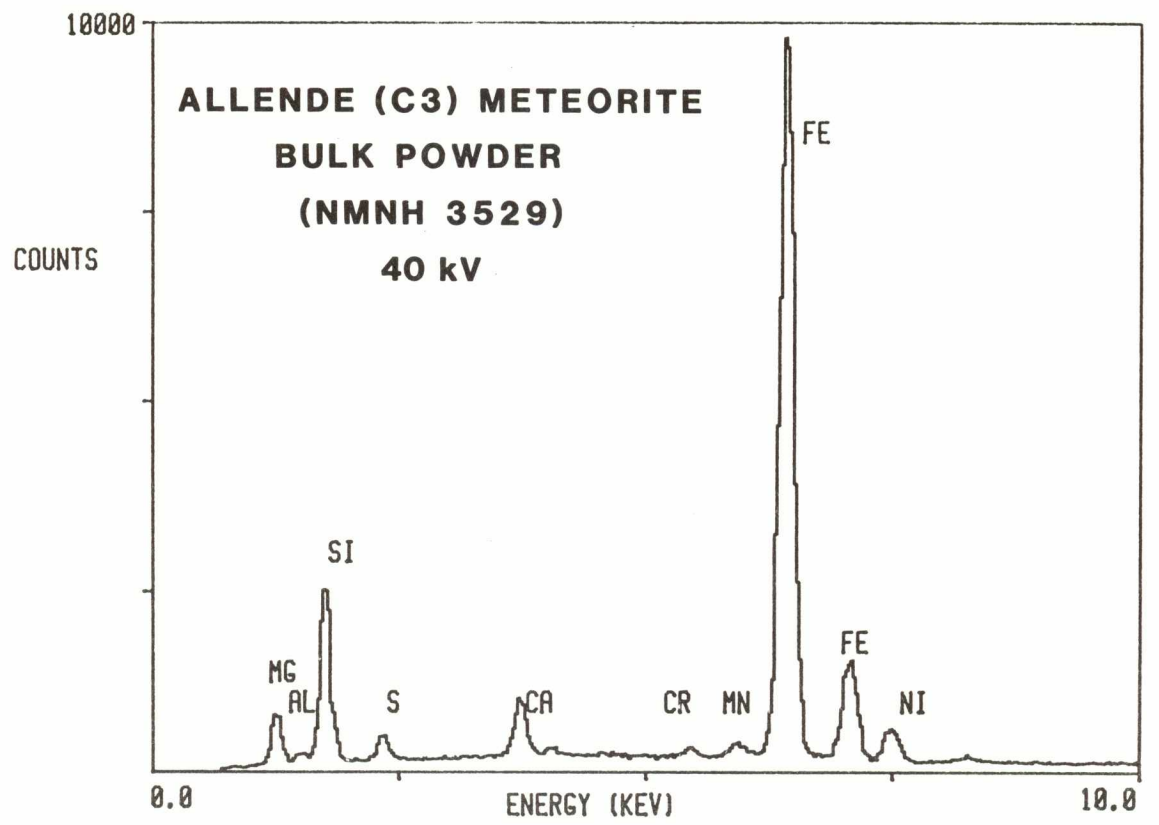
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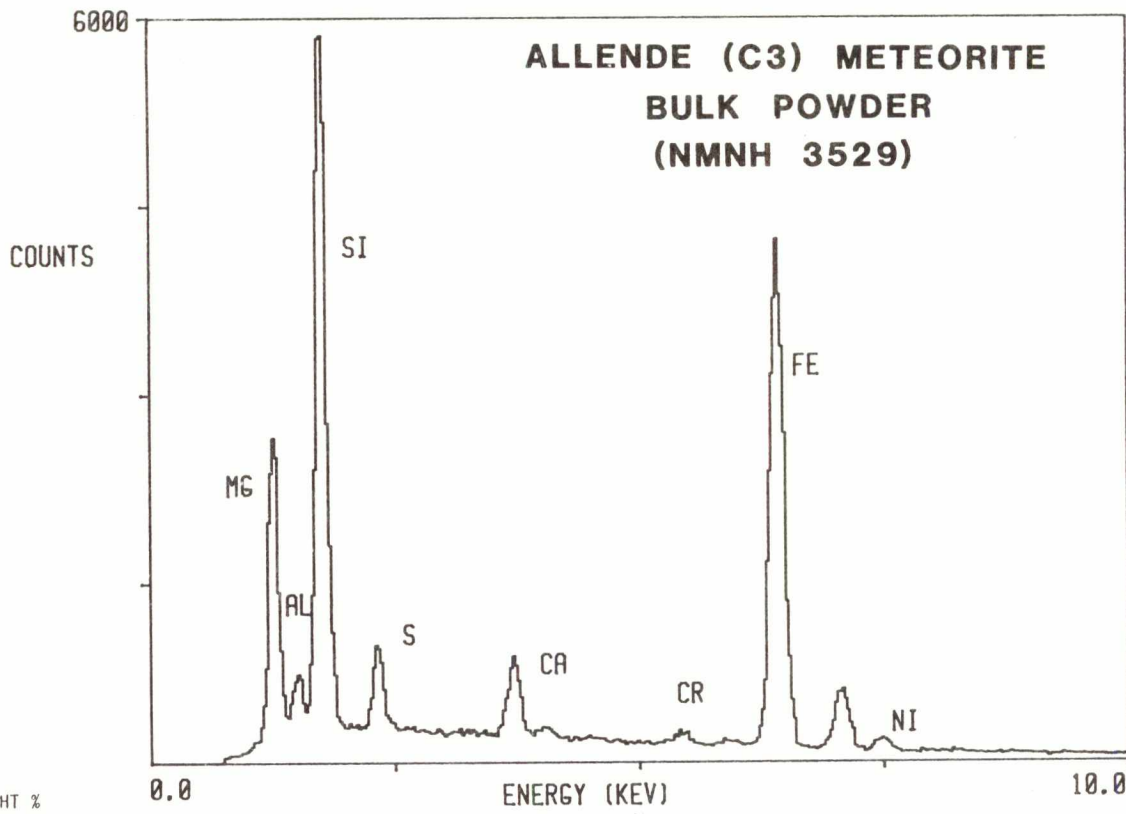


WEIGHT %

<u>SiO₂</u>	<u>TiO₂</u>	<u>Al₂O₃</u>	<u>Cr₂O₃</u>	<u>FeO</u>	<u>MnO</u>	<u>MgO</u>	<u>CaO</u>	<u>Na₂O</u>	<u>K₂O</u>	<u>P₂O₅</u>	<u>C</u>
34.23	0.15	3.27	0.52	27.15	0.18	24.62	2.61	0.45	0.03	0.23	0.29

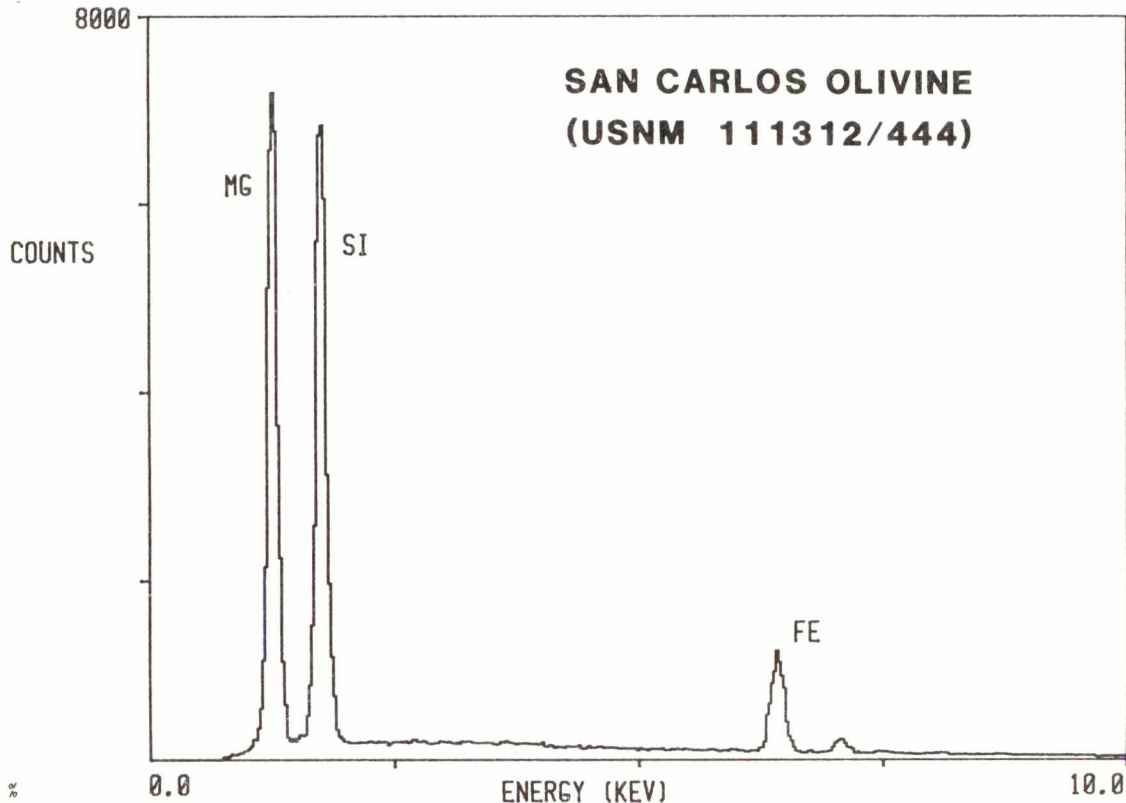
<u>FeS</u>	<u>NiS</u>	<u>CoS</u>	<u>Fe⁰</u>	<u>Ni⁰</u>	<u>Co⁰</u>	<u>TOTAL</u>
4.03	1.60	0.08	0.17	0.36	0.01	99.98





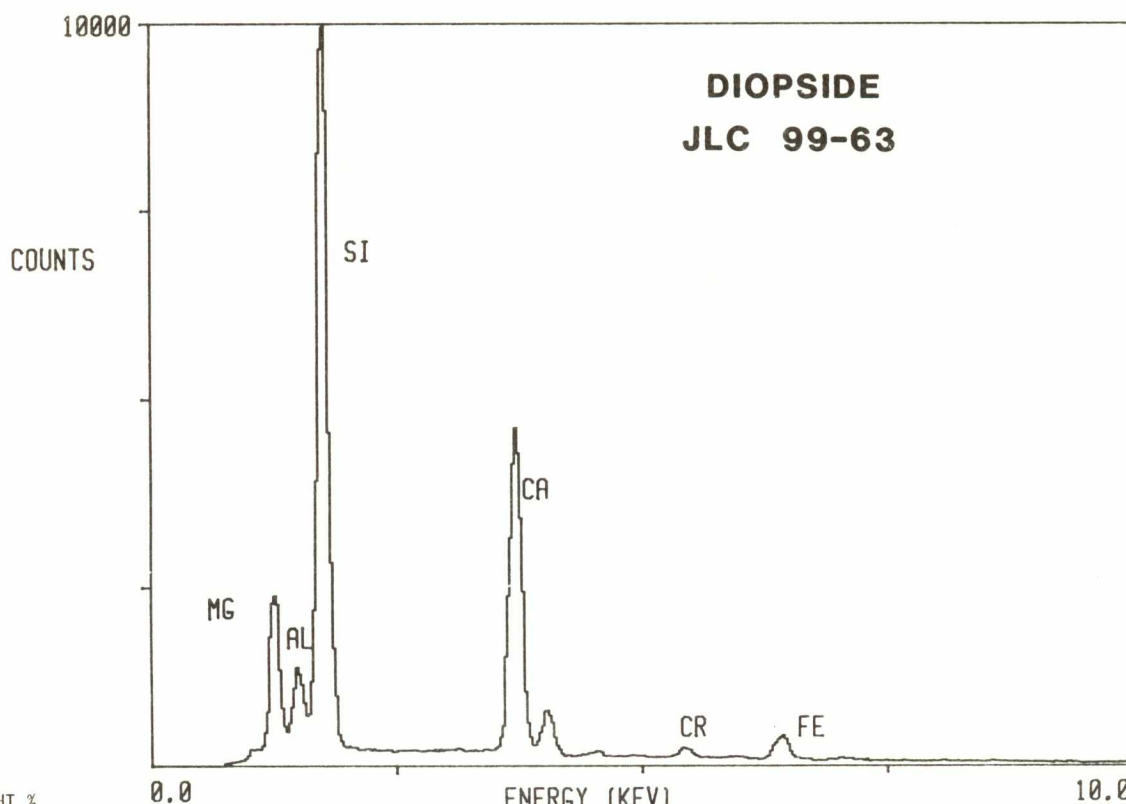
WEIGHT %

SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	C	FeS	NiS
34.23	0.15	3.27	0.52	27.15	0.18	24.62	2.61	0.45	0.03	0.23	0.29	4.03	1.60
CoS	Fe ⁰	Ni ⁰	Co ⁰	TOTAL									
0.08	0.17	0.36	0.01	99.98									

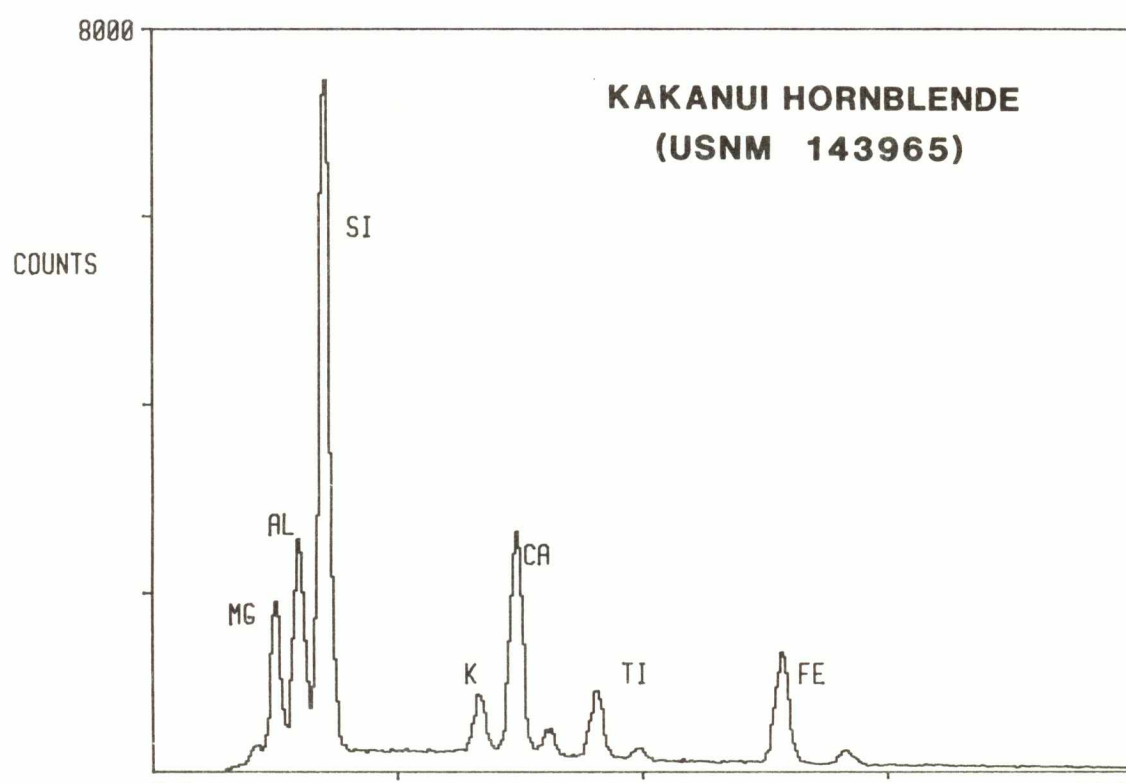


WEIGHT %

SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	Fe ₂ O ₃	FeO	NiO	MnO	MgO	CaO	Na ₂ O	K ₂ O	H ₂ O	TOTAL
40.81	-	-	-	-	9.55	0.37	0.14	49.42	<0.05	-	-	-	100.29



WEIGHT %		0.0	ENERGY (KEV)										10.0
<u>SiO₂</u>	<u>TiO₂</u>	<u>Al₂O₃</u>	<u>Cr₂O₃</u>	<u>Fe₂O₃</u>	<u>FeO</u>	<u>NiO</u>	<u>MnO</u>	<u>MgO</u>	<u>CaO</u>	<u>Na₂O</u>	<u>K₂O</u>	<u>H₂O</u>	<u>TOTAL</u>
51.93	0.46	6.31	0.96	1.80	2.34	0.04	0.07	16.05	18.64	1.39	-	-	99.99



WEIGHT %		0.0	ENERGY (KEV)										10.0
<u>SiO₂</u>	<u>TiO₂</u>	<u>Al₂O₃</u>	<u>Cr₂O₃</u>	<u>Fe₂O₃</u>	<u>FeO</u>	<u>NiO</u>	<u>MnO</u>	<u>MgO</u>	<u>CaO</u>	<u>Na₂O</u>	<u>K₂O</u>	<u>H₂O</u>	<u>TOTAL</u>
40.37	4.72	14.90	-	3.30	7.95	-	0.09	12.80	10.30	2.60	2.05	0.94	100.02

6. SAMPLE REQUESTS

Scientists desiring to perform detailed research on particles described in this catalog should apply in writing to:

Curator/Cosmic Dust Telephone: (713) 483-6241
Code SN2 or -3274
NASA/Johnson Space Center
Houston, Texas 77058
U.S.A.

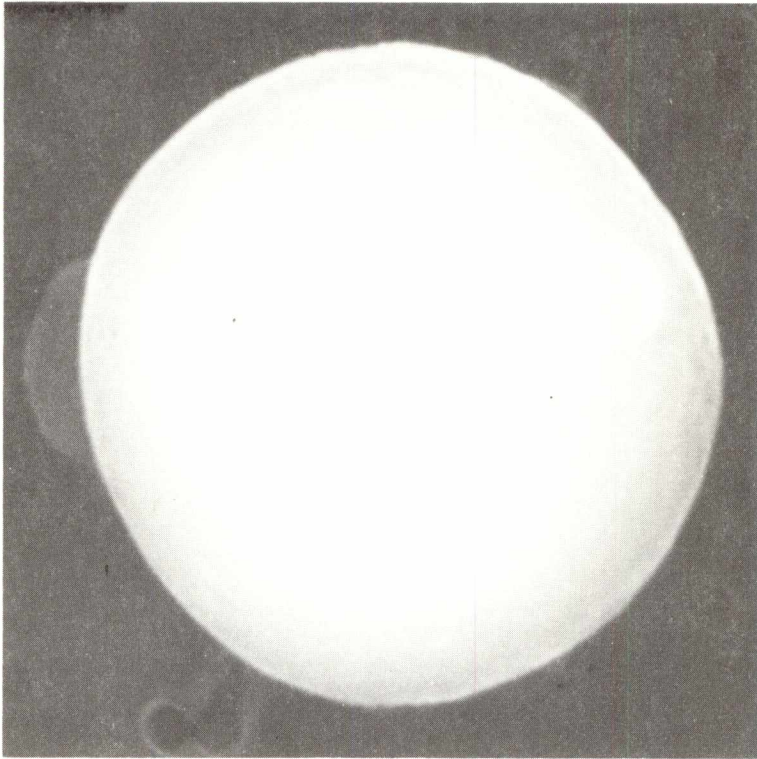
Sample requests should refer to specific particle identification numbers and should describe the research being proposed as well as the qualifications and facilities of the investigator making the request. Additionally, requests for particles not yet passed through preliminary examination will be considered if the requester can demonstrate a strong need for them. NASA will arrange for a review of the scientific merits of each request and will inform the requester of the results. Approval of a sample does not imply or include funding for the proposed research. Questions about NASA funding should be directed to:

Discipline Scientist, Planetary Materials
Code EL-4
NASA Headquarters
Washington, D.C. 20546

Although foreign scientists are welcome to request samples, NASA cannot provide funds to be spent outside the U.S.A. by citizens of other countries.

W7027F

W7027F1



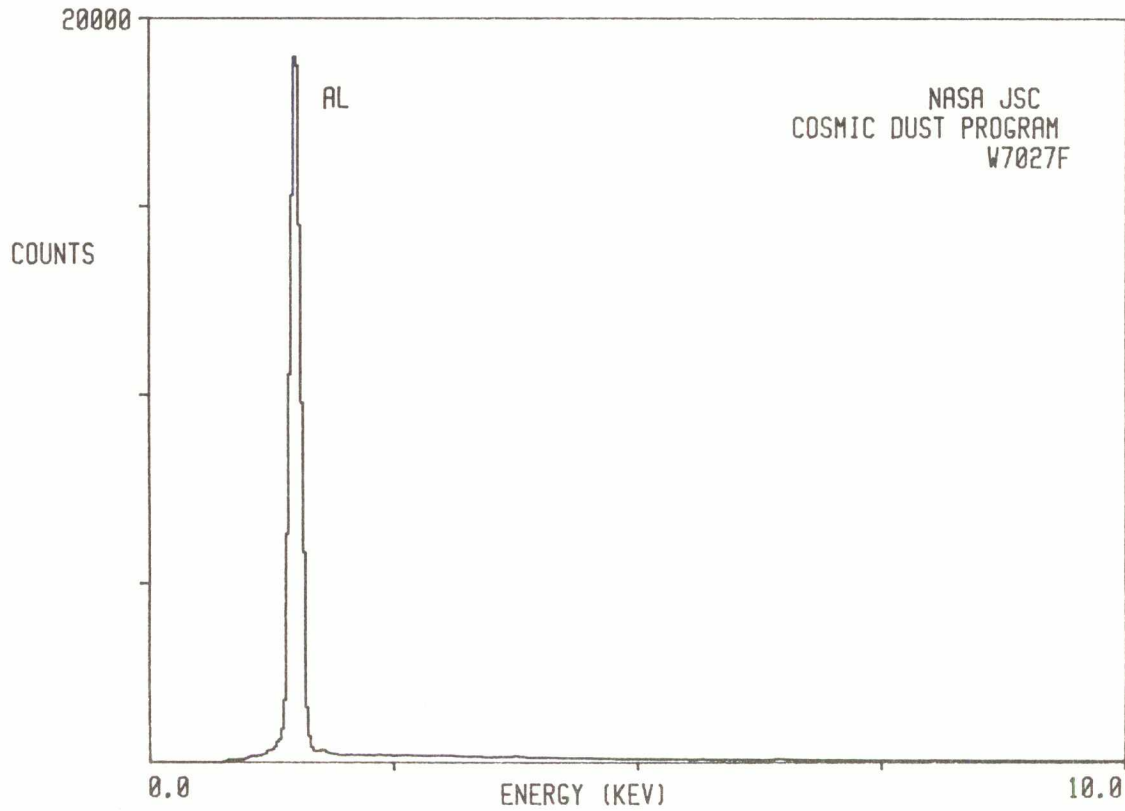
<u>SIZE</u>	<u>SHAPE</u>	<u>TRANS.</u>
5	S	T

<u>COLOR</u>	<u>LUSTER</u>
Colorless to Pale Yellow	V

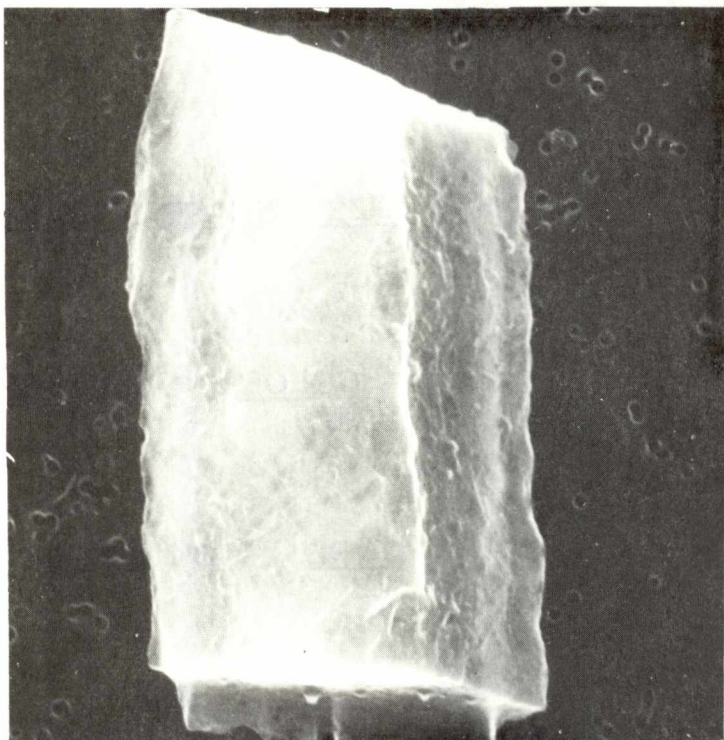
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AOS	

S-83-35812

F0101



W7027F2



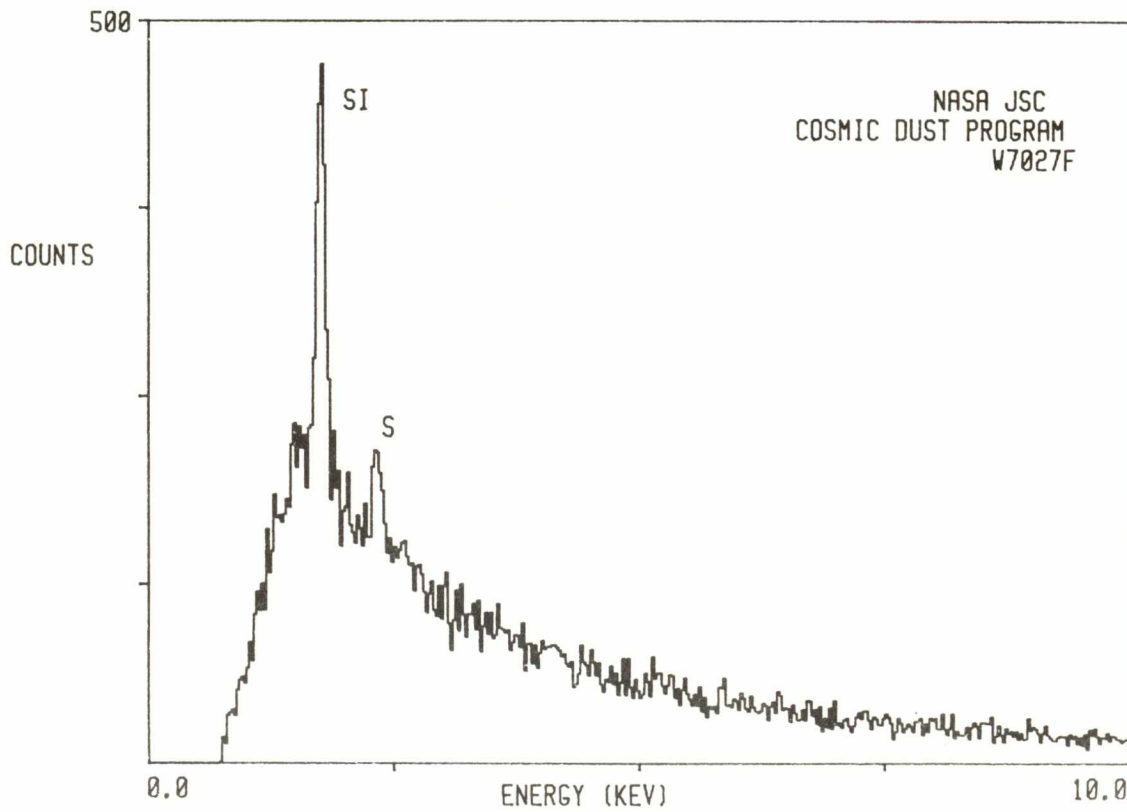
SIZE SHAPE TRANS.
10x18 I 0

COLOR LUSTER
Dark Brown SV/SM
to Black

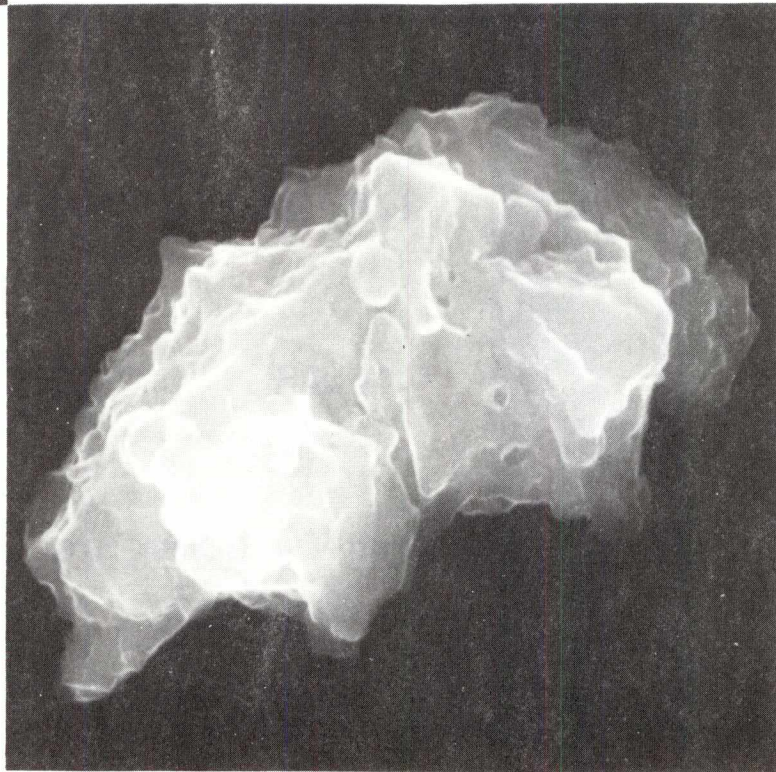
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S-83-35813

F0201



W7027F3



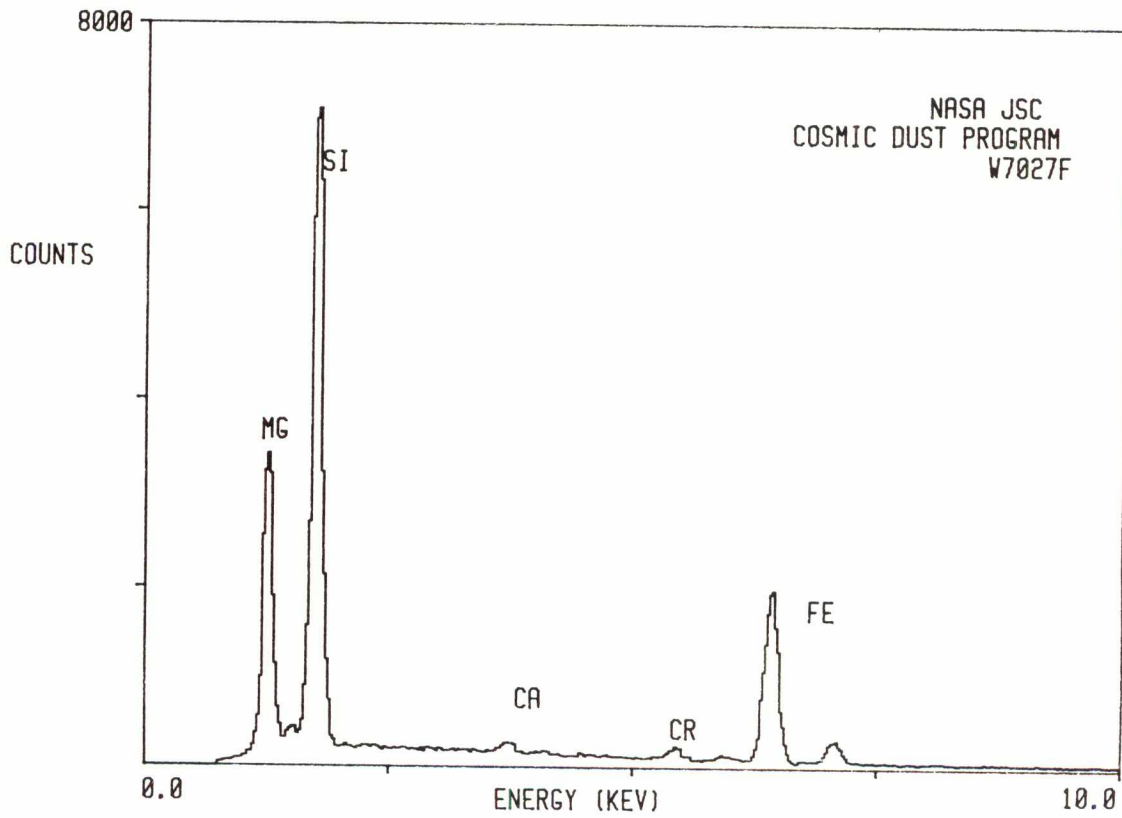
SIZE SHAPE TRANS.
12x20 I TL

COLOR LUSTER
Amber V

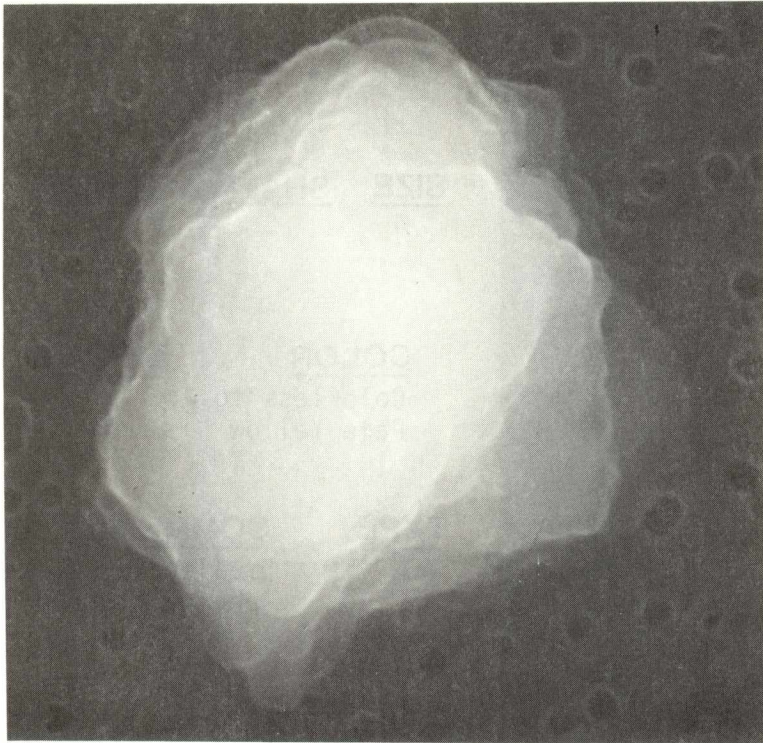
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C?

