

# Visual Catalog of LLO ETM Inspection Images from Mid-O3 Vent

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ETMX Inspection 3-4 October 2019  
ETMY Inspection 7-8 October 2019

# Background Information Outline

[ETMY Inspection aLOG Entry](#)

[ETMX Inspection aLOG Entry](#)

[In Situ Microscope Inspection ETMX](#)

[In Situ Microscope Inspection ETMY](#)

[Overview of Microscope Inspection Kit](#)

[Guide to Interpreting Microscope Images](#)

# ETMY Inspection aLOG Entry

## Billingsley - ETMy S1 Inspection Oct 3-4 [LLO aLOG 48994](#)

Appert, Billingsley, Kasprzack, Sellers POINTAIMAGE005

Thanks to Aidan and Anamaria's careful work in locating the likely point absorber on ETMy (ETM15), it was quite easy to find the feature October 3.

It appears that we had an absorbing particle that exploded in the presence of the beam which has left molten "glass" (or molten coating material) in a circular pattern surrounding a crater. I believe there is no coating remaining in the center of the hole (ETM coatings are 6  $\mu\text{m}$  thick.)

The feature appears as a hole  $\sim 128 \mu\text{m}$  across with a droplet field  $\sim 0.5 \text{ mm}$  at the farthest separation. We shone a green flashlight from the back, which transmitted well, however the coating should not transmit green light. The appearance is a nice clean, round hole with several droplets visible in bright field. Unfortunately, we didn't have a dark field capability with us, so we can't see the extent of any fine spray from the explosion. There were fracture zones evident in the coating immediately surrounding the hole. It is possible that the original point absorber is evident in both the scatter and transmission data from the RTS measurements pre-installation: [E1500335](#) and [E1500301](#). At least the location is coincident.

We imaged 10 points in total, two had the dark appearance of point absorbers and were  $\sim 10 \mu\text{m}$  in size. We explored a few interesting features that may turn out to be tiny "donuts/halos" or perhaps first contact residue. They are small and all located  $\sim 60 \text{ mm}$  from center. They do not clean with first contact or IPA. We did not explore much beyond that.

The process:

S1 was inspected using the green flashlight, a  $\sim 3 \text{ mm}$  circle was drawn around each interesting point using a brand new 0.3 mm "Staedtler pigment liner" pen. These are standard for marking optics in the characterization phase. The Keyence microscope with the 100-1000 lens was mounted in front of S1 on a XY translation stage (part of the BS baffle alignment kit.) With the markings as a guide, it was easy to locate the points using the native microscope bright field illumination.

The spots were individually painted with first contact.

On October 4th the center 75 mm was painted with first contact then examined. A second round of imaging on the point absorber showed some first contact clinging to the edge of the crater. I know of no way to prevent this - it could be treated with an acetone wipe after first contact but there is a risk of increased scatter.

Ghosts of the pen circles were still evident, possibly due to the extremely short drying time in chamber. The marks were swabbed off with alpha swab and isopropyl alcohol. The procedure worked well, as did the team. Much more to come as we analyze the images.

In Chamber logs: --- Day 1 [LLO aLOG 48918](#) --- Day 2 Morning [LLO aLOG 48946](#) --- Day 2 Morning [LLO aLOG 48951](#) ---

T1900696-v1

# ETMX Inspection aLOG Entry

## Billingsley - ETMx inspection October 7 [LLO aLOG 48996](#)

Appert, Billingsley, Kasprzack, Sellers

Sixteen points were examined on S1 of ETMx using the process explained in [LLO aLOG 48994](#)

Three holes were found in the coating that looked similar to the one found on ETMy, which was identified as a probable absorber.

All three points transmit green light, implying that the coating is missing in that location.

Point D is measured at 126  $\mu\text{m}$  and is shown in the file ending ... 212 location (-54, -27) from center

Point G is not yet measured, though similar to D, and is shown in the file ending ... 201 location (11, 12) from center

Point P is measured at 73  $\mu\text{m}$  and is shown in the file ending ... 221 location (27, 4) from center

Point P is interesting in that there is only one dot that may be a splash, and there are no fractures evident in the coating nearby. This may not be the same type of feature as D&G.

Since there are so many points, it is not clear what is the correlation with the maps provided by Aidan and Anamaria.

Our focus for the second day will be in providing a precise location for the absorbers.

In Chamber logs: --- Day 1 [LLO aLOG 48981](#) --- Day 2 [LLO aLOG 49011](#) ---

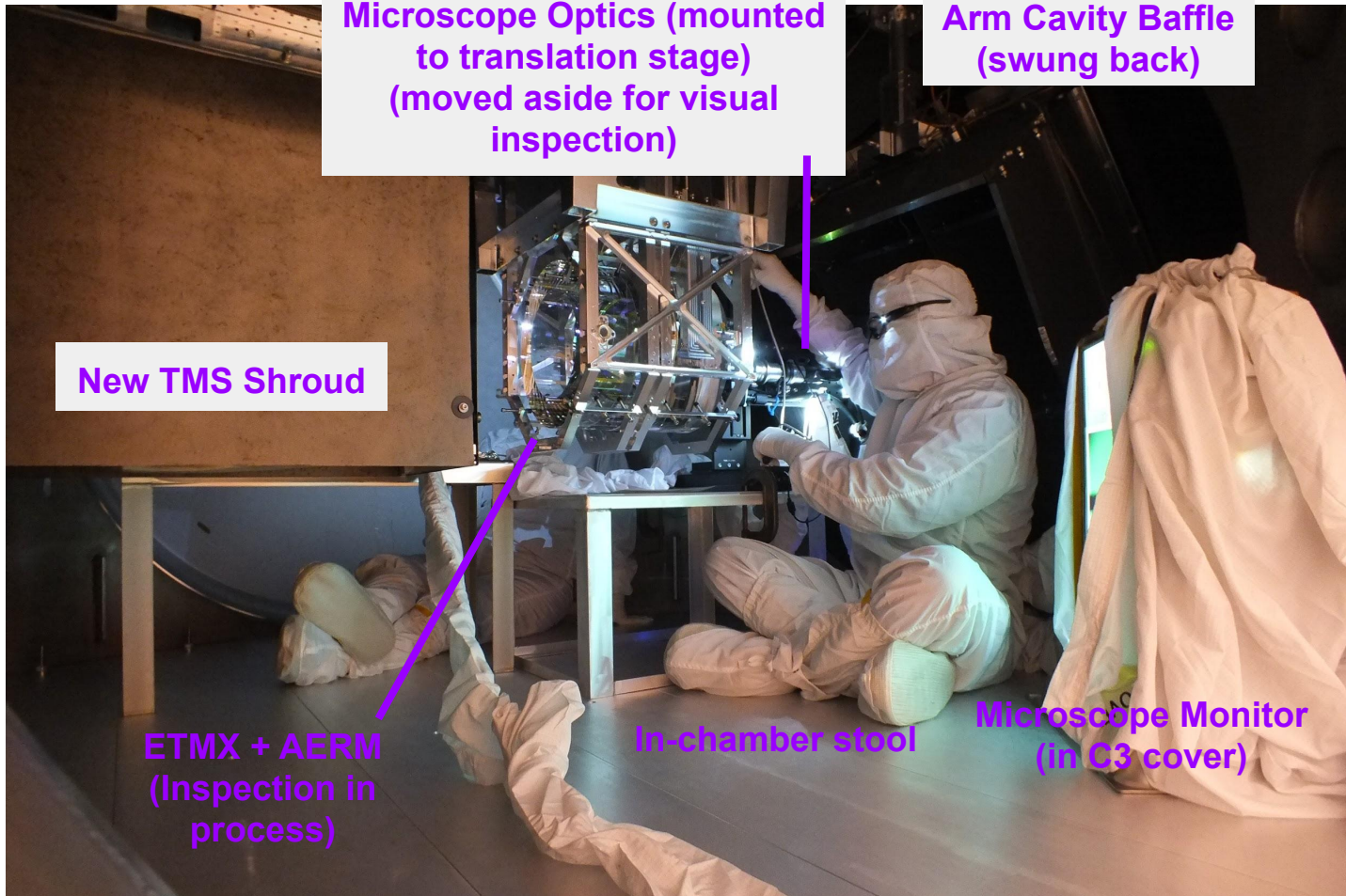


# In Situ Microscope Inspection

This image depicts the microscope in use at LLO end X

Difficult to see  
microscope optics

## ETMX



# In Situ Microscope Inspection

Arm Cavity Baffle  
(swung back)

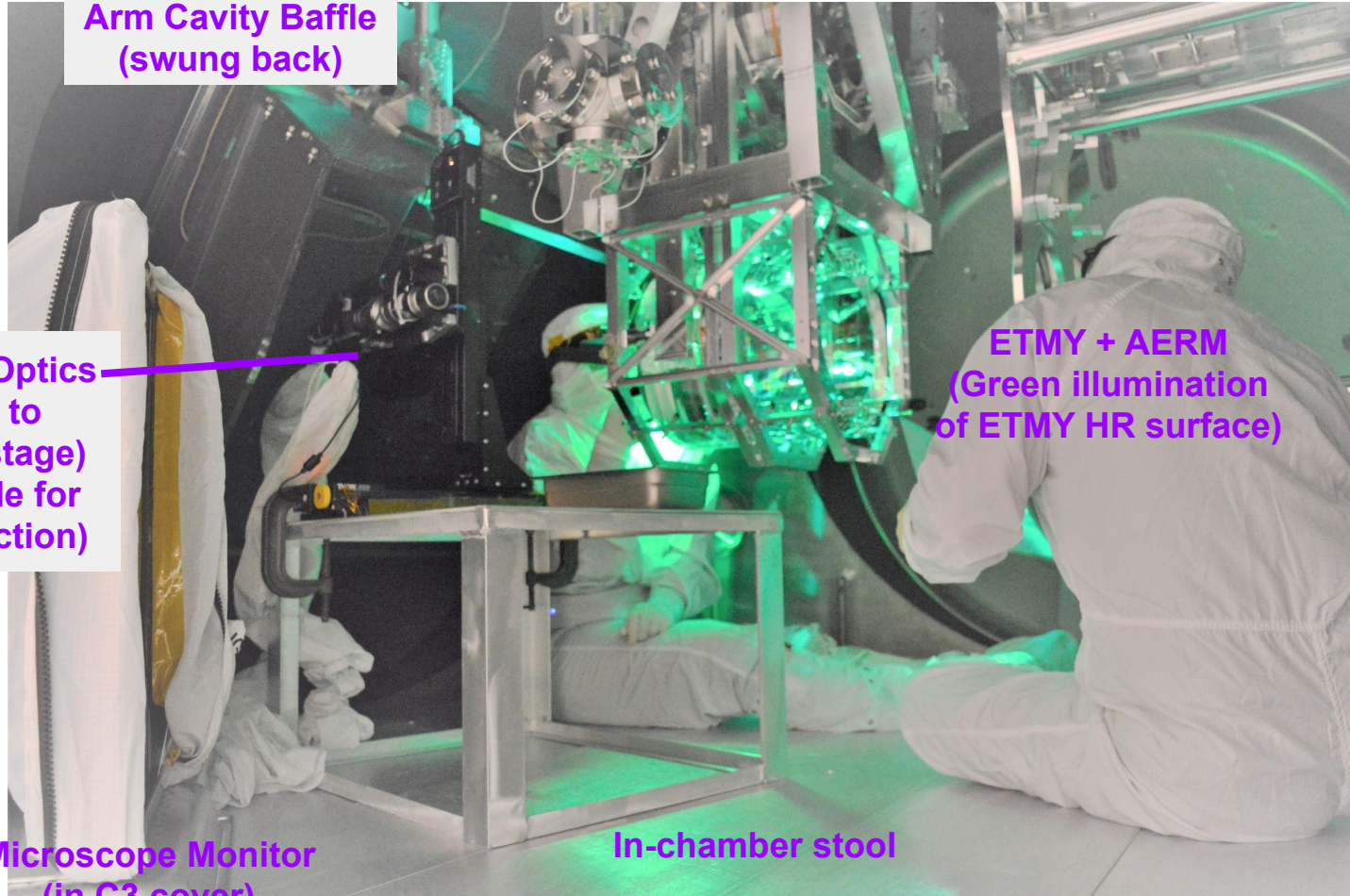
Microscope Optics  
(mounted to  
translation stage)  
(moved aside for  
visual inspection)

ETMY + AERM  
(Green illumination  
of ETMY HR surface)

## ETMY

Microscope Monitor  
(in C3 cover)

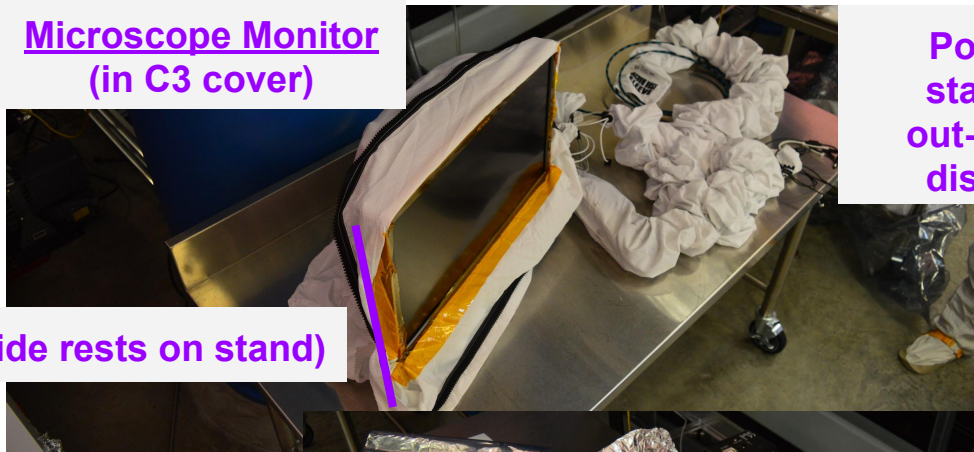
In-chamber stool





# Overview of Microscope Inspection Kit

Microscope Monitor  
(in C3 cover)



(This side rests on stand)

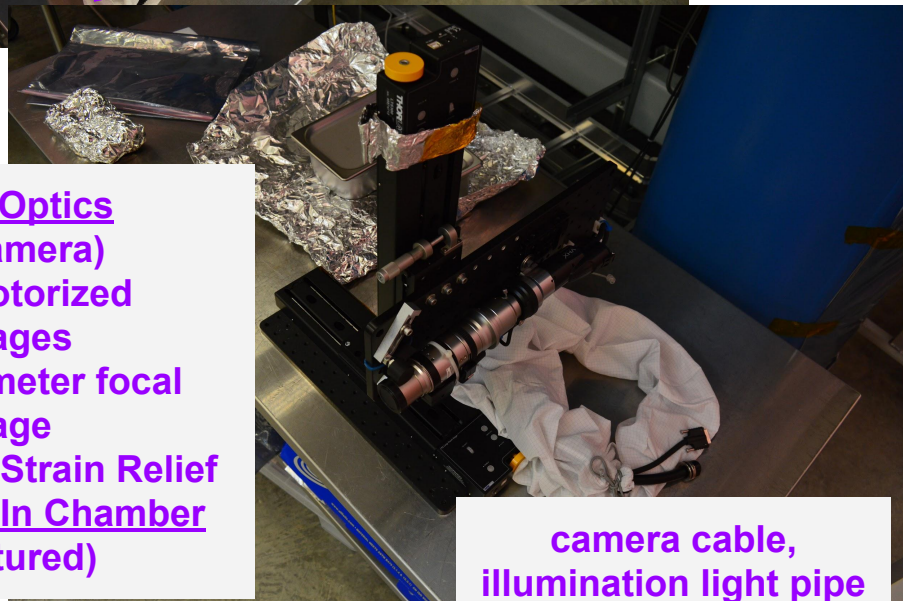
Power cable,  
stage cables,  
out-of-chamber  
display cable



Custom Stand  
(good work, Danny)

Microscope Optics  
(lens and camera)

- 2x 300 mm motorized translation stages
- 25 mm micrometer focal translation stage
- Damping and Strain Relief
- C-clamped to In Chamber Stool (not pictured)



camera cable,  
illumination light pipe

T1900696-v1

# Guide to Interpreting Microscope Images

Category:  
**BEST EFFORT!**

Notes:  
**WILL INDICATE ANY NON-STANDARD FINDINGS OR CONDITIONS. ALSO BEST EFFORT! REFER TO SPREADSHEET CATALOG AS WELL.**