F0301

S-83-35814



W7027F4



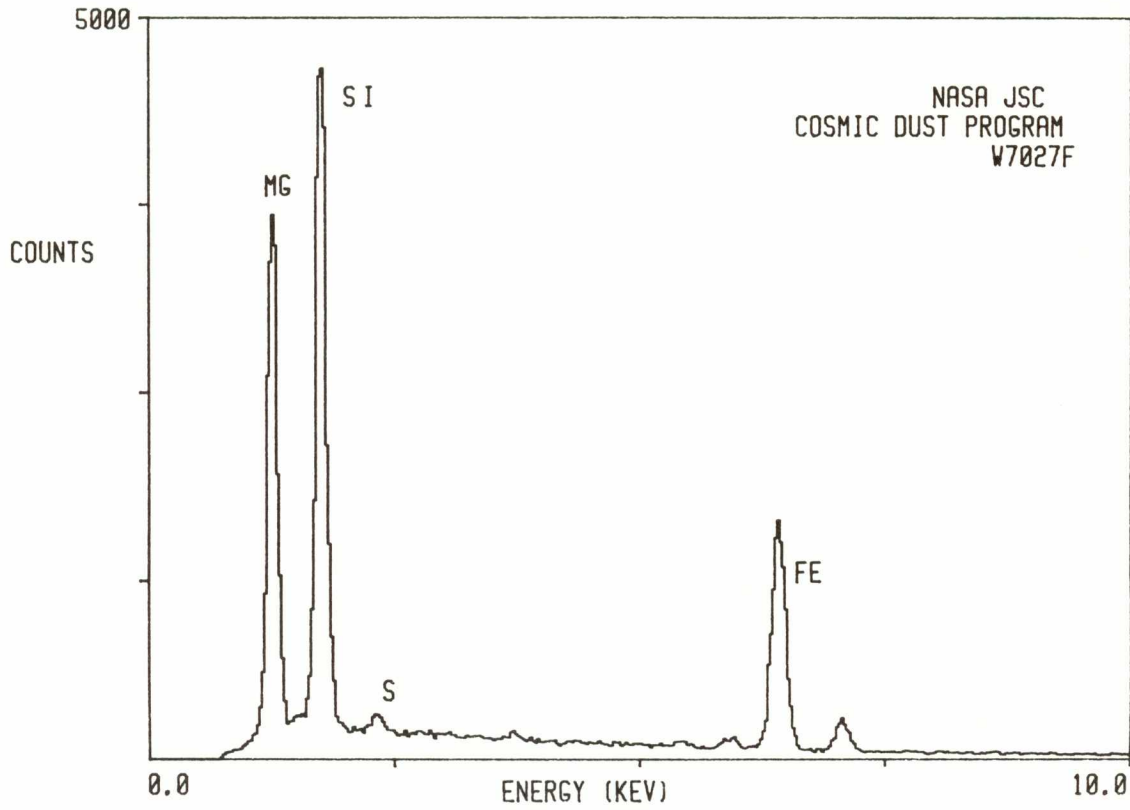
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6x7 I T

COLOR LUSTER
Pale Yellow- SV/V
gray

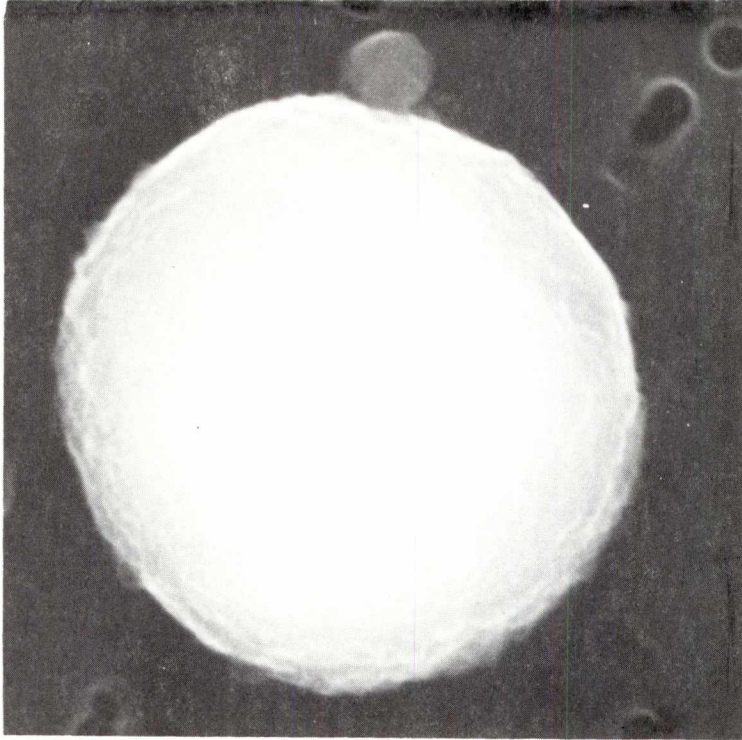
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F0401

S-83-35815



W7027F5



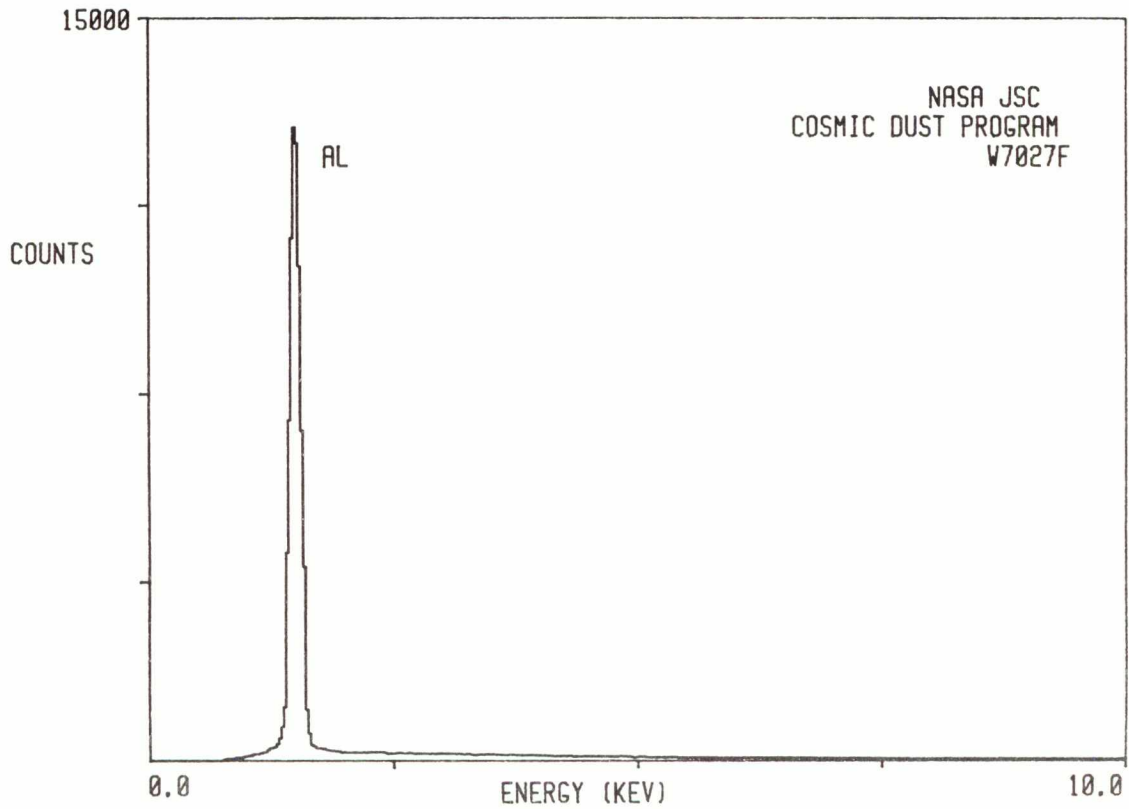
SIZE SHAPE TRANS.
4 S T

COLOR LUSTER
Colorless to V
Pale Yellow

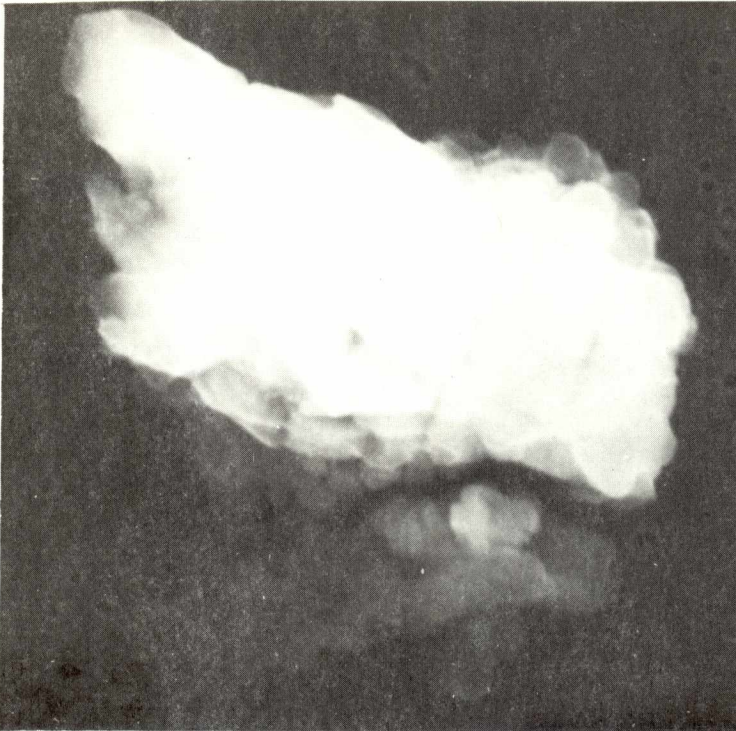
TYPE COMMENTS
AOS Smaller 0.5 μ m
 sphere attached

S-83-35816

F0501



W7027F6



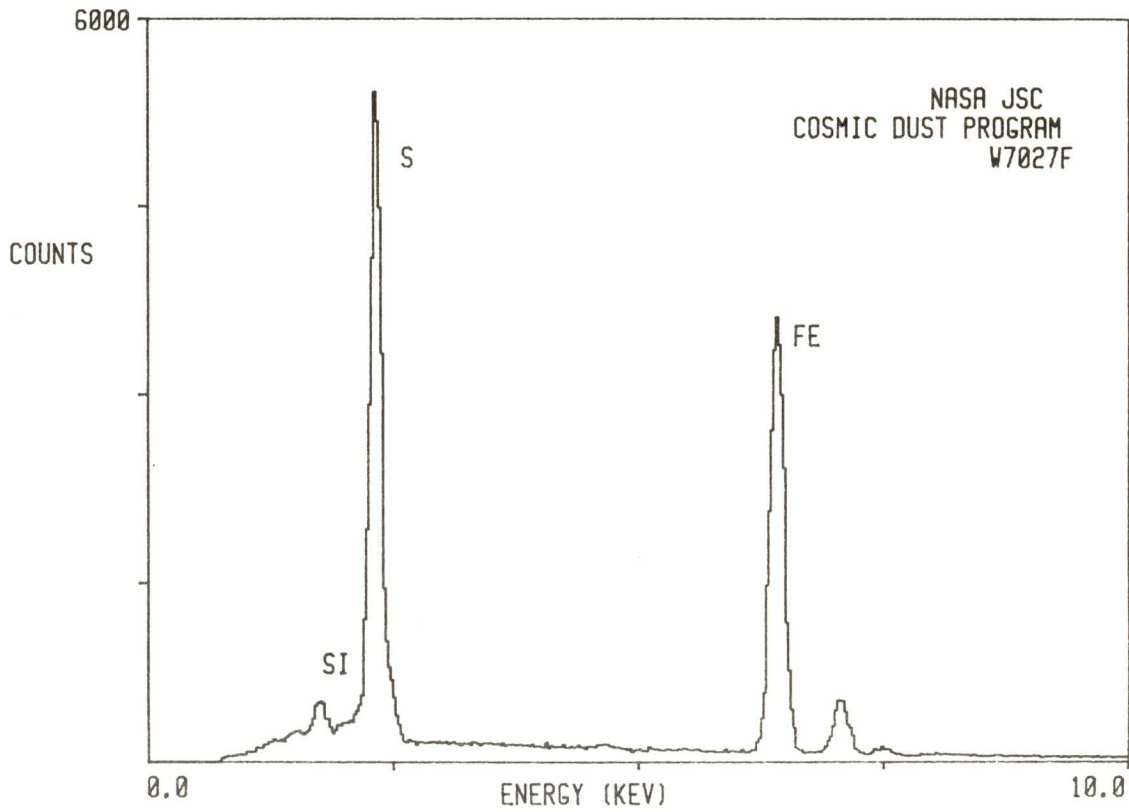
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13x16 I 0

COLOR LUSTER
Dark Gray SV/SM
to Black

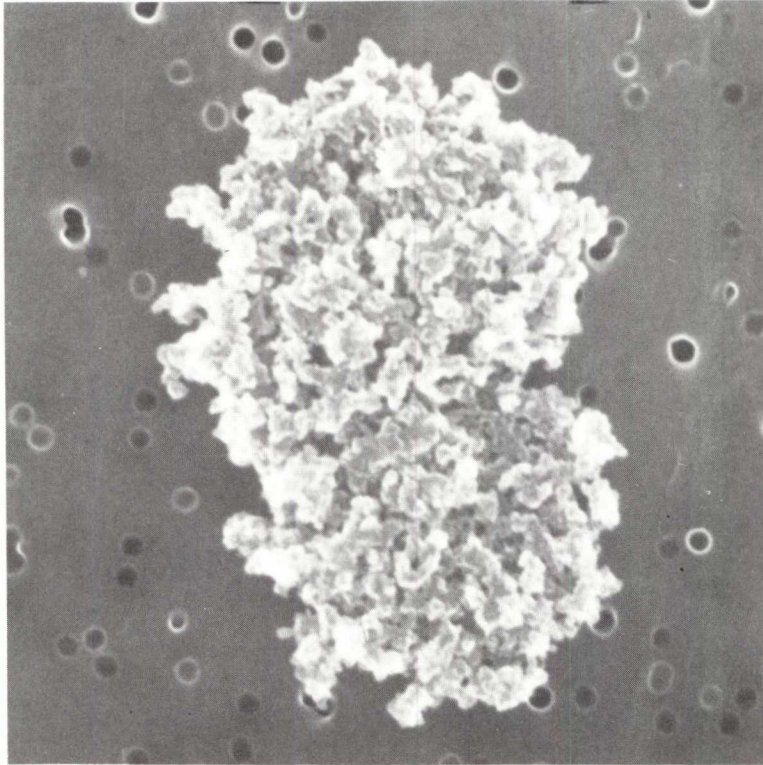
TYPE COMMENTS
C

S-83-35817

F0601



W7027F7



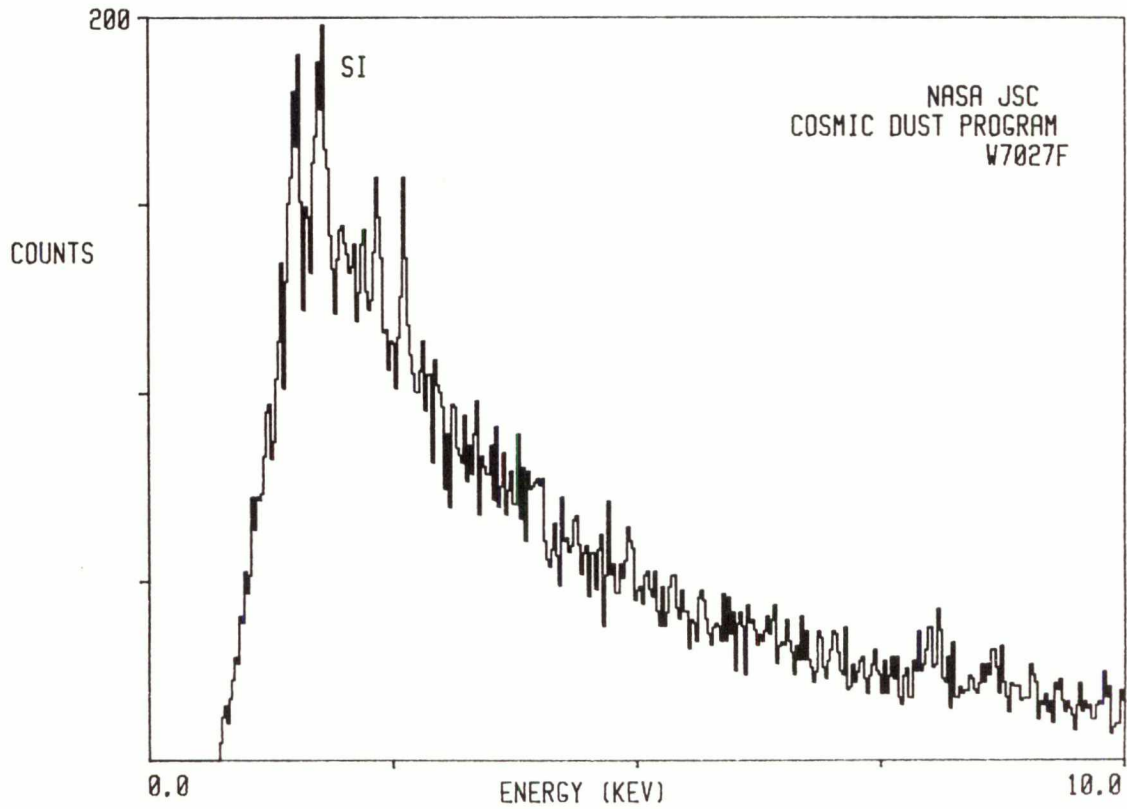
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COLOR LUSTER
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to Black

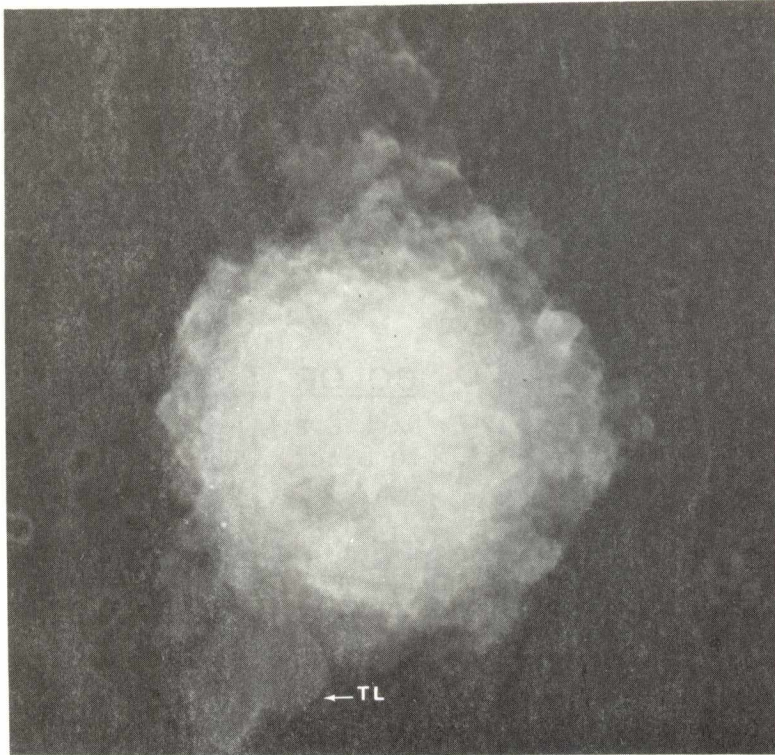
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F0701

S-83-35818



W7027F8



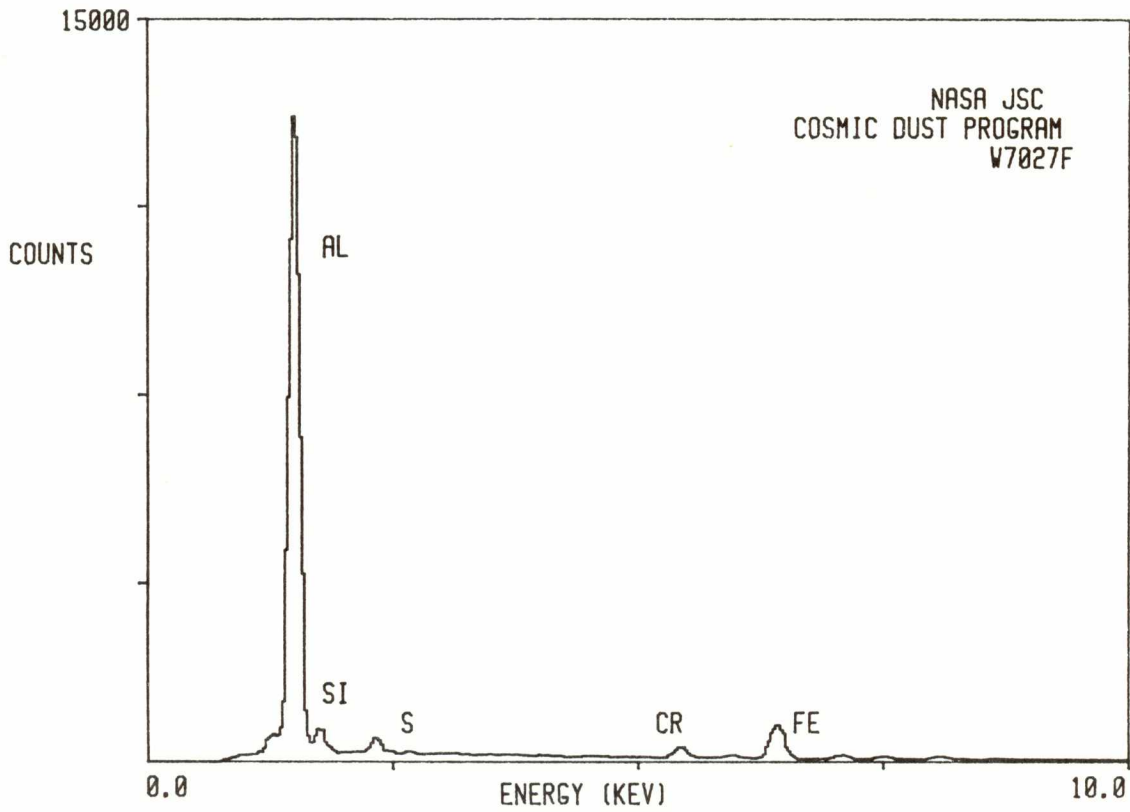
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8x12 I 0

COLOR LUSTER
Dark gray SV
to Black

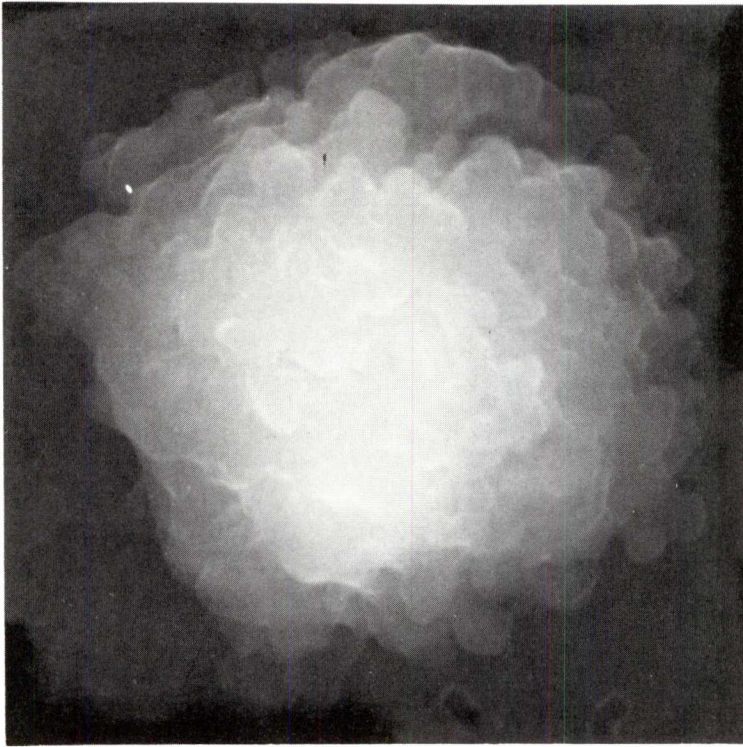
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TCA? TL grain on
edge

S-83-35819

F0801



W7027F9



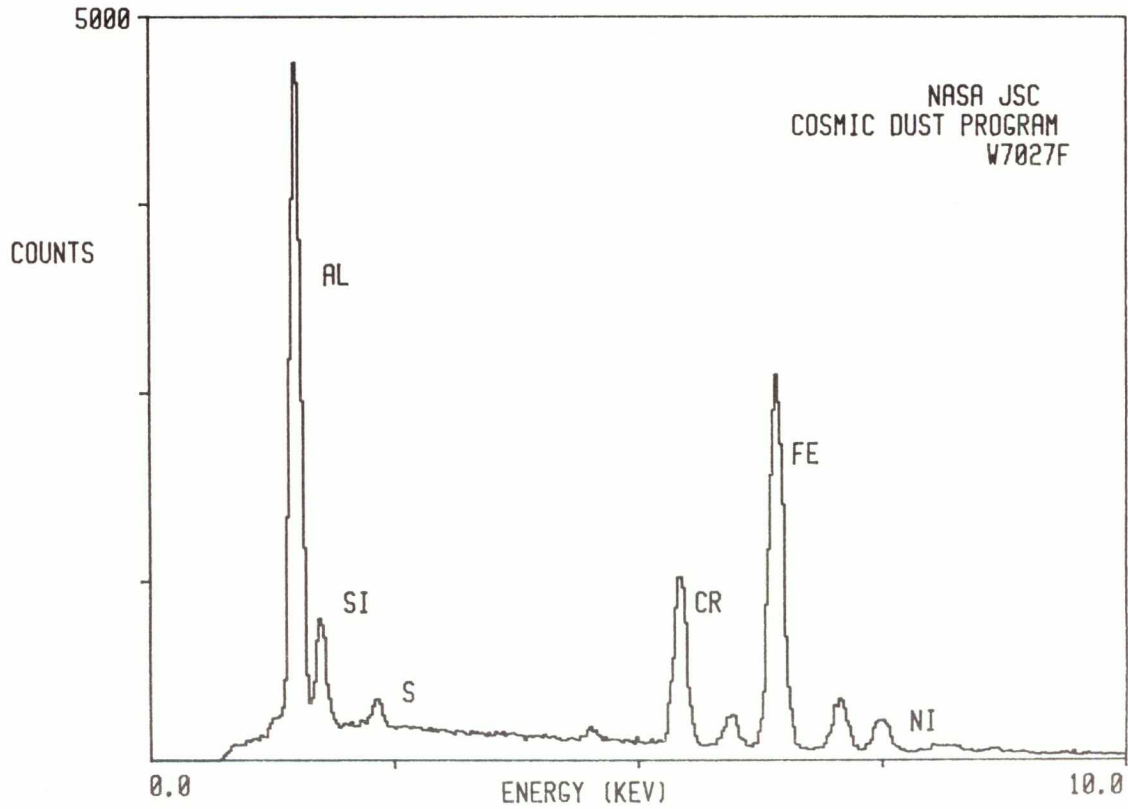
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9 E 0

COLOR LUSTER
Dark Gray D/SV
to Black

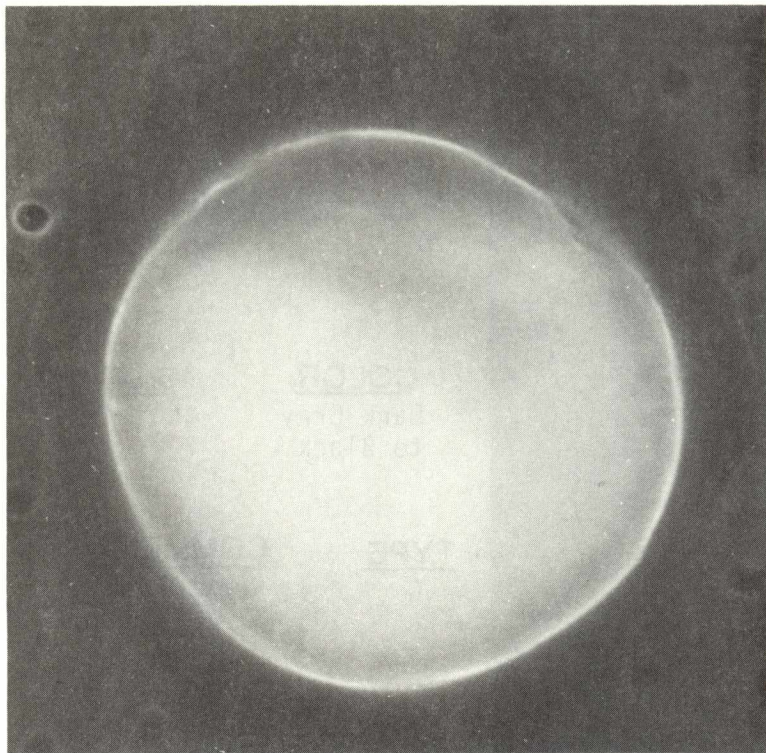
TYPE COMMENTS
TCA?

F0901

S-83-35821



W7027F10



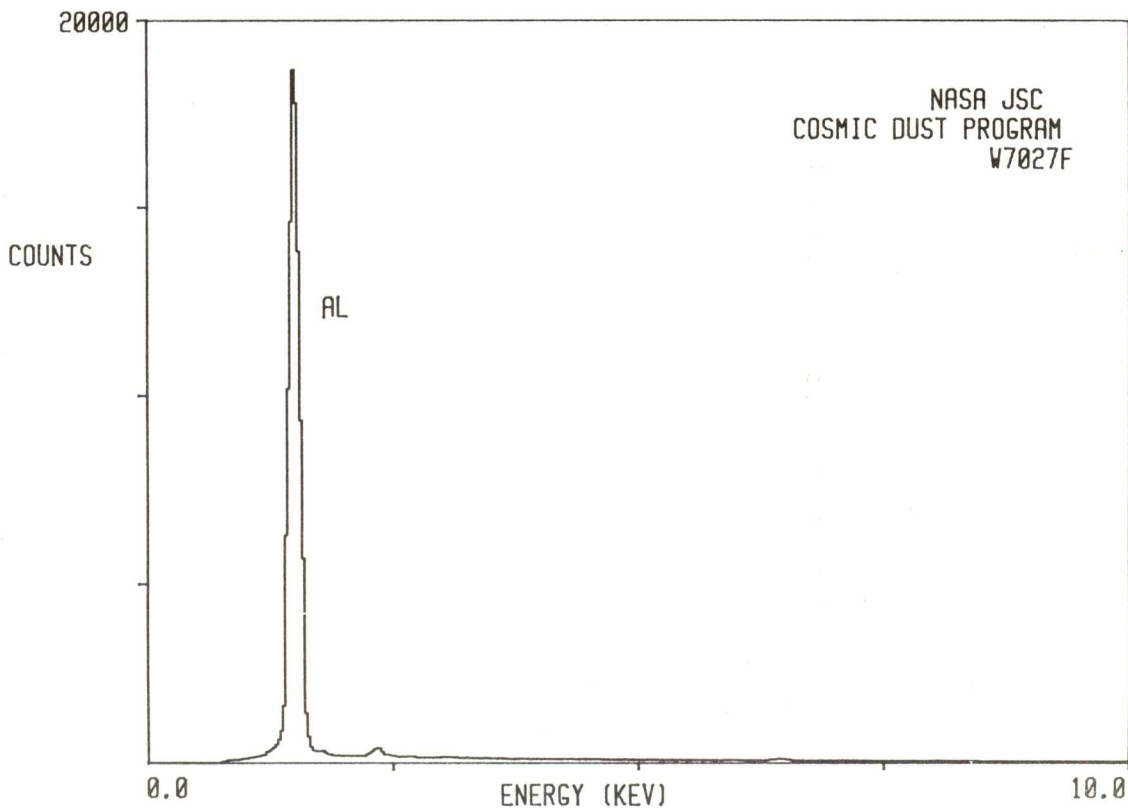
SIZE SHAPE TRANS.
7 S 0

COLOR LUSTER
Steel Gray M
to Black

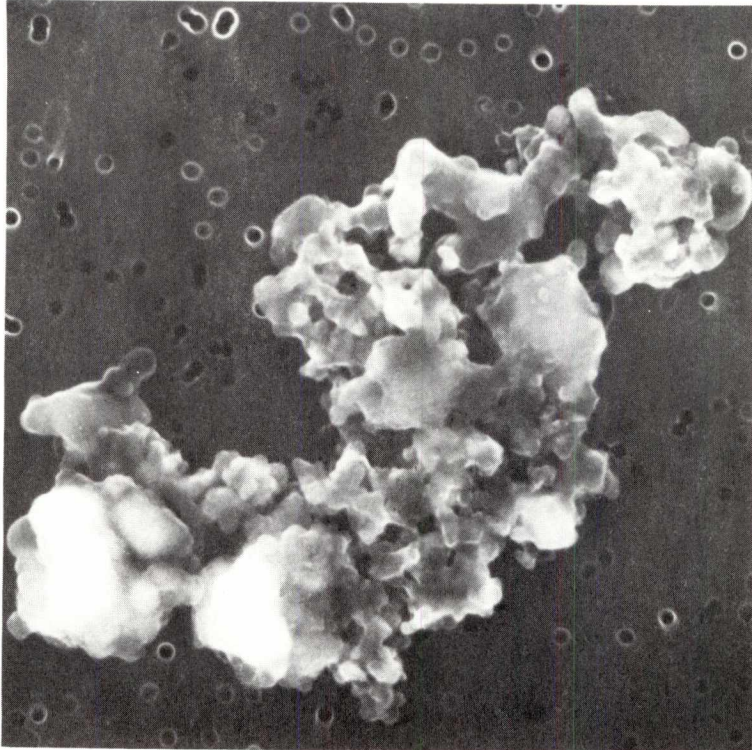
TYPE COMMENTS
TCA?

S-83-35822

F1001



W7027F11



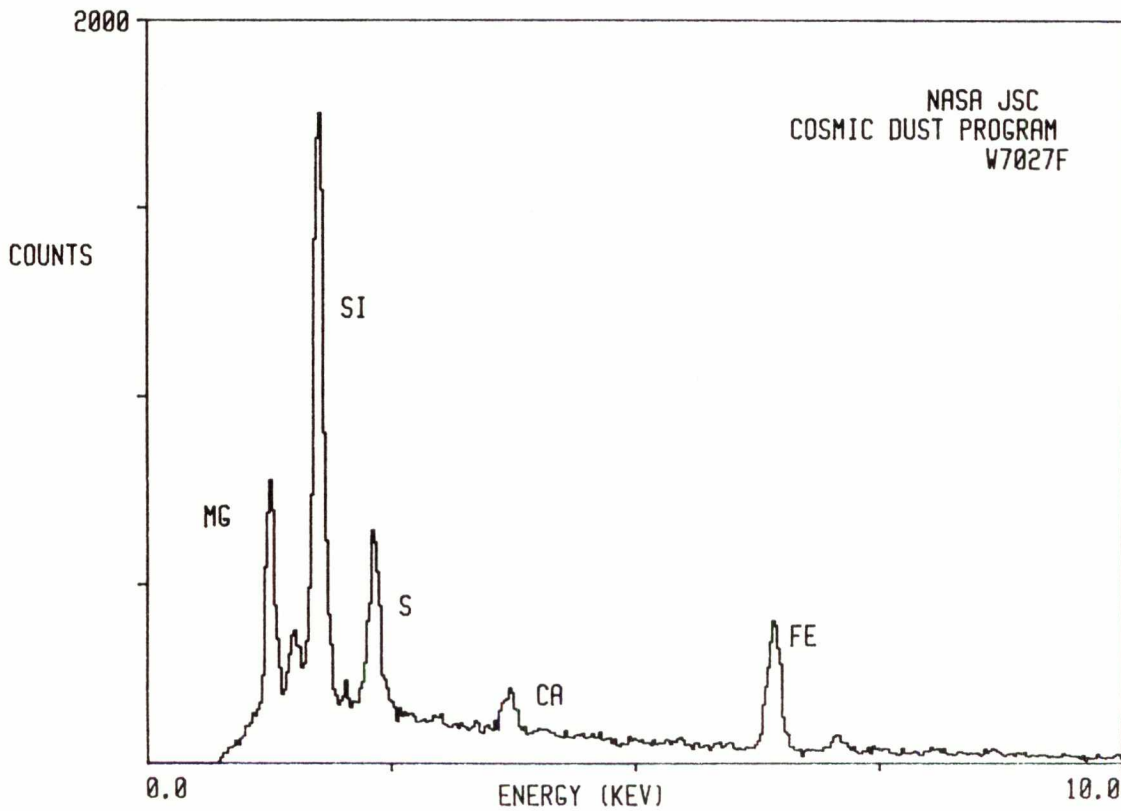
SIZE SHAPE TRANS.
9x17 I 0

COLOR LUSTER
Dark Gray D/SM
to Black

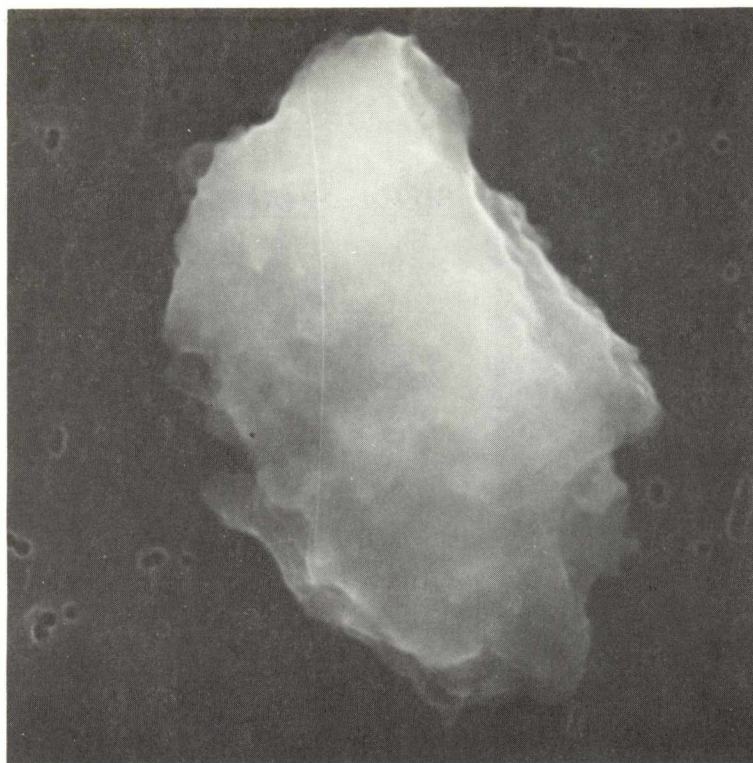
TYPE COMMENTS
C Very friable

F1101

S-83-35823



W7027F12



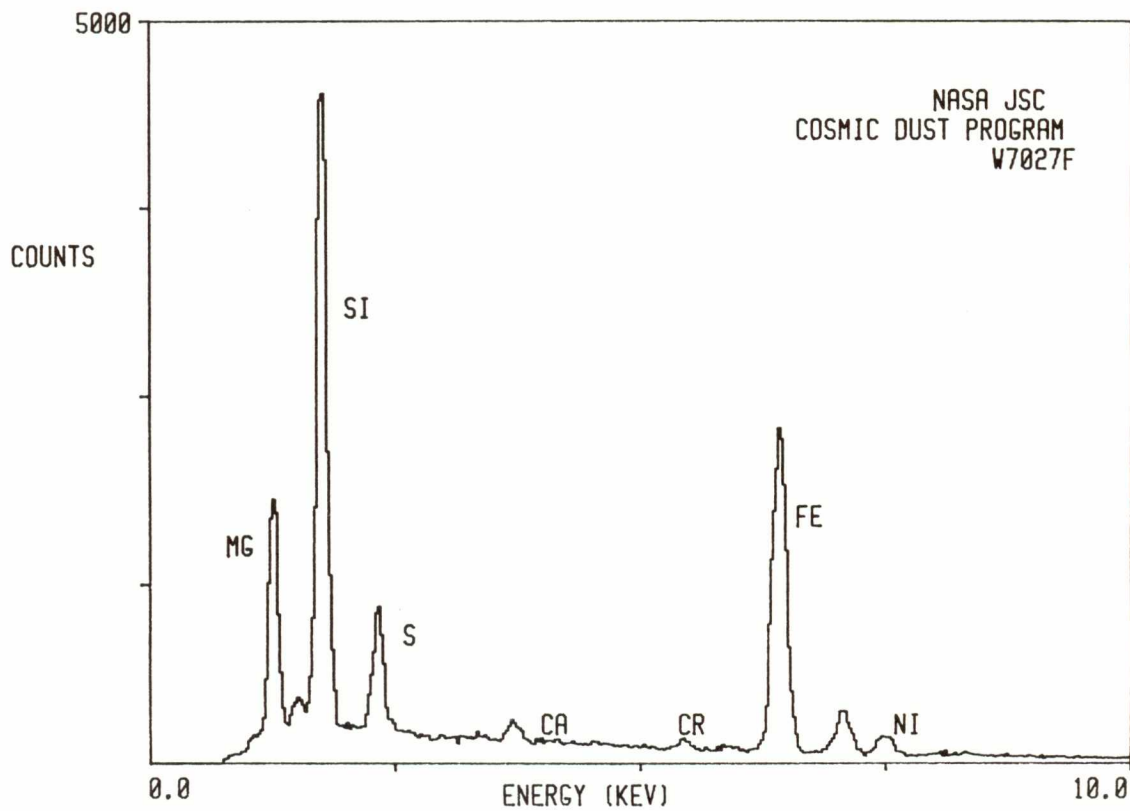
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COLOR LUSTER
Dark Brown SV/SM
to Black

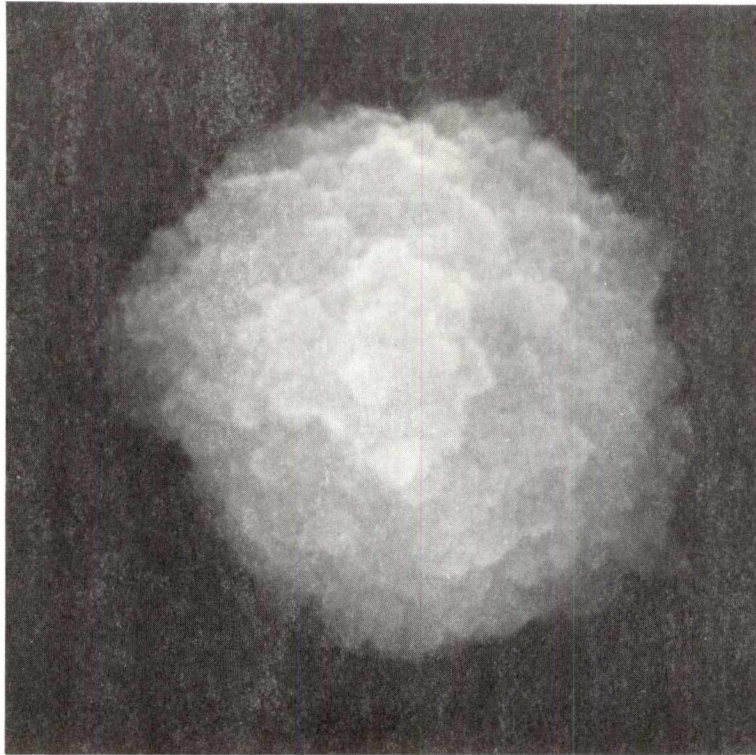
TYPE COMMENTS
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F1201

S-83-35825



W7027F13



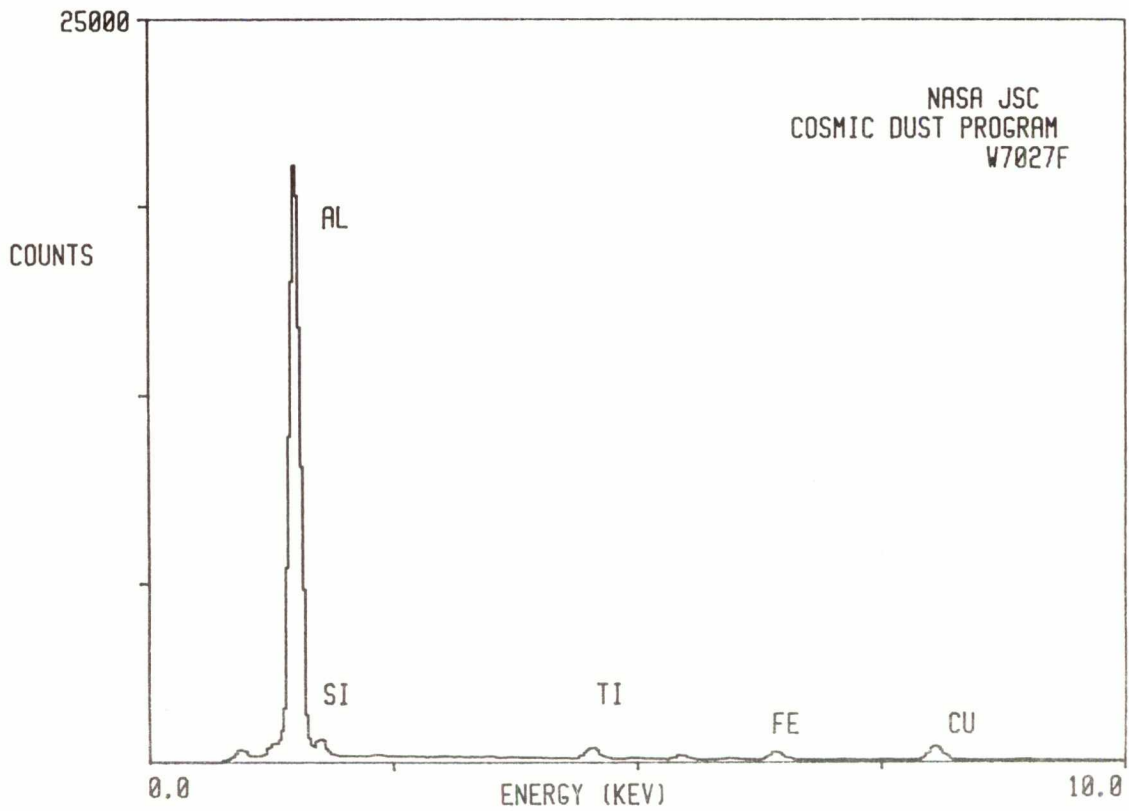
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10 E 0

COLOR LUSTER
Dark Gray D/SM
to Black

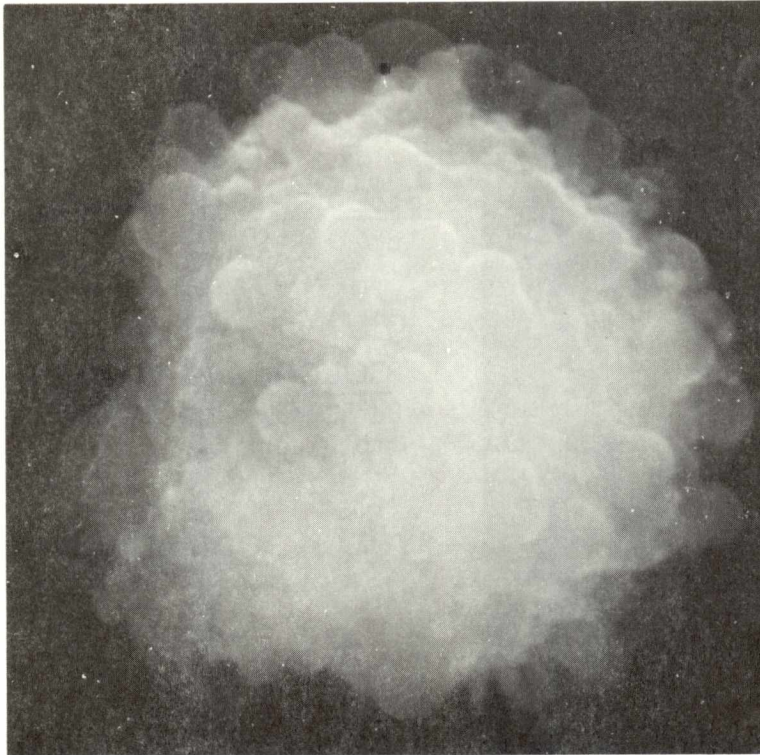
TYPE COMMENTS
TCA

F1301

S-83-35826



W7027F14



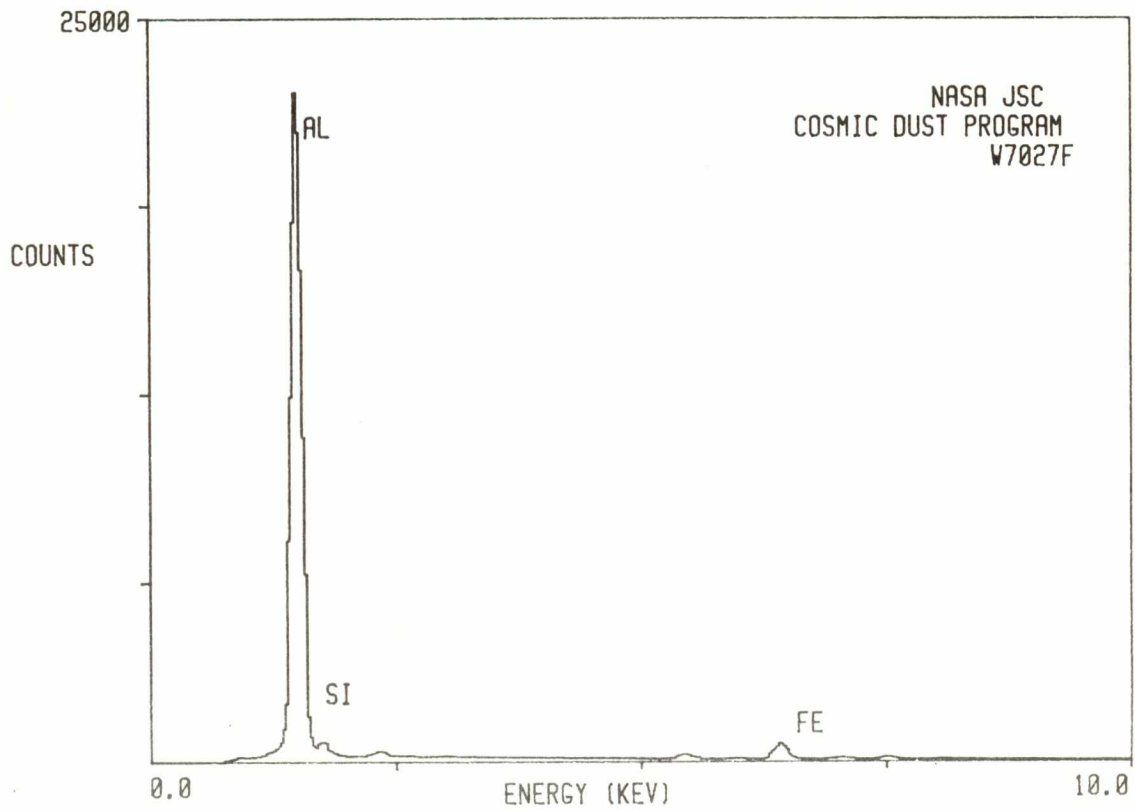
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COLOR LUSTER
Dark Gray SM
to Black

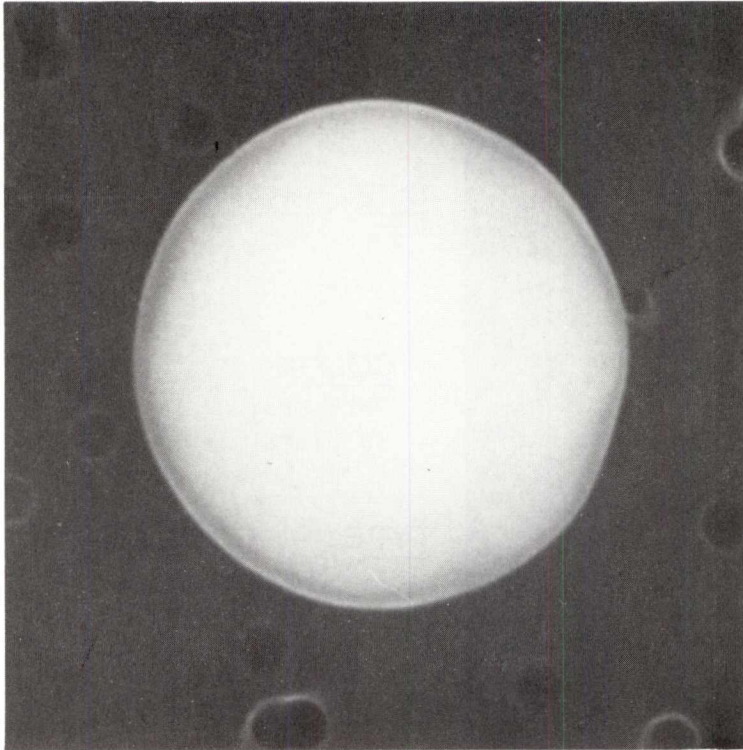
TYPE COMMENTS
TCA? "Spheres" coating
 surface

S-83-35827

F1401



W7027F15



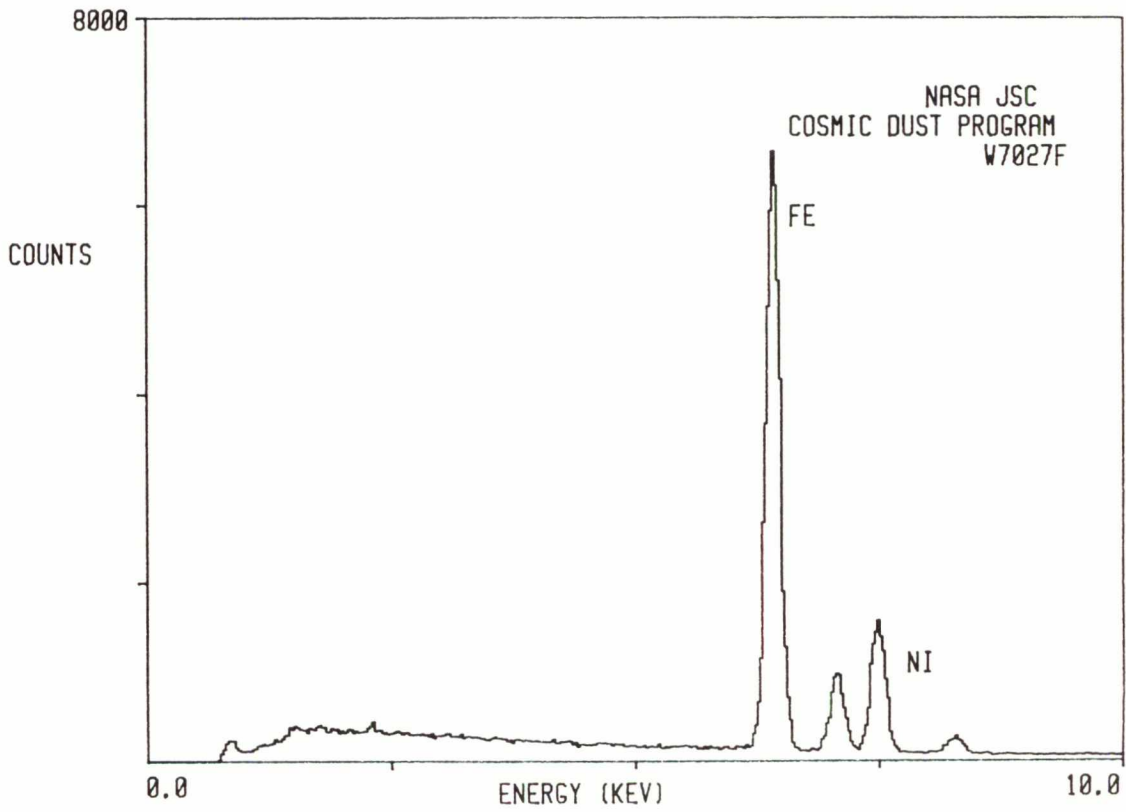
SIZE SHAPE TRANS.
3 S 0

COLOR LUSTER
Dark Brown D/SV
to Black

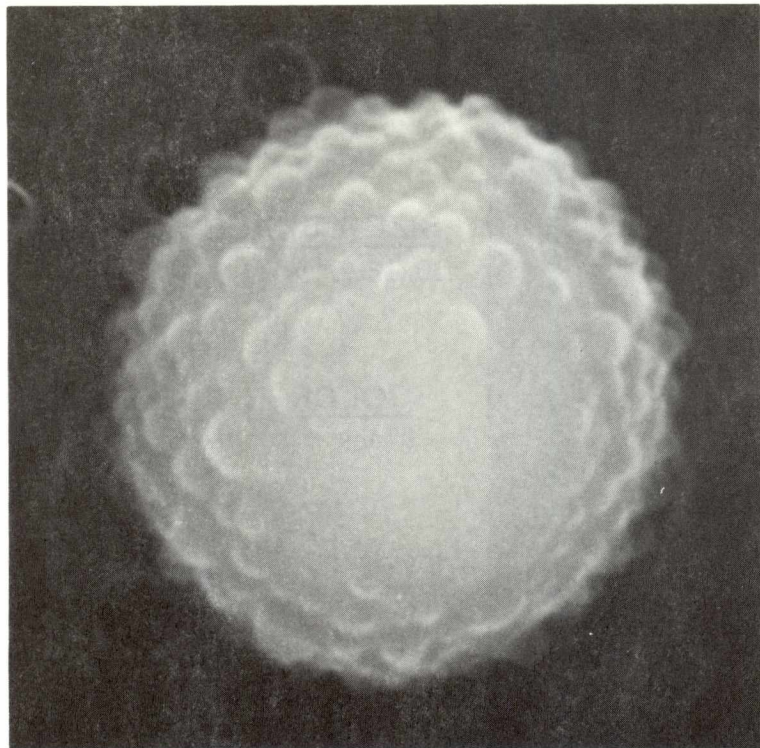
TYPE COMMENTS
?

S-83-35828

F1501



W7027F16



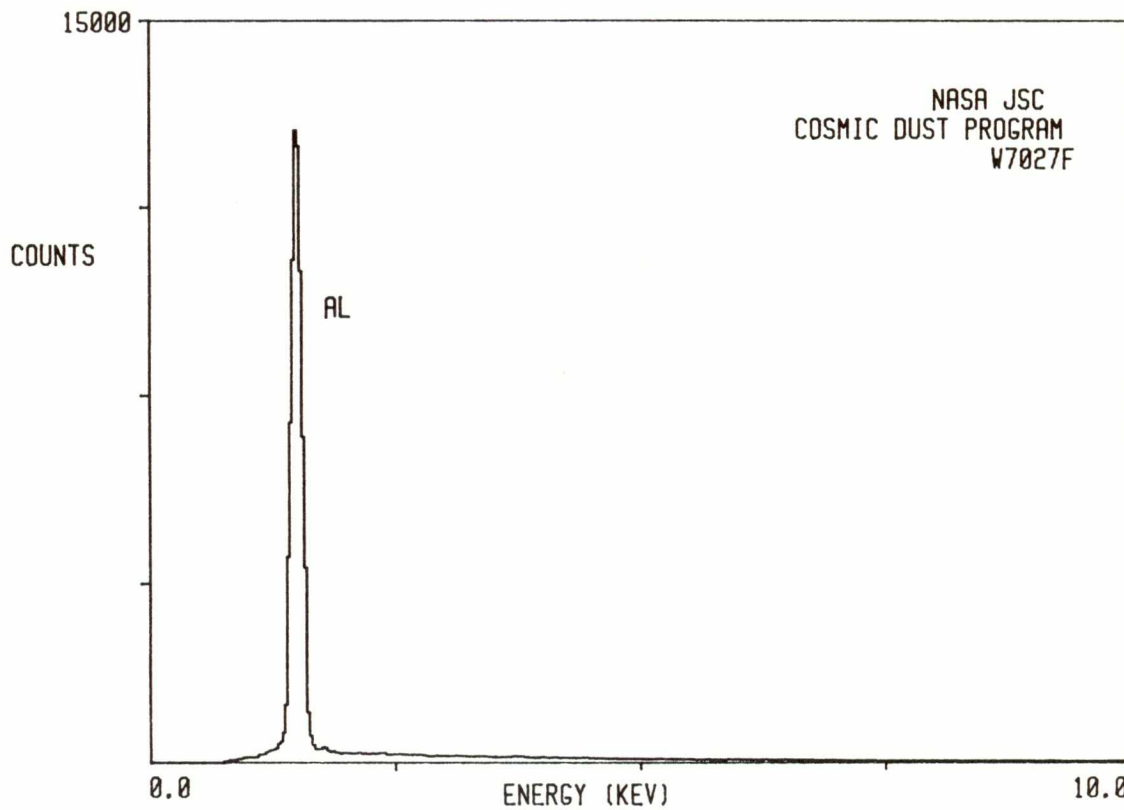
SIZE SHAPE TRANS.
3 S T

COLOR LUSTER
Pale Yellow V

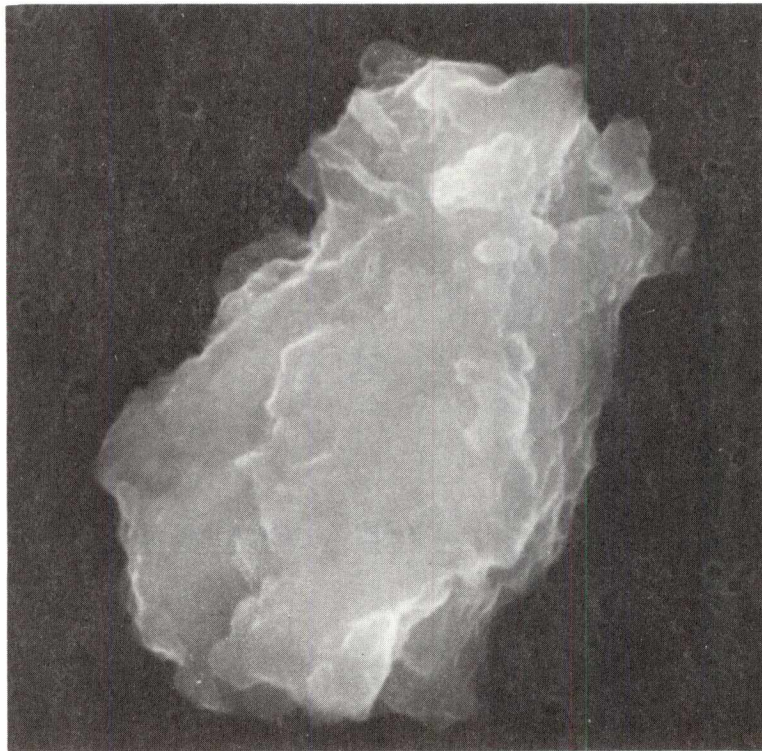
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AOS

S-83-35829

F1601



W7027F17



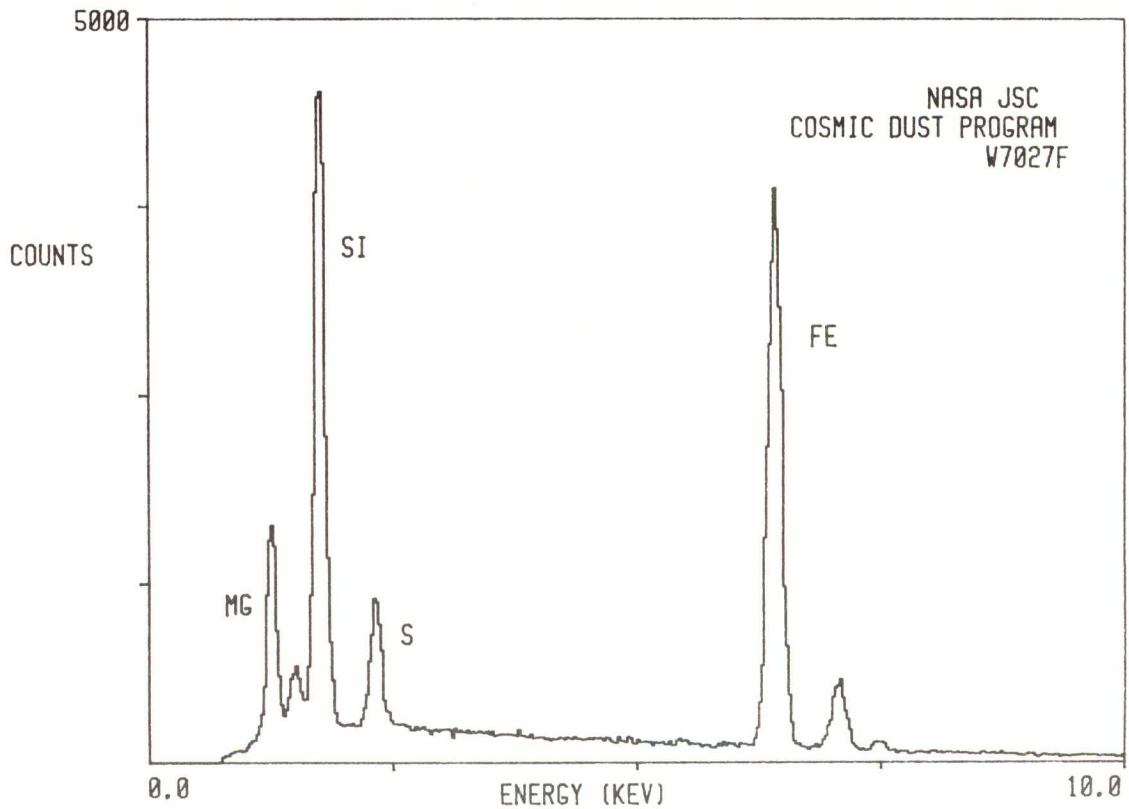
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10x16 I 0

COLOR LUSTER
Black SM

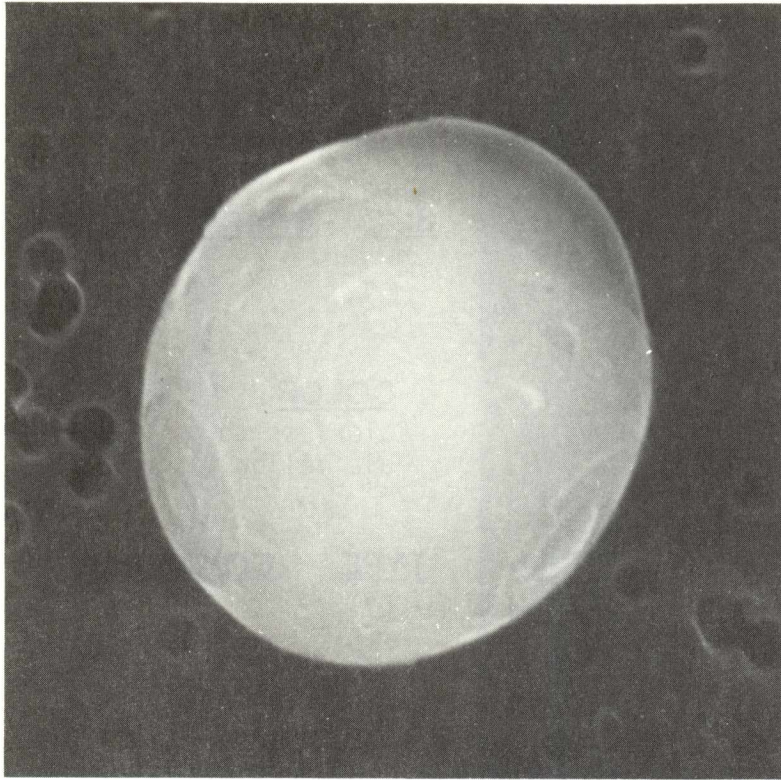
TYPE COMMENTS
C

S-83-35830

F1701



W7027F18



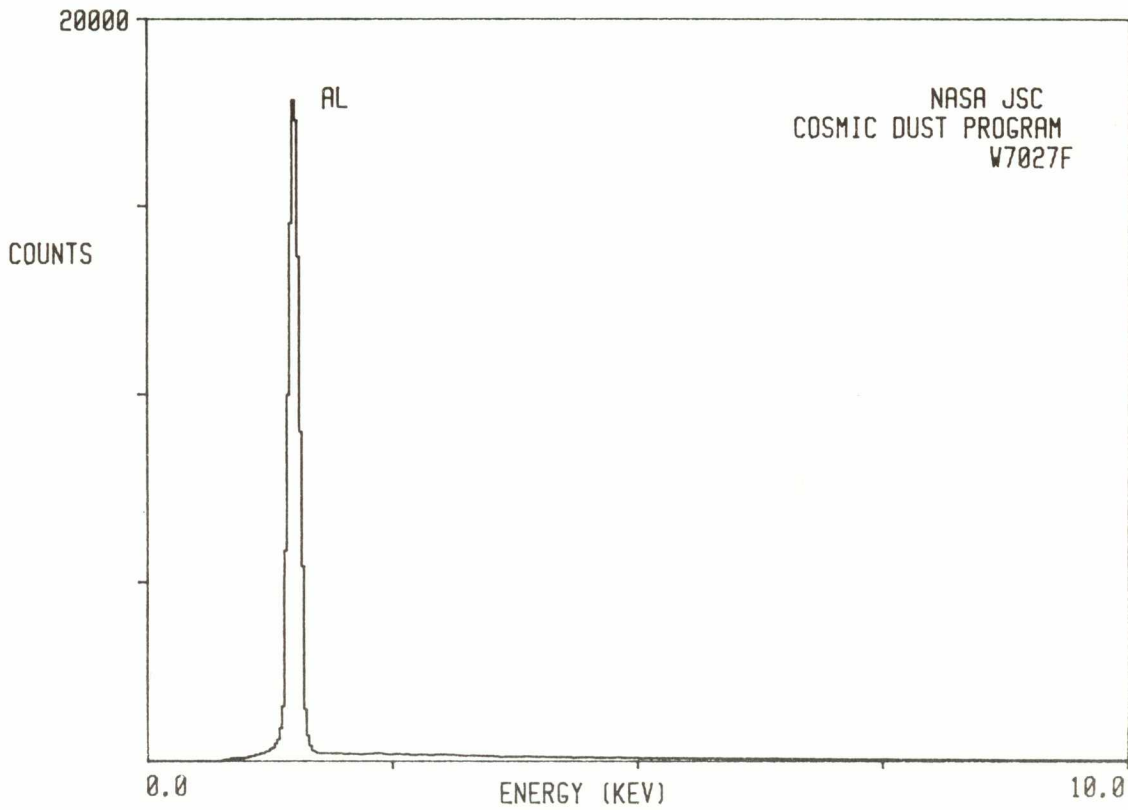
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4	S	T

<u>COLOR</u>	<u>LUSTER</u>
Colorless to Pale Yellow	V

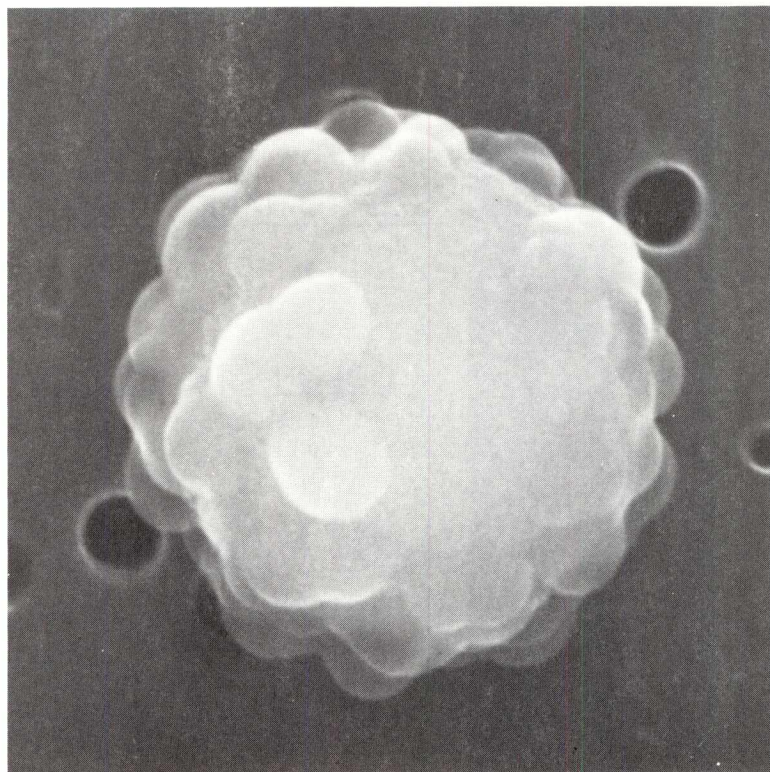
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AOS	

S-83-35831

F0101A



W7027F19



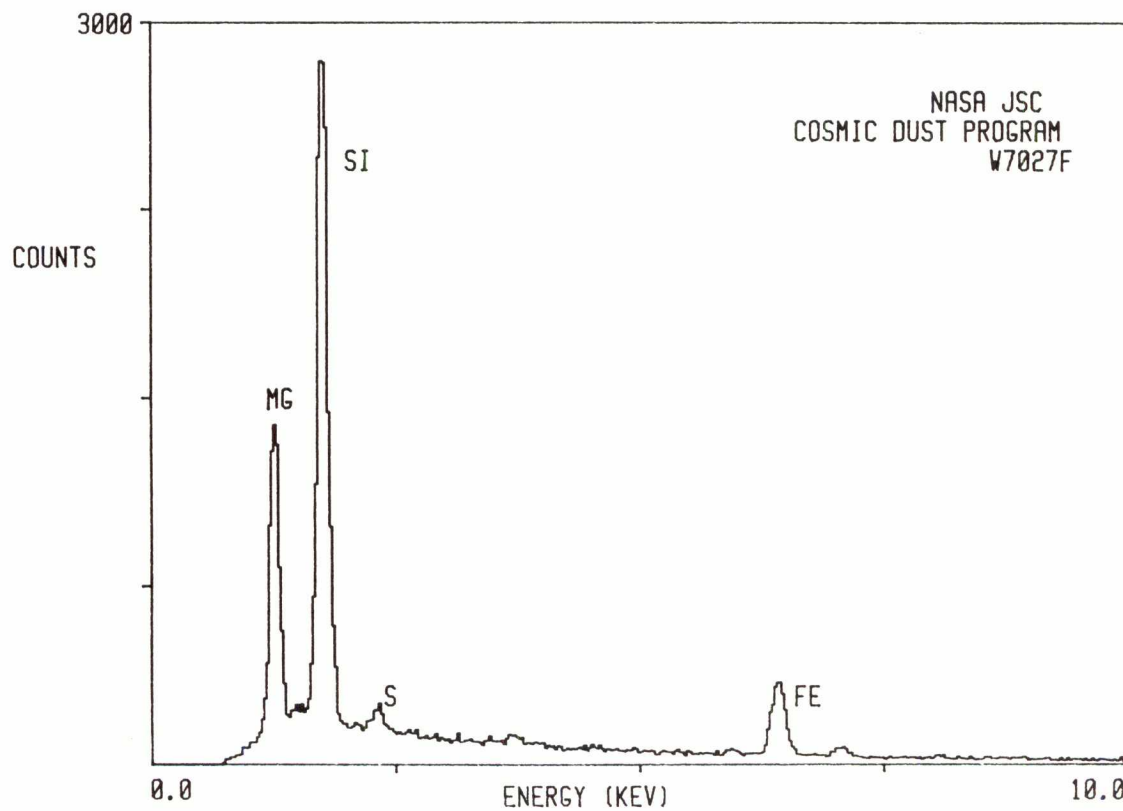
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2 S T/TL

COLOR LUSTER
Colorless to SV/V
Pale Yellow

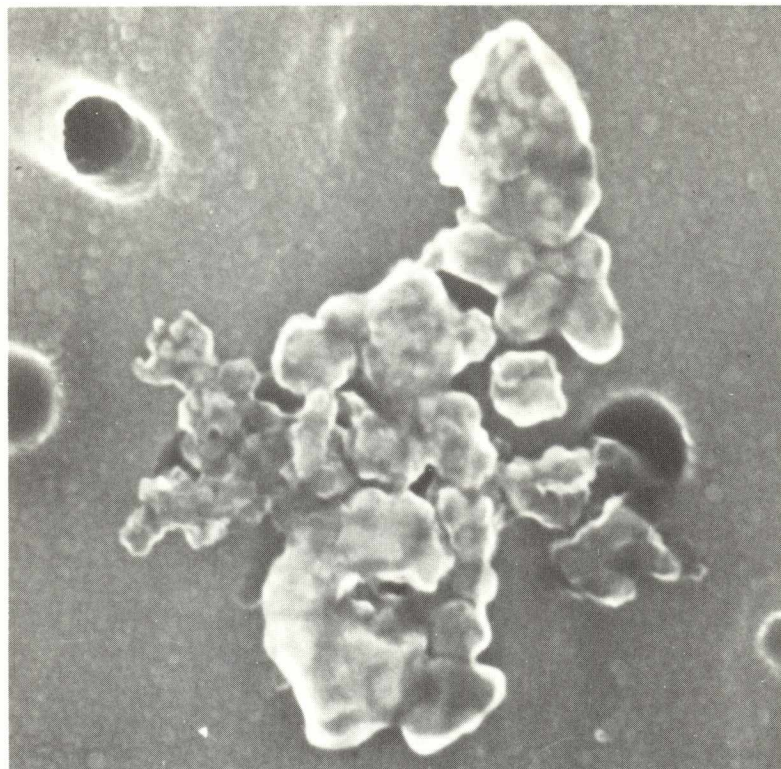
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C?

F0501A

S-83-35832



W7027F20



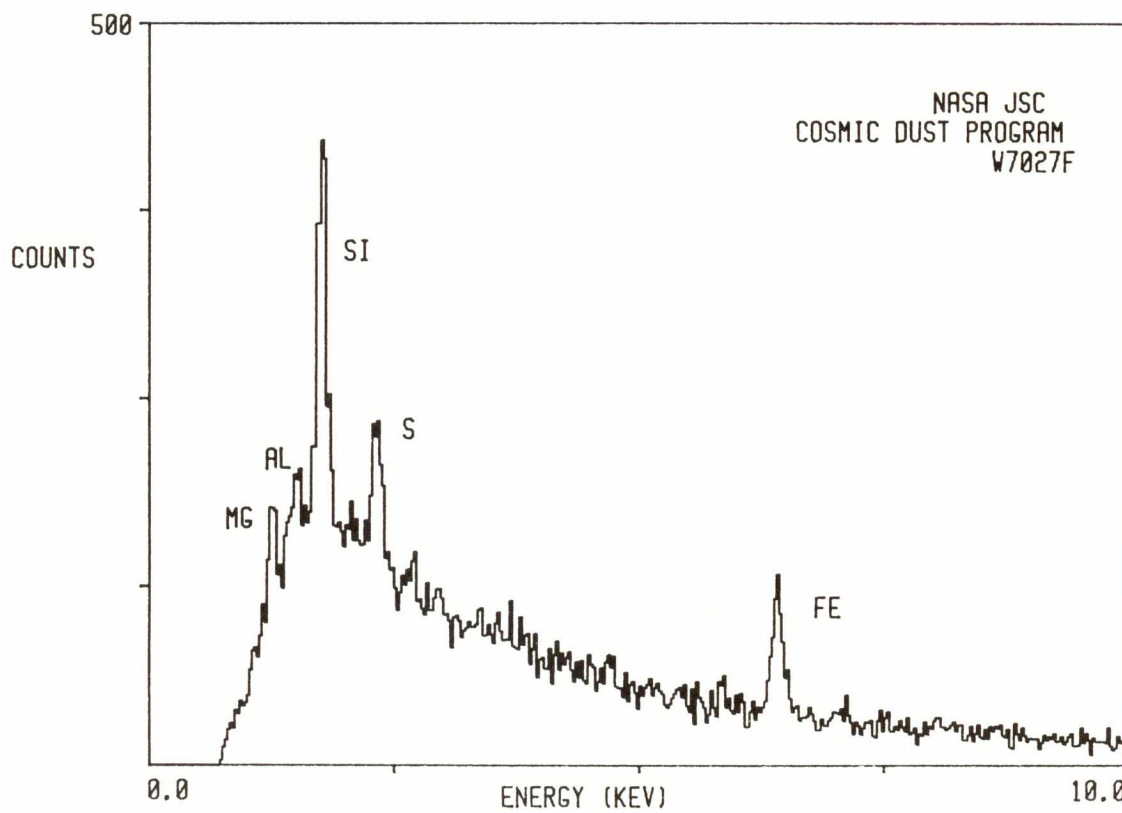
SIZE SHAPE TRANS.
2 I 0

COLOR LUSTER
Black(?) D

TYPE COMMENTS
C?