T1900696-v1

LLO  
ETMY  
GB, DS, MK,SA  
2:54:25 PM  
2019/10/03

**SITE  
OPTIC  
TEAM INITIALS  
TIME (1 hour slower than LLO time)  
DATE**

**ALL IMAGES  
ARE IN BRIGHT  
FIELD, EXCEPT  
WHERE NOTED**

**SOME IMAGES  
ALSO MAY HAVE  
MEASUREMENTS  
OR OTHER  
ANNOTATIONS**

**MAGNIFICATION  
AND LENS**

Magnification: X200.0  
Lens: Z100:X200

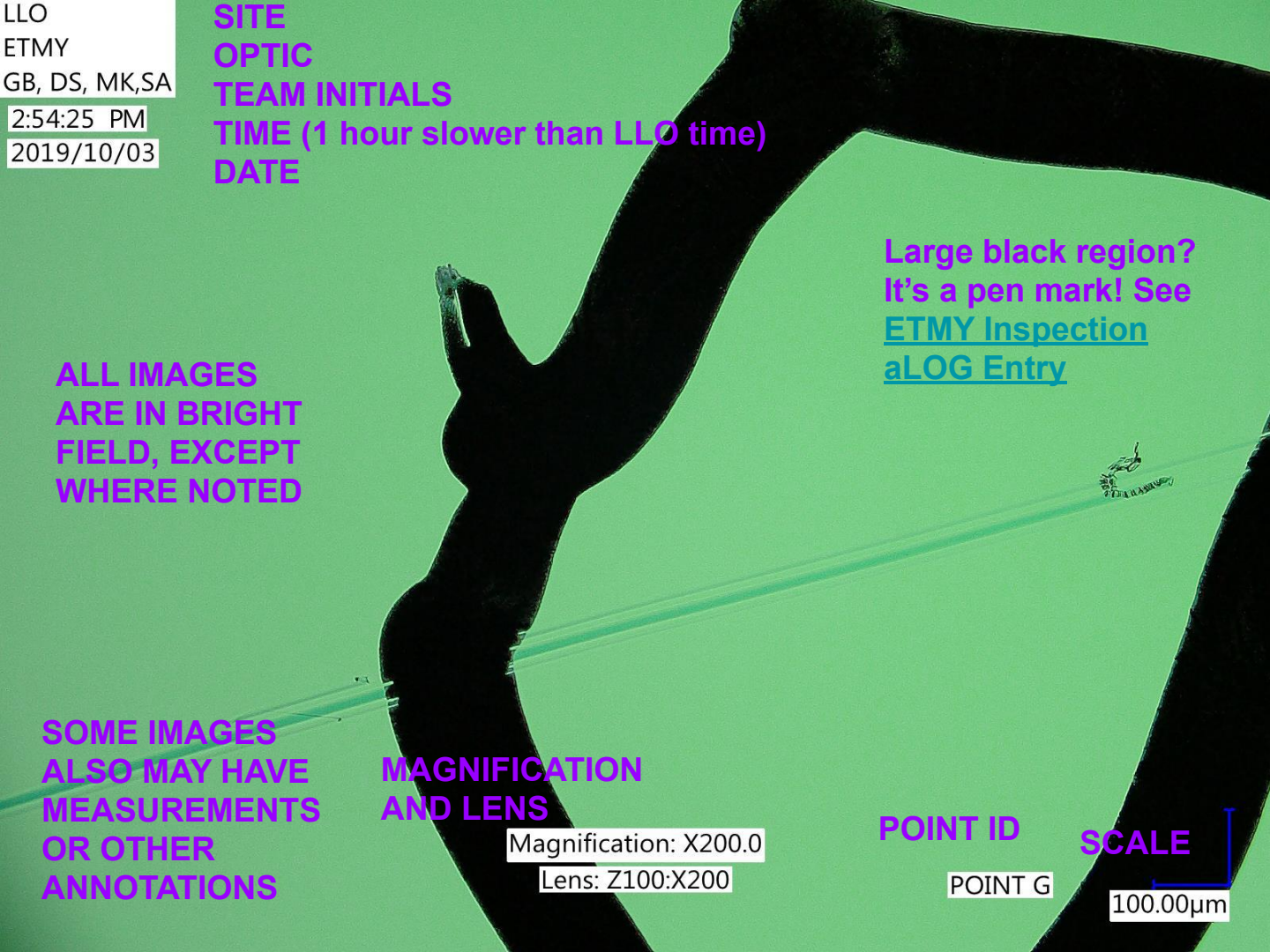
**Large black region?  
It's a pen mark! See  
[ETMY Inspection aLOG Entry](#)**

**POINT ID**

POINT G

**SCALE**

100.00µm



# ETMX IMAGES

(JUMP TO [ETMX VIDEOS](#))  
(JUMP TO [ETMY IMAGES](#))  
(JUMP TO [ETMY VIDEOS](#))

## [ETMX MAP](#)

[ETMX Point A](#)

[ETMX Point B](#)

[ETMX Point C1 \(green\)](#)

[ETMX Point C2](#)

[ETMX Point D](#)

[ETMX Point E](#)

[ETMX Point E \(green\)](#)

[ETMX Point F](#)

[ETMX Point G](#)

[ETMX Point G \(green\)](#)

[ETMX Point G \(overview\)](#)

[ETMX Point H](#)

[ETMX Point I](#)

[ETMX Point J](#)

[ETMX Point K](#)

[ETMX Point L](#)

[ETMX Point M](#)

[ETMX Point N](#)

[ETMX Point O](#)

[ETMX Point P](#)

[ETMX Point P \(green\)](#)

[ETMX Point P \(overview\)](#)



# ETMX MAP

## ETMX Damaged Absorber Locations

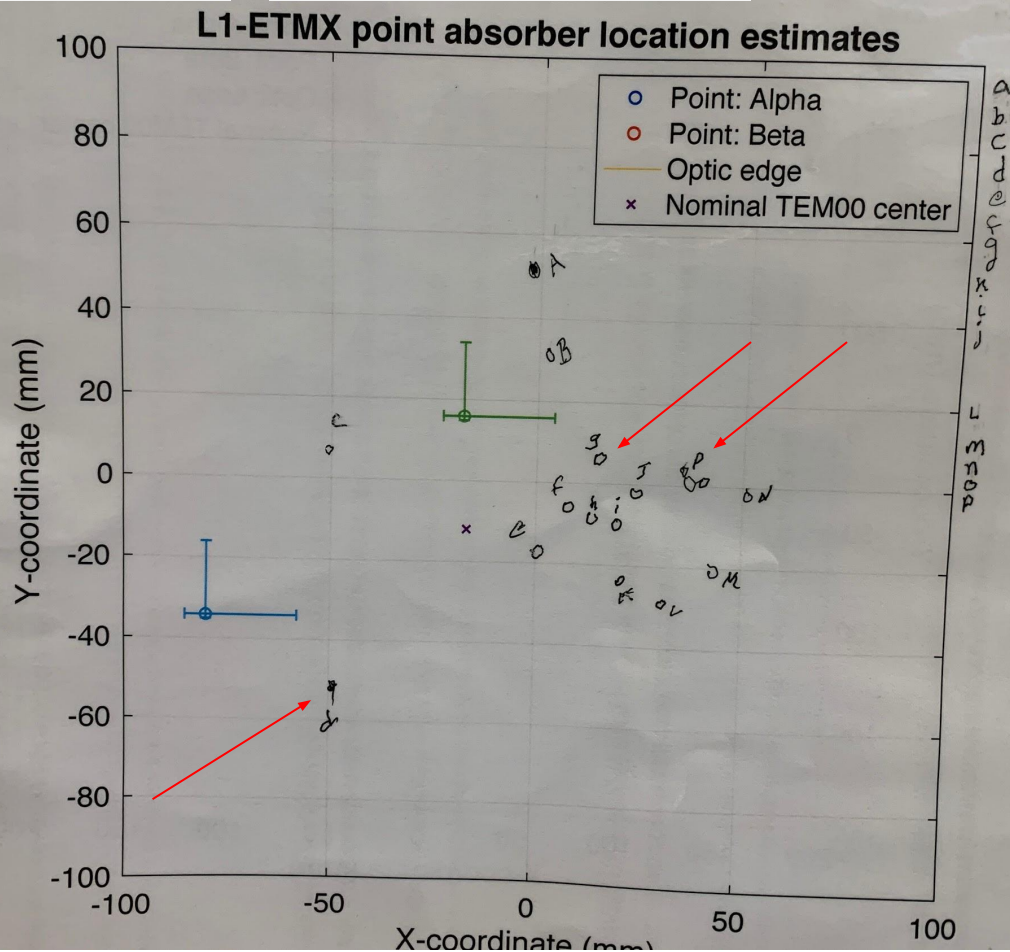
ID	X (mm)	Y (mm)
D	-54	-27
G	+11	+12
P	+27	+4

Locations measured using  
translation stage readouts.

- Origin: center of S1 face
- +X: right half of S1 face (IFO -Y)
- +Y: upper half of S1 face (IFO +Z)

(jump to [ETMY MAP](#))

(jump to [ETMX IMAGES](#))



LLO  
ETMX  
GB, DS, MK, SA  
1:32:49 PM  
2019/10/07

# ETMX

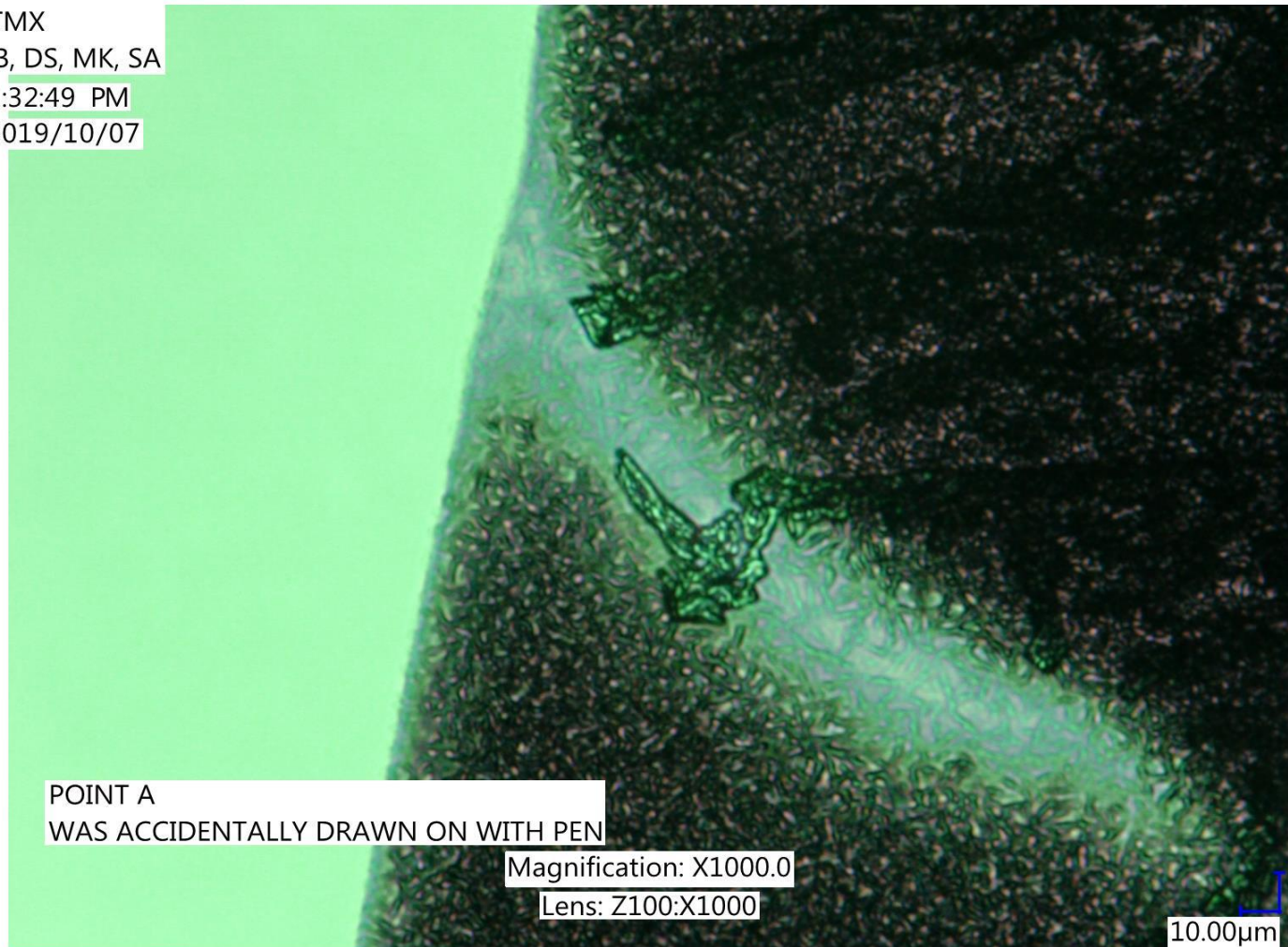
## Point A

Category:

Particulate

Notes:

Accidentally drawn  
on with pen



POINT A  
WAS ACCIDENTALLY DRAWN ON WITH PEN

Magnification: X1000.0

Lens: Z100:X1000

10.00µm

LLO  
ETMX  
GB, DS, MK, SA  
1:35:40 PM  
2019/10/07

ETMX

## Point B

Category:

Debris

Notes:

No notes for Point B



Magnification: X1000.0 POINT B

Lens: Z100:X1000

10.00µm



LLO  
ETMX  
GB, DS, MK, SA  
1:28:03 PM  
2019/10/07

ETMX

## Point C1

(green)

Category:

Coating Void

Notes:

2 points in region

C

Transmitting  
illumination from  
green flashlight in  
this image



LLO  
ETMX  
GB, DS, MK, SA  
1:28:38 PM  
2019/10/07

ETMX

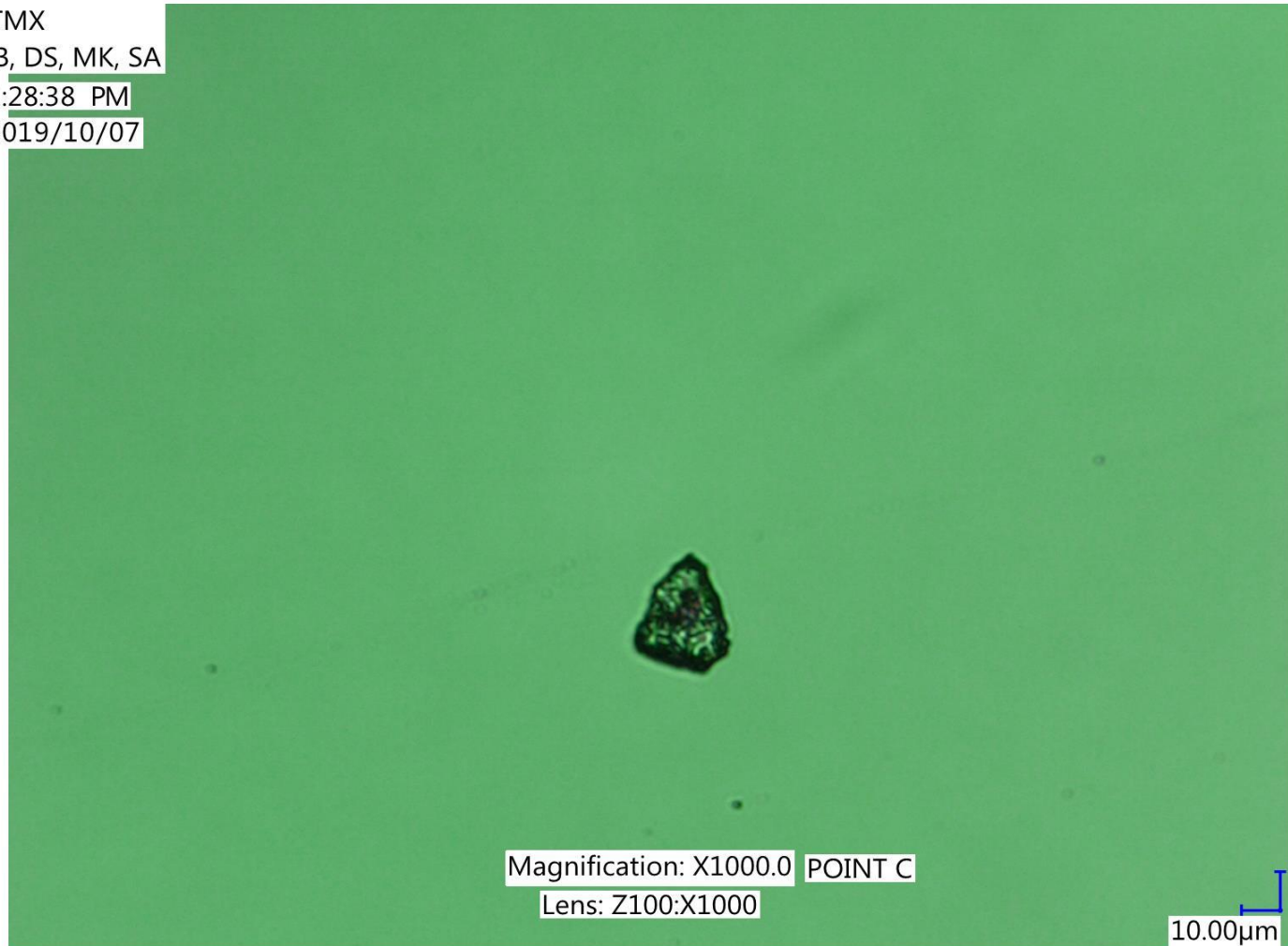
# Point C2

Category:

Debris

Notes:

2 points in region  
C



Magnification: X1000.0 POINT C

Lens: Z100:X1000

10.00µm

LLO  
ETMX  
GB, DS, MK, SA

1:20:47 PM  
2019/10/07

ETMX

## Point D

Category:

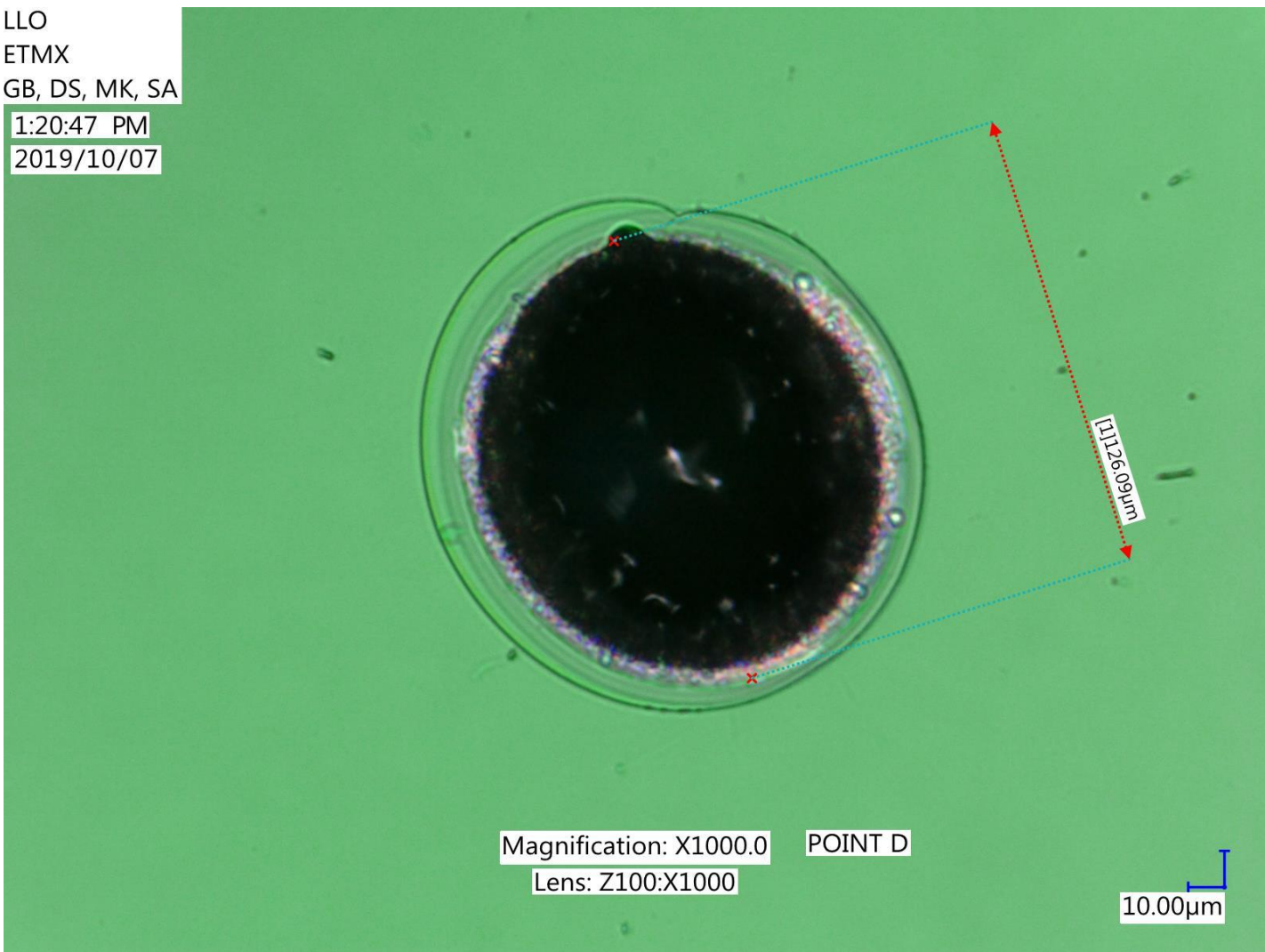
Damaged Absorber

Notes:

Point absorber appears to have been damaged

[\(jump to green back illumination\)](#)

[\(jump to monochrome relief overview\)](#)



Magnification: X1000.0

POINT D

Lens: Z100:X1000

10.00µm



LLO  
ETMX  
GB, DS, MK, SA  
1:21:11 PM  
2019/10/07

# ETMX

## Point D (green)

Category:

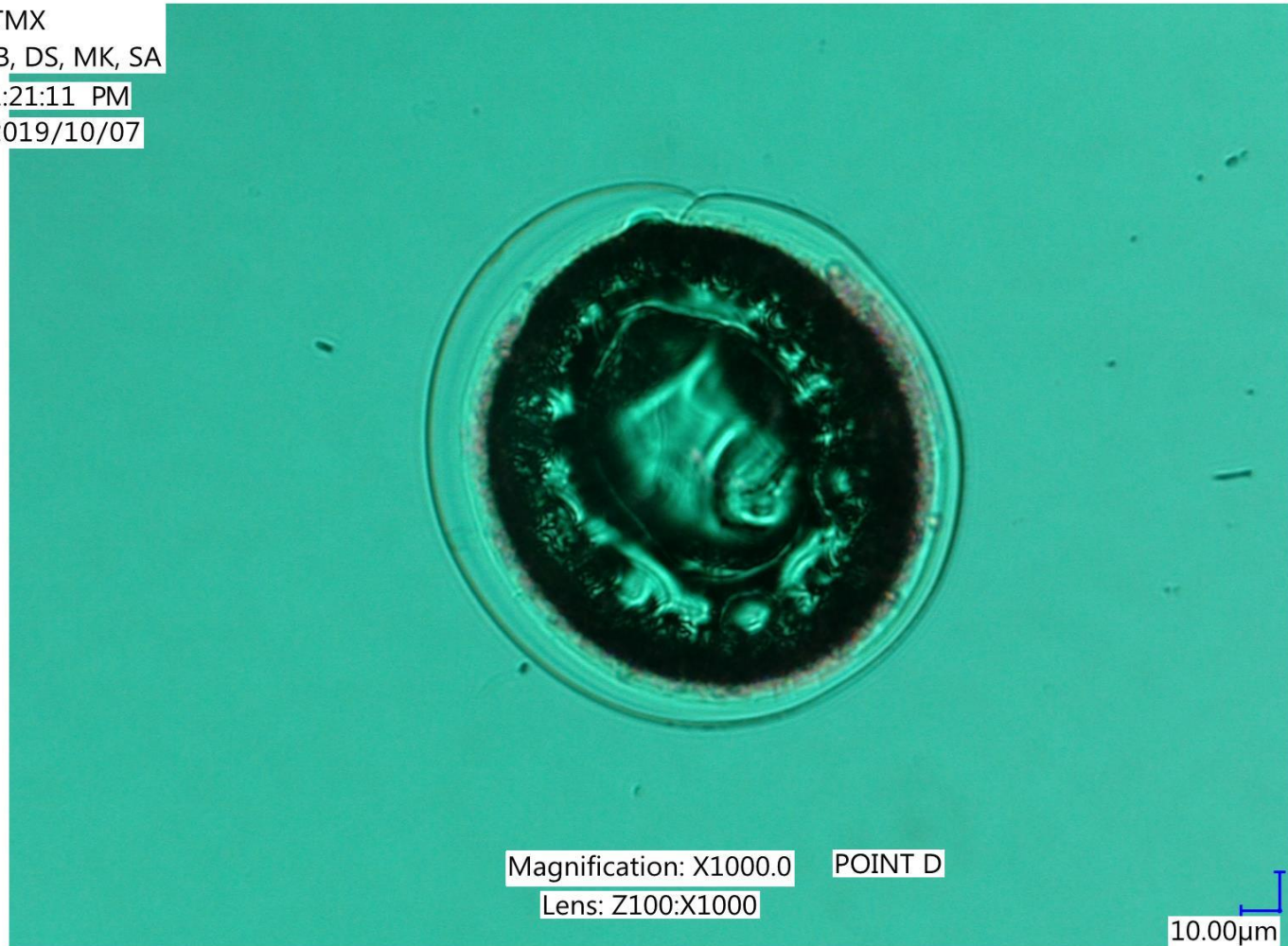
Damaged Absorber

Notes:

Transmitting illumination  
from green flashlight in  
this image

[\(jump to bright field  
illumination\)](#)

[\(jump to monochrome  
relief overview\)](#)



Magnification: X1000.0

POINT D

Lens: Z100:X1000

10.00µm

# ETMX

## Point D

(overview)

Category:

Damaged Absorber

Notes:

Monochrome relief of  
bright field image

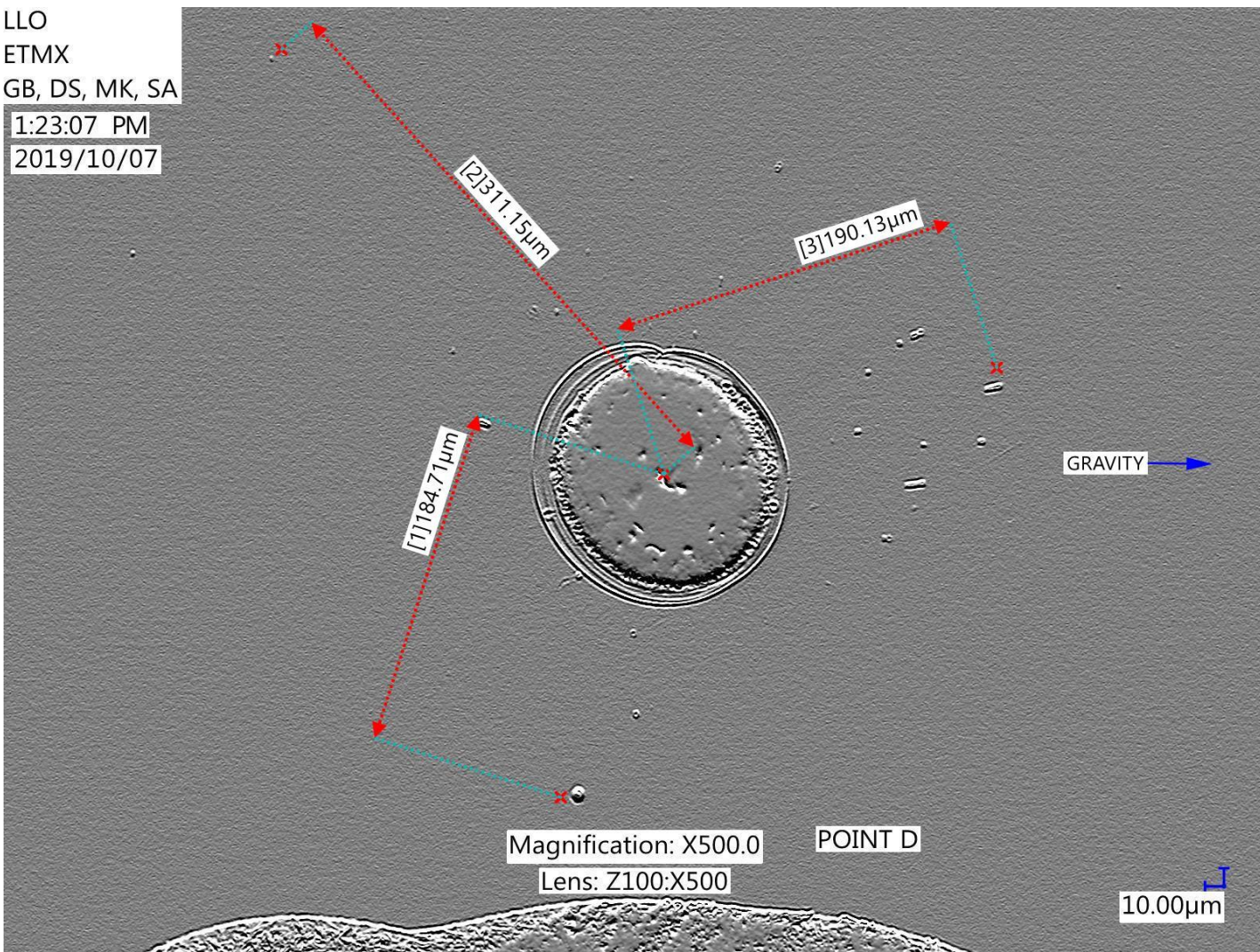
[\(jump to bright field  
illumination\)](#)

[\(jump to green back  
illumination\)](#)

LLO  
ETMX  
GB, DS, MK, SA

1:23:07 PM

2019/10/07





LLO  
ETMX  
GB, DS, MK, SA

1:17:55 PM  
2019/10/07

ETMX

# Point E

Category:

Coating Void

Notes:

(jump to green  
back illumination)



Magnification: X1000.0

POINT E

Lens: Z100:X1000

10.00µm

# ETMX

## Point E (green)

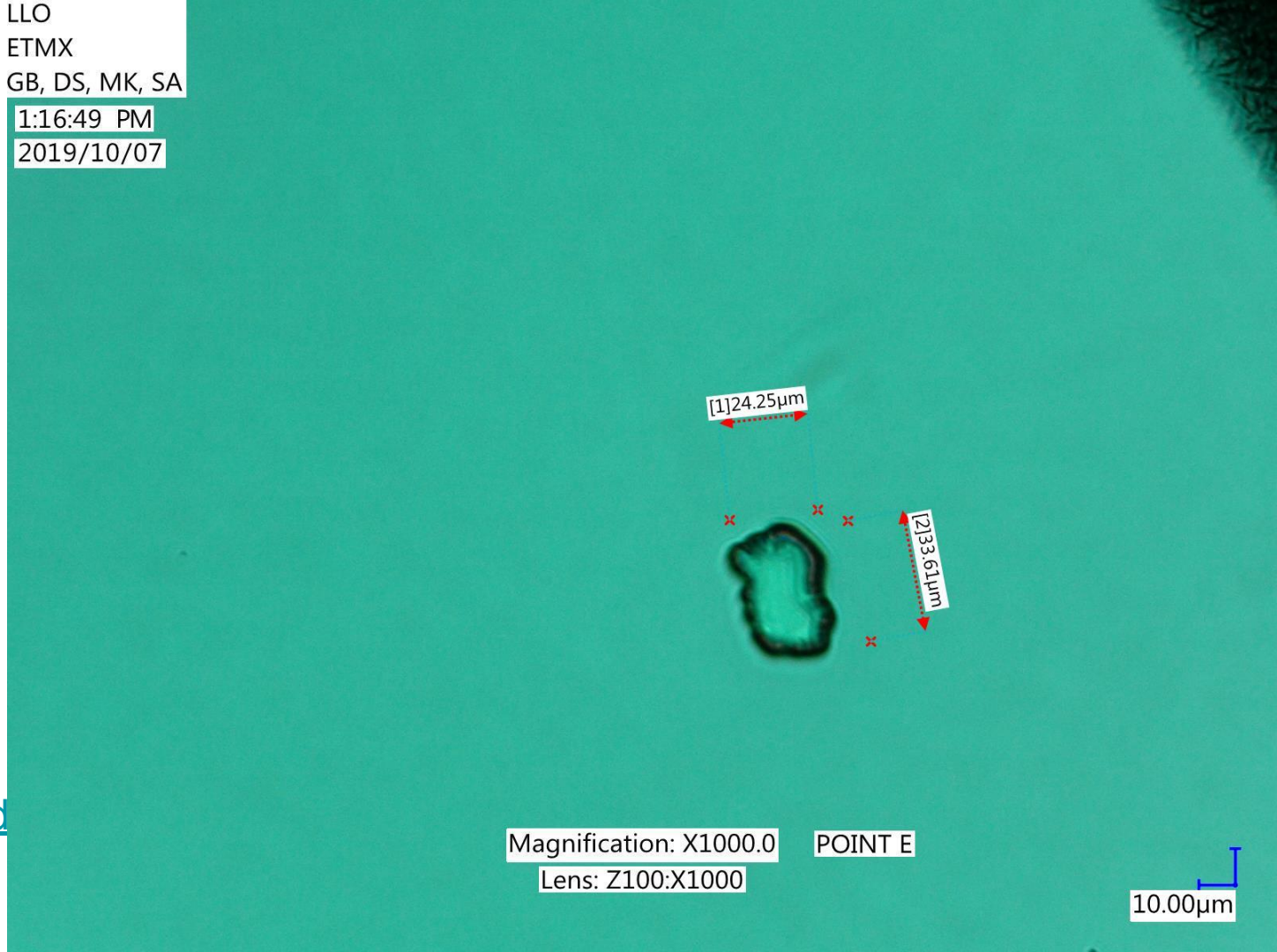
Category:

Coating Void

Notes:

Transmitting illumination from green flashlight in this image

(jump to bright field illumination)



Magnification: X1000.0  
Lens: Z100:X1000

POINT E

10.00µm

LLO  
ETMX  
GB, DS, MK, SA  
12:59:35 PM  
2019/10/07

ETMX

# Point F

Category:

Unknown

Notes:



Magnification: X1000.0

Lens: Z100:X1000

POINT F

10.00µm



# ETMX

## Point G

Category:

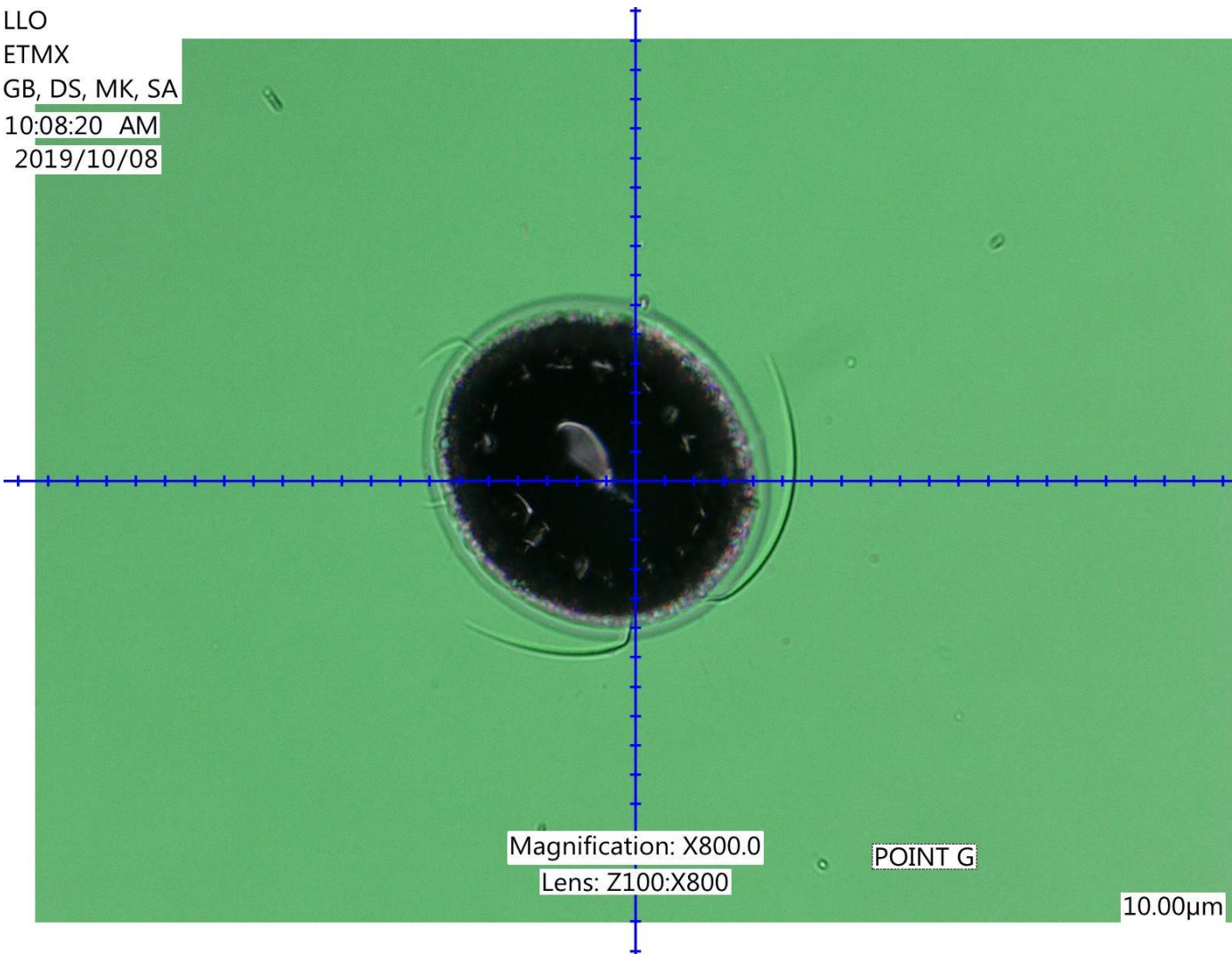
Damaged Absorber

Notes:

(jump to green back illumination)

(jump to monochrome relief overview)

LLO  
ETMX  
GB, DS, MK, SA  
10:08:20 AM  
2019/10/08



Magnification: X800.0

Lens: Z100:X800

POINT G

10.00μm

LLO  
ETMX  
GB, DS, MK, SA

# ETMX

## Point G (green)

Category:

Damaged Absorber

Notes:

Transmitting illumination  
from green flashlight in  
this image

[\(jump to bright field  
illumination\)](#)

[\(jump to monochrome  
relief overview\)](#)



STILL FROM VIDEO 202

Lens: Z100:X1000

POINT G

10.00µm

ETMX

# Point G

(overview)

Category:

Damaged Absorber

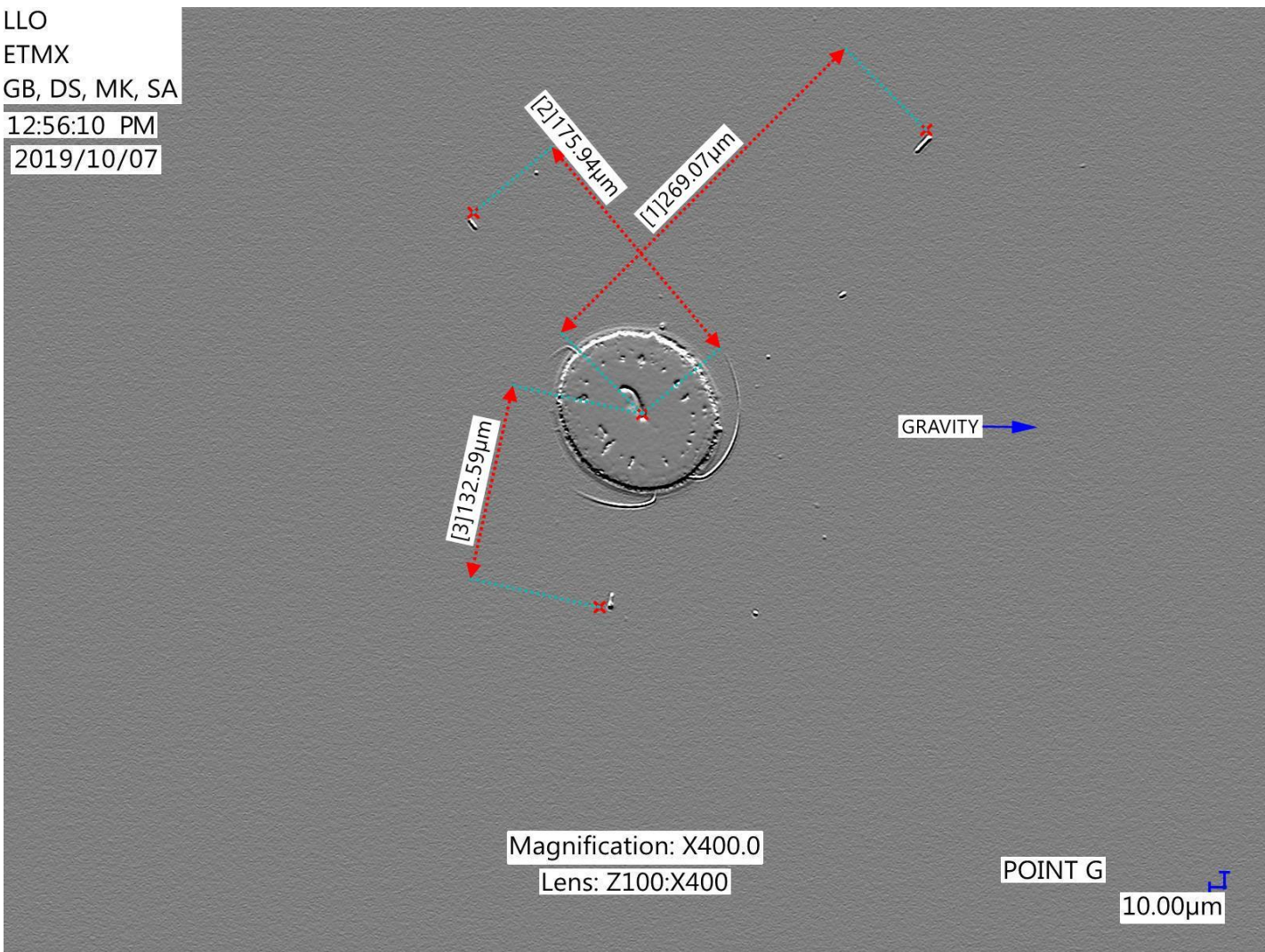
Notes:

Monochrome relief of  
bright field image

[\(jump to bright field  
illumination\)](#)

[\(jump to green back  
illumination\)](#)

LLO  
ETMX  
GB, DS, MK, SA  
12:56:10 PM  
2019/10/07



Magnification: X400.0  
Lens: Z100:X400

POINT G

10.00 μm



LLO  
ETMX  
GB, DS, MK, SA  
1:01:58 PM  
2019/10/07

ETMX

# Point H

Category:

Debris

Notes:



Magnification: X1000.0 POINT H

Lens: Z100:X1000

10.00µm

LLO  
ETMX  
GB, DS, MK, SA  
1:11:01 PM  
2019/10/07

ETMX

# Point I

Category:

Debris

Notes:



Magnification: X1000.0

Lens: Z100:X1000

POINT I

10.00µm

LLO  
ETMX  
GB, DS, MK, SA  
1:13:03 PM  
2019/10/07

ETMX

# Point J

Category:

Coating Void

Notes:



Magnification: X1000.0

POINT J

Lens: Z100:X1000

10.00µm

LLO  
ETMX  
GB, DS, MK, SA  
1:56:10 PM  
2019/10/07

ETMX

# Point K

Category:

Debris

Notes:



Magnification: X1000.0

POINT K

Lens: Z100:X1000

10.00µm

LLO  
ETMX  
GB, DS, MK, SA  
1:52:59 PM  
2019/10/07

ETMX

Point L

Category:

Coating Void

Notes:





LLO  
ETMX  
GB, DS, MK, SA  
1:50:29 PM  
2019/10/07

ETMX

# Point M

Category:

Coating Void

Notes:



Magnification: X1000.0

Lens: Z100:X1000

POINT M

10.00µm

LLO  
ETMX  
GB, DS, MK, SA  
1:45:41 PM  
2019/10/07

ETMX

Point N

Category:

Halos

Notes:



LLO  
ETMX  
GB, DS, MK, SA  
1:44:08 PM  
2019/10/07

ETMX

# Point O

Category:

Coating Void

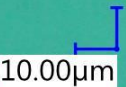
Notes:

Transmitting illumination  
from green flashlight in  
this image



Magnification: X1000.0 POINT O

Lens: Z100:X1000



LLO  
ETMX  
GB, DS, MK, SA  
1:38:45 PM  
2019/10/07

# ETMX

## Point P

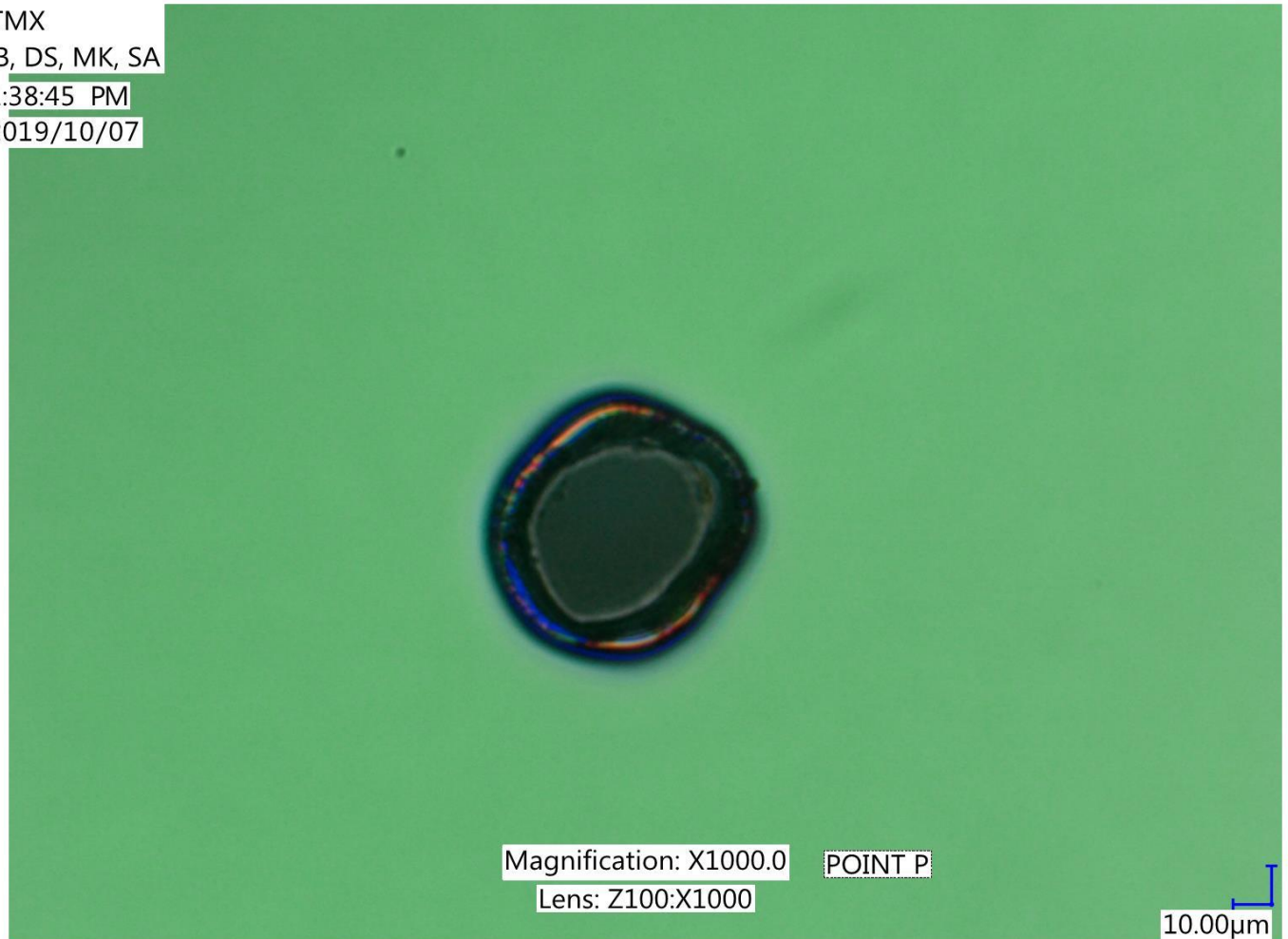
Category:

Damaged Absorber

Notes:

(jump to green back illumination)

(jump to monochrome relief overview)



Magnification: X1000.0  
Lens: Z100:X1000

POINT P

10.00 μm



LLO  
ETMX  
GB, DS, MK, SA  
1:39:03 PM  
2019/10/07

ETMX

Point P<sub>(green)</sub>

Category:

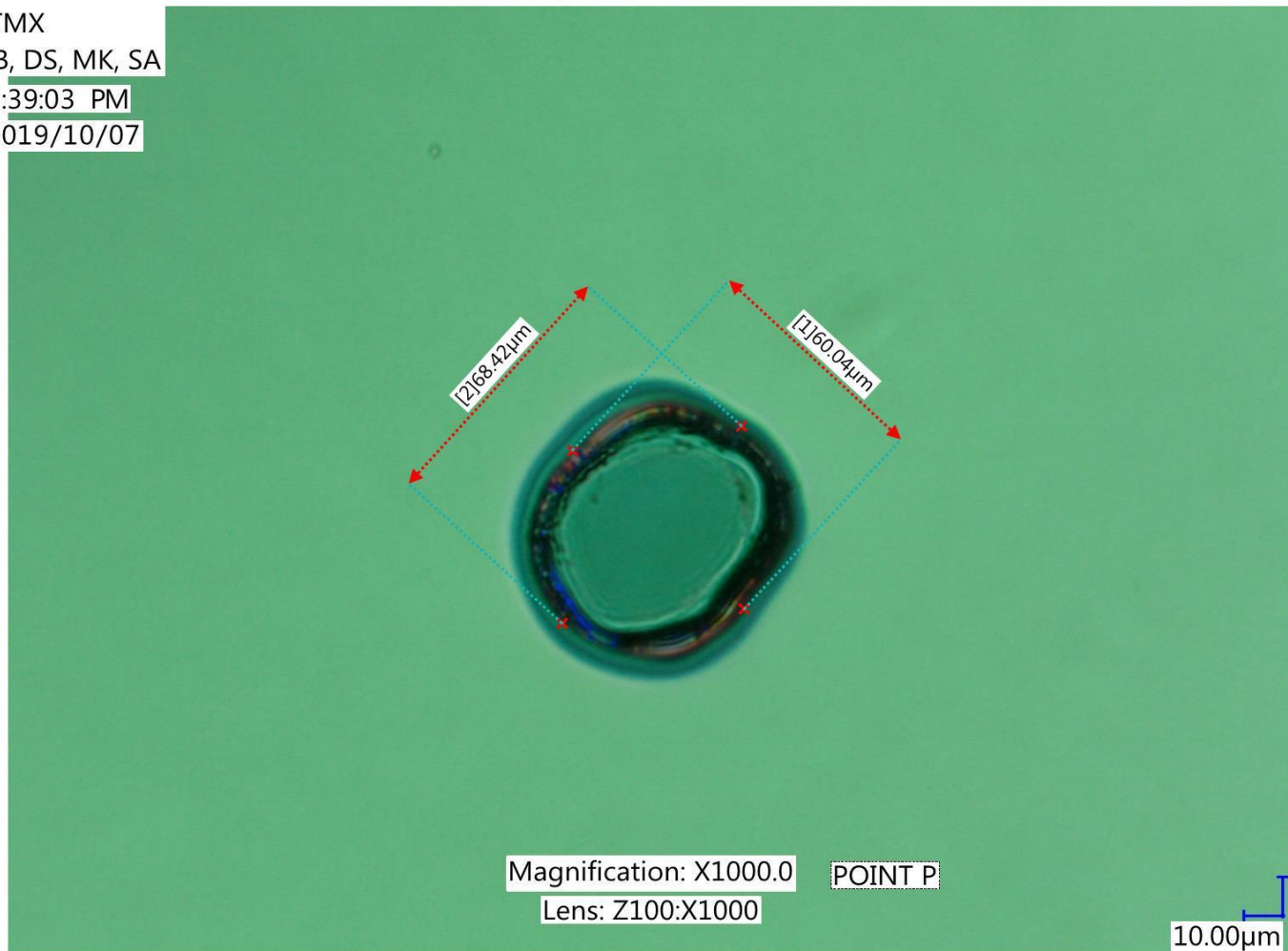
Damaged Absorber

Notes:

Transmitting illumination  
from green flashlight in  
this image

[\(jump to bright field  
illumination\)](#)

[\(jump to monochrome  
relief overview\)](#)



LLO  
ETMX  
GB, DS, MK, SA

1:41:28 PM  
2019/10/07

# ETMX

## Point P

(overview)

Category:

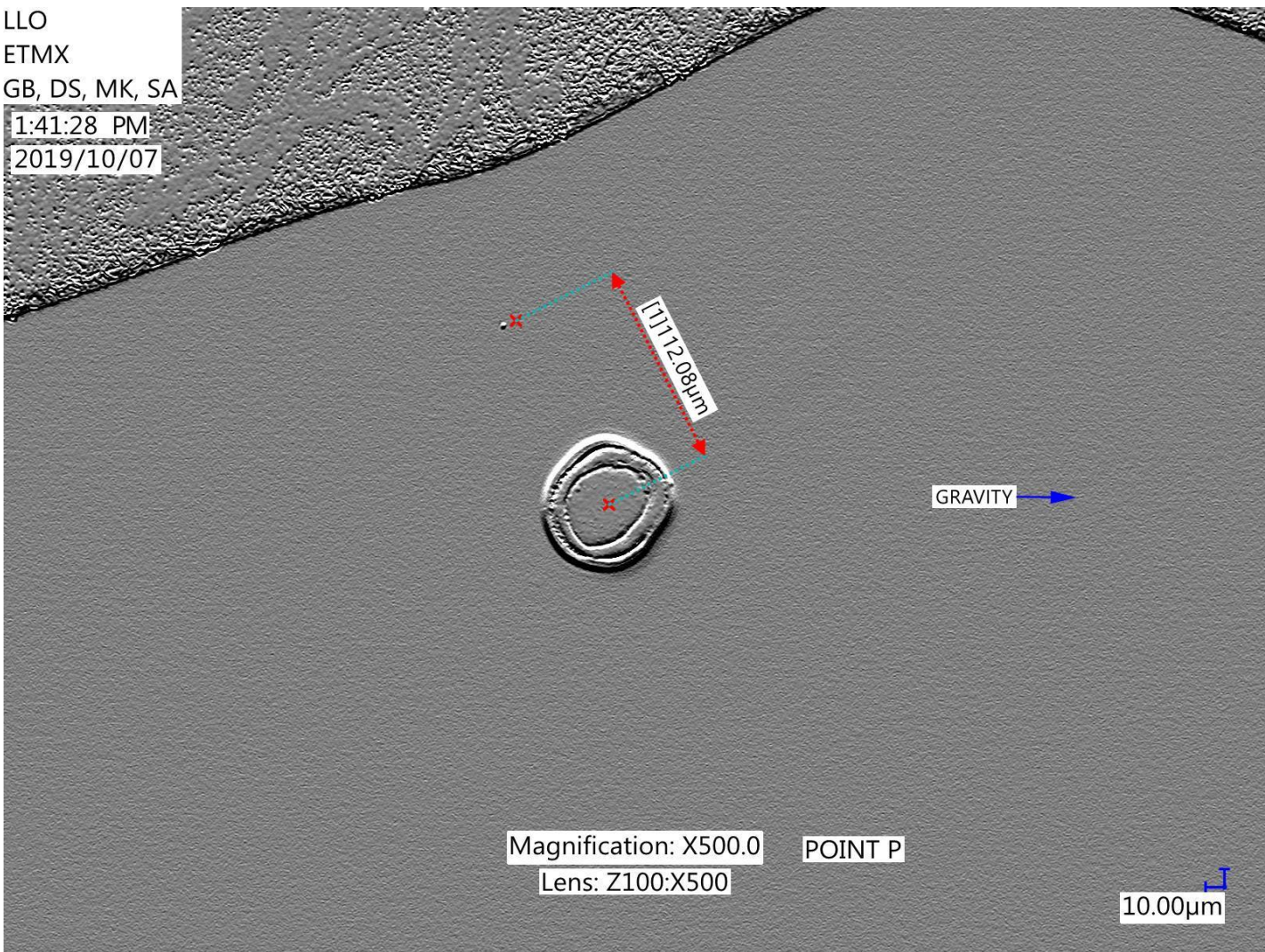
Damaged Absorber

Notes:

Monochrome relief of  
bright field image

[\(jump to bright field  
illumination\)](#)

[\(jump to green back  
illumination\)](#)



Magnification: X500.0  
Lens: Z100:X500

POINT P

10.00 μm

# ETMX VIDEOS

(JUMP TO [ETMX IMAGES](#))  
(JUMP TO [ETMY IMAGES](#))  
(JUMP TO [ETMY VIDEOS](#))

[ETMX Point D \(green back illumination video\)](#)

[ETMX Point E \(green back illumination video\)](#)

[ETMX Point G \(green back illumination video\)](#)

[ETMX Point J \(green back illumination video\)](#)

[ETMX Point P \(green back illumination video\)](#)

[ETMX Point P \(bright field video\)](#)

# ETMX

## Point D (green

back illumination video)

Category:

## Damaged Absorber

Notes:

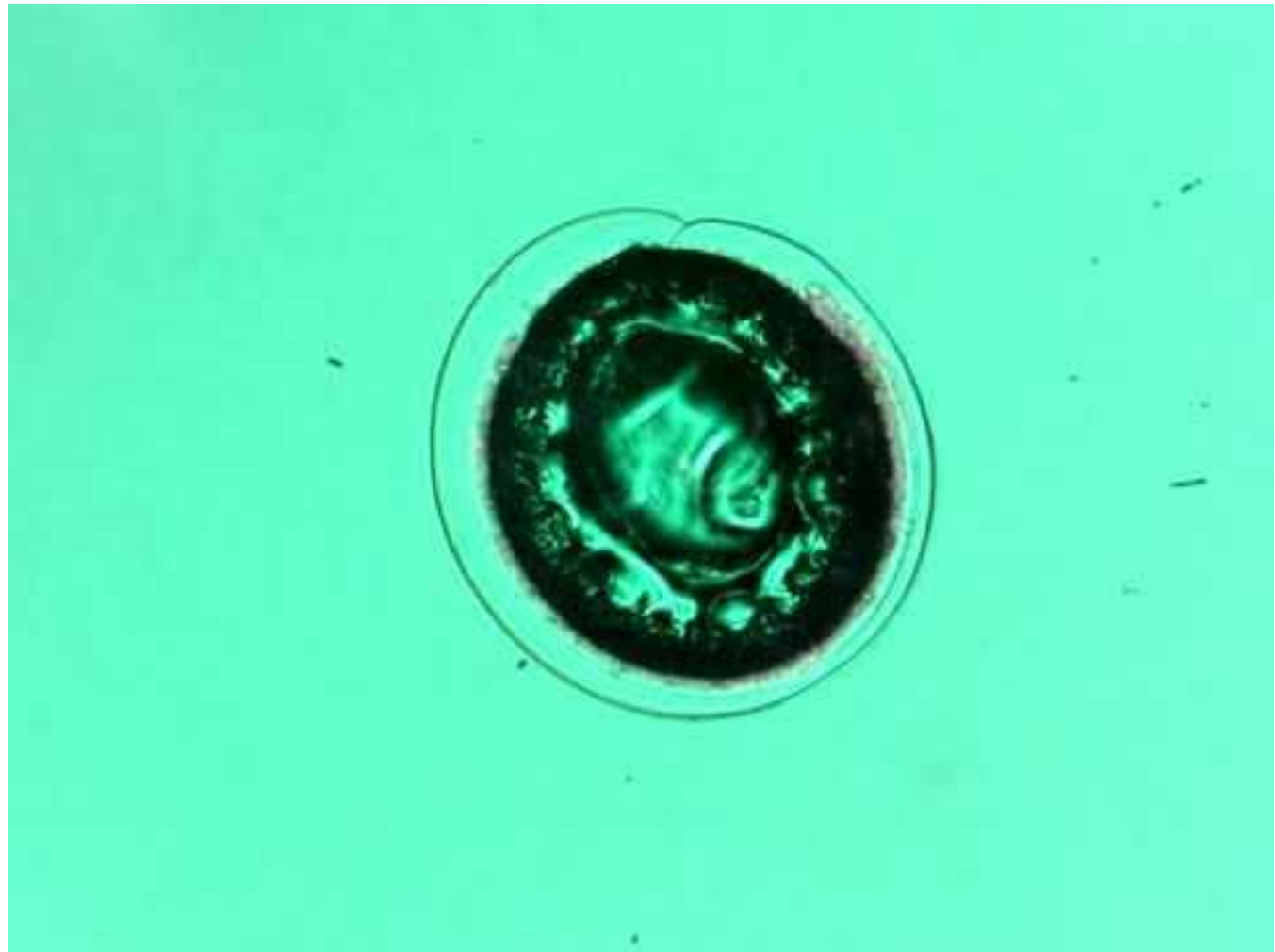
Bright field video

Green back illumination

Changing focus

<https://youtu.be/p1mfejd>

[HsUY](#)





# ETMX

## Point E (green

back illumination video)

Category:

## Coating Void

Notes:

Bright field video

Green back illumination

Changing focus

<https://youtu.be/fGwnqO>

[Dnn3Q](#)



# ETMX

## Point G (green

back illumination video)

Category:

## Damaged Absorber

Notes:

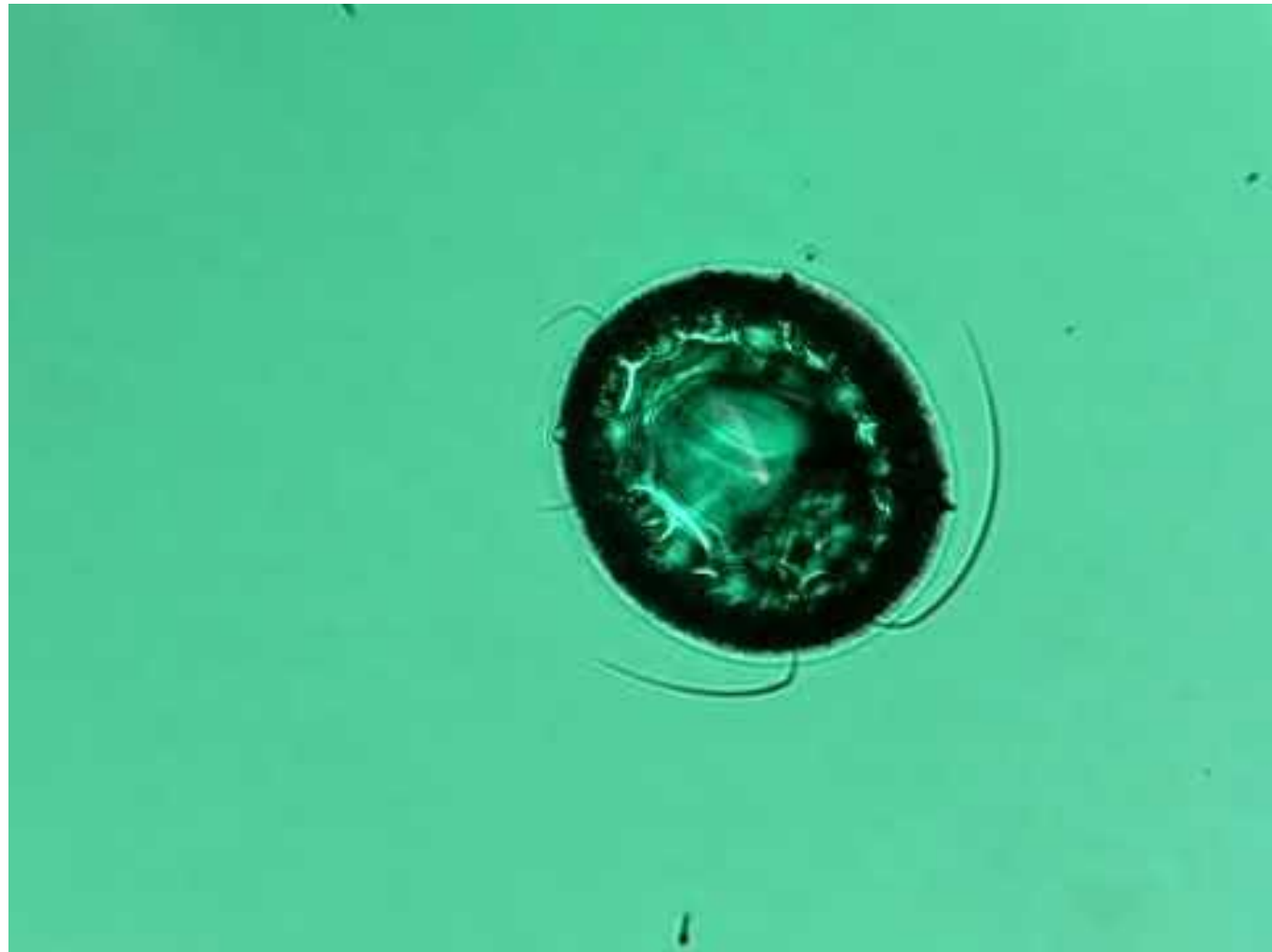
Bright field video

Green back illumination

Changing focus

<https://youtu.be/p1mfejd>

[HsUY](#)



# ETMX

## Point J (green

back illumination video)

Category:

## Coating Void

Notes:

Bright field video

Green back illumination

Changing focus

<https://youtu.be/p1mfejd>

[HsUY](#)



# ETMX

## Point P<sub>(green</sub>

back illumination video)

Category:

Damaged Absorber

Notes:

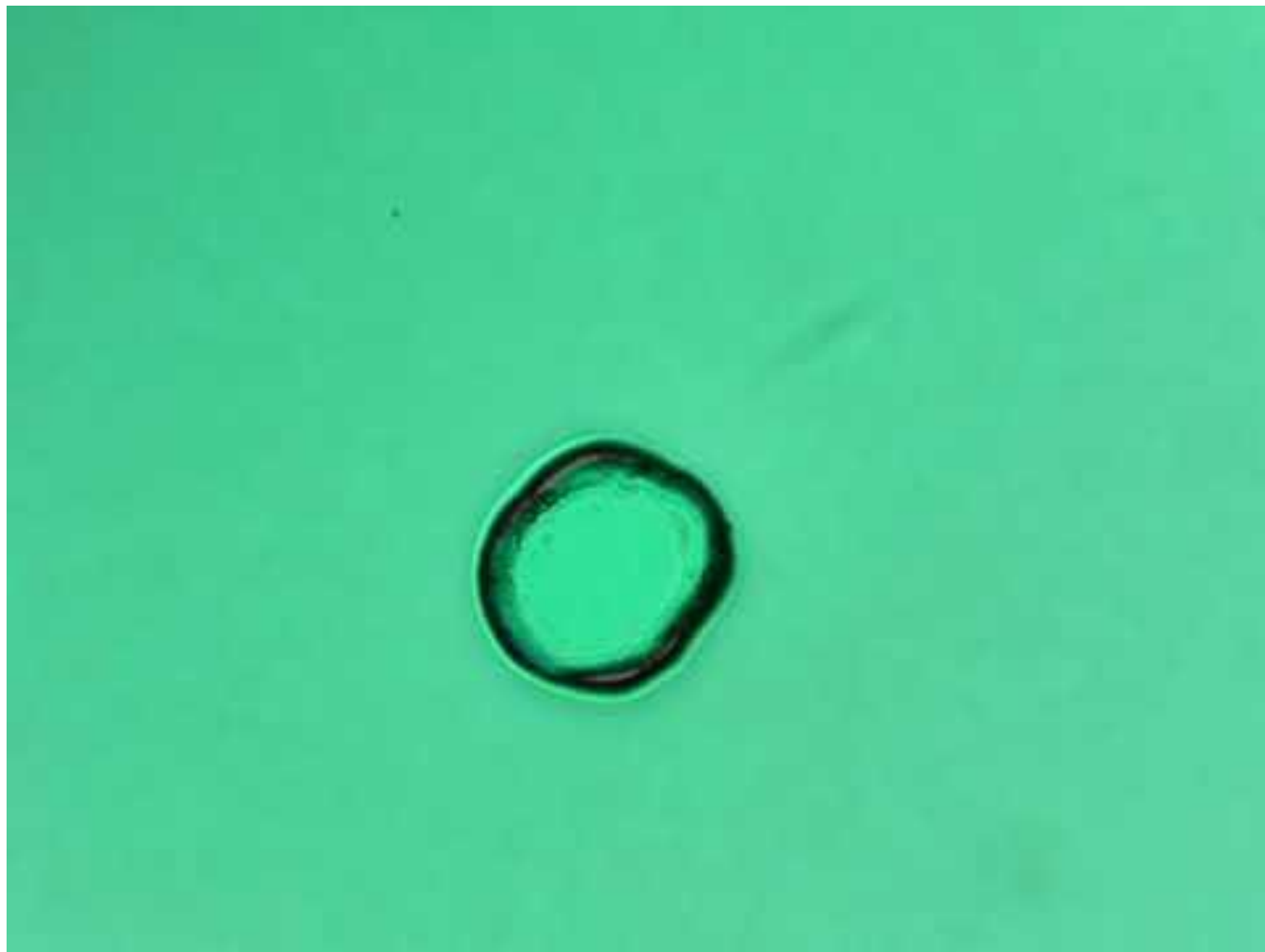
Bright field video

Green back illumination

Changing focus

<https://youtu.be/8MDN1f>

[qSXmc](#)