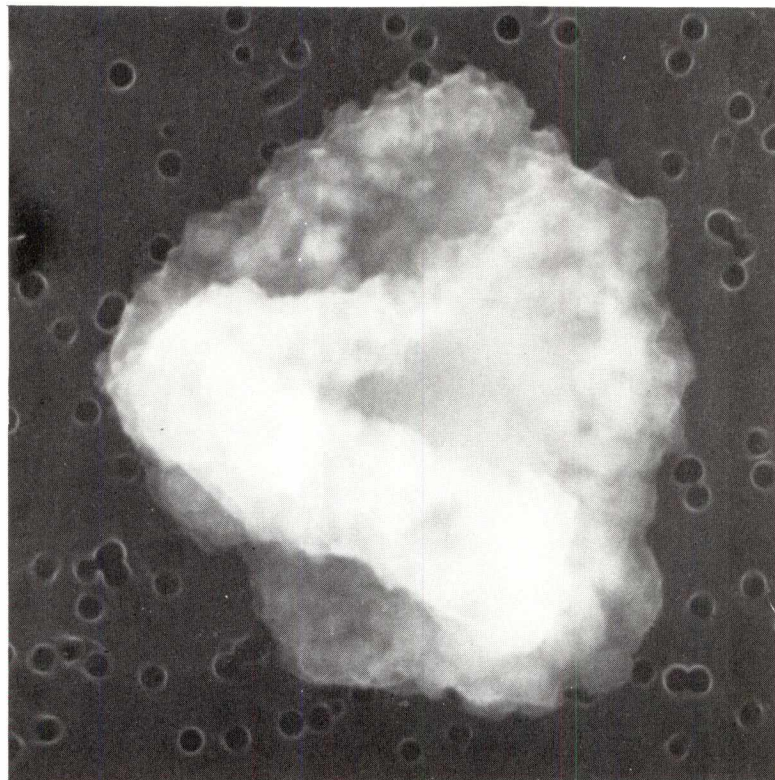
S-83-35833

F1501A



W7027G

W7027G1



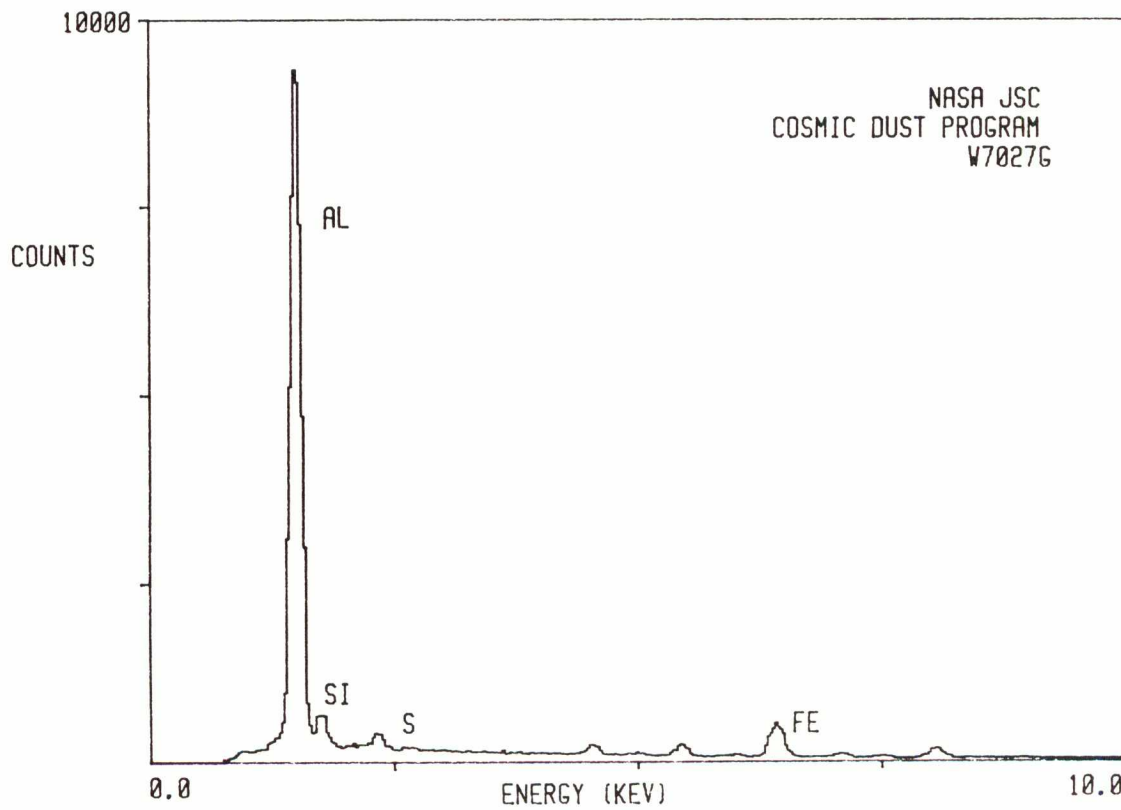
SIZE SHAPE TRANS.
9x9 E TL

COLOR LUSTER
Pale Yellow SV

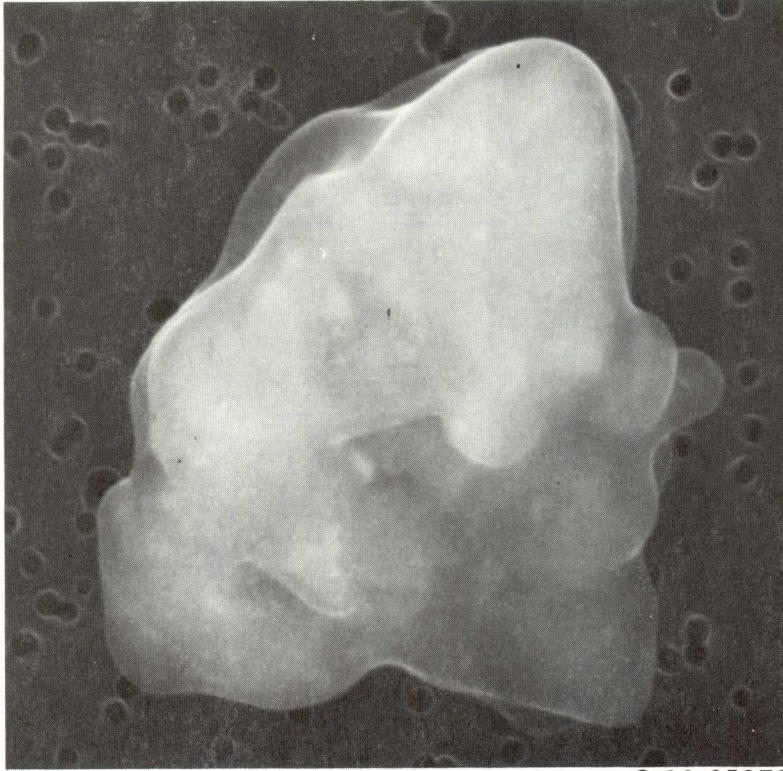
TYPE COMMENTS
TCA?

S-83-35871

G0101



W7027G2



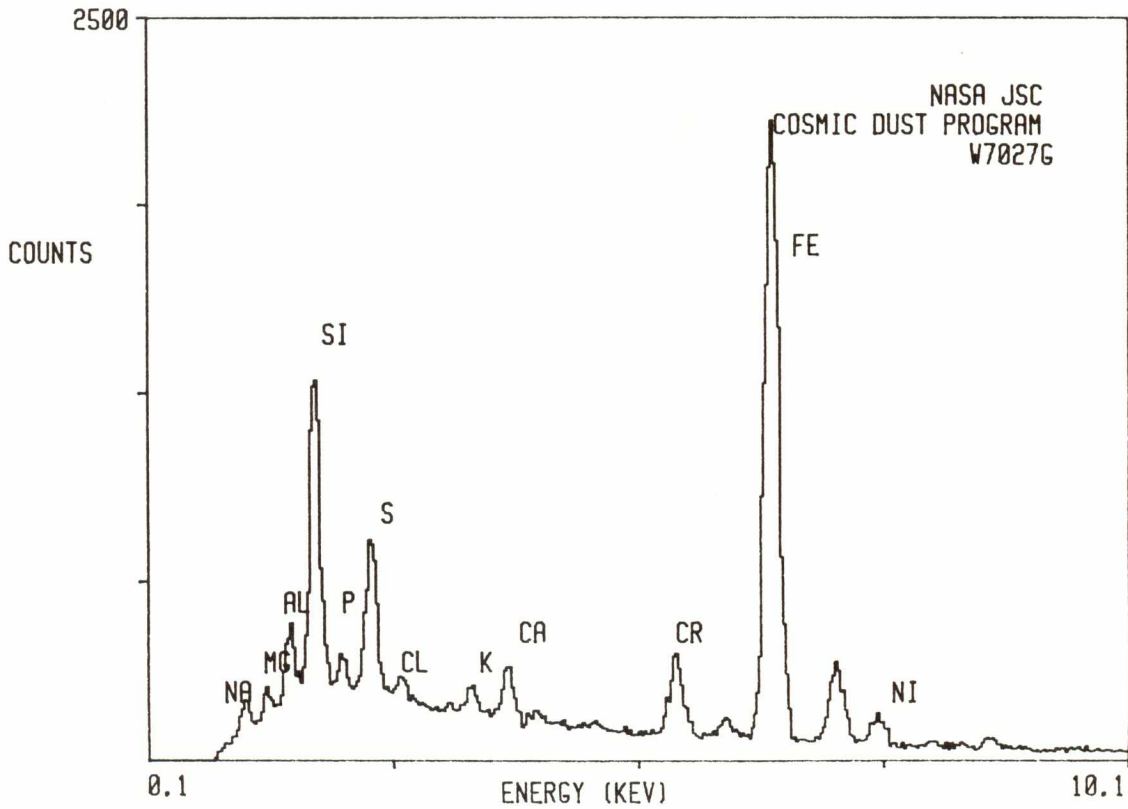
SIZE SHAPE TRANS.
9x11 I 0

COLOR LUSTER
Dark Brown D/SM
to Black

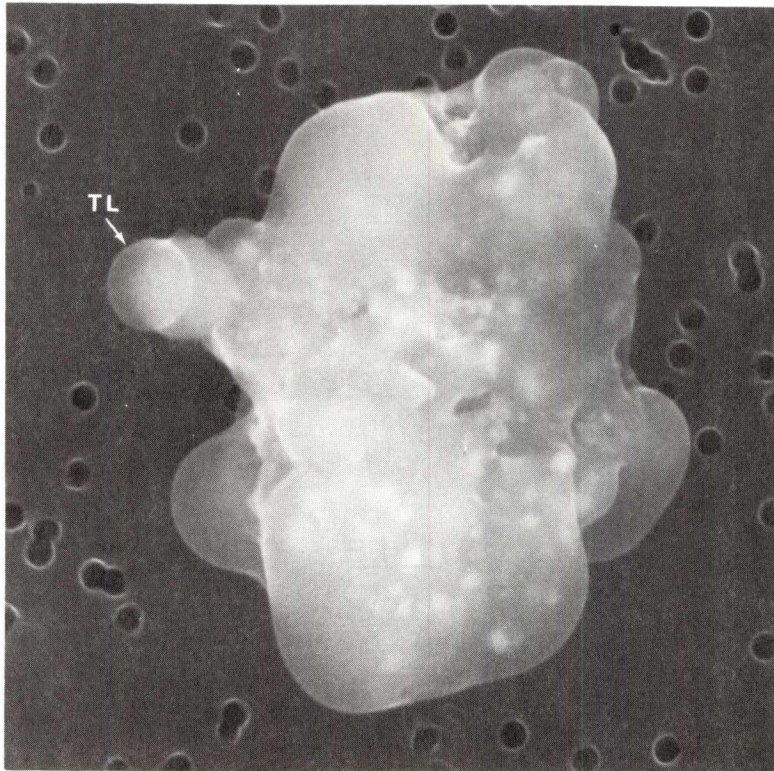
TYPE COMMENTS
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G0201

S-83-35870



W7027G3



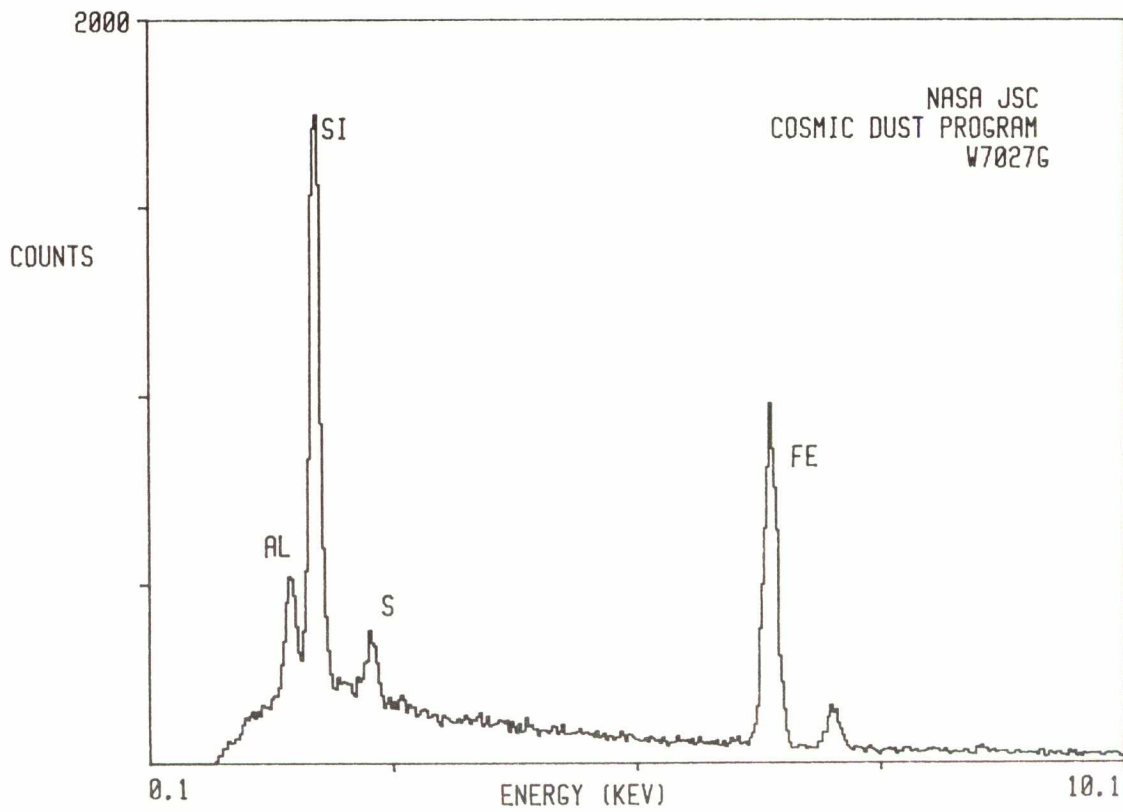
SIZE SHAPE TRANS.
8x9 I 0

COLOR LUSTER
Dark Brown D/SV
to Black

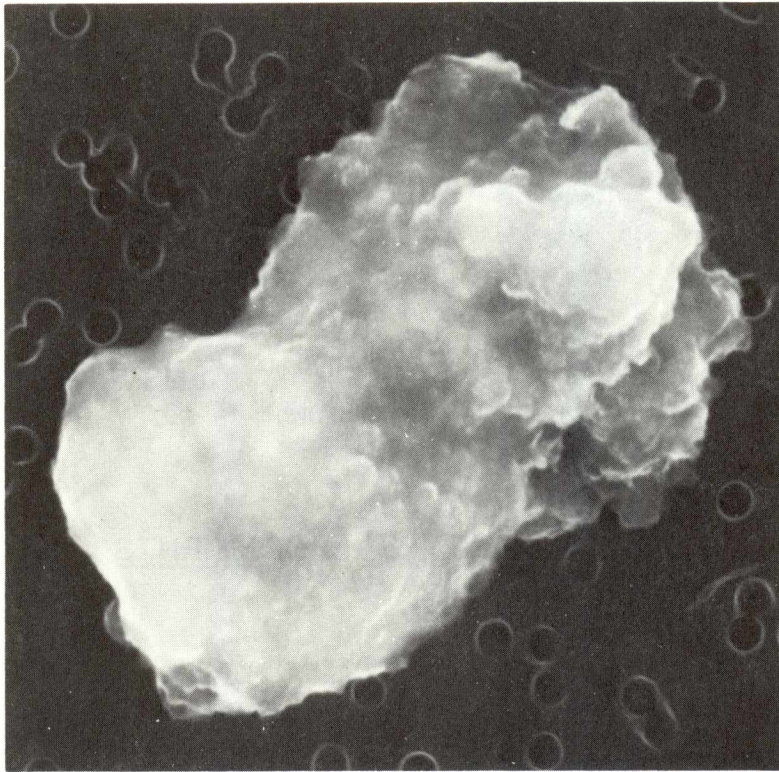
TYPE COMMENTS
? TL grain on
edge

G0301

S-83-35869



W7027G4



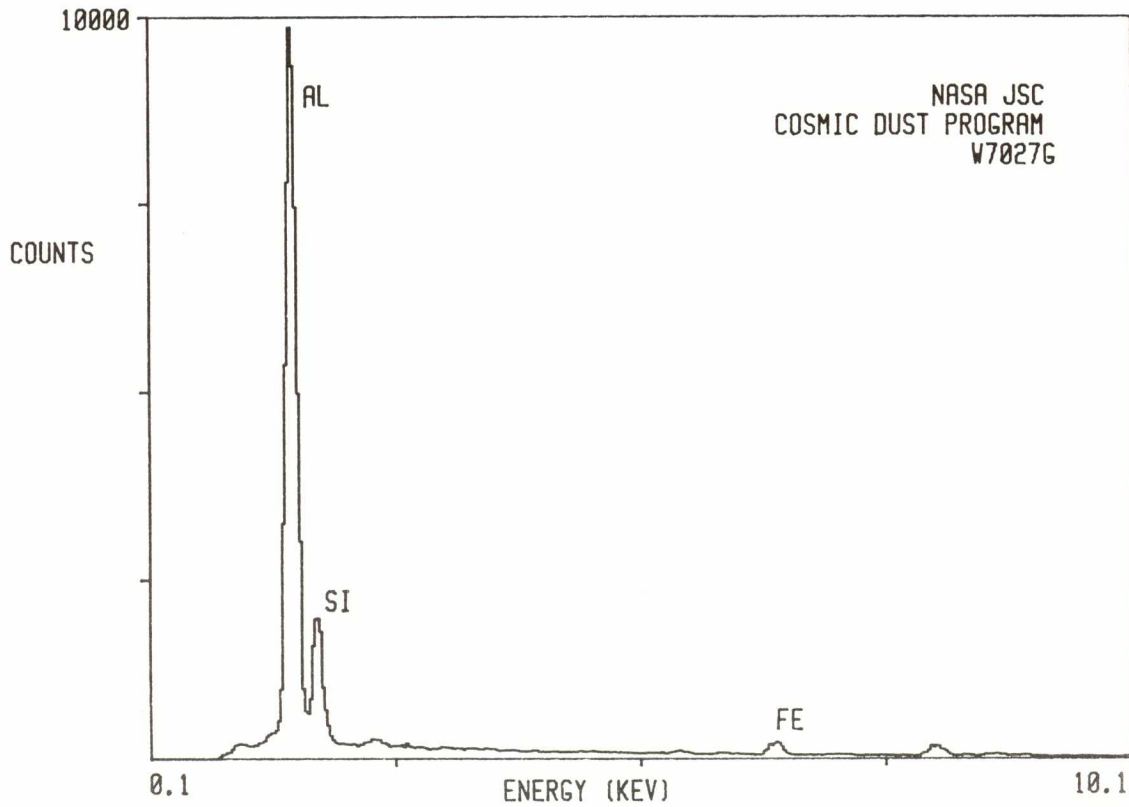
G0401

S-83-35868

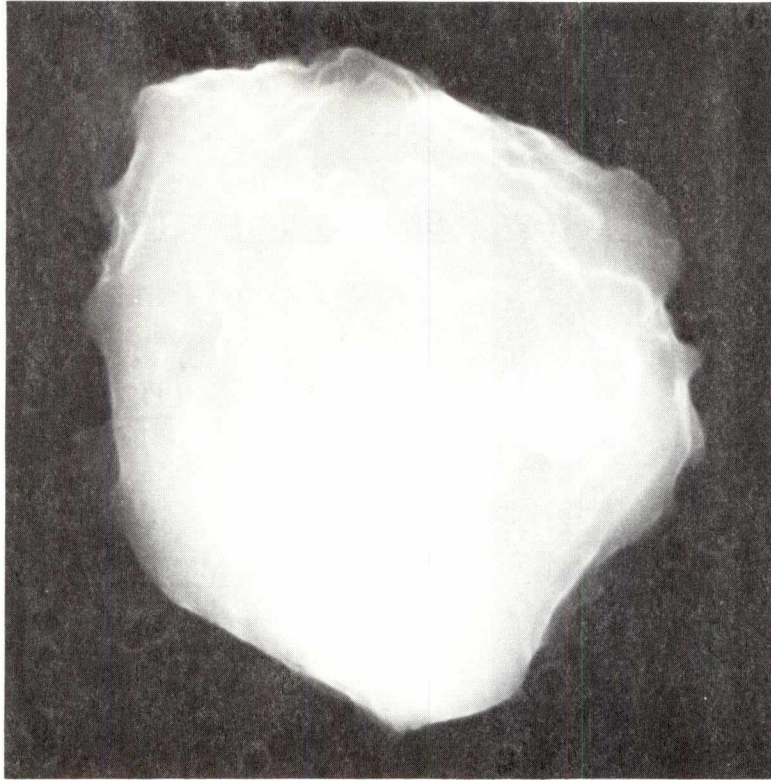
SIZE SHAPE TRANS.
5x8 I 0

COLOR LUSTER
Dark Brown D/SV
to Black

TYPE COMMENTS
TCA?



W7027G5



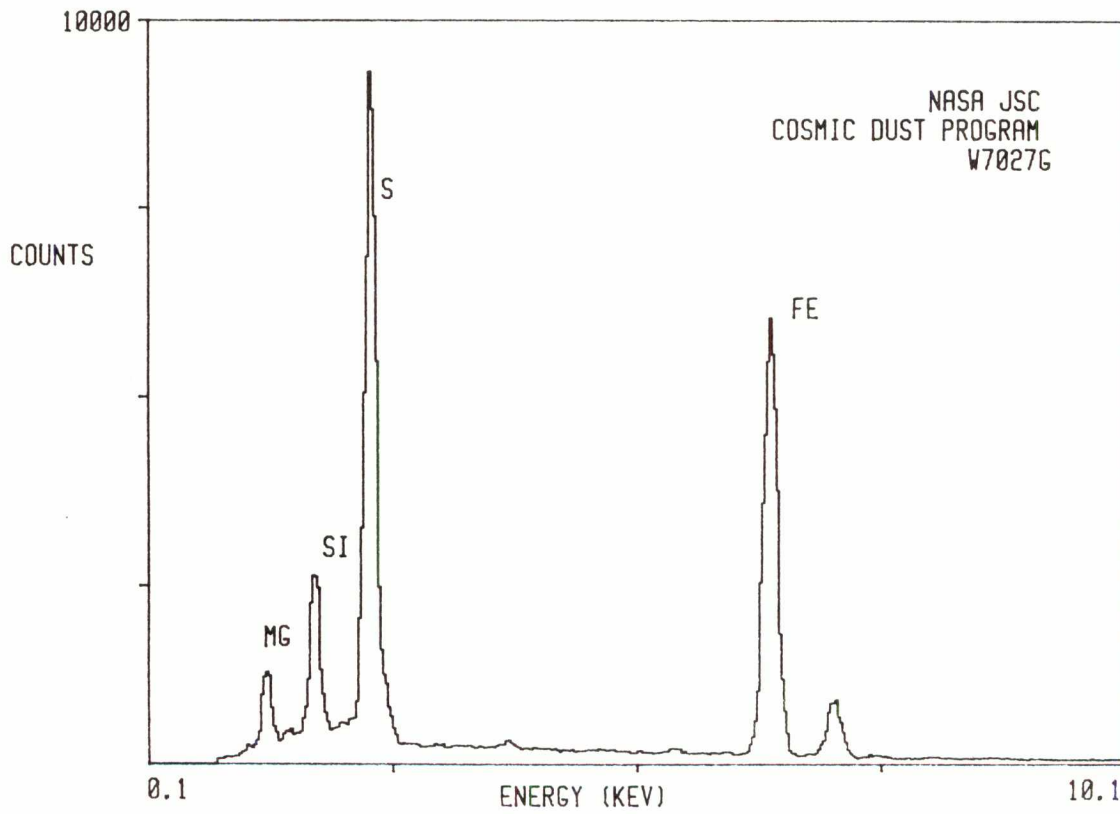
SIZE SHAPE TRANS.
 7x8 I 0

COLOR LUSTER
 Dark Brown D/SV
 to Black

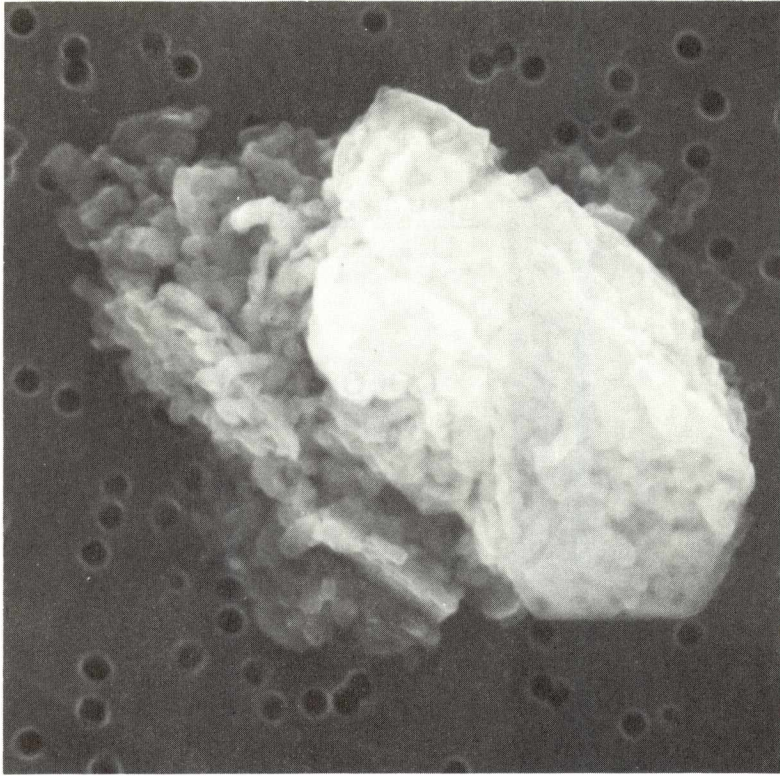
TYPE COMMENTS
 C

G0501

S-83-35867



W7027G7



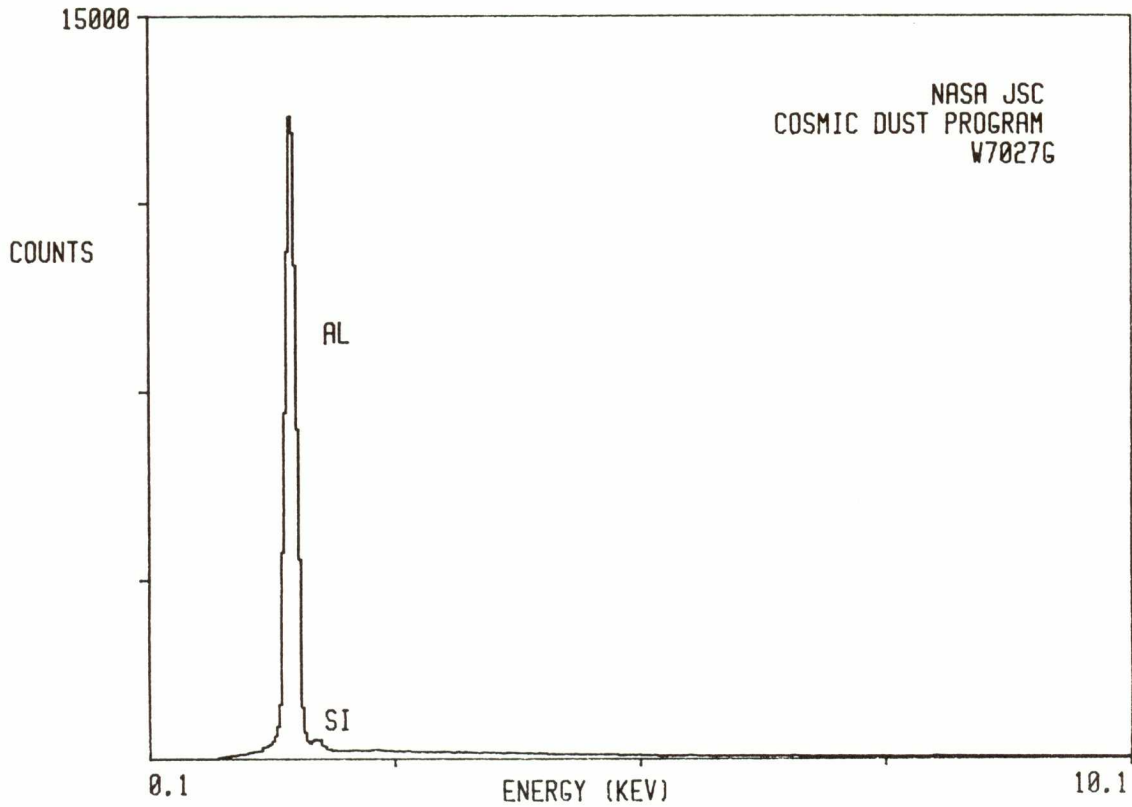
SIZE SHAPE TRANS.
6x10 I TL

COLOR LUSTER
Colorless to SV/V
Pale Yellow Gray

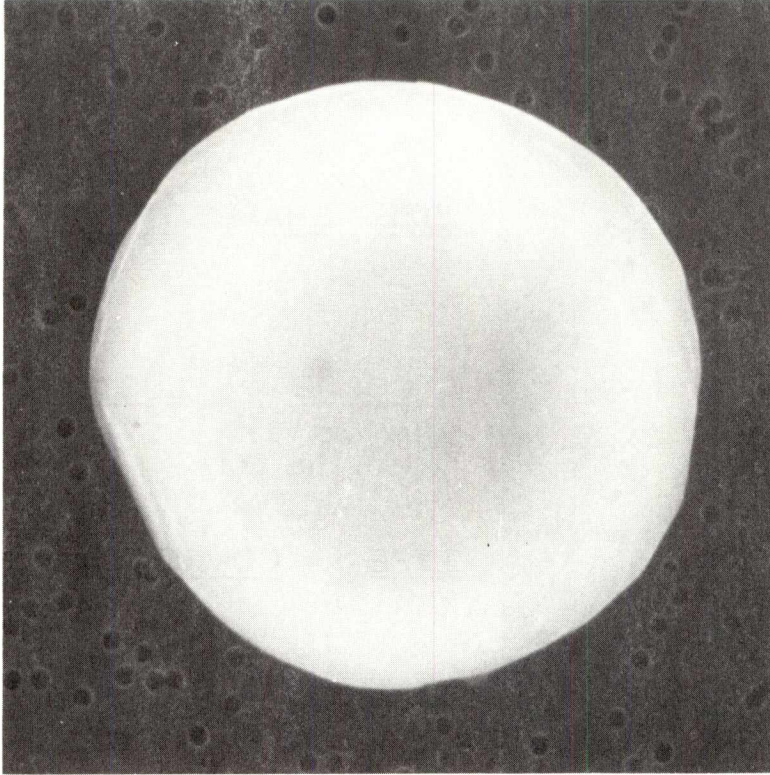
TYPE COMMENTS
TCA

S-83-35865

G0701



W7027G8



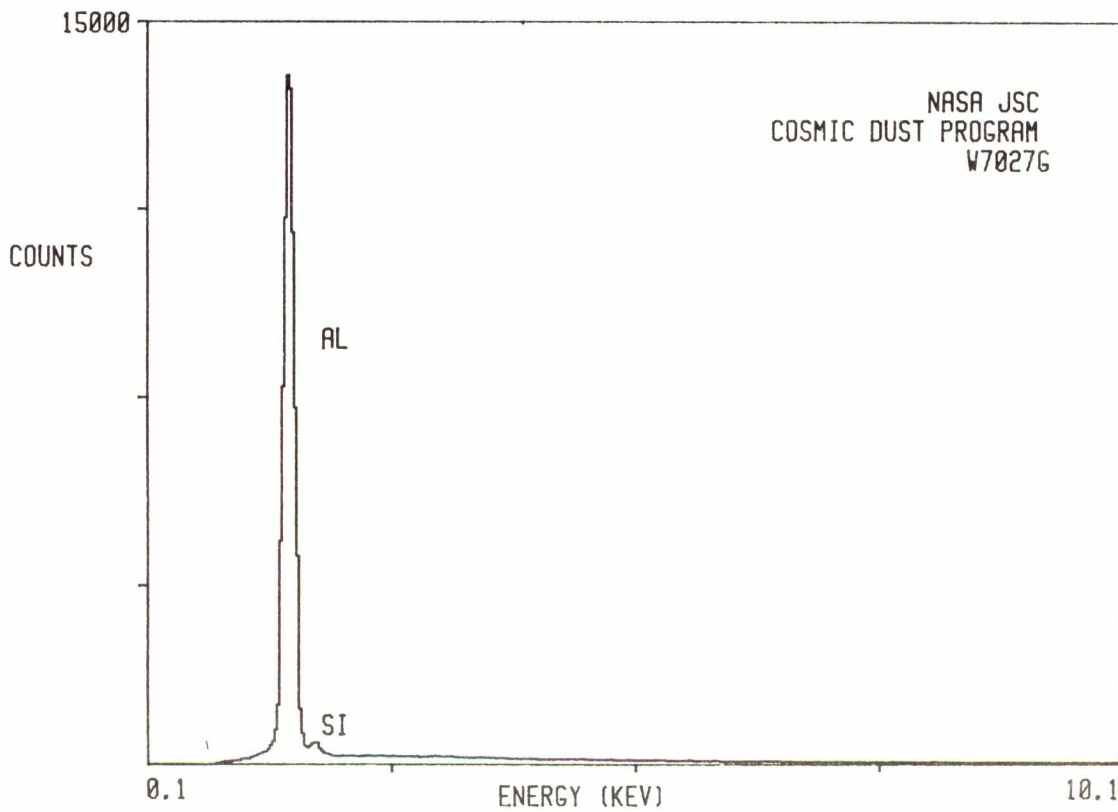
SIZE SHAPE TRANS.
11 S T/TL

COLOR LUSTER
Colorless V

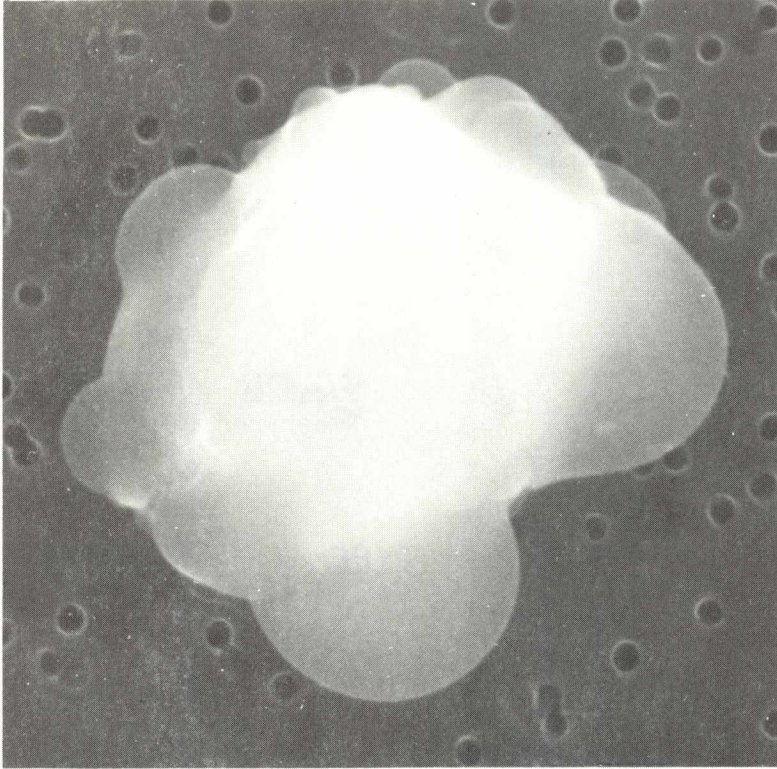
TYPE COMMENTS
AOS

G0801

S-83-35864



W7027G9



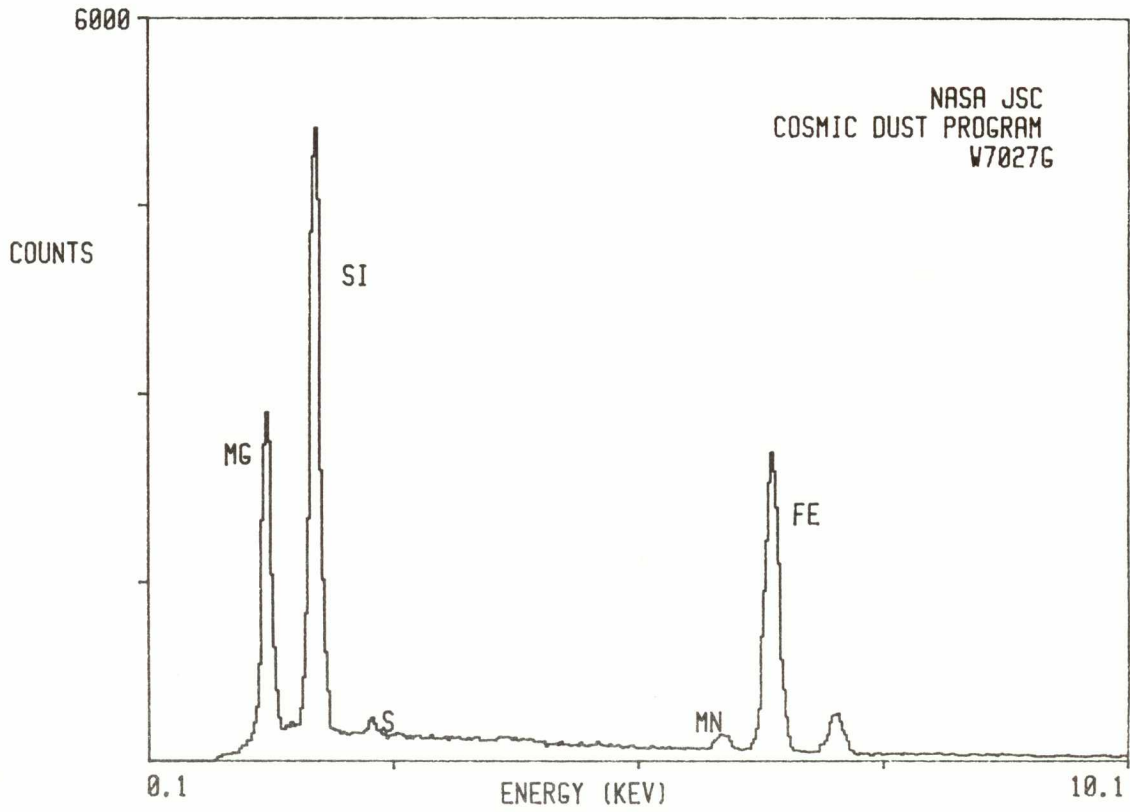
SIZE SHAPE TRANS.
8x8 I TL

COLOR LUSTER
Amber-red D/SV

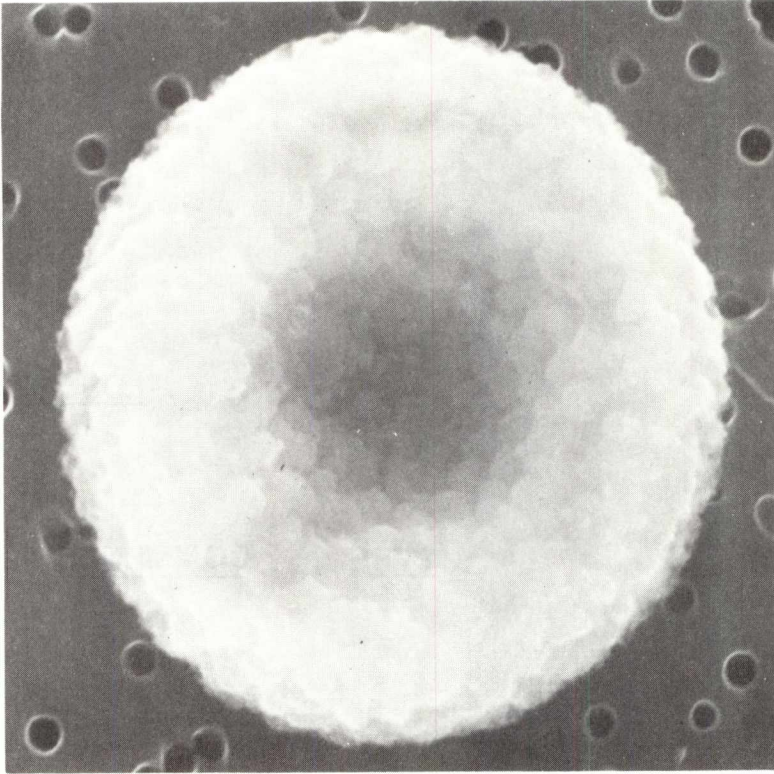
TYPE COMMENTS
C?

G0901

S-83-35863



W7027G10



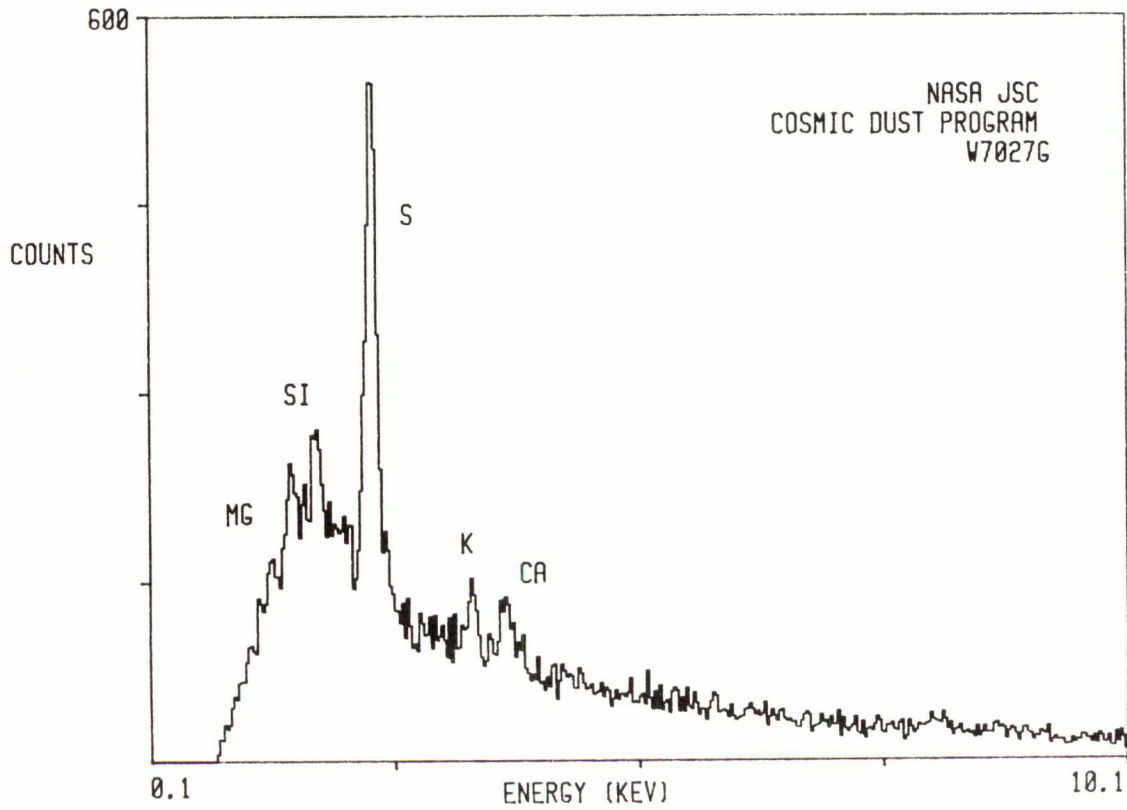
SIZE SHAPE TRANS.
7 S TL

COLOR LUSTER
Amber-red SV

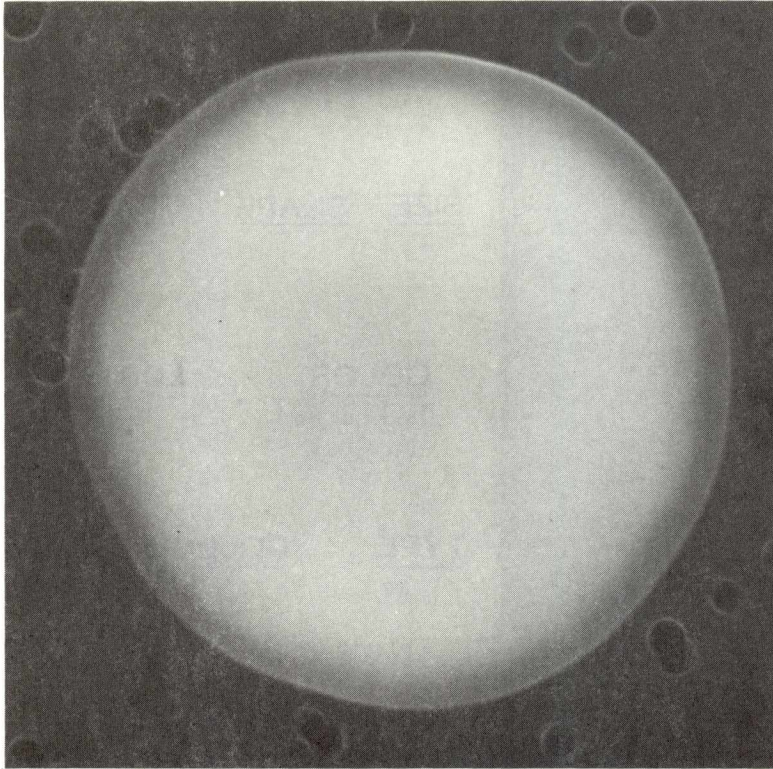
TYPE COMMENTS
?

S-83-35862

G1001



W7027G11



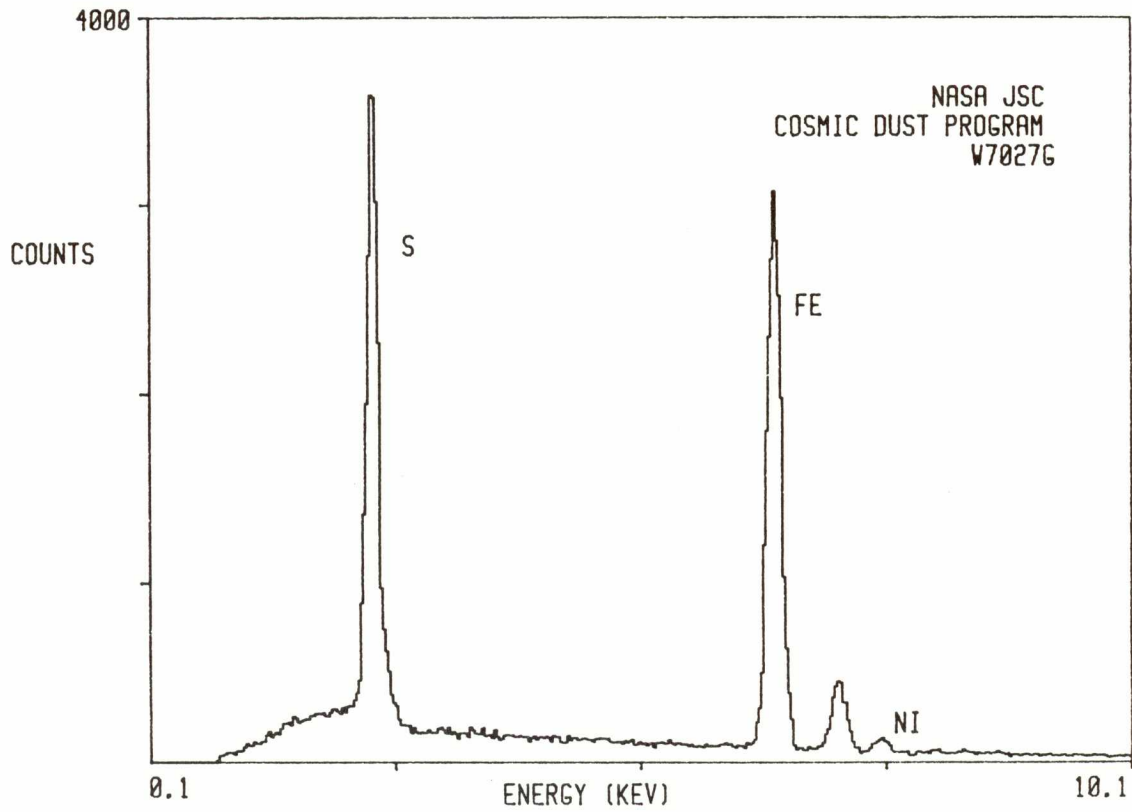
SIZE SHAPE TRANS.
7 S 0

COLOR LUSTER
Dark Brown M
to Black

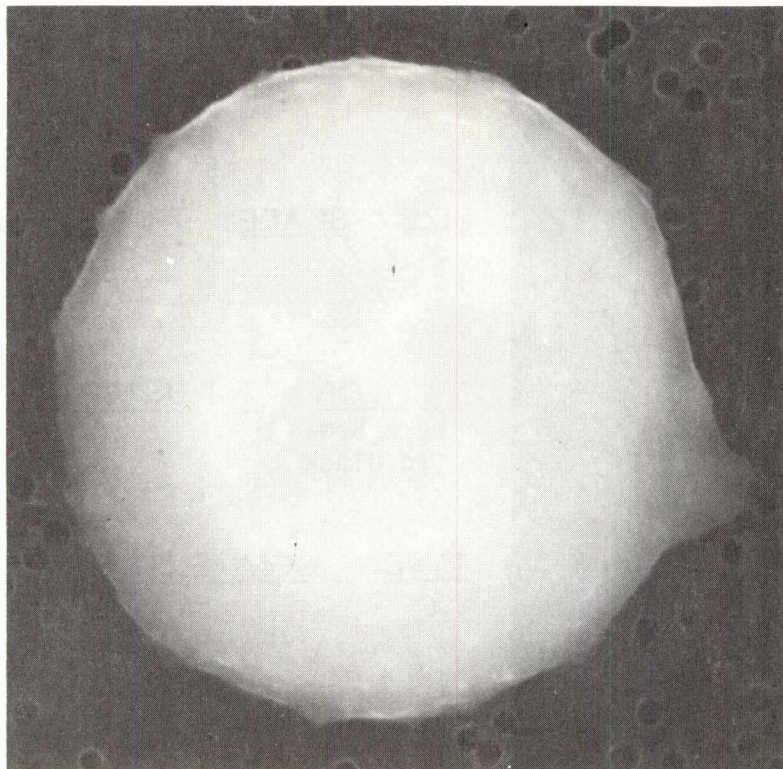
TYPE COMMENTS
C

S-83-35861

G1101



W7027G12



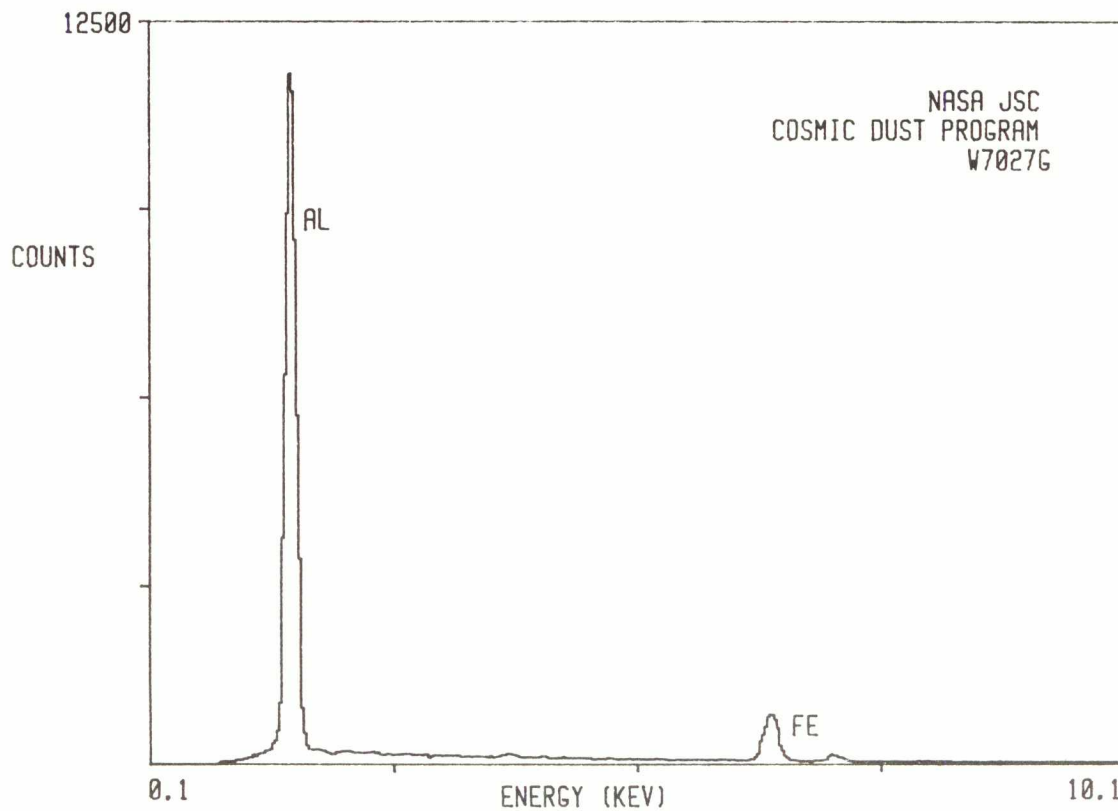
SIZE SHAPE TRANS.
9 S 0/TL

COLOR LUSTER
Dark Brown SV/SM
to Gray

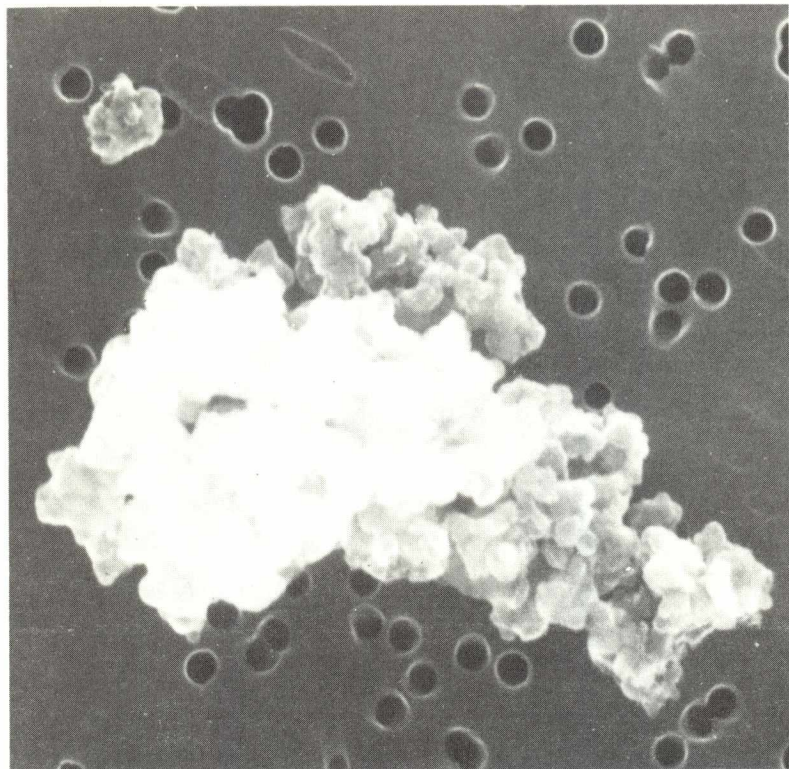
TYPE COMMENTS
TCA?

S-83-35860

G1201



W7027G13



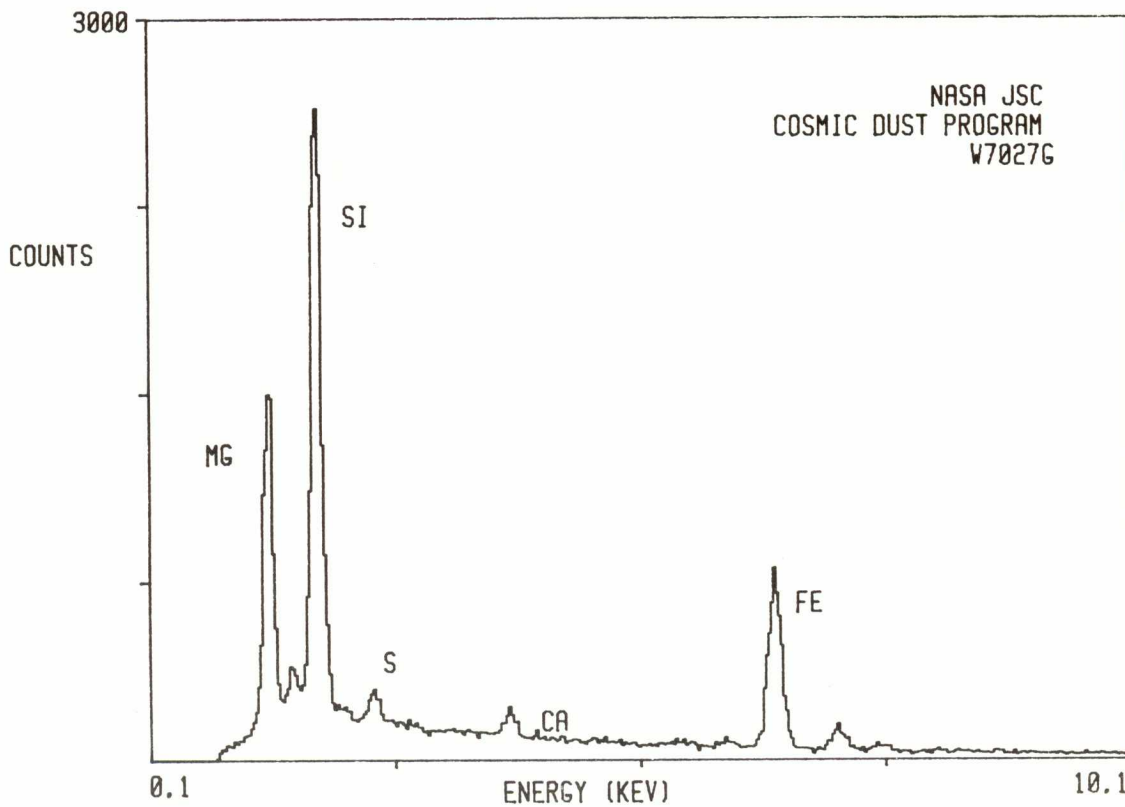
SIZE SHAPE TRANS.
6x7 I 0

COLOR LUSTER
Reddish D
Gray Brown

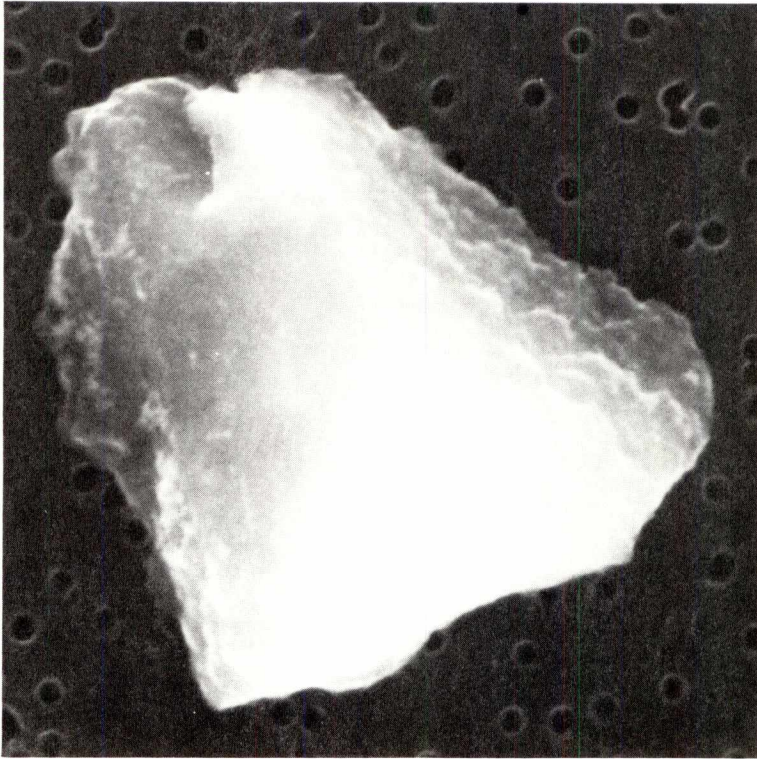
TYPE COMMENTS
C Several fragments

S-83-35858

G1301A



W7027G14



SIZE
9x10

SHAPE
I

TRANS.
0

COLOR
Black

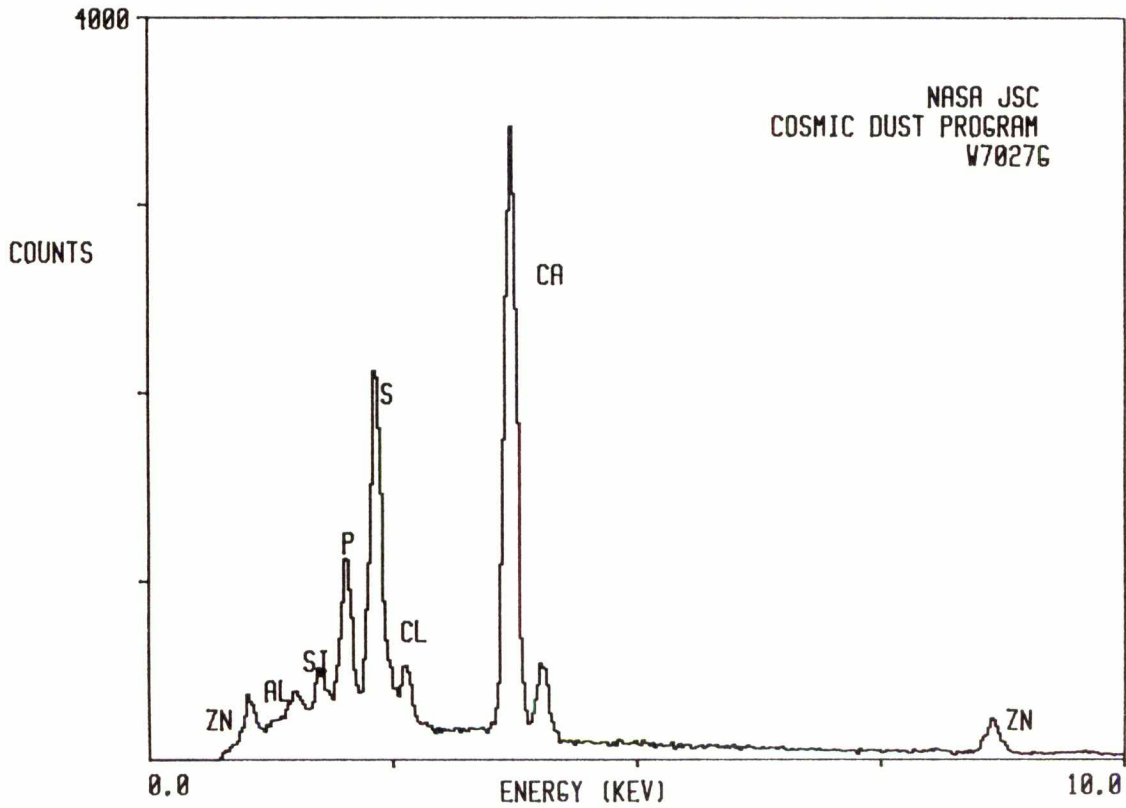
LUSTER
D

TYPE
?

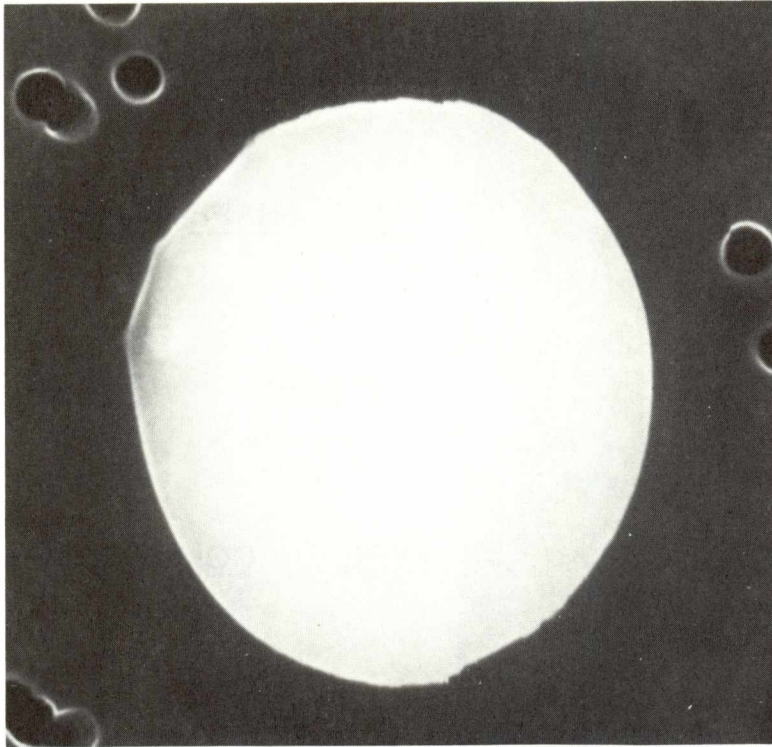
COMMENTS

S-83-35854

G1401



W7027G15



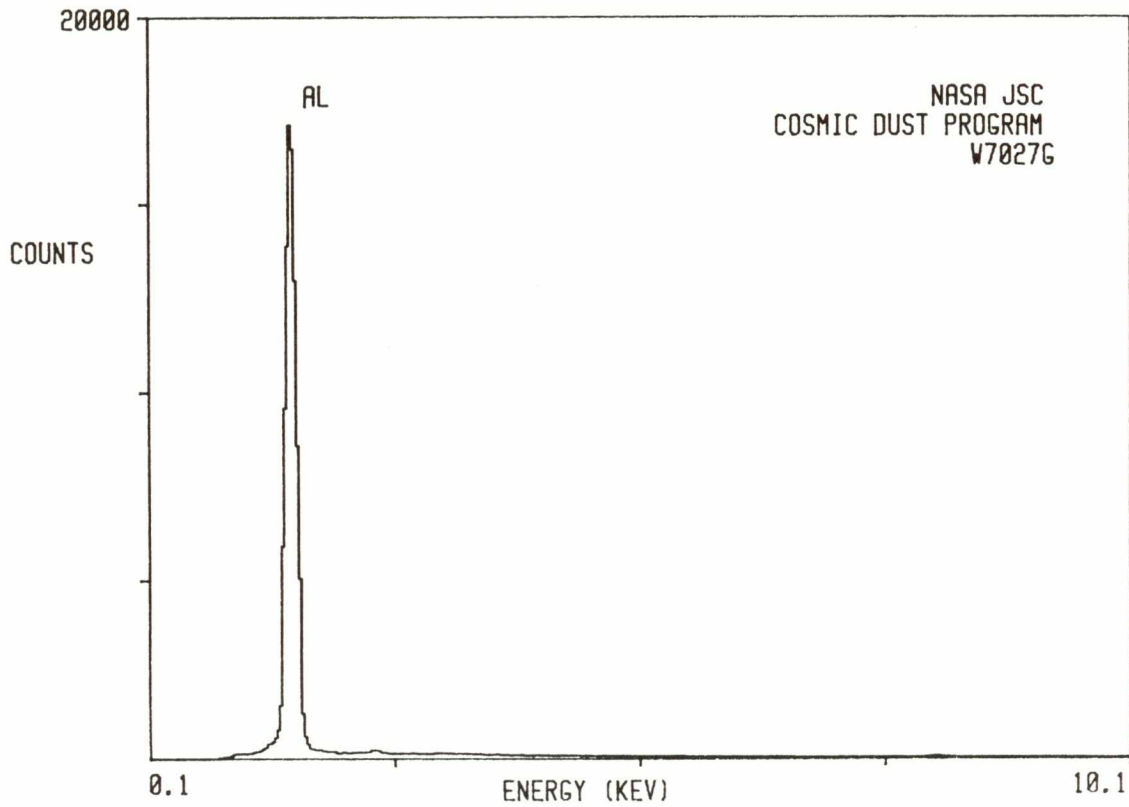
SIZE SHAPE TRANS.
4 S 0

COLOR LUSTER
Steel Gray
to Black M

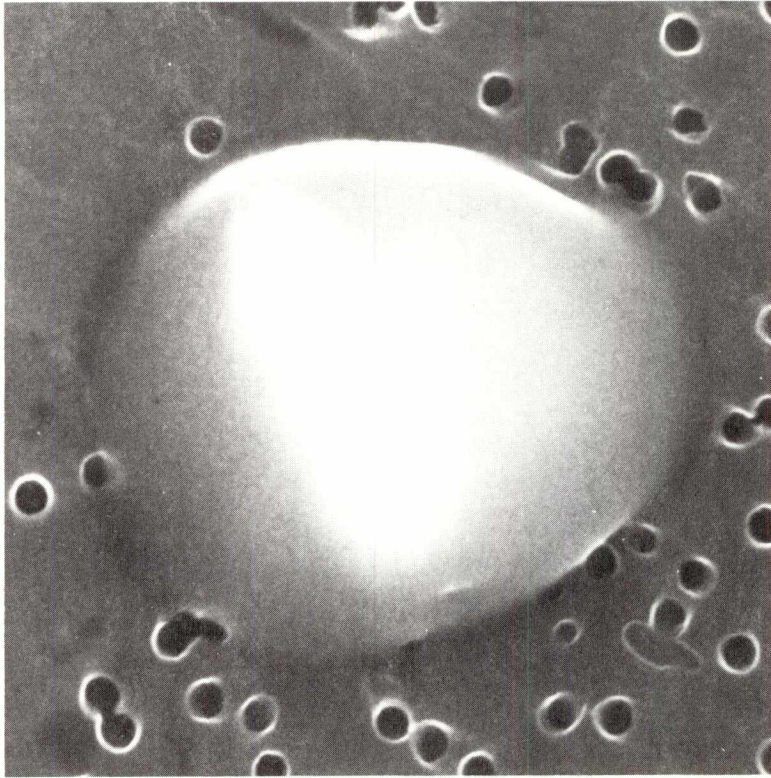
TYPE COMMENTS
TCA?

S-83-35851

G1501



W7027G16



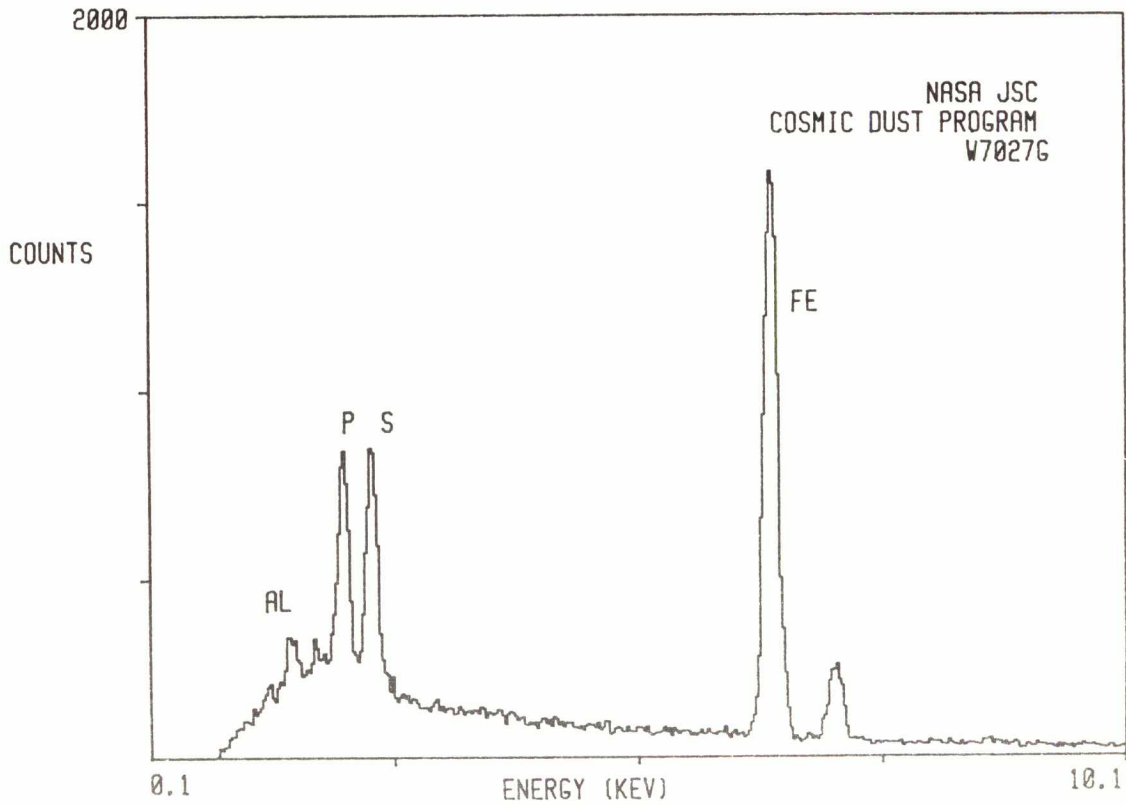
SIZE SHAPE TRANS.
6 S 0/TL

COLOR LUSTER
Dark Brown SV/SM
to Black

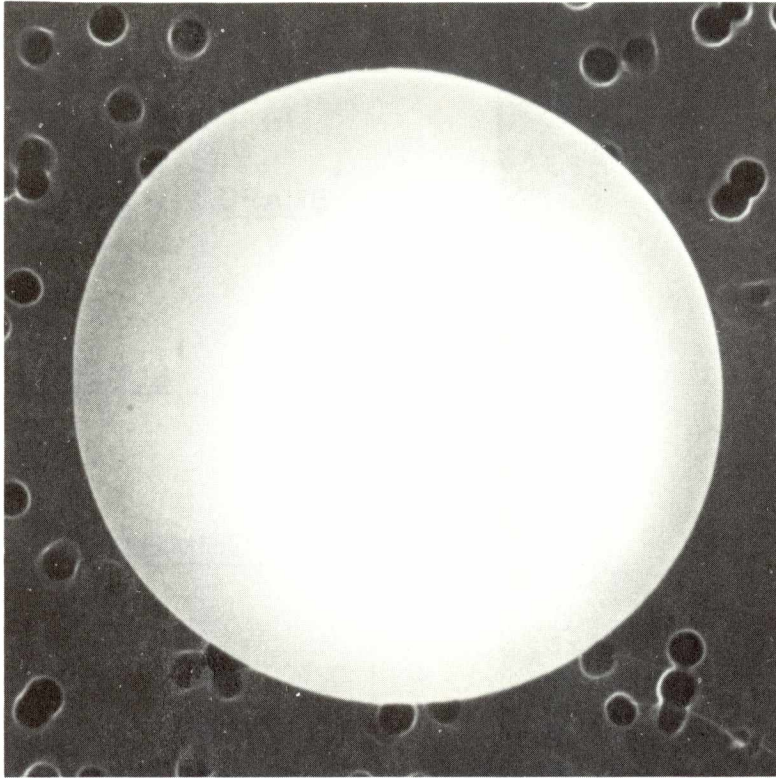
TYPE COMMENTS
?

G1501B

S-83-35850



W7027G27



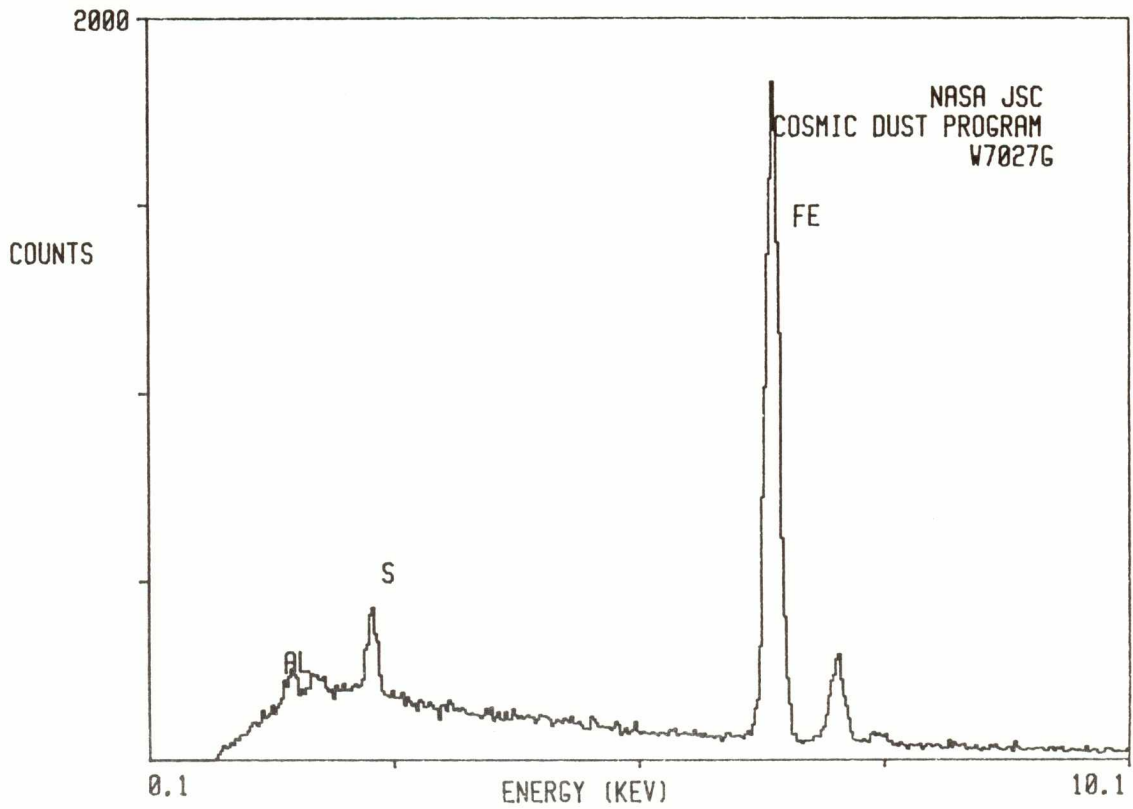
SIZE SHAPE TRANS.
7 S 0

COLOR LUSTER
Brown Gray D/SM
to Black

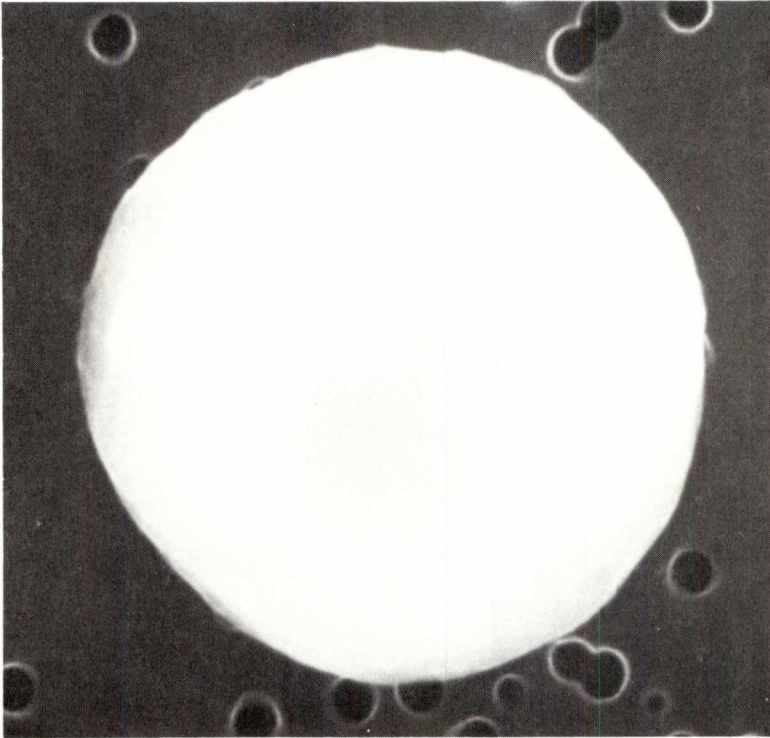
TYPE COMMENTS
C?