# ETMX

## Point P (bright

field video)

Category:

Damaged Absorber

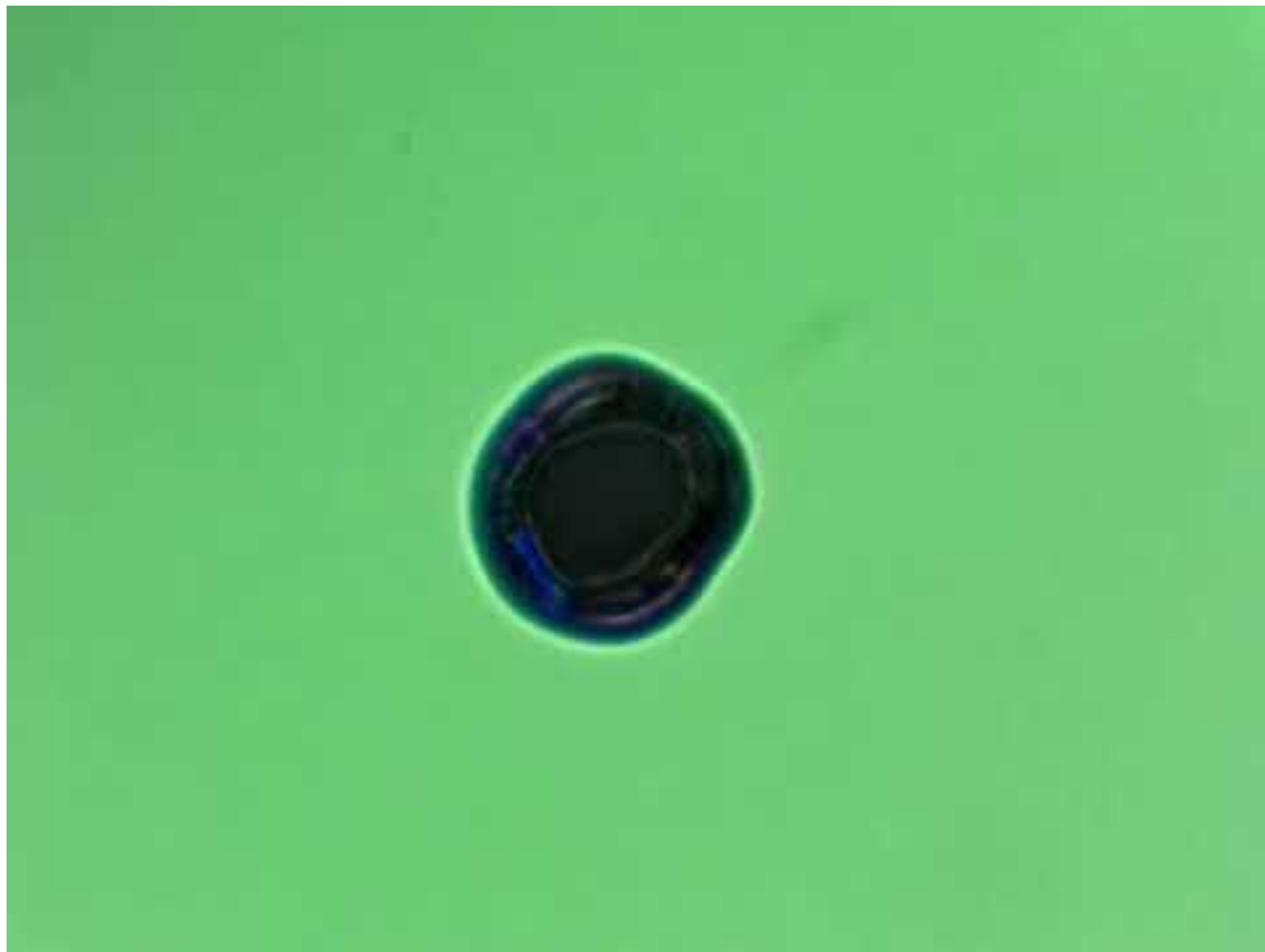
Notes:

Bright field video

Changing focus

<https://youtu.be/-YFncT>

[Wbnh4](#)





# ETMY IMAGES

(JUMP TO [ETMY VIDEOS](#))

(JUMP TO [ETMX VIDEOS](#))

(JUMP TO [ETMX IMAGES](#))

## [ETMY MAP](#)

[ETMY Point A](#)

[ETMY Point A \(after FC cleaning\)](#)

[ETMY Point A \(green\)](#)

[ETMY Point A \(overview\)](#)

[ETMY Point B](#)

[ETMY Point C](#)

[ETMY Point D](#)

[ETMY Point E](#)

[ETMY Point F](#)

[ETMY Point G](#)

[ETMY Point H](#)

[ETMY Point I1](#)

[ETMY Point I2](#)

[ETMY Point LRQ NEW](#)

[ETMY Point NEW](#)

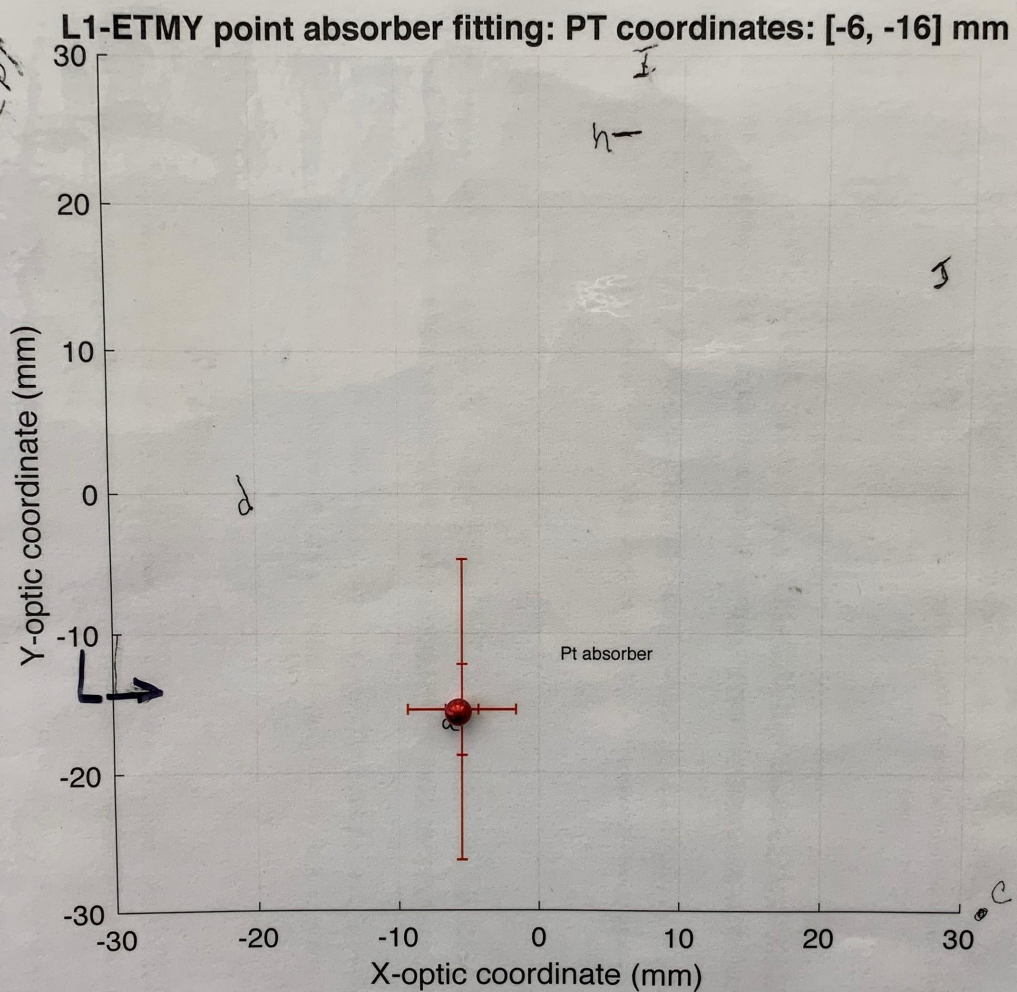
[ETMY Point DOT](#)

[ETMY Point HORZ STREAK](#)

# ETMY MAP

(jump to [ETMX MAP](#))

(jump to [ETMY IMAGES](#))



LLO  
ETMY  
GB, DS, MK,SA

2:22:39 PM  
2019/10/03

ETMY

# Point A

Category:

Damaged Absorber

Notes:

Before First Contact  
cleaning effort

[\(jump to after\)](#)

[\(jump to green back  
illumination\)](#)

[\(jump to monochrome  
relief overview\)](#)



Magnification: X400.0

Lens: Z100:X400

POINT A



LLO  
ETMY  
GB, DS, MK, SA  
12:57:21 PM  
2019/10/04

ETMY

Point A (after FC  
cleaning)

Category:

Damaged Absorber

Notes:

After First Contact  
cleaning effort

[\(jump to before\)](#)

[\(jump to green back  
illumination\)](#)

[\(jump to monochrome  
relief overview\)](#)



LLO  
ETMY  
GB, DS, MK,SA

2:19:36 PM  
2019/10/03

ETMY

Point A<sub>(green)</sub>

Category:

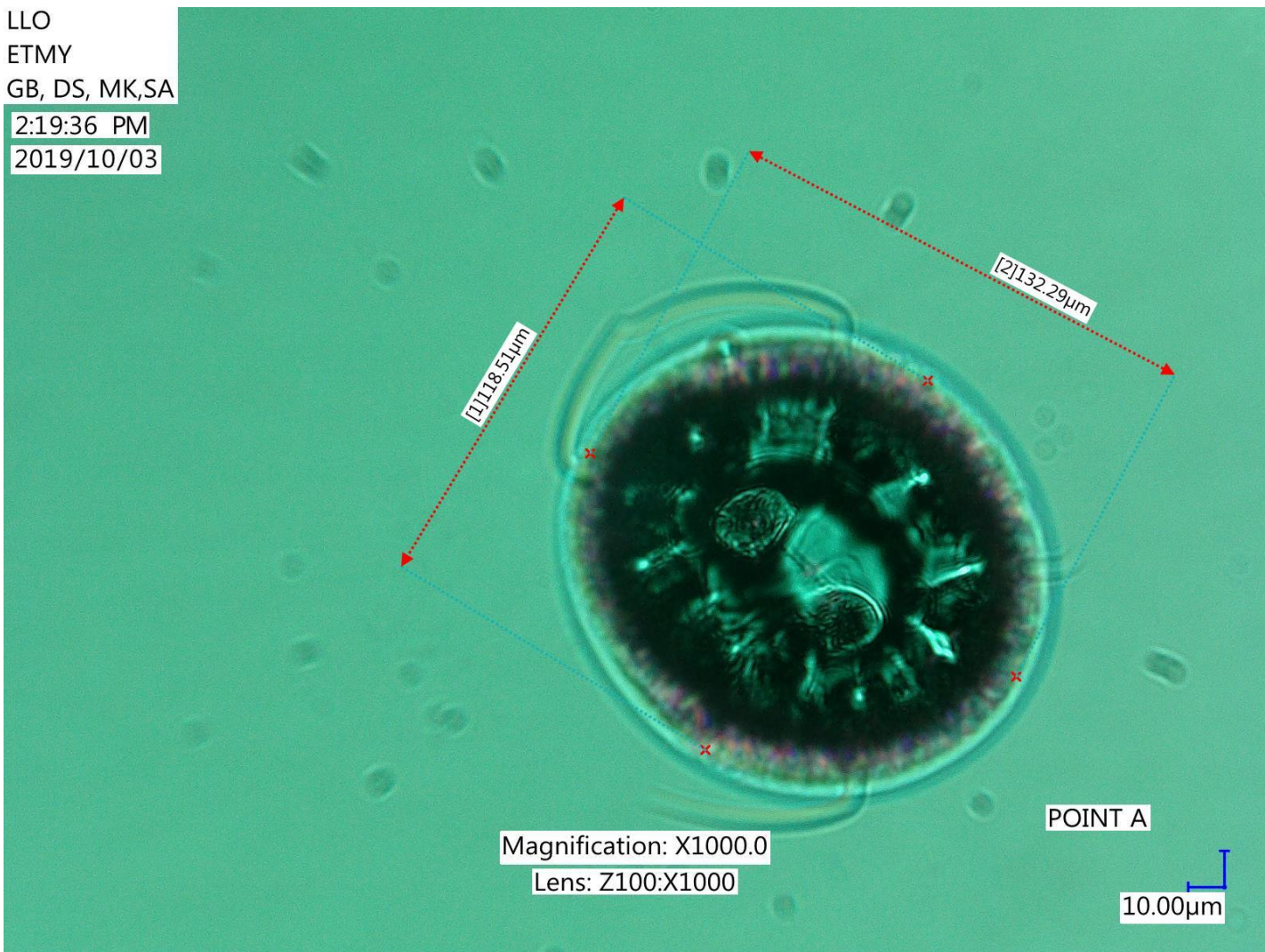
Damaged Absorber

Notes:

Transmitting illumination  
from green flashlight in  
this image

[\(jump to bright field  
illumination\)](#)

[\(jump to monochrome  
relief overview\)](#)



Magnification: X1000.0  
Lens: Z100:X1000

POINT A

10.00µm



# ETMY

## Point A (overview)

Category:

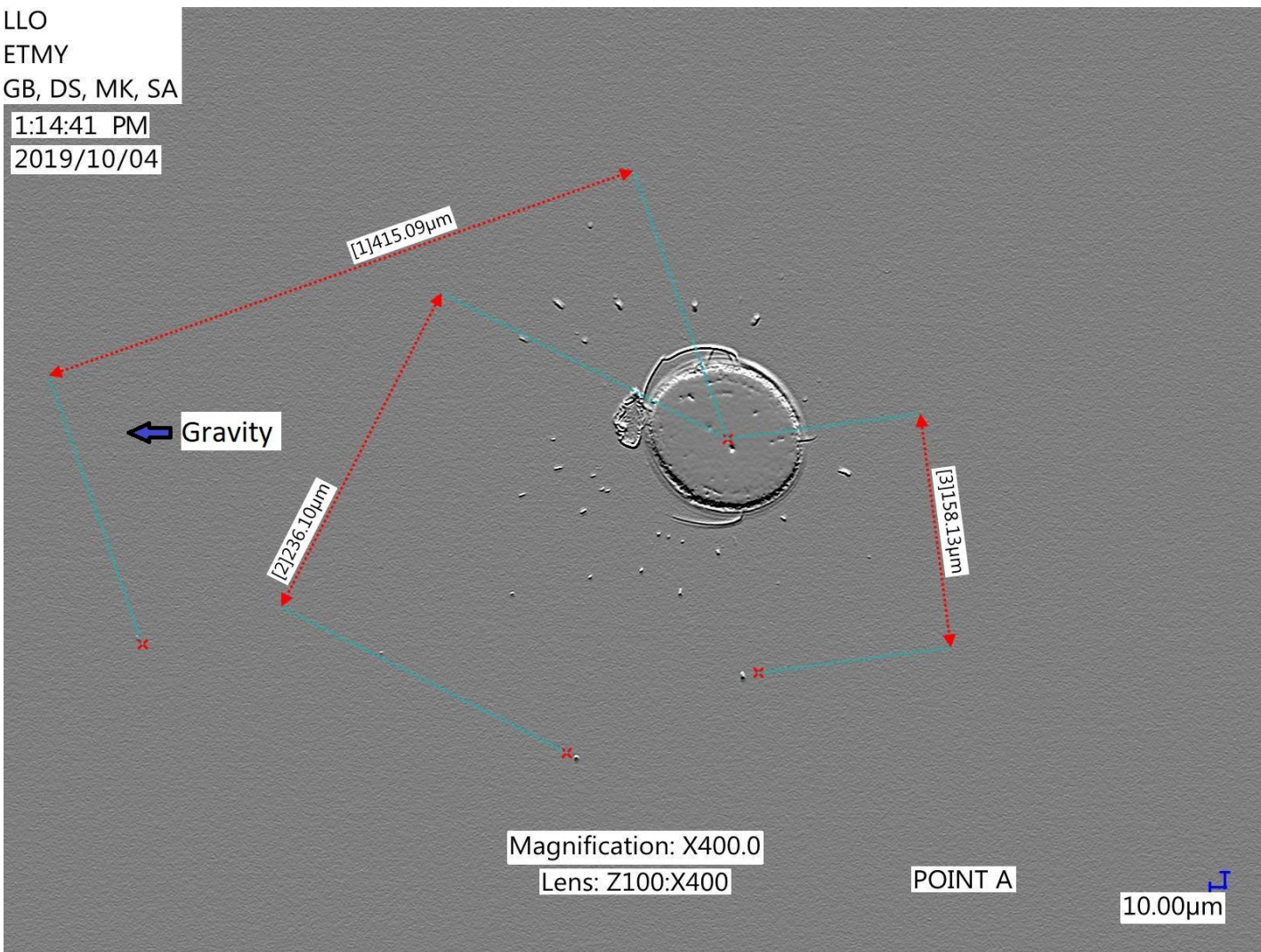
Damaged Absorber

Notes:

Monochrome relief of  
bright field image

[\(jump to bright field  
illumination\)](#)