S-83-35852

G1601B



W7027G28



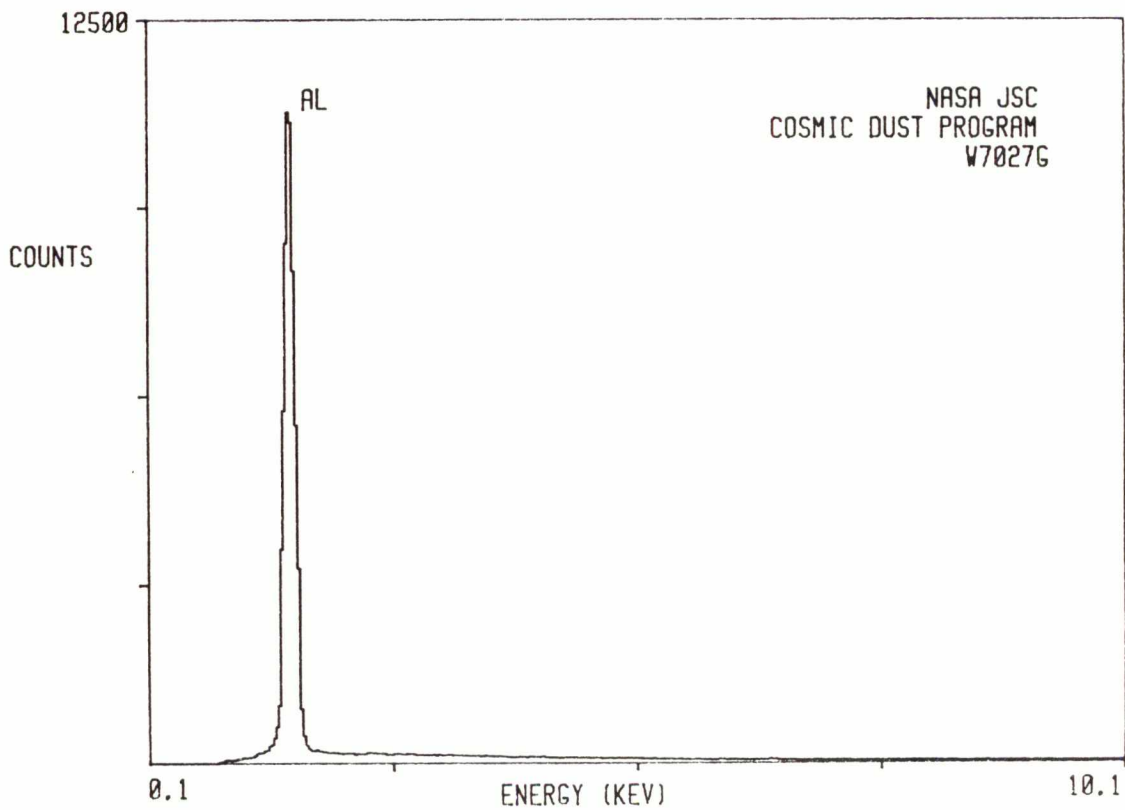
SIZE SHAPE TRANS.
5 S T

COLOR LUSTER
Colorless to V
Pale Yellow

TYPE COMMENTS
AOS

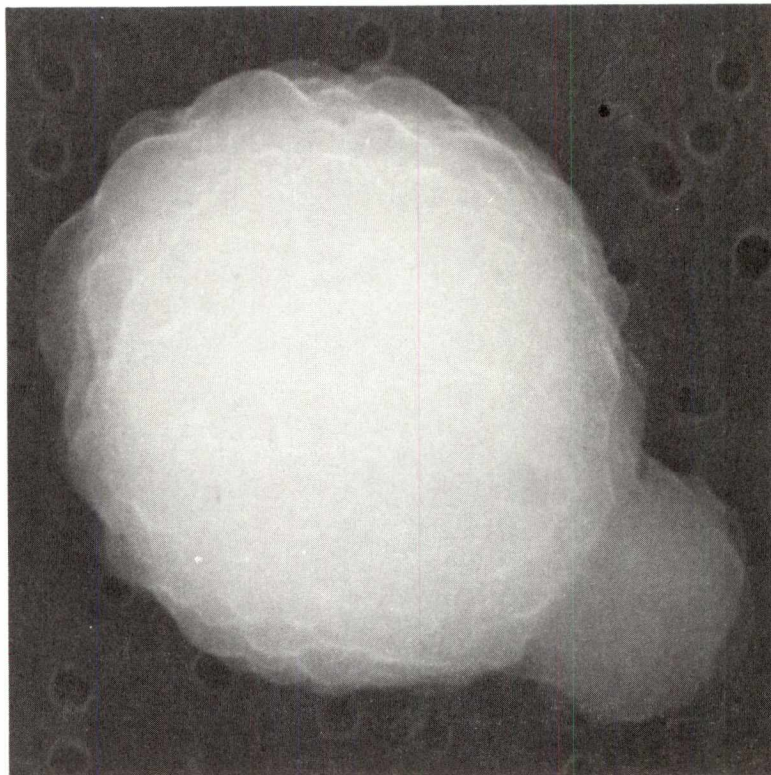
S-83-35853

G1601A



W7027H

W7027H3



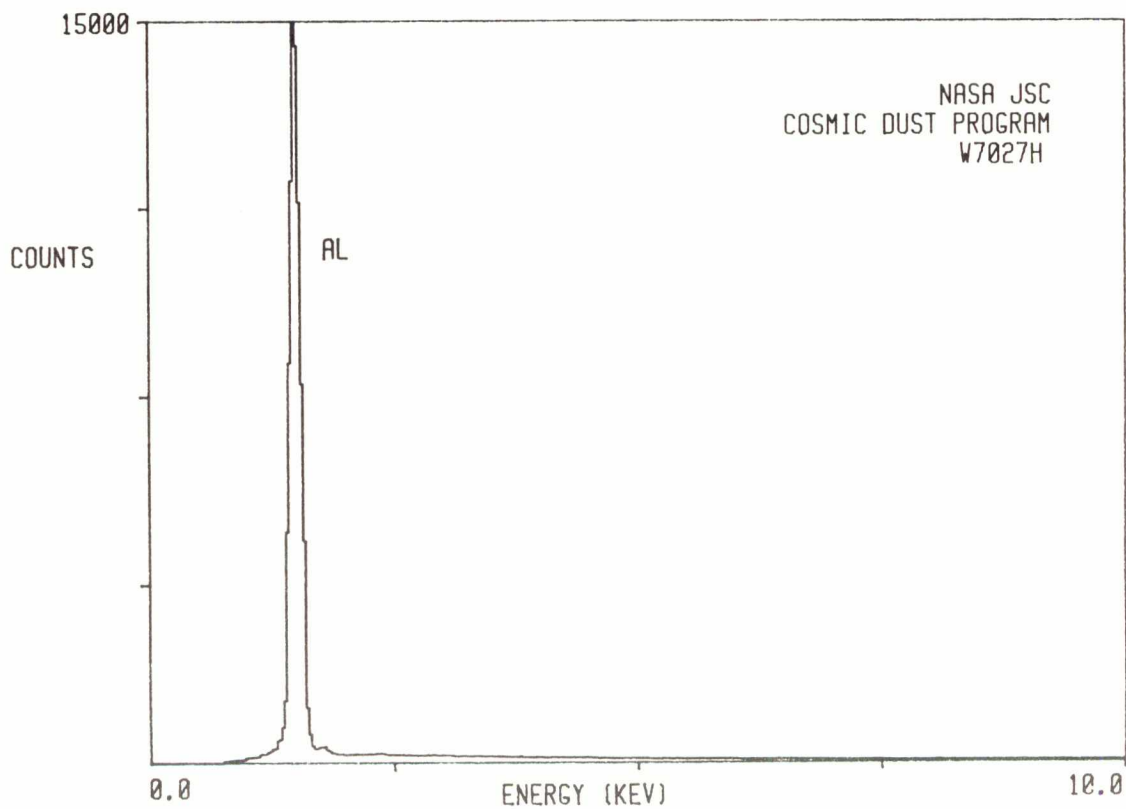
SIZE SHAPE TRANS.
6 S T

COLOR LUSTER
Colorless to SV/V
Pale Yellow-
Gray

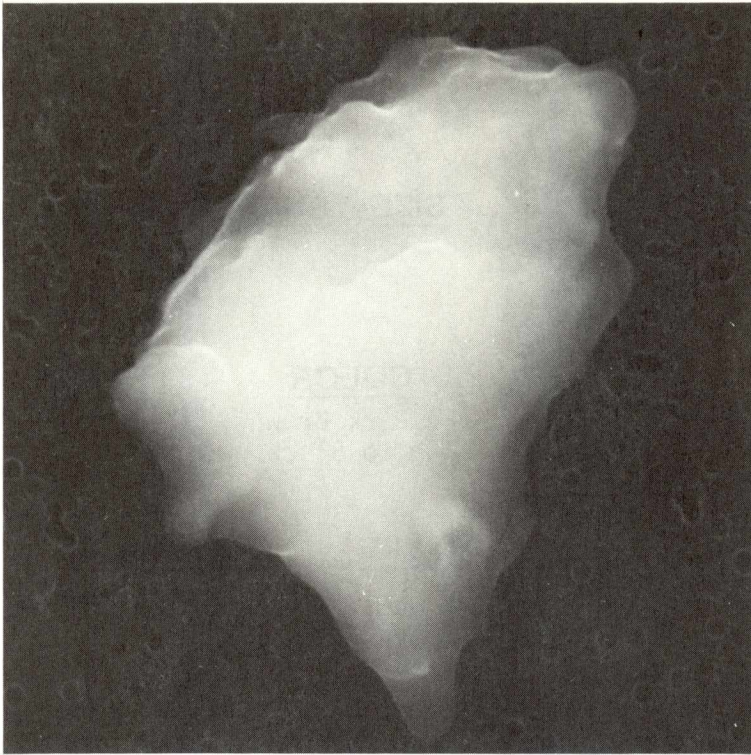
TYPE COMMENTS
AOS

S-83-35836

H0301



W7027H4



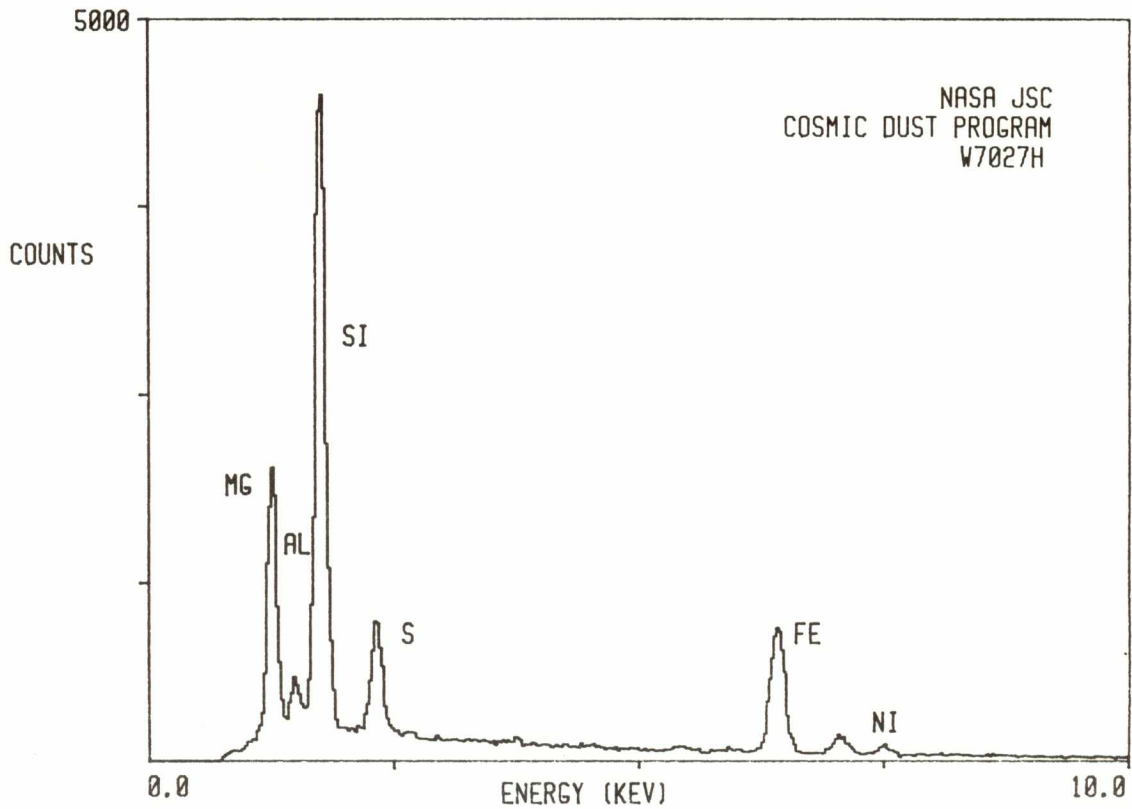
SIZE SHAPE TRANS.
10x14 I 0

COLOR LUSTER
Dark Brown SV/SM
to Black

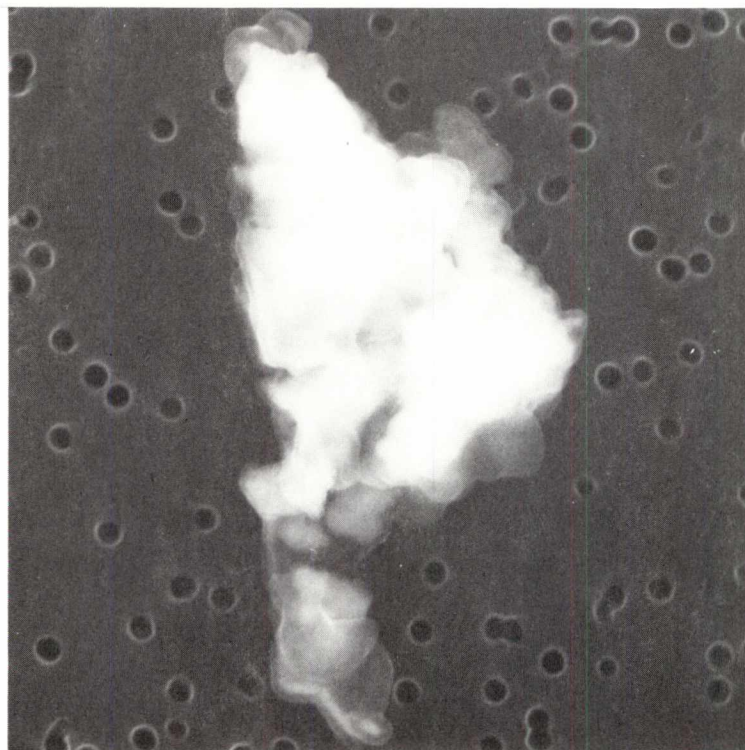
TYPE COMMENTS
C

S-83-35837

H0401



W7027H5



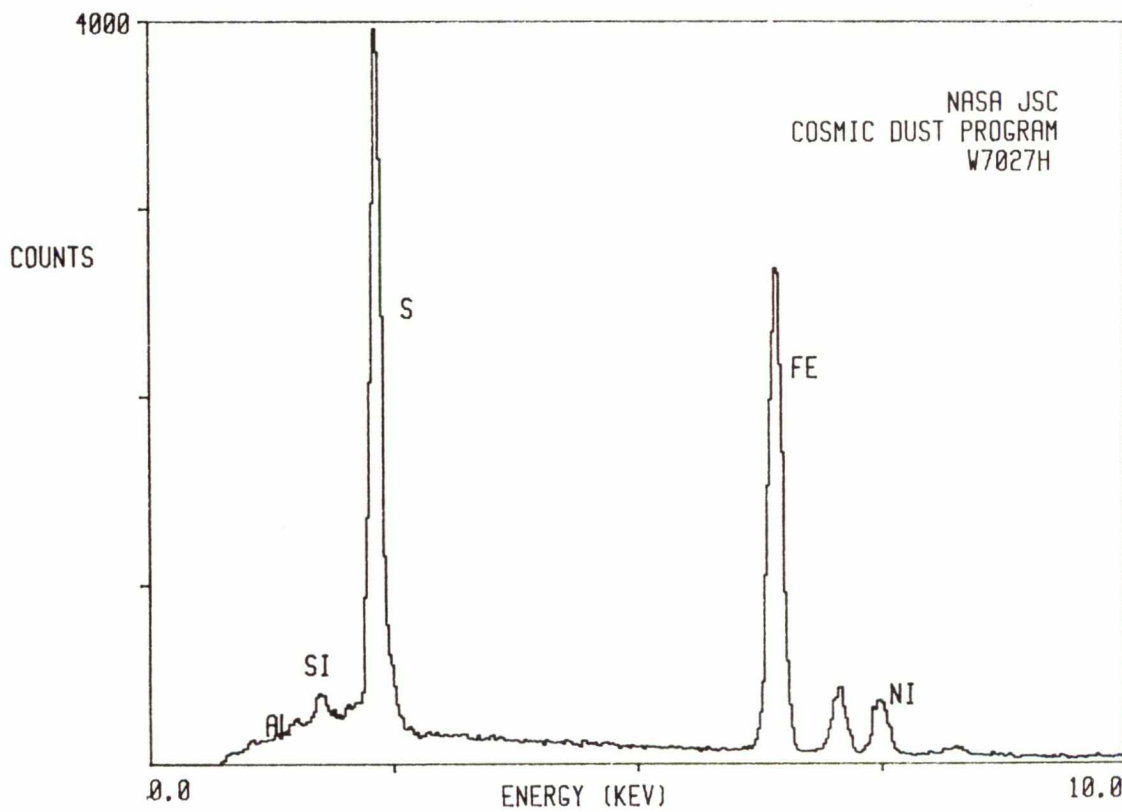
SIZE SHAPE TRANS.
6x12 I 0

COLOR LUSTER
Dark Brown SV/SM
to Black

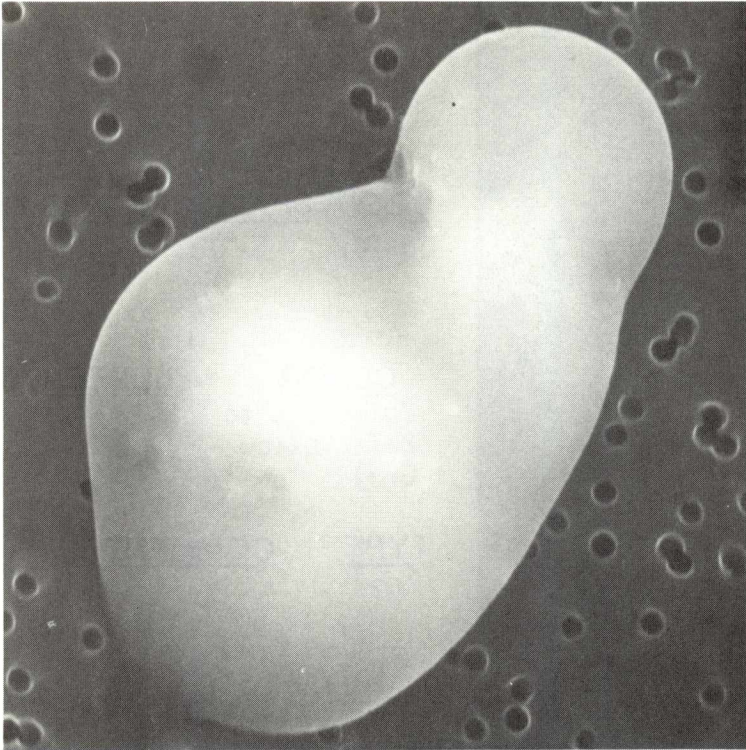
TYPE COMMENTS
C Several fragments

S-83-35838

H0501B



W7027H6



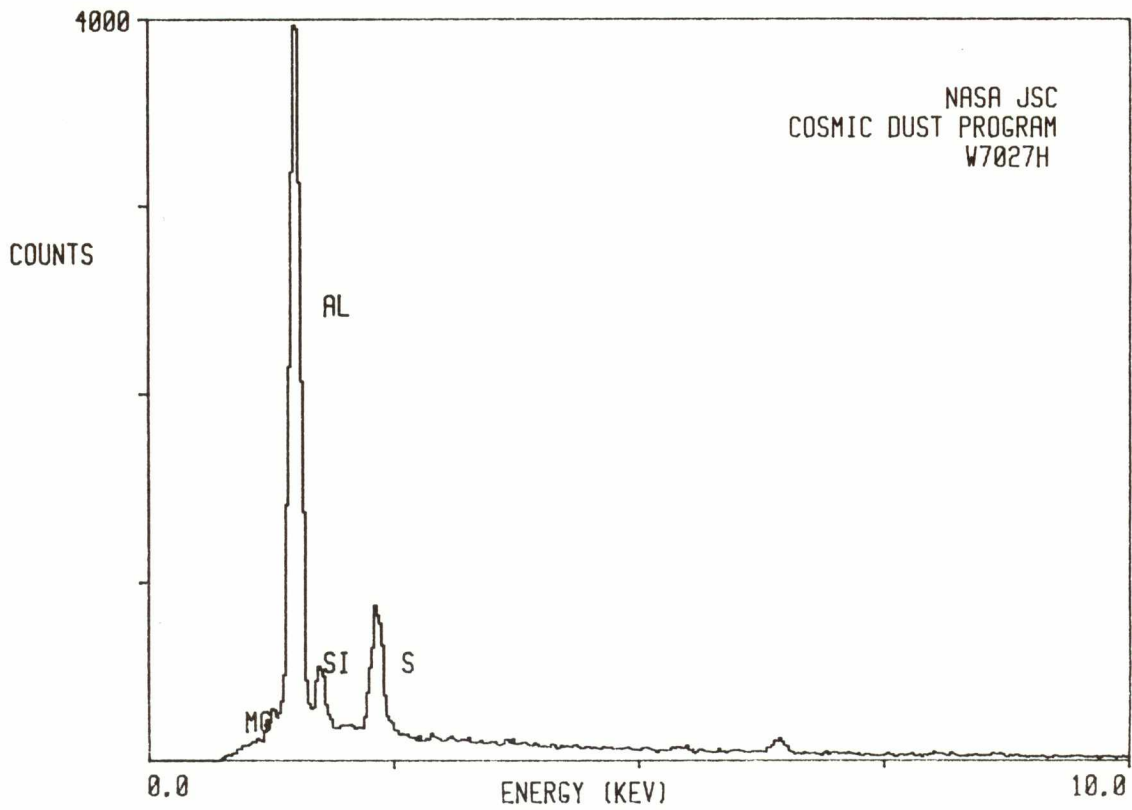
SIZE SHAPE TRANS.
7x12 I T/TL

COLOR LUSTER
Colorless to SV/V
Yellow-Brown

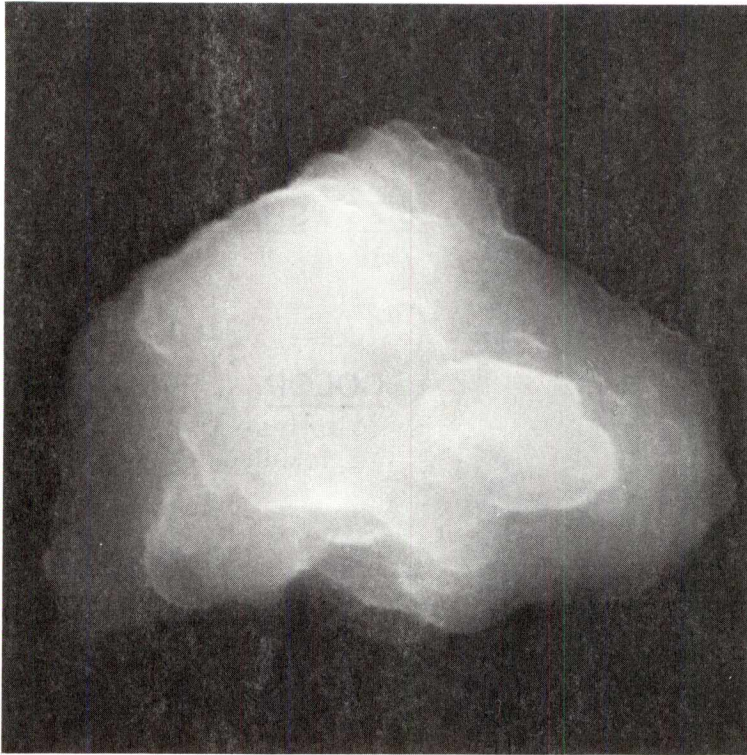
TYPE COMMENTS
?

S-83-35840

H0501A



W7027H10



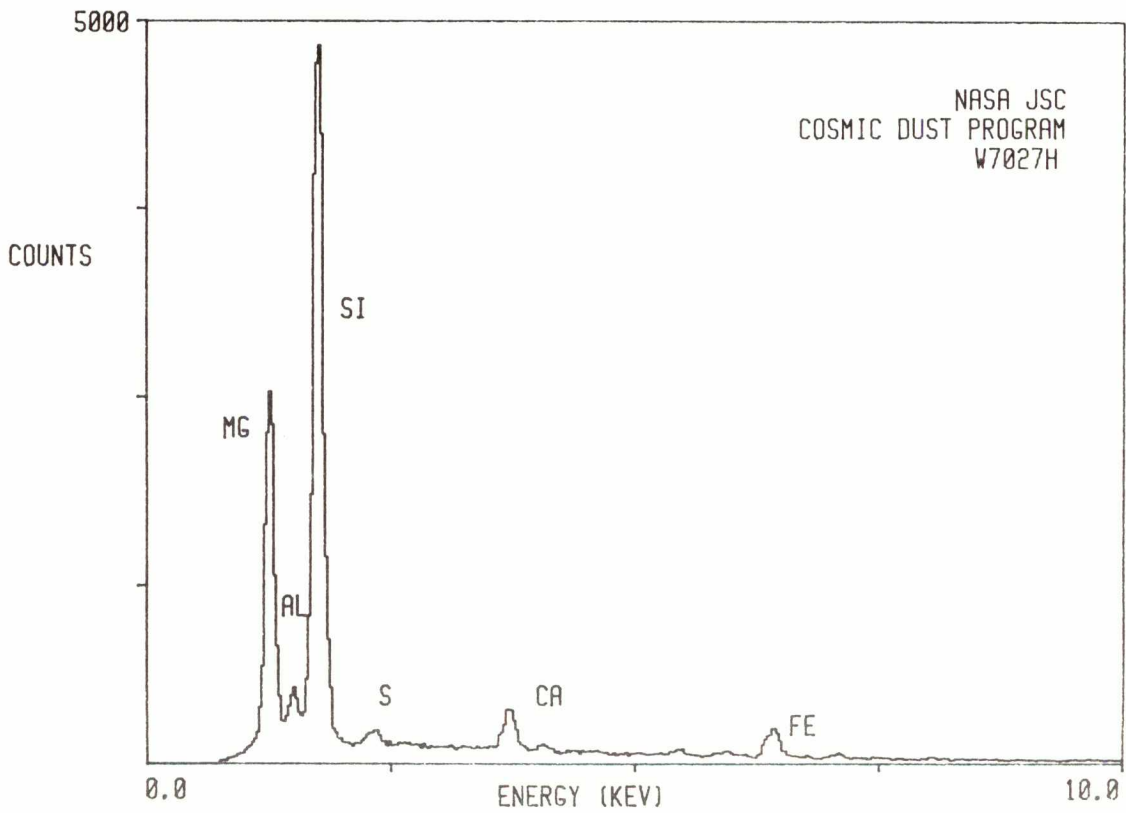
SIZE SHAPE TRANS.
10x14 I TL

COLOR LUSTER
Colorless to SV/V
Pale Yellow-
Gray

TYPE COMMENTS
C?

S-83-35841

H1001



W7027H12



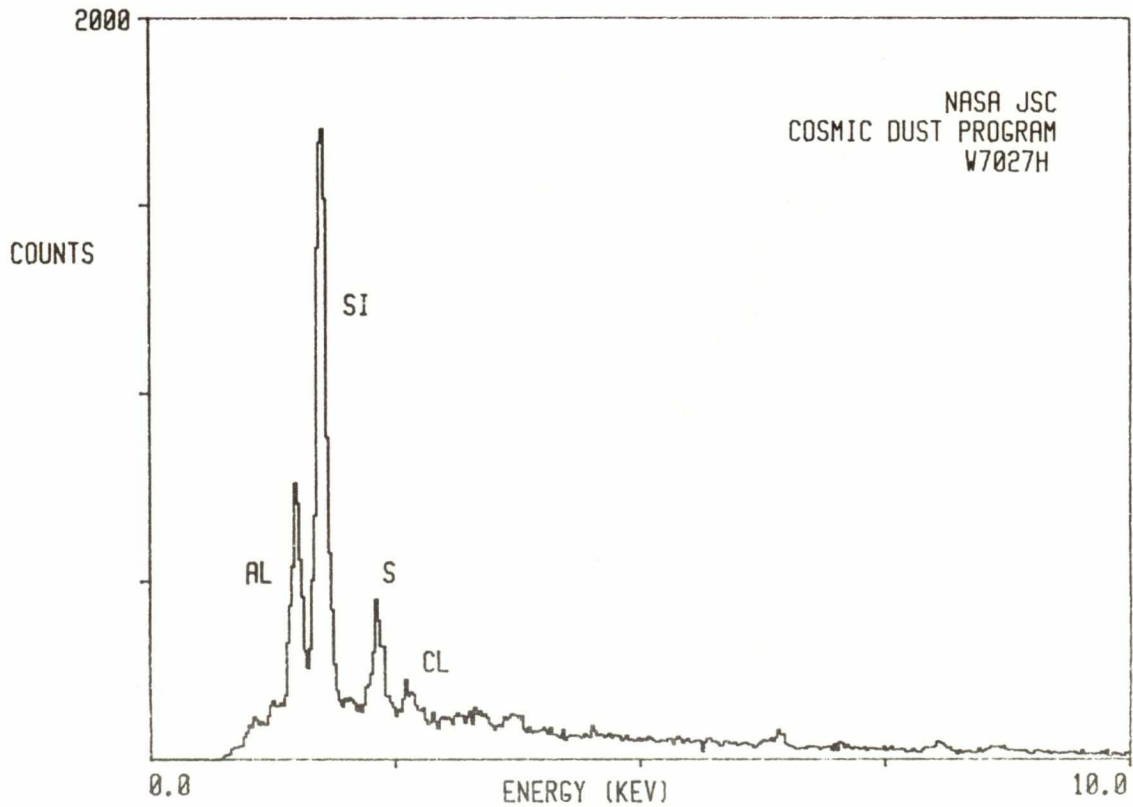
SIZE SHAPE TRANS.
25x30 I T

COLOR LUSTER
Colorless to SV
Pale Yellow-
Gray

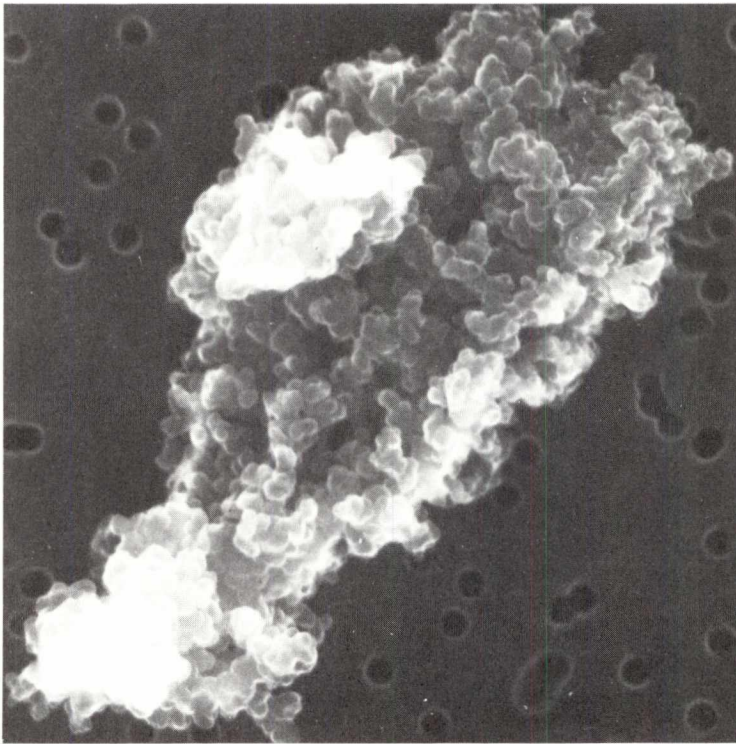
TYPE COMMENTS
?

S-83-35842

H1201



W7027H13



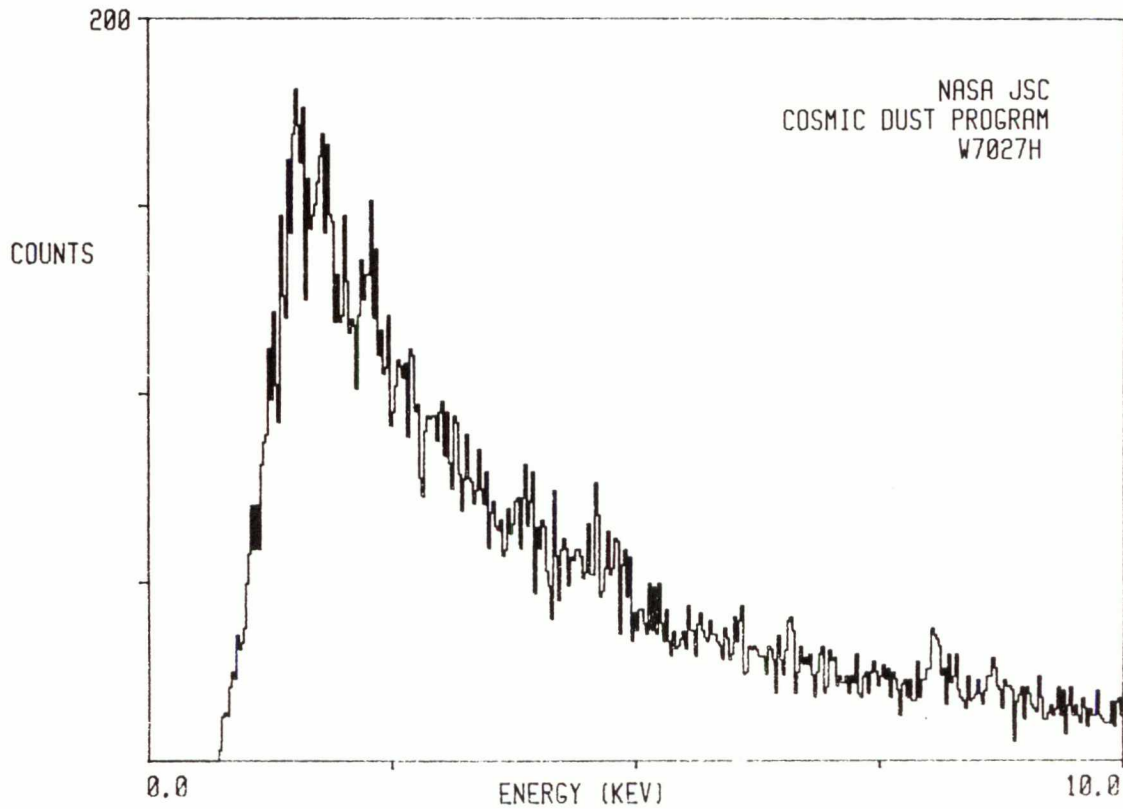
SIZE SHAPE TRANS.
5x12 I 0

COLOR LUSTER
Dark Brown D/SM
to Black

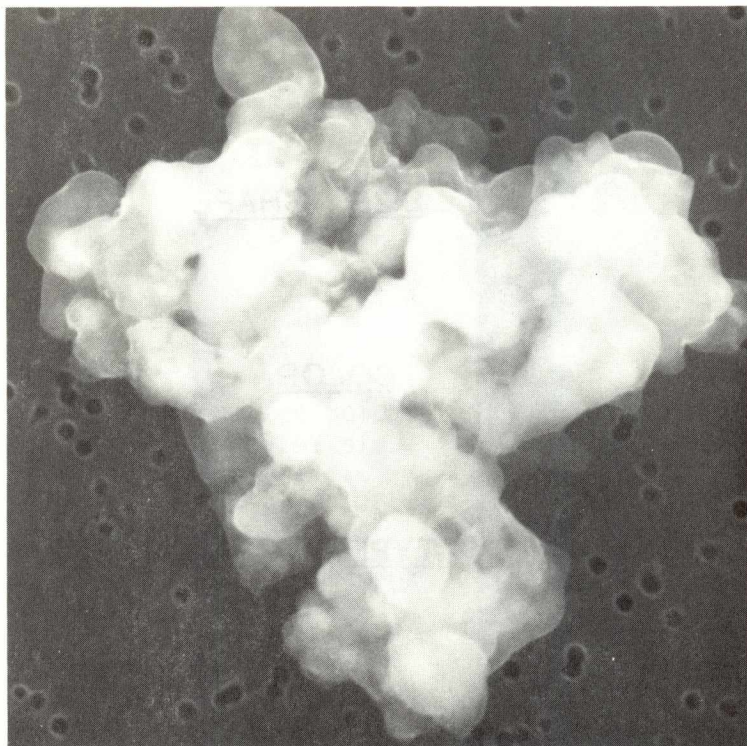
TYPE COMMENTS
? Two fragments

H1301B

S-83-35844



W7027H14



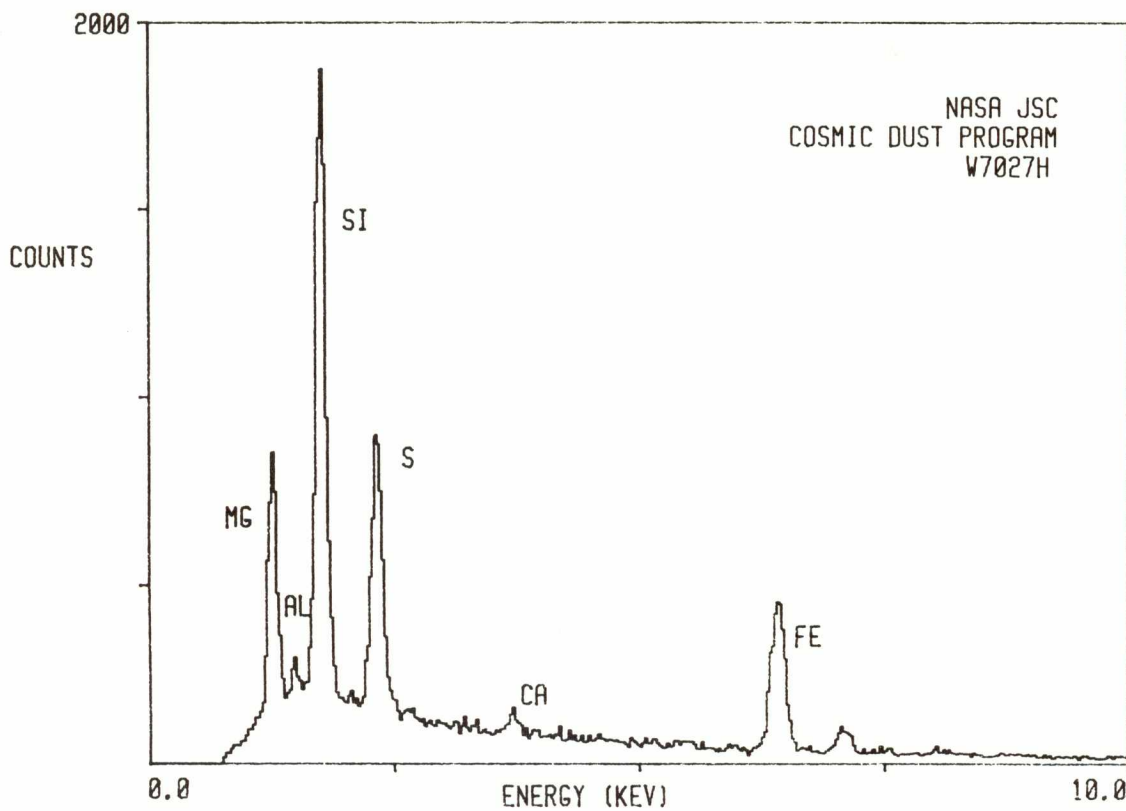
SIZE SHAPE TRANS.
11x14 I 0

COLOR LUSTER
Dark Brown D/SM
to Black

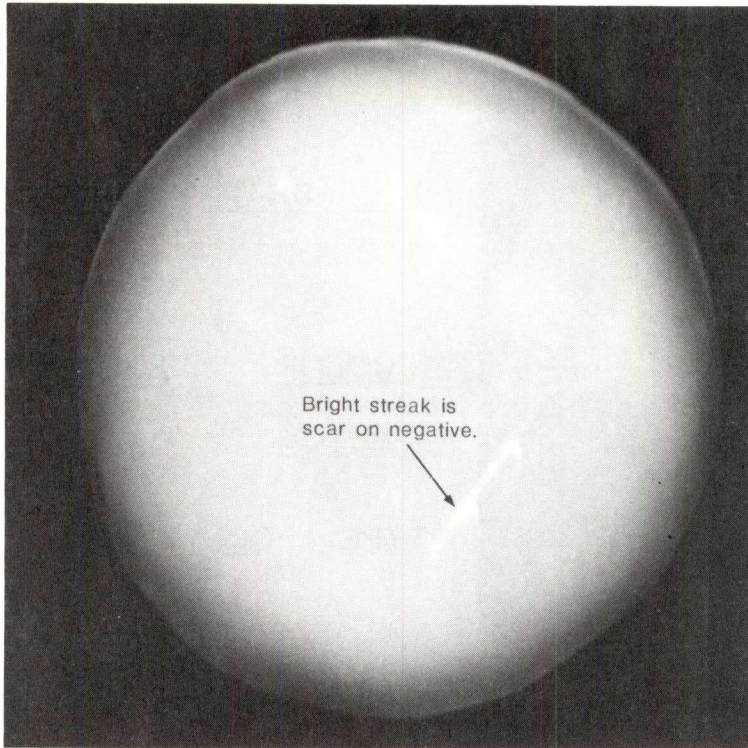
TYPE COMMENTS
C

S-83-35845

H1401



W7027H16



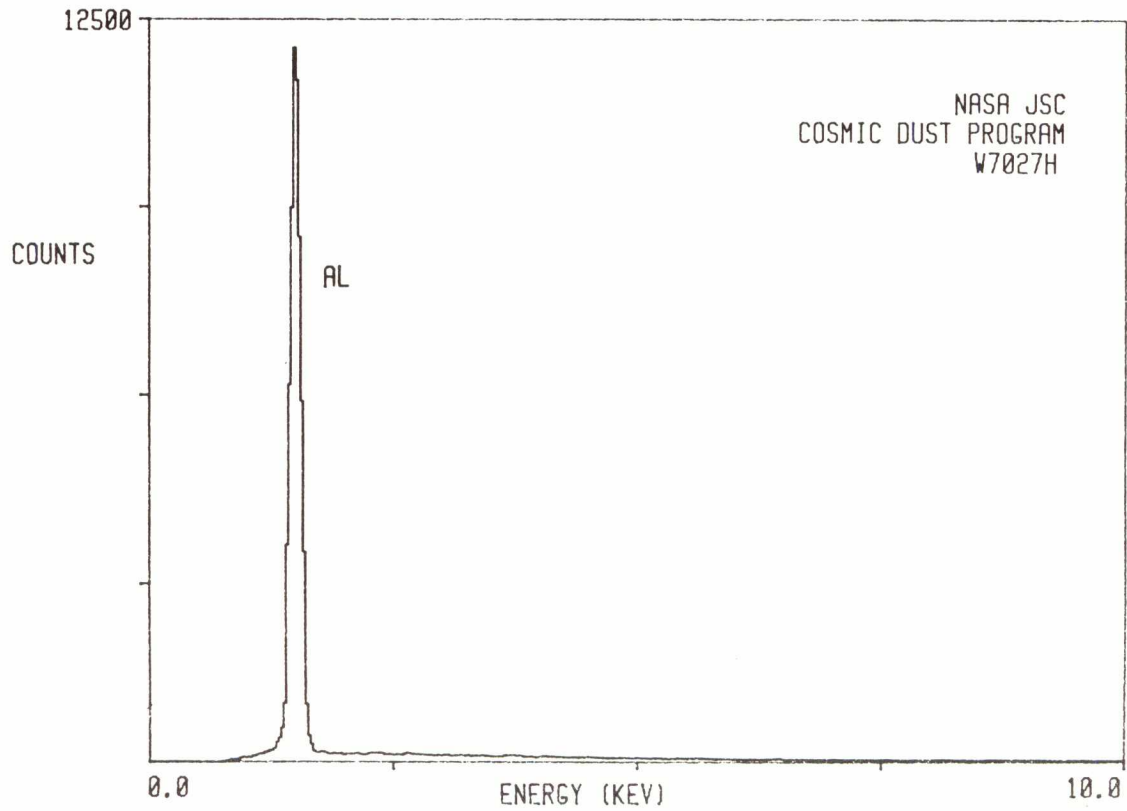
SIZE SHAPE TRANS.
9 S T

COLOR LUSTER
Colorless to V
Pale Yellow

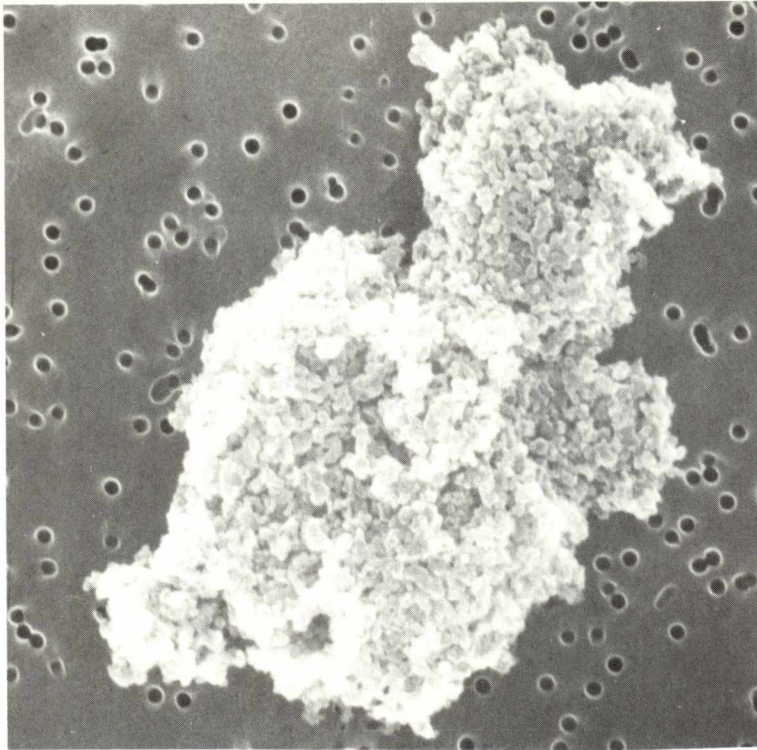
TYPE COMMENTS
AOS

H1601

S-83-35846



W7027H17



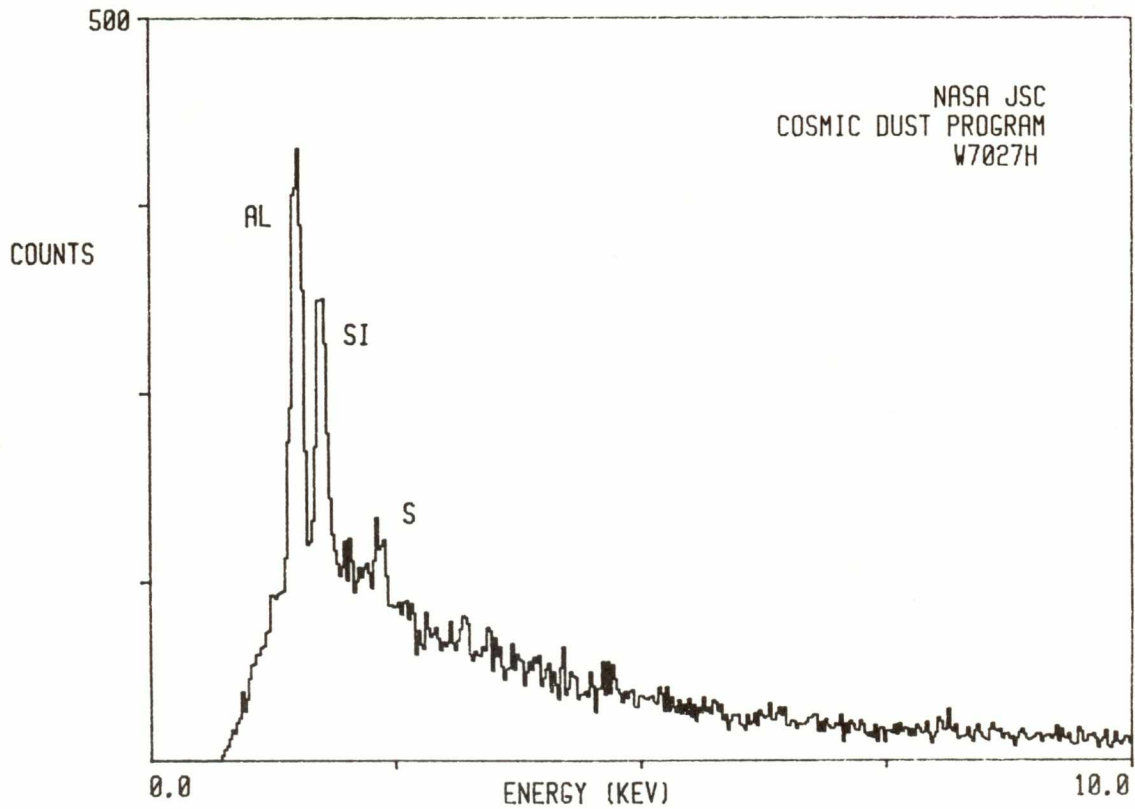
SIZE SHAPE TRANS.
11x20 I 0

COLOR LUSTER
Dark Gray D/SM
to Black

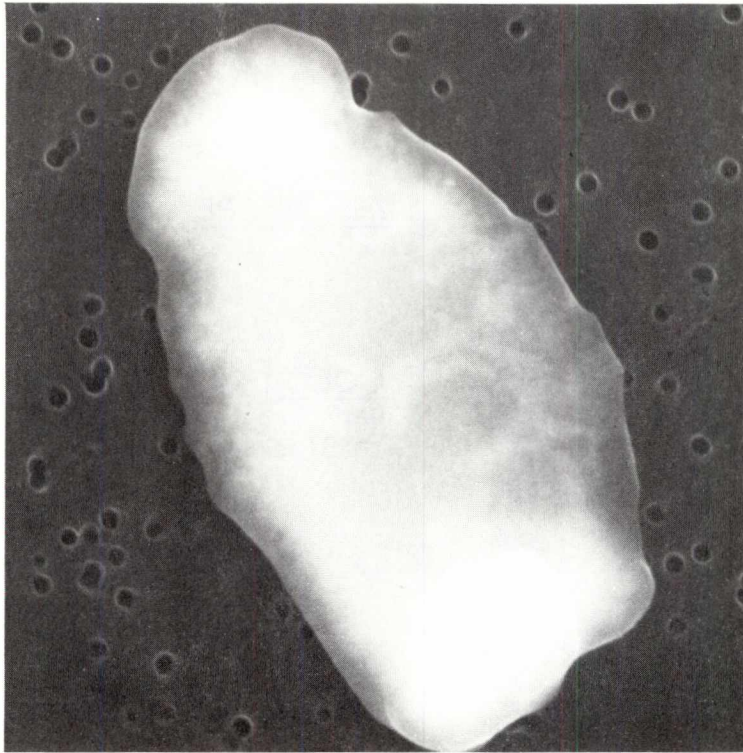
TYPE COMMENTS
TCA?

S-83-35847

H1701



W7027H18



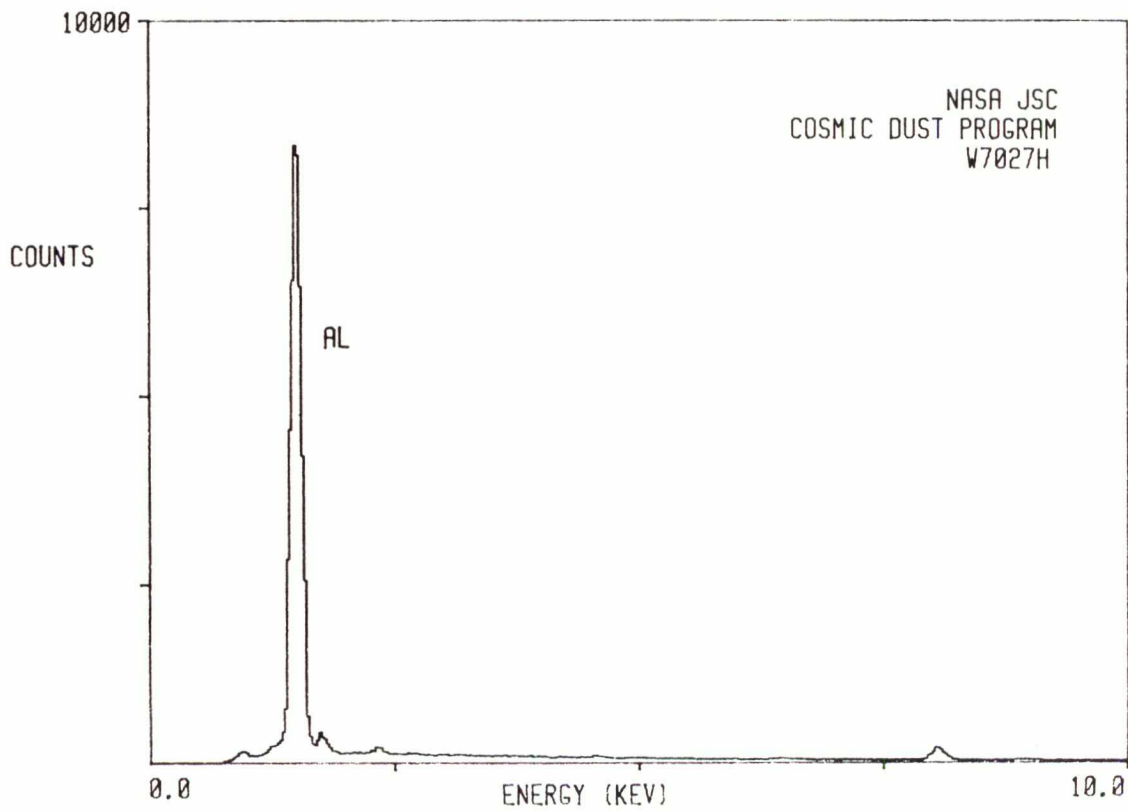
SIZE SHAPE TRANS.
8x14 I 0

COLOR LUSTER
Steel Gray M
to Black

TYPE COMMENTS
TCA?

S-83-35848

H1801



W7027H19



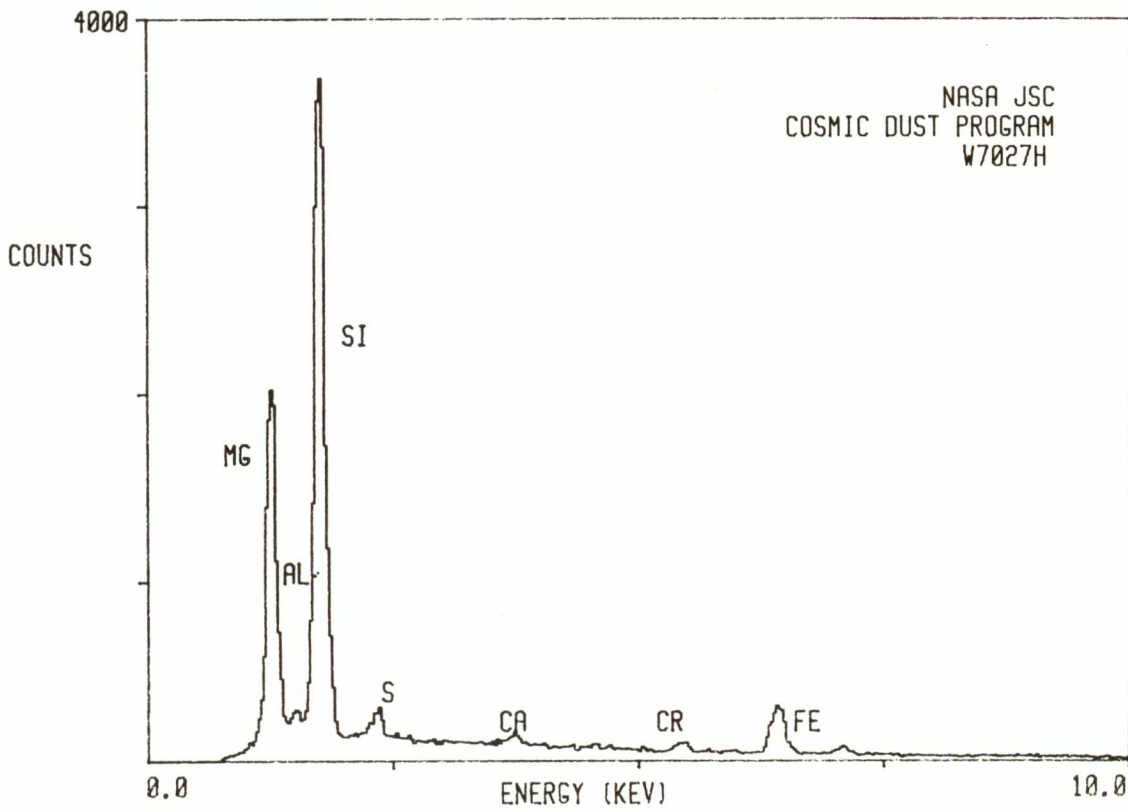
SIZE SHAPE TRANS.
12x15 I O/TL

COLOR LUSTER
Colorless to D/SV
Brown Gray

TYPE COMMENTS
C ?

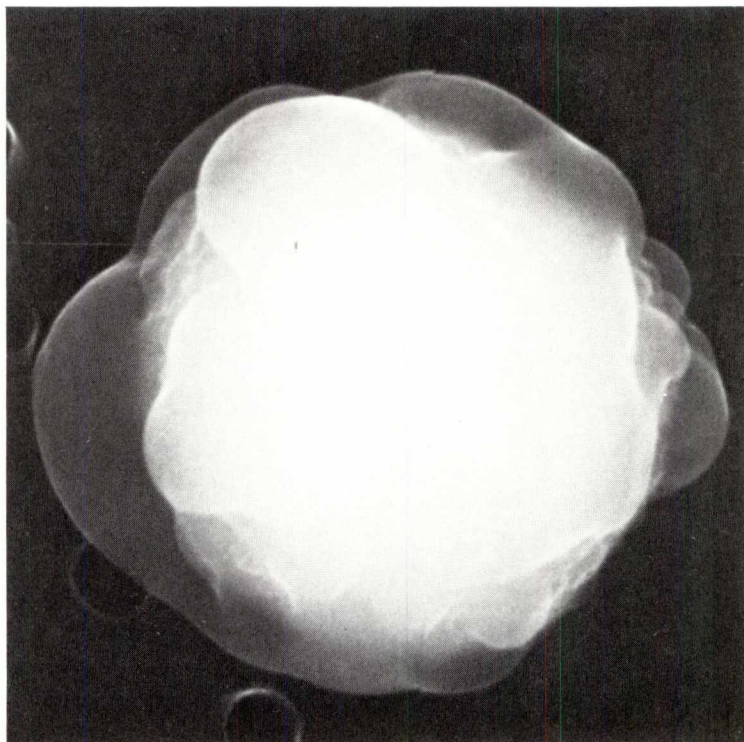
S-83-35849

H1901



W70271

W702711



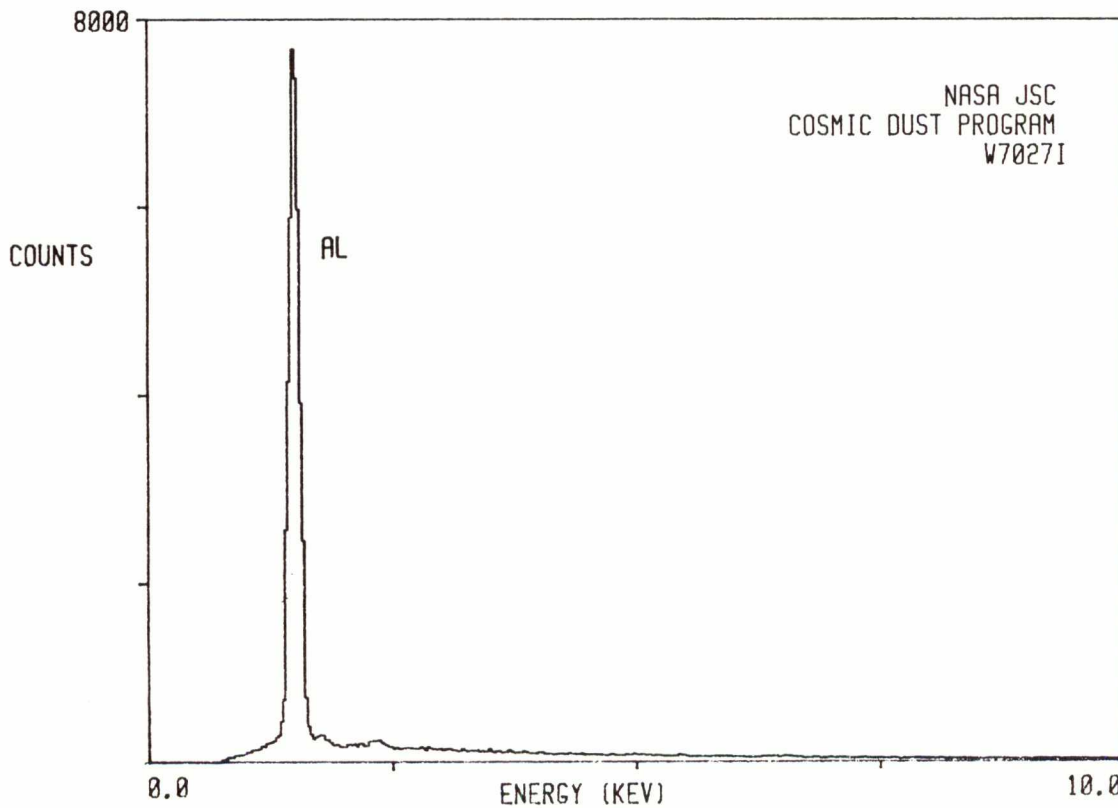
SIZE SHAPE TRANS.
3 S/E T

COLOR LUSTER
Colorless to SV/V
Pale Yellow

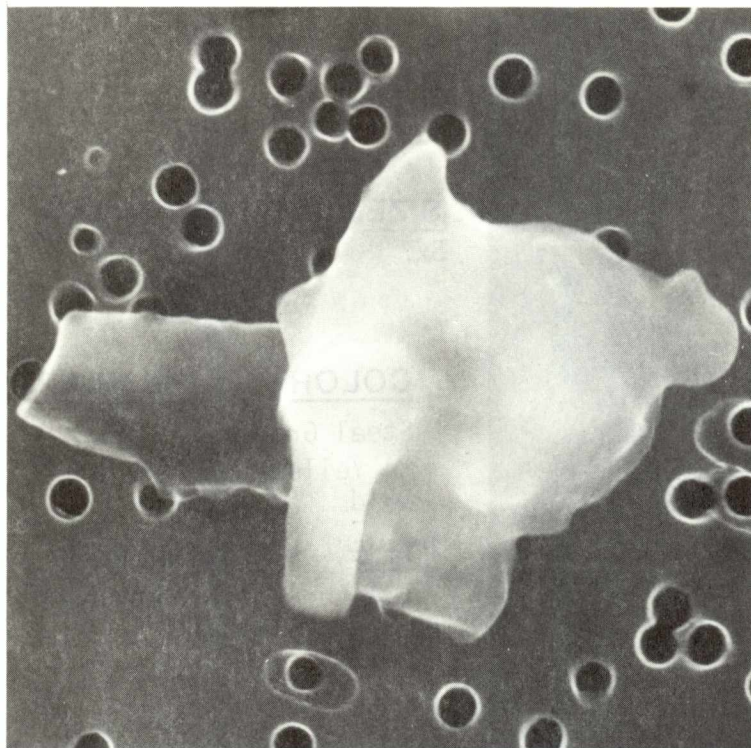
TYPE COMMENTS
AOS

S-83-35886

I0101



W702712

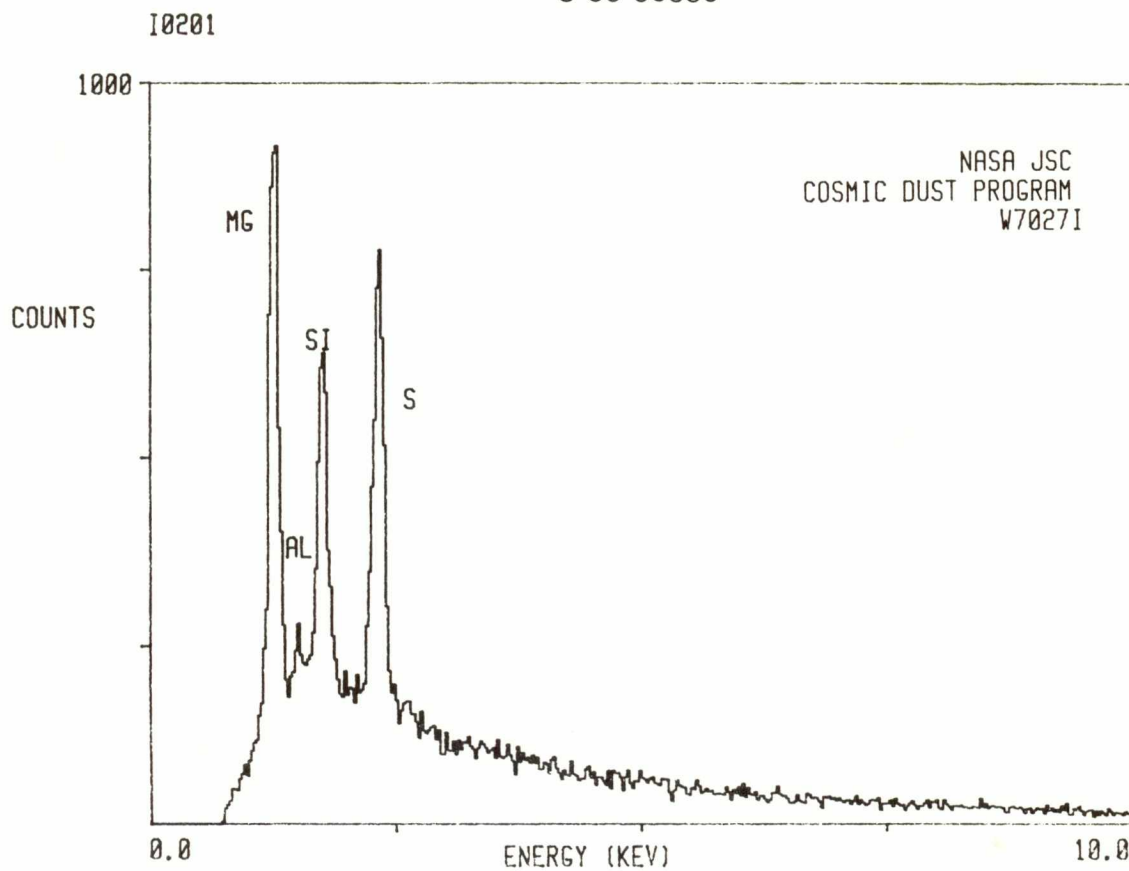


SIZE SHAPE TRANS.
4x6 I T

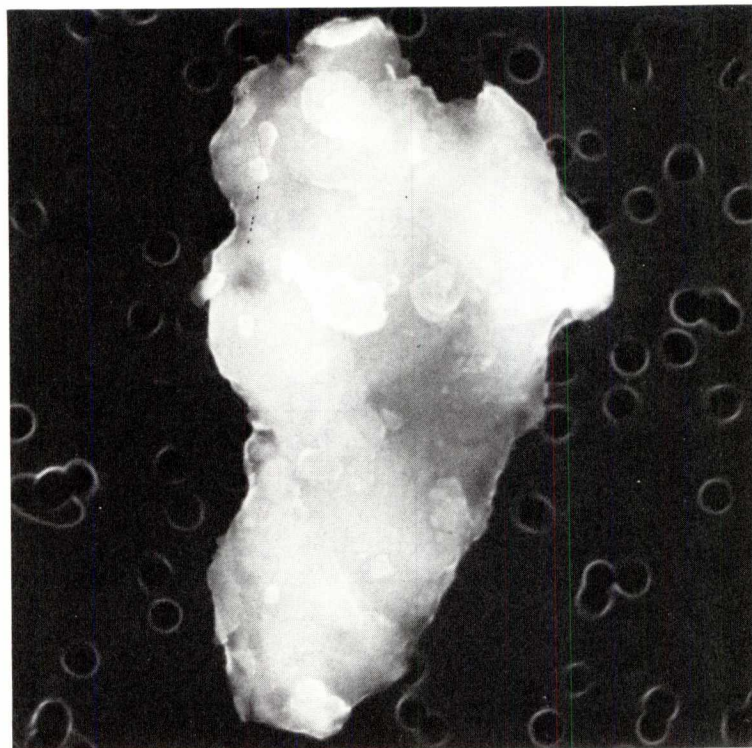
COLOR LUSTER
Colorless to SV
Pale Yellow-
Gray

TYPE COMMENTS
?

S-83-35885



W702713



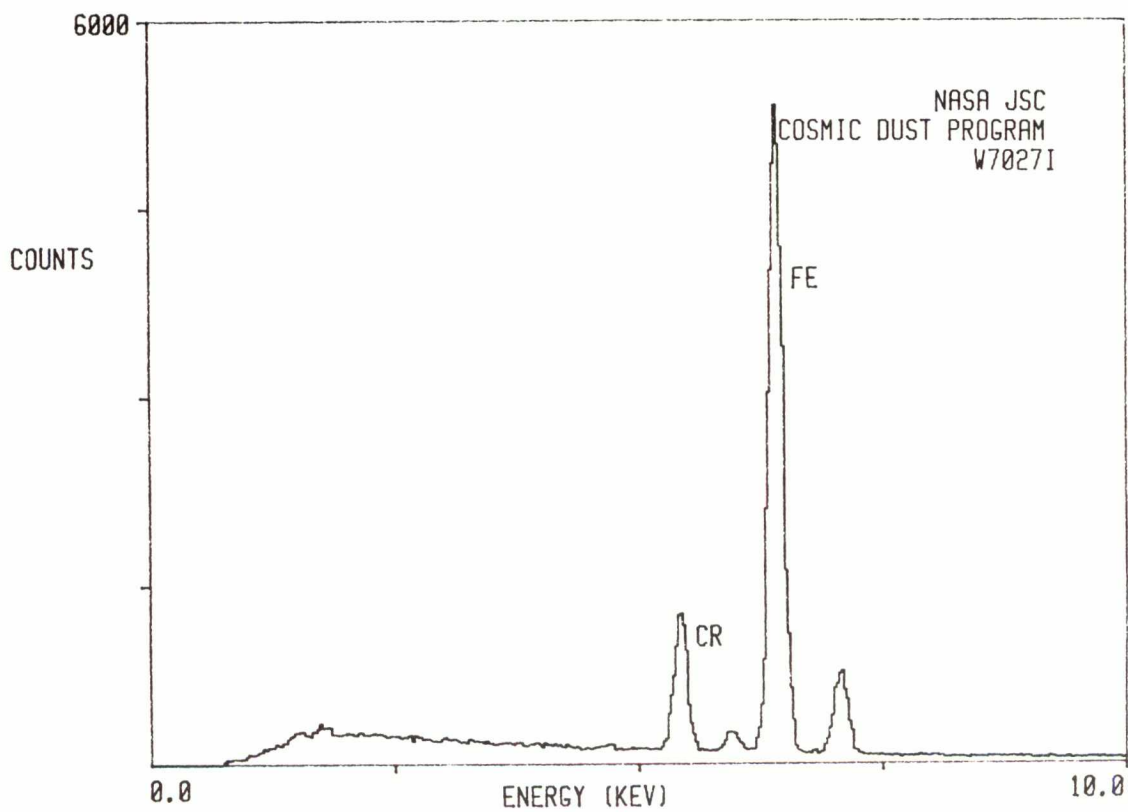
<u>SIZE</u>	<u>SHAPE</u>	<u>TRANS.</u>
5x7	I	0

<u>COLOR</u>	<u>LUSTER</u>
Steel Gray to Yellow-Gold	M

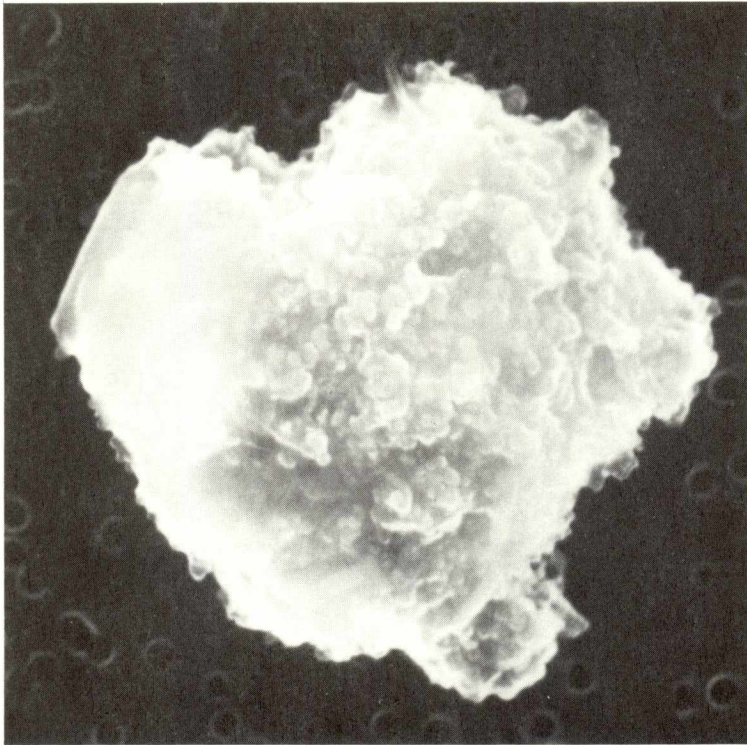
<u>TYPE</u>	<u>COMMENTS</u>
TCA	Several frag- ments

S-83-35884

I1301



W702714



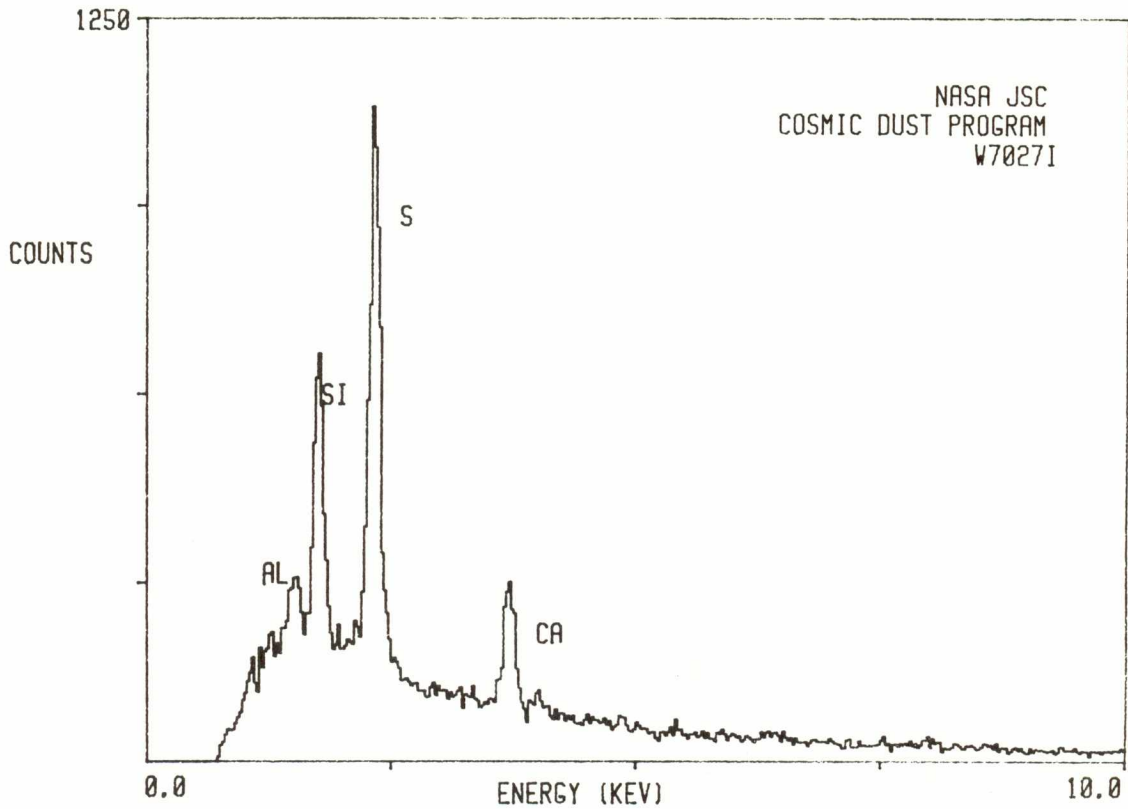
SIZE SHAPE TRANS.
8x9 I/E 0

COLOR LUSTER
Dark Gray D/SM
to Black

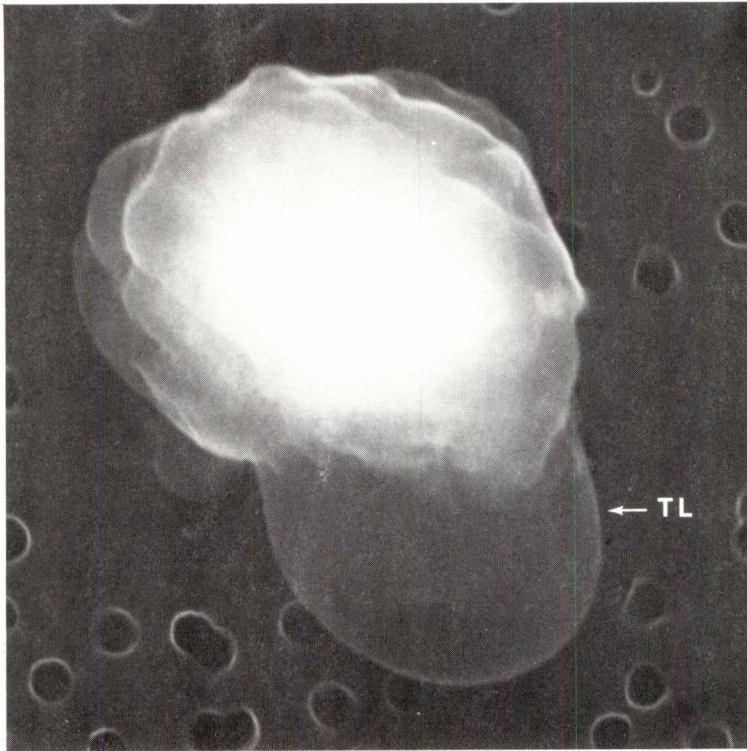
TYPE COMMENTS
?

S-83-35883

I0401



W702715



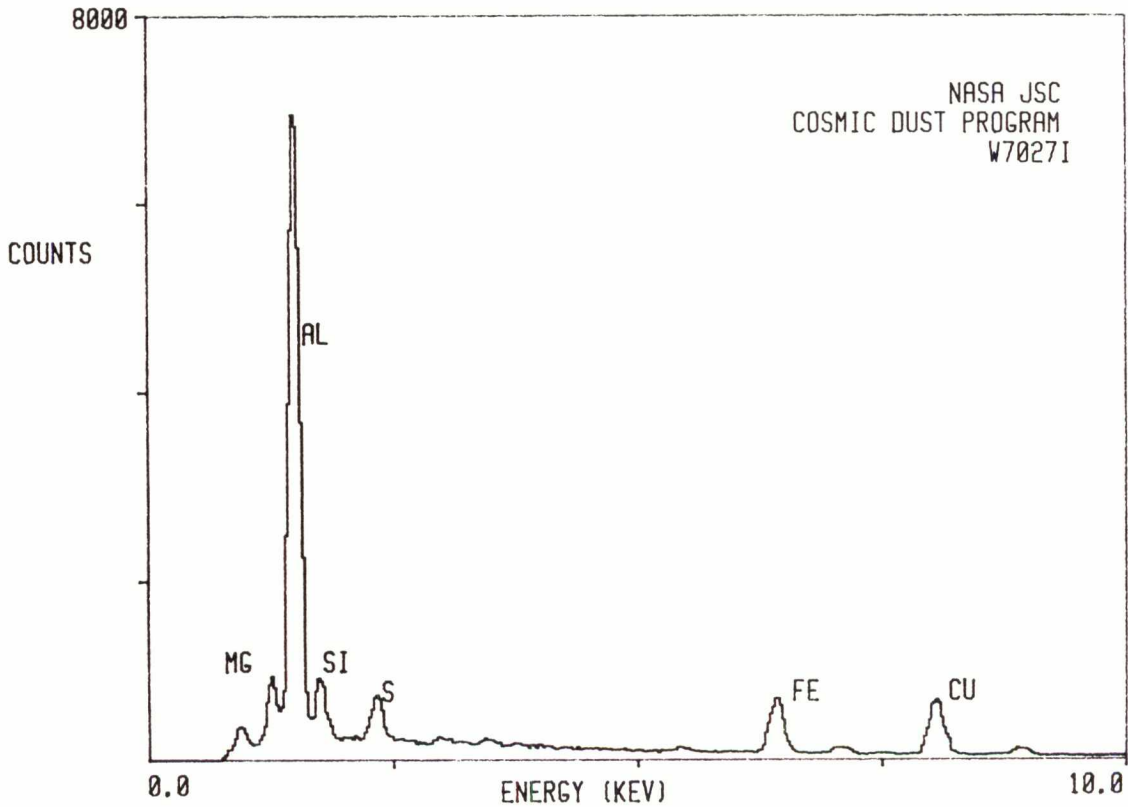
SIZE SHAPE TRANS.
4x6 I 0/TL

COLOR LUSTER
Gray to D/SM
Black

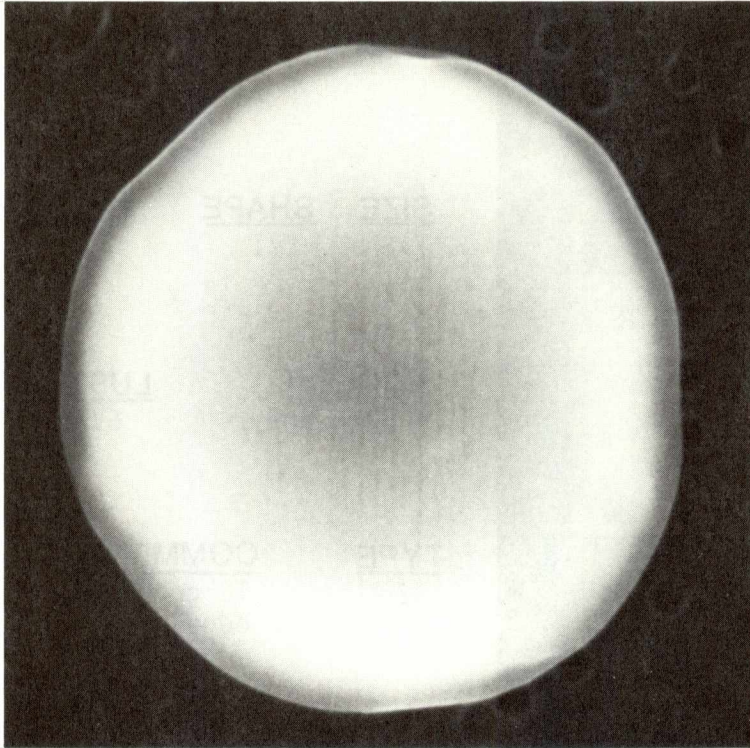
TYPE COMMENTS
TCA?

S-83-35882

I0501



W702716



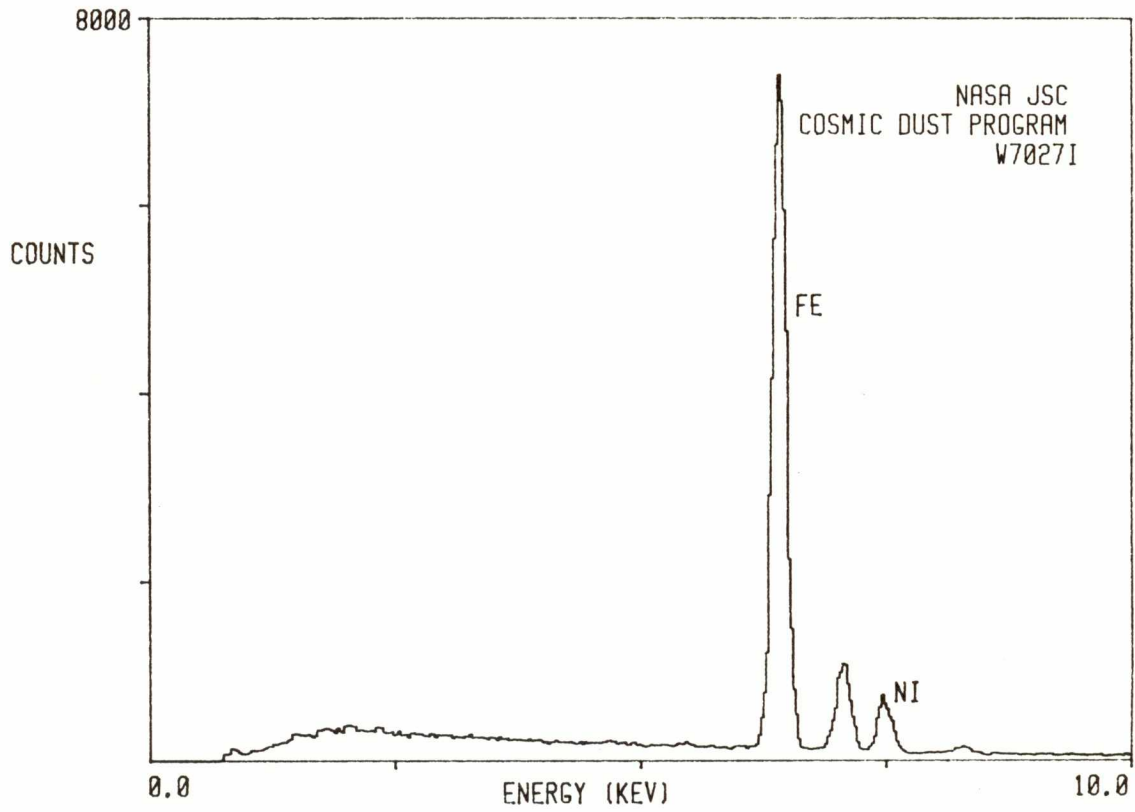
SIZE SHAPE TRANS.
7 S 0

COLOR LUSTER
Dark Brown M
to Black

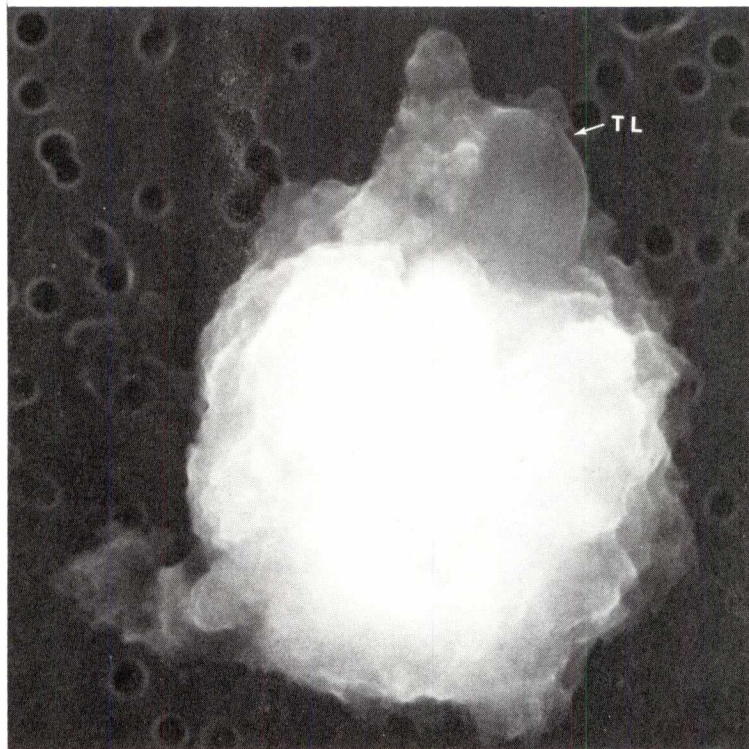
TYPE COMMENTS
C

S-83-35881

I0601



W702717



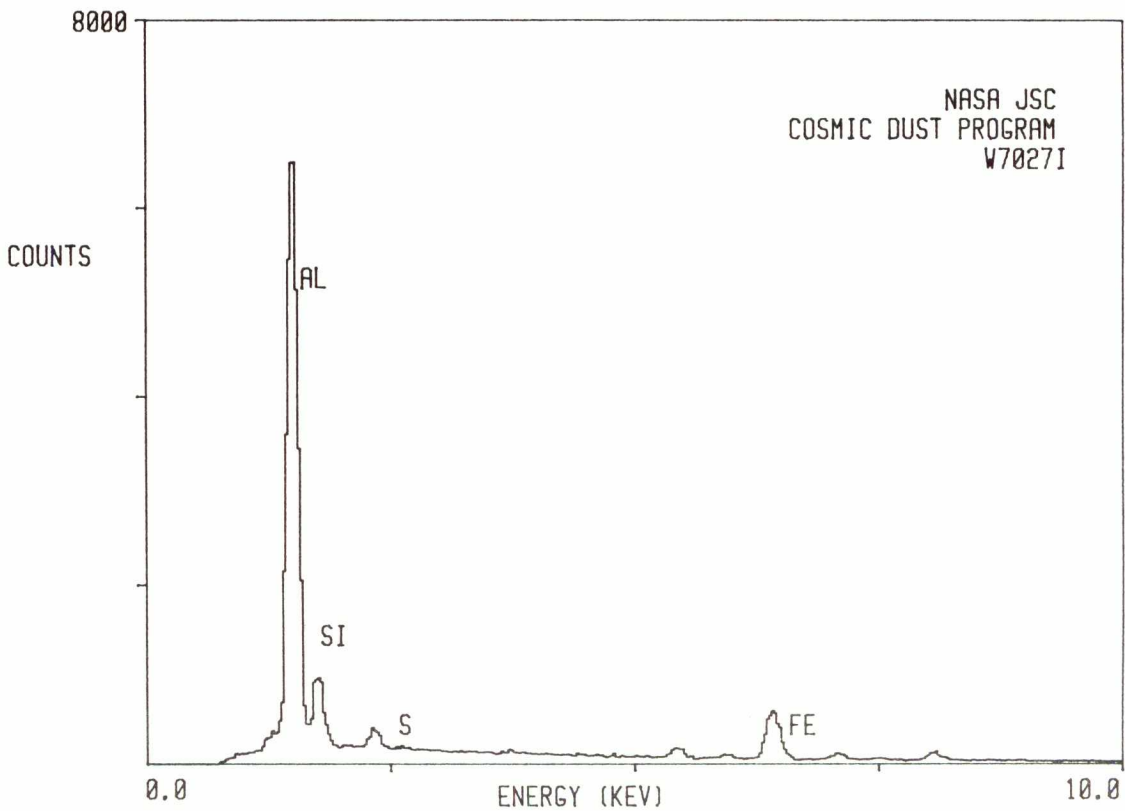
SIZE SHAPE TRANS.
7x8 E/I 0

COLOR LUSTER
Dark Gray SV/SM

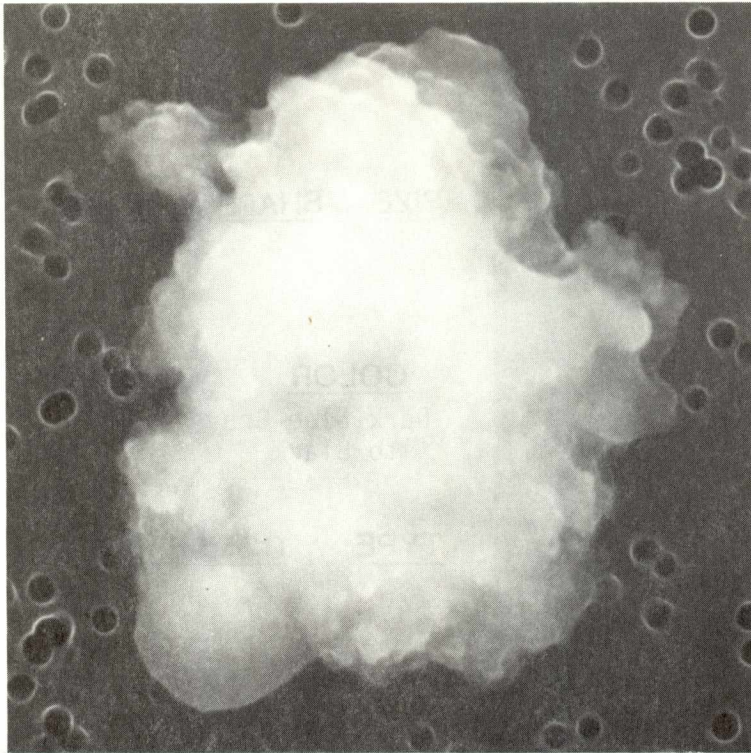
TYPE COMMENTS
? TL grain on
 edge

S-83-35880

I0701



W702718



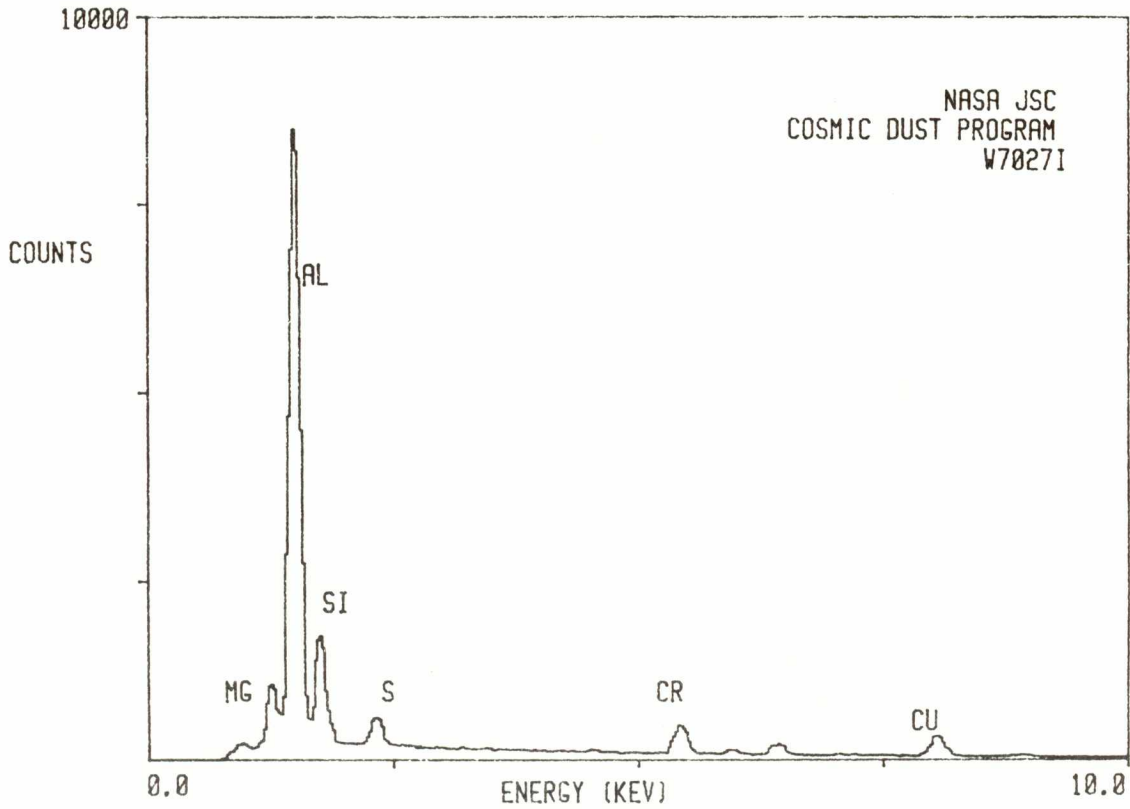
SIZE SHAPE TRANS.
7x9 I 0

COLOR LUSTER
Dark Brown SV/SM
Gray

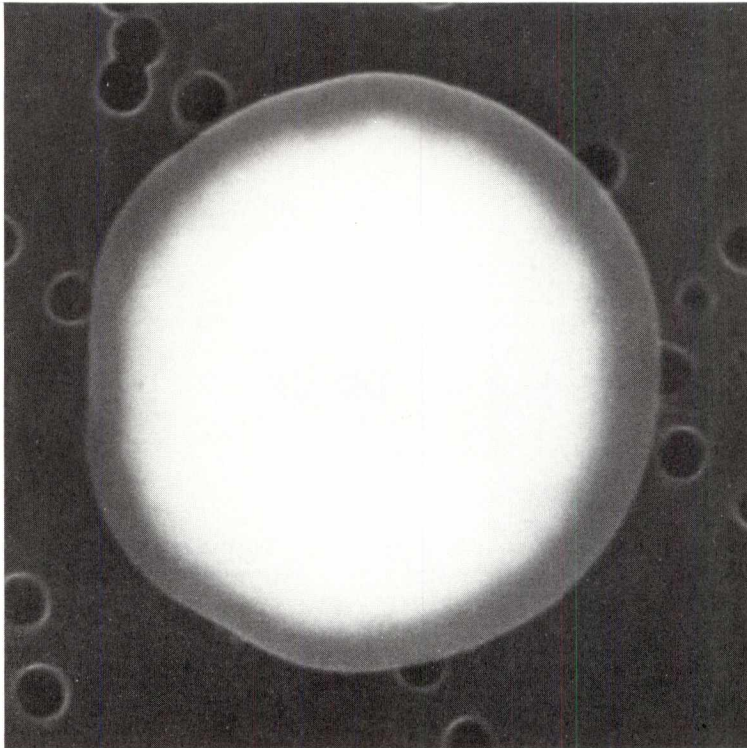
TYPE COMMENTS
?

S-83-35879

10801



W702719



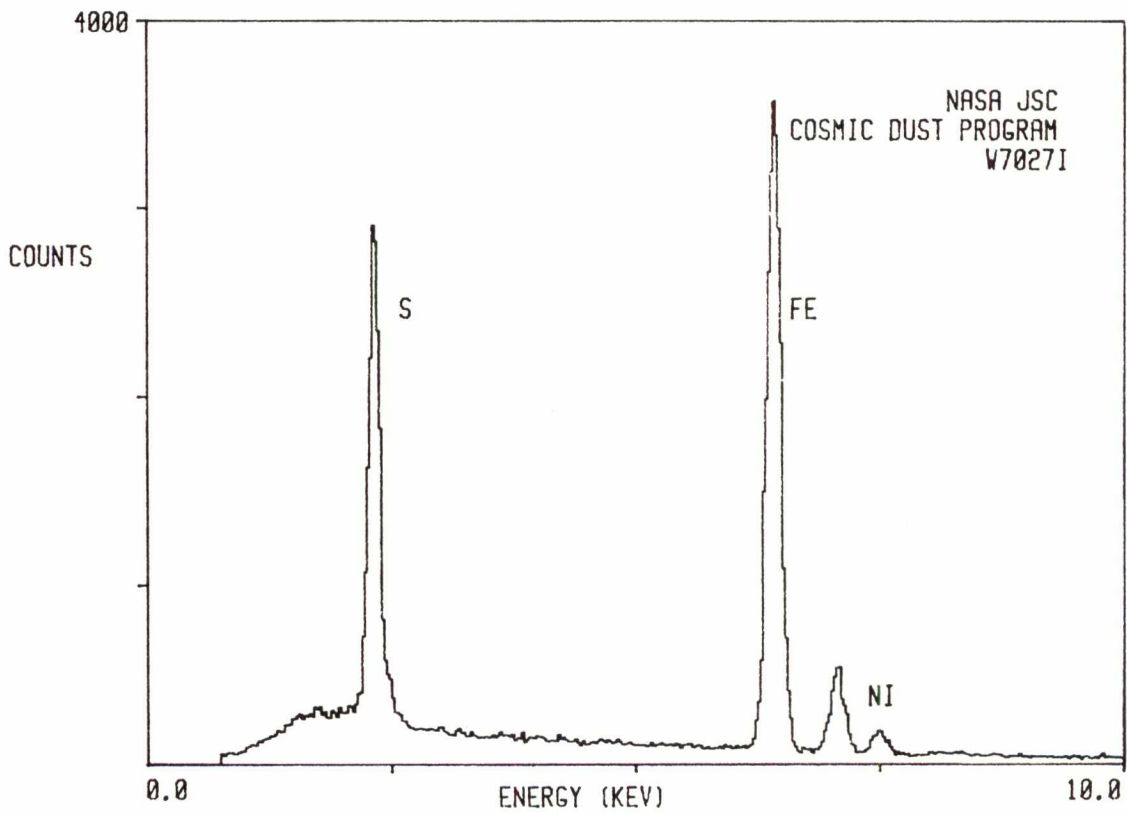
<u>SIZE</u>	<u>SHAPE</u>	<u>TRANS.</u>
4	S	0

<u>COLOR</u>	<u>LUSTER</u>
Dark Blue-Gray to Black	SM

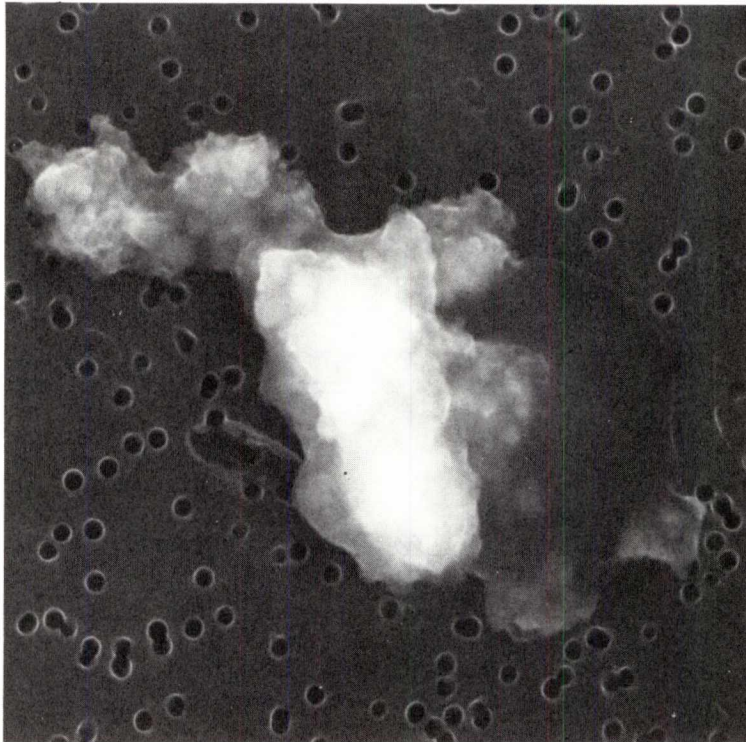
<u>TYPE</u>	<u>COMMENTS</u>
C	

S-83-35878

I0901



W7027111



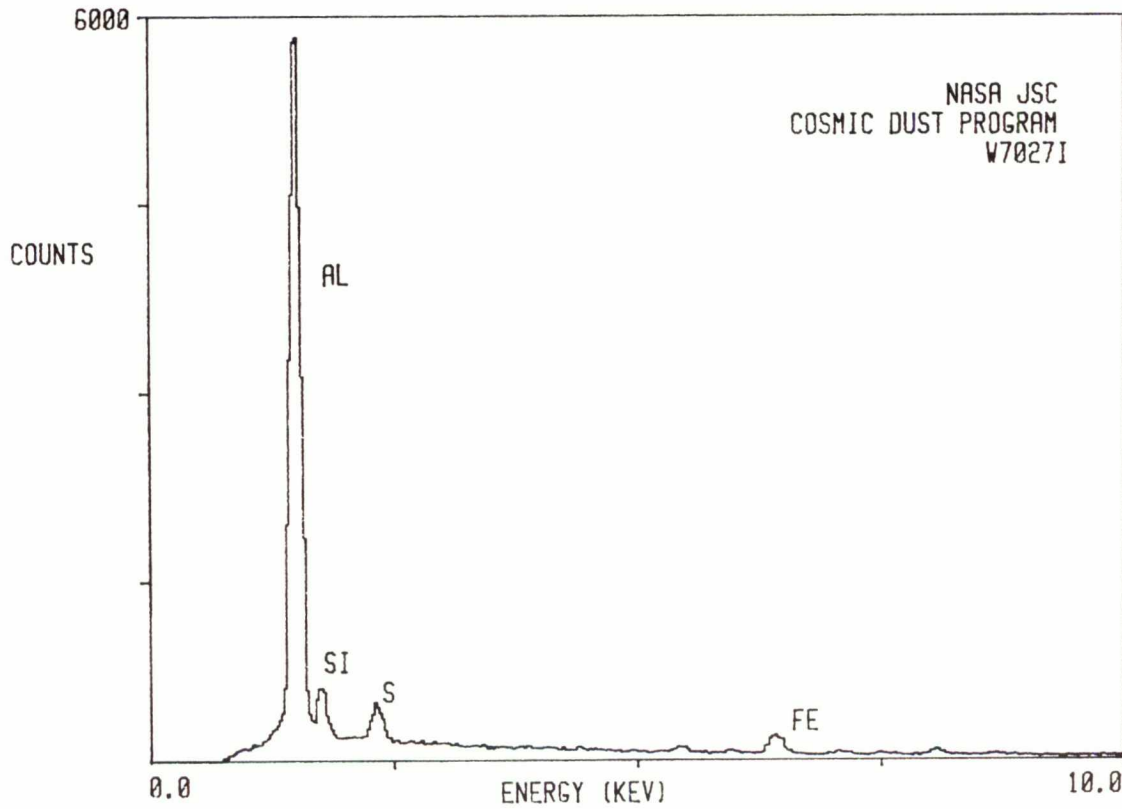
SIZE SHAPE TRANS.
7x15 I 0

COLOR LUSTER
Dark Gray D/SM
to Black

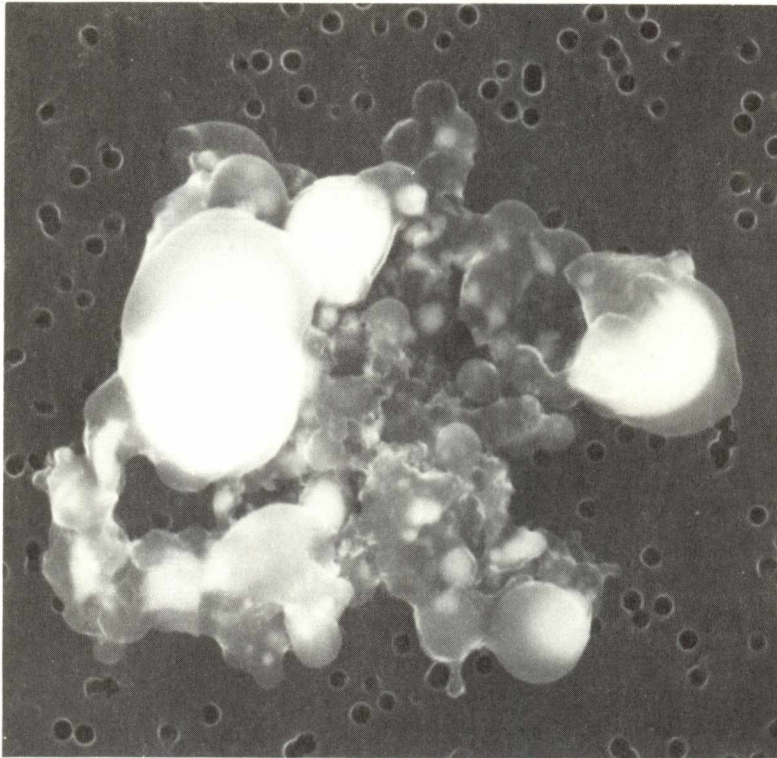
TYPE COMMENTS
TCA?

S-83-35876

I1101



W7027112



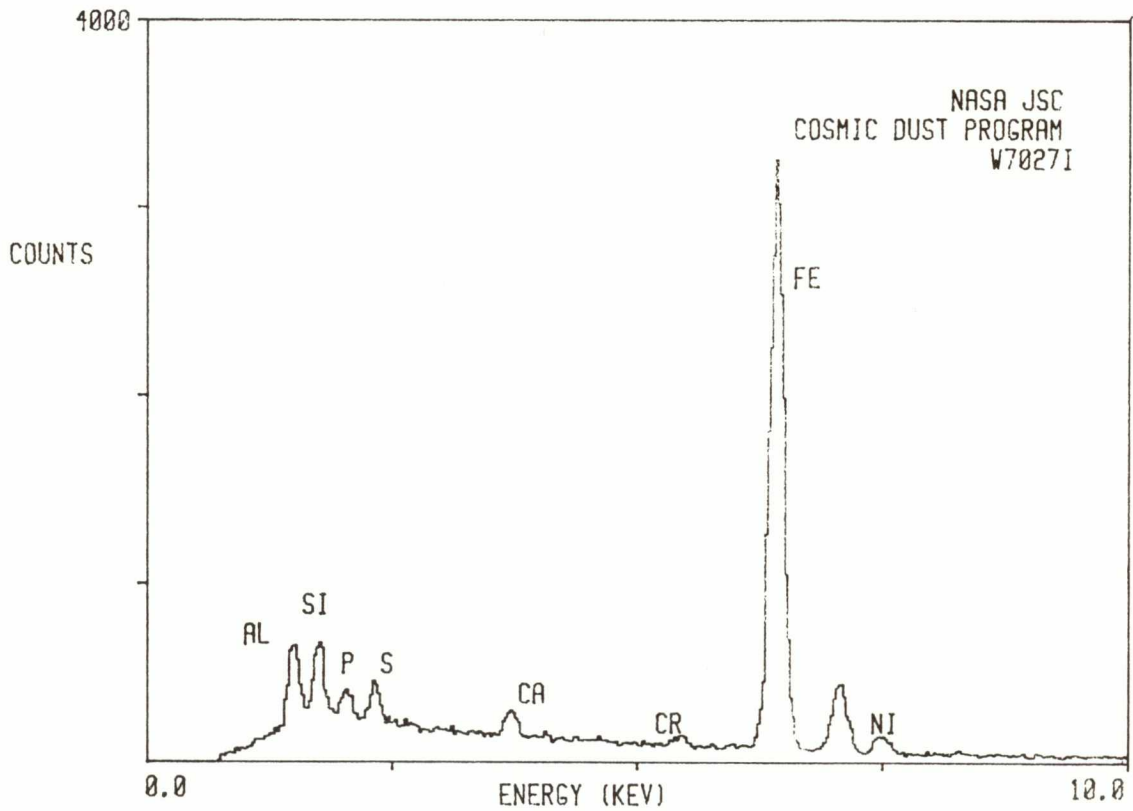
SIZE SHAPE TRANS.
11x12 I/E 0

COLOR LUSTER
Dark Brown
to Black D/SM

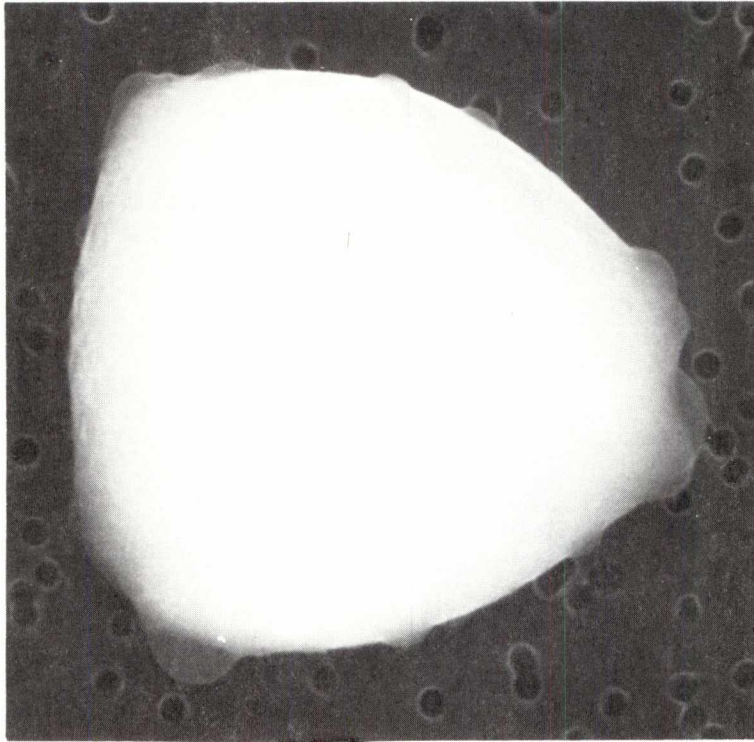
TYPE COMMENTS
?

S-83-35875

I1201



W7027113



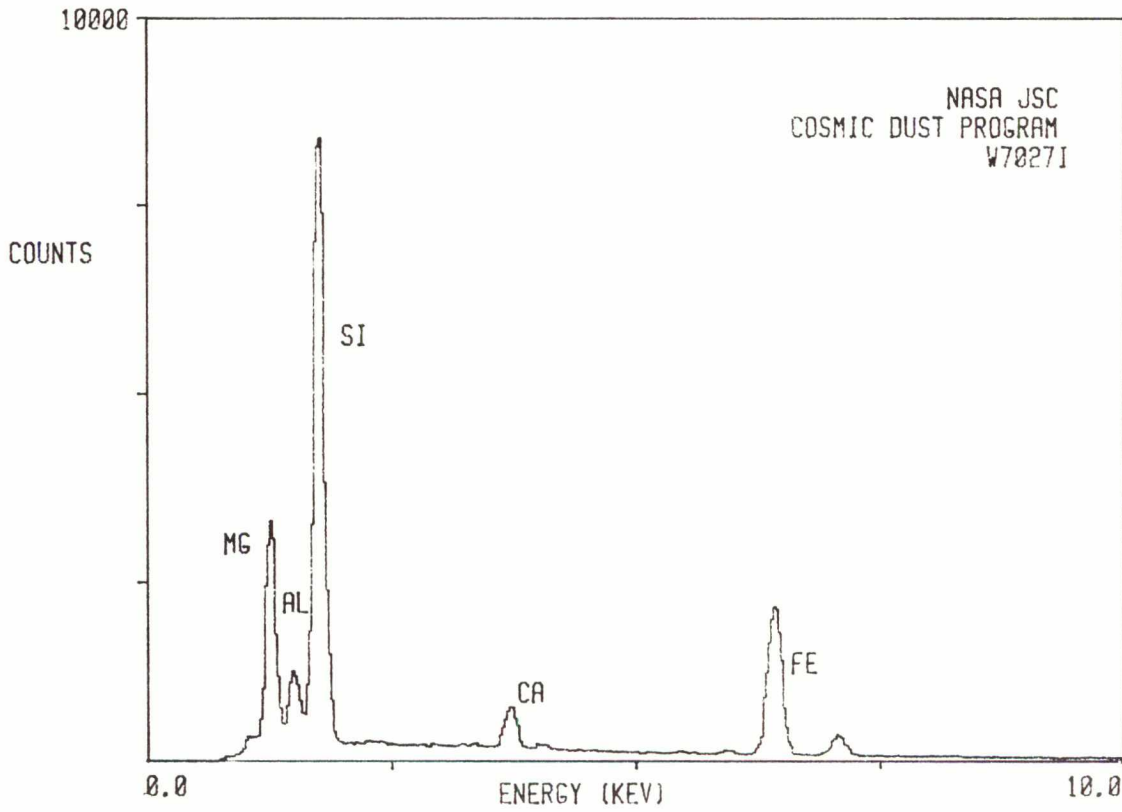
<u>SIZE</u>	<u>SHAPE</u>	<u>TRANS.</u>
8	I/E	0

<u>COLOR</u>	<u>LUSTER</u>
Red Brown	SV/SM

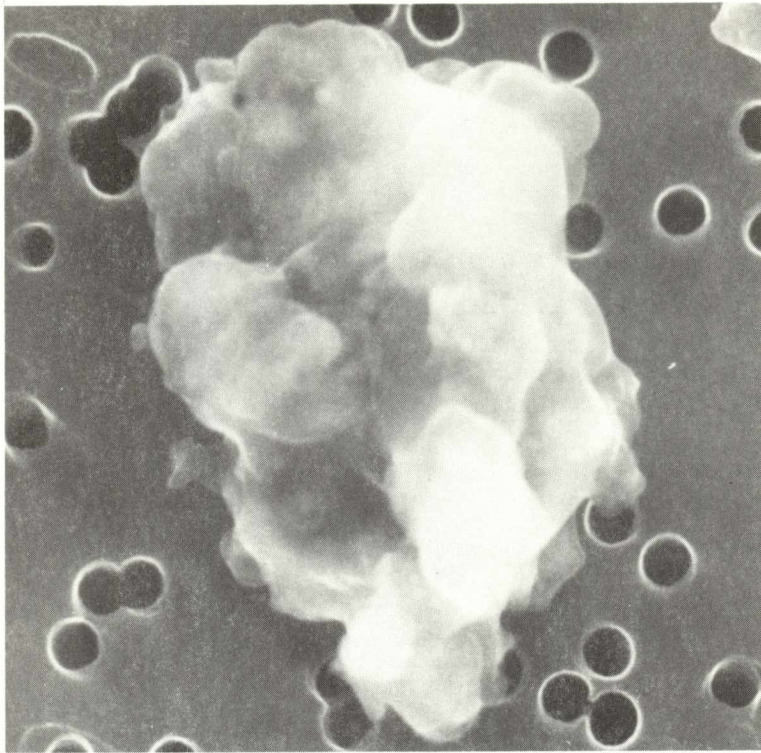
<u>TYPE</u>	<u>COMMENTS</u>
C	

S-83-35874

I1301



W7027114



SIZE SHAPE TRANS.
3x5 I 0

COLOR LUSTER
Dark Brown D/SM
to Black

TYPE COMMENTS
C

S-83-35873

I1401