[\(jump to green back  
illumination\)](#)



LLO  
ETMY  
GB, DS, MK,SA  
2:10:44 PM  
2019/10/03

ETMY

## Point B

Category:

Debris

Notes:



Magnification: X1000.0

Lens: Z100:X1000



LLO  
ETMY  
GB, DS, MK,SA  
2:13:02 PM  
2019/10/03

ETMY

# Point C

Category:

Halos

Notes:



Magnification: X400.0

Lens: Z100:X400

POINT C

LLO  
ETMY  
GB, DS, MK,SA  
2:43:02 PM  
2019/10/03

ETMY

# Point D

Category:

Unknown

Notes:





LLO  
ETMY  
GB, DS, MK,SA  
2:46:36 PM  
2019/10/03

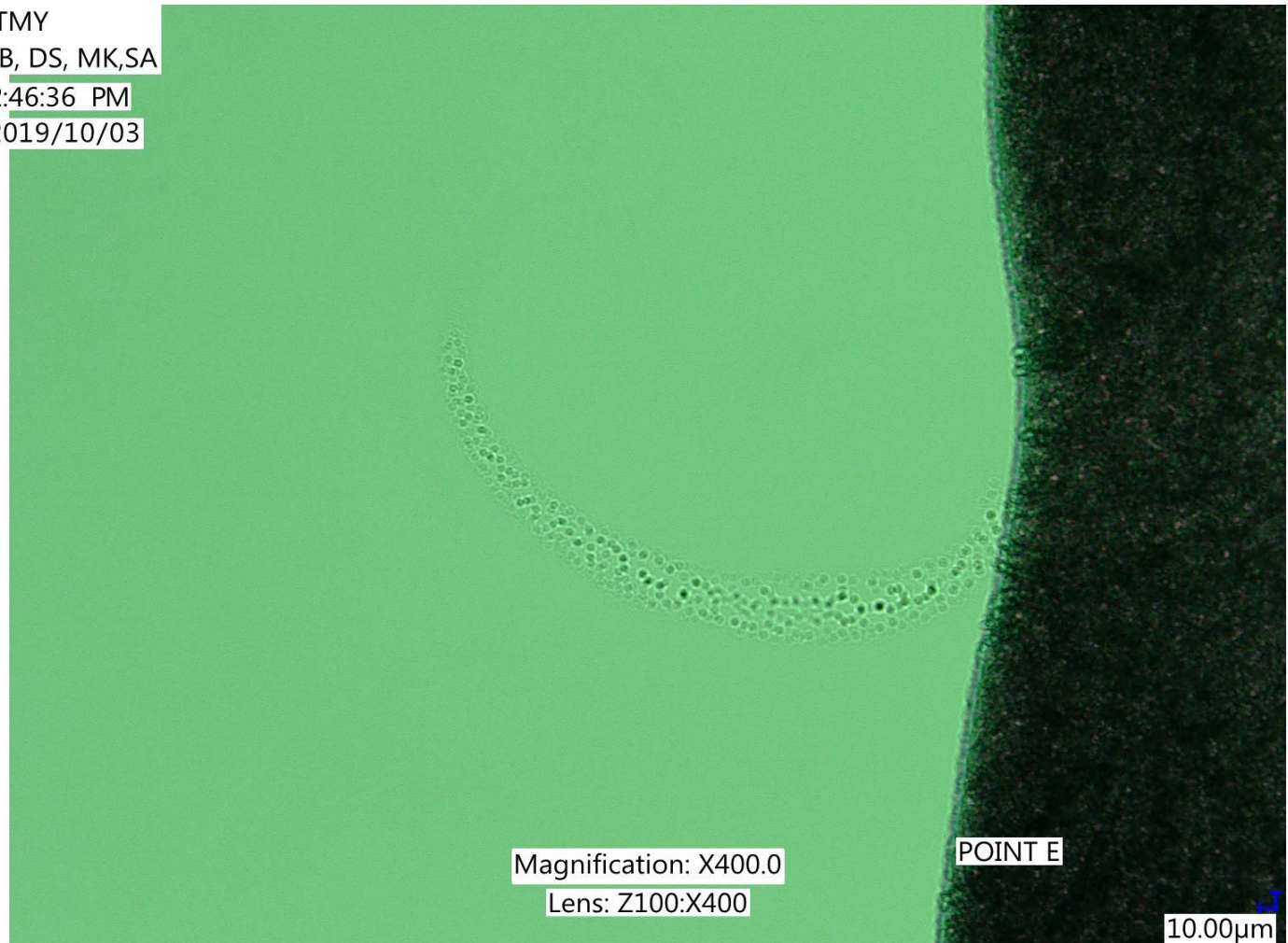
ETMY

# Point E

Category:

Halos

Notes:



LLO  
ETMY  
GB, DS, MK,SA  
2:49:47 PM  
2019/10/03

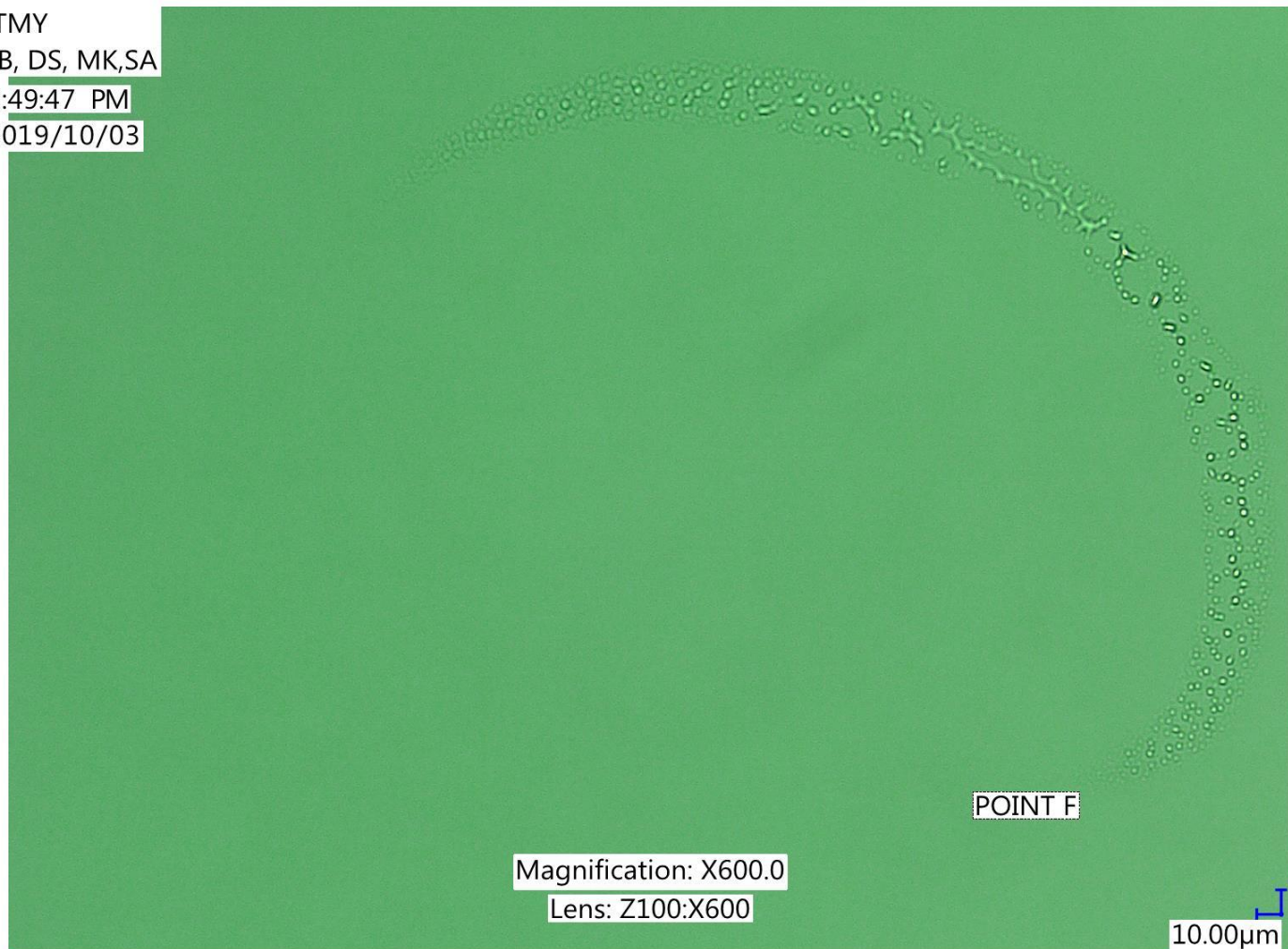
ETMY

# Point F

Category:

Halos

Notes:





LLO  
ETMY  
GB, DS, MK,SA  
2:54:25 PM  
2019/10/03

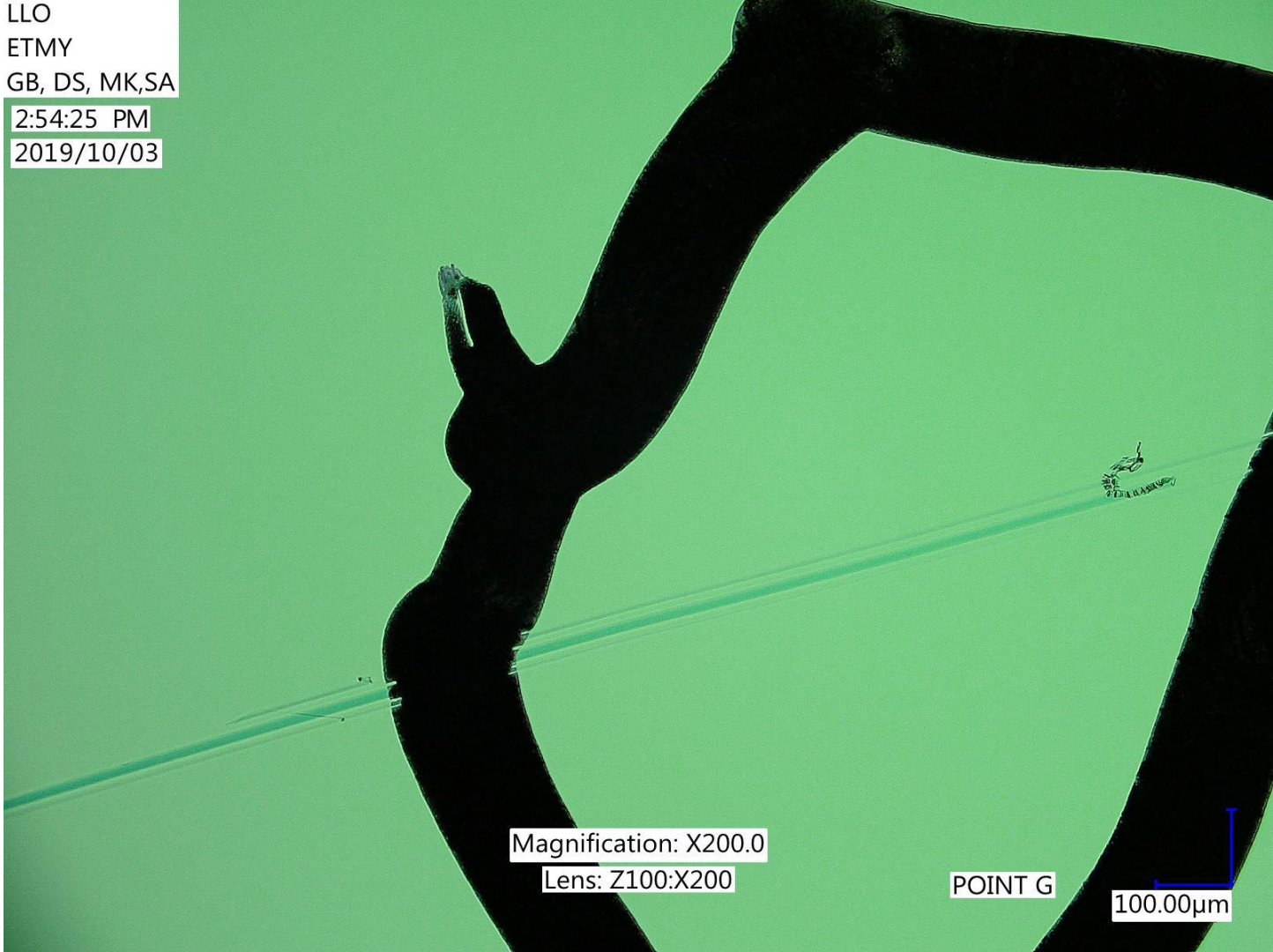
ETMY

# Point G

Category:

Debris

Notes:



Magnification: X200.0

Lens: Z100:X200

POINT G

100.00µm

LLO  
ETMY  
GB, DS, MK,SA  
3:27:38 PM  
2019/10/03

ETMY

## Point H

Category:

Unknown

Notes:

3 Lines which  
extend > 1mm

This image  
attempts to show  
individual features

2 OTHER SIMILAR REGIONS TO POINT H ARE NEARBY



Magnification: X1000.0

Lens: Z100:X1000

POINT H

10.00µm



LLO  
ETMY  
GB, DS, MK,SA  
3:31:55 PM  
2019/10/03

ETMY

# Point I1

Category:

Debris

Notes:

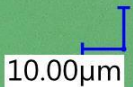
Separated from I2  
by > 2mm



Magnification: X1000.0

Lens: Z100:X1000

POINT I1



LLO  
ETMY  
GB, DS, MK,SA  
3:34:44 PM  
2019/10/03

ETMY

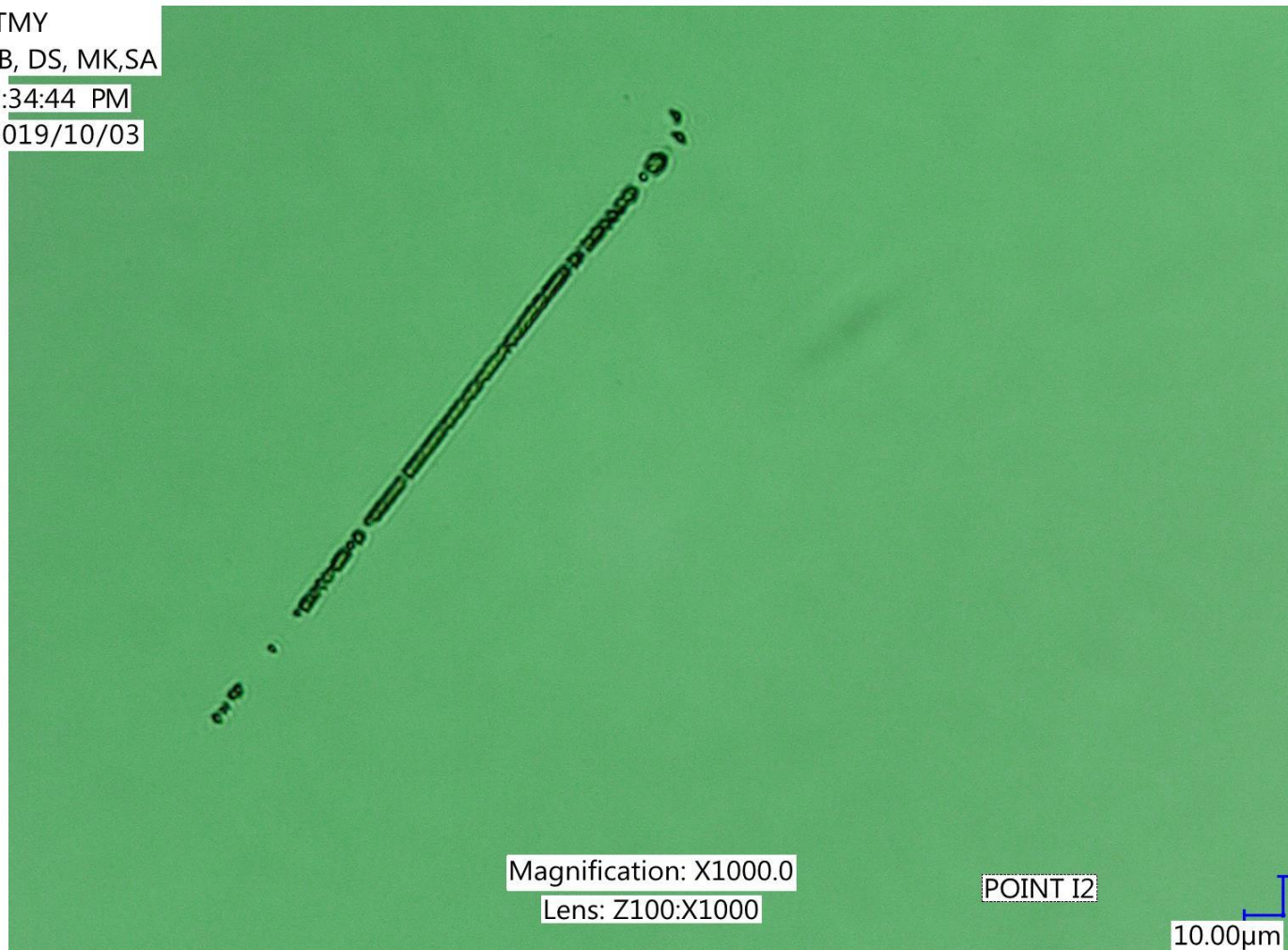
## Point I2

Category:

Unknown

Notes:

Separated from I1  
by > 2mm



# ETMY

## Point LRQ NEW

Category:

### Unknown

### Notes:

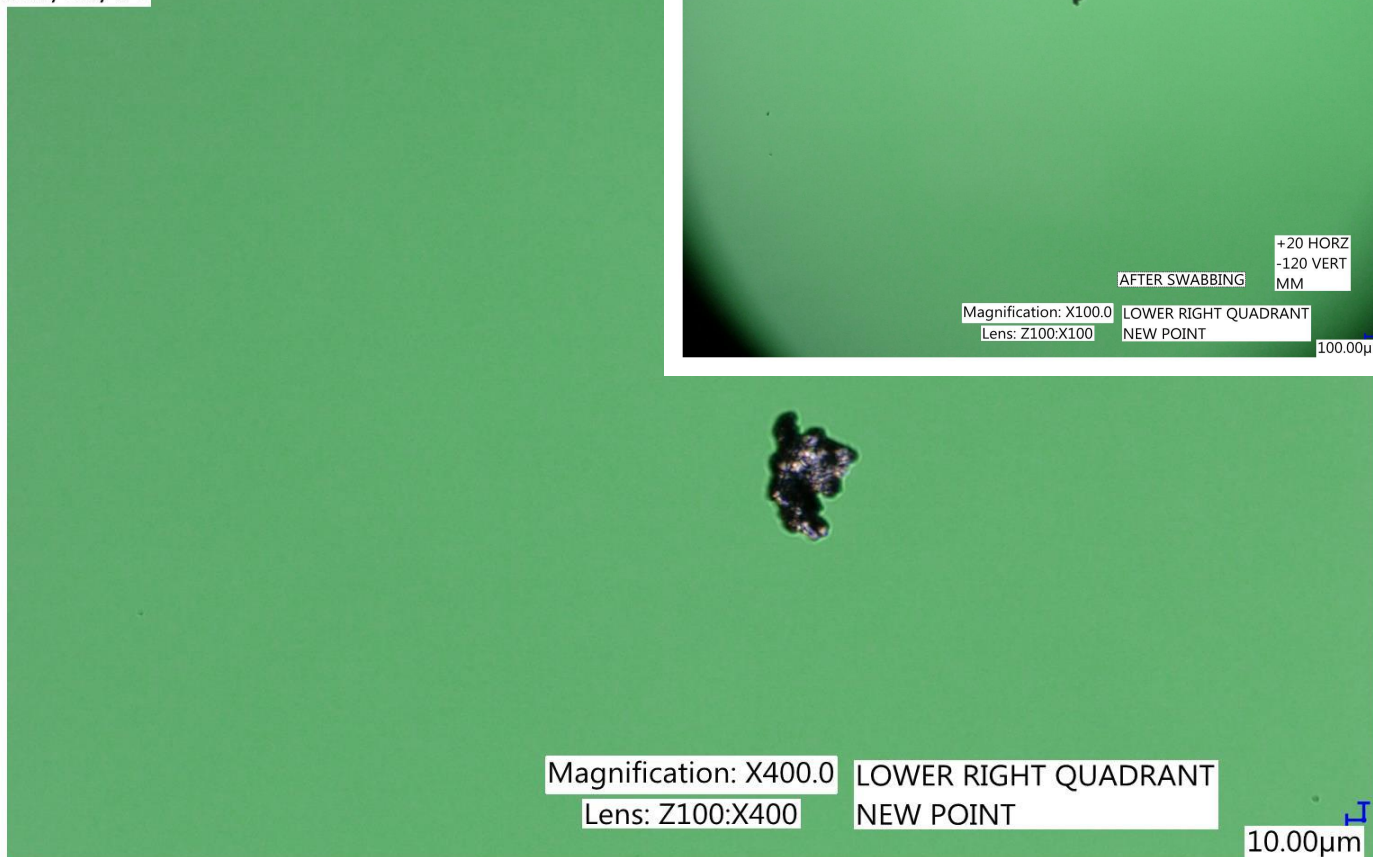
Found during random scanning

Apparent debris but still present after swabbing (see inset)

Approx location from center  
+20 mm horizontal, -120 mm vertical

LLO  
ETMY  
GB, DS, MK, SA  
1:29:03 PM  
2019/10/04

LLO  
ETMY  
GB, DS, MK, SA  
1:32:38 PM  
2019/10/04





LLO  
ETMY  
GB, DS, MK, SA  
1:41:53 PM  
2019/10/04

ETMY

Point NEW

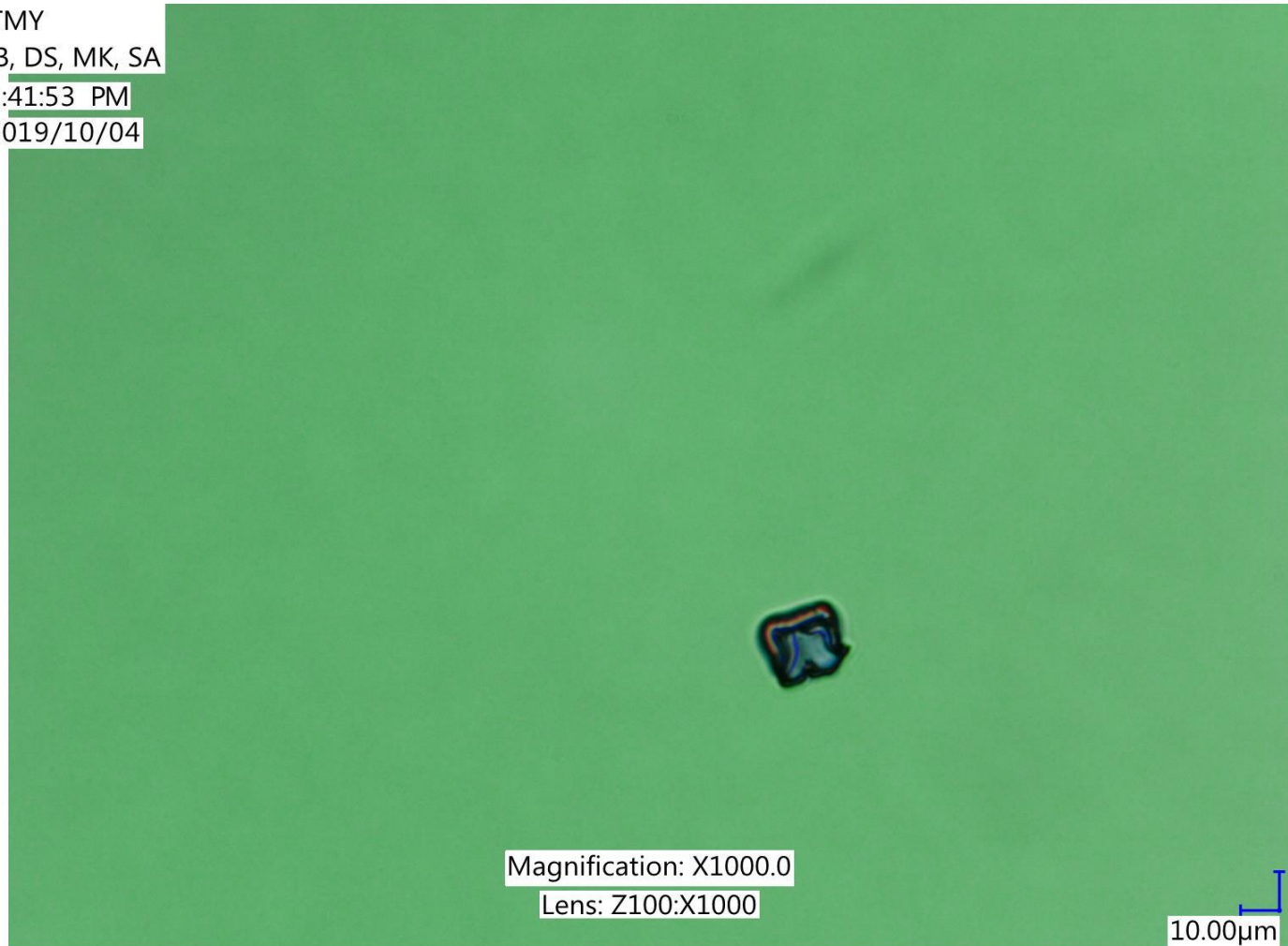
Category:

Unknown

Notes:

Found during random  
scanning

Approx location from center  
+9 mm horizontal, +20 mm  
vertical



Magnification: X1000.0

Lens: Z100:X1000

10.00µm



LLO  
ETMY  
GB, DS, MK, SA  
1:21:17 PM  
2019/10/04

ETMY

Point DOT

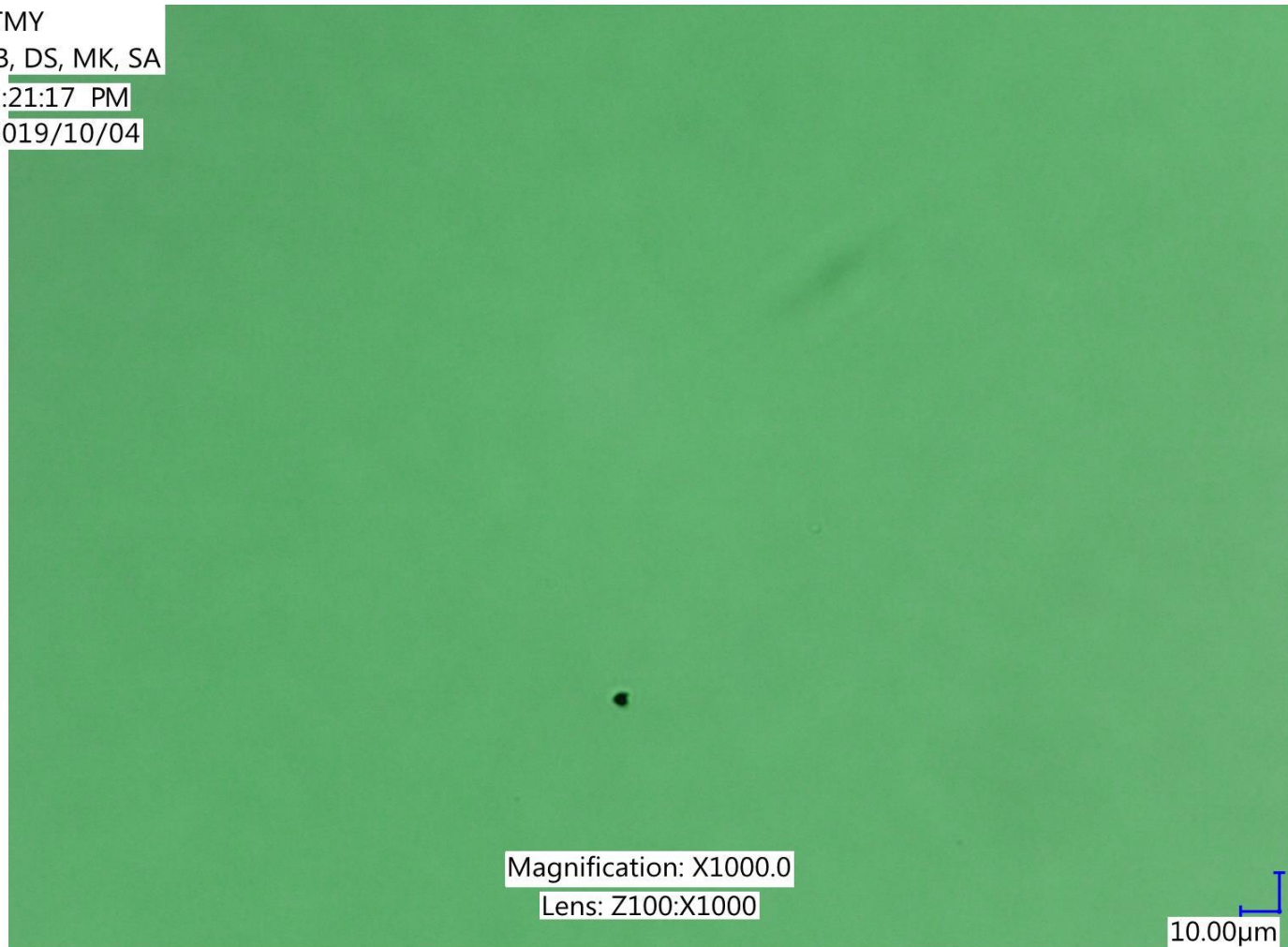
Category:

Unknown

Notes:

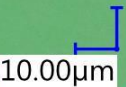
Found during random  
scanning

Approx location from center  
+10 mm horizontal, +5 mm  
vertical



Magnification: X1000.0

Lens: Z100:X1000



10.00µm

LLO  
ETMY  
GB, DS, MK, SA  
1:24:09 PM  
2019/10/04

# ETMY

Point HORZ STREAK

Category:

Unknown

Notes:

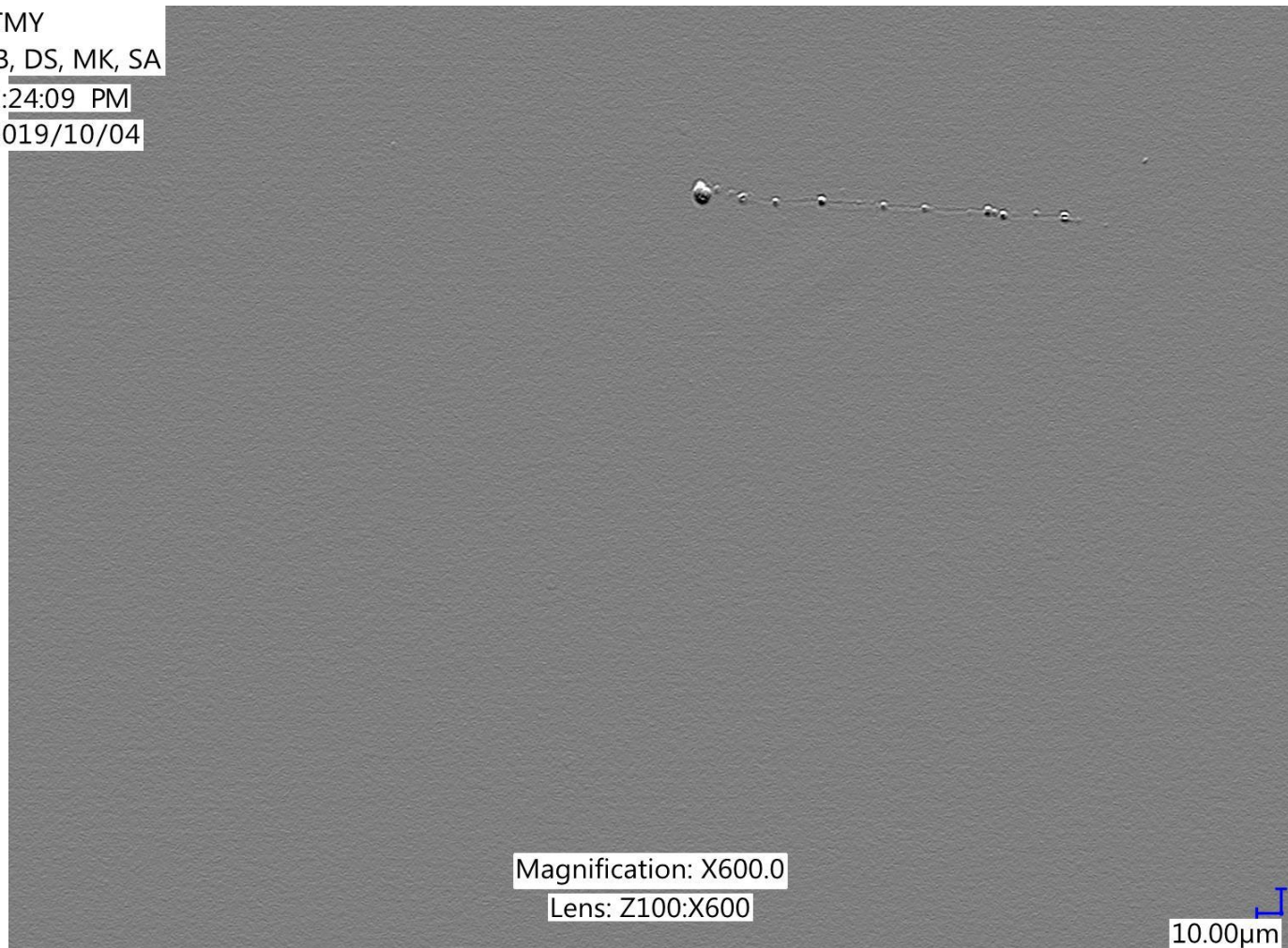
Monochrome relief of bright field image

Found during random scanning

Approx location from center  
+10 mm horizontal, +5 mm vertical

Visually similar to [ETMY](#)

[Point H](#)



Magnification: X600.0

Lens: Z100:X600

10.00µm

# ETMY VIDEOS

(JUMP TO [ETMY IMAGES](#))

(JUMP TO [ETMX VIDEOS](#))

(JUMP TO [ETMX IMAGES](#))

[ETMY Point A \(bright field video\)](#)

[ETMY Point A \(green back illumination video\)](#)

[ETMY Point A \(white side illumination video\)](#)

[ETMY Point A \(dark white side illumination after fc video\)](#)

[ETMY Point A \(dark white side illumination better after fc video\)](#)

[ETMY Point A \(dark white front illumination after fc video\)](#)

[ETMY Point A \(dark green front illumination after fc video\)](#)

[ETMY Point G \(bright field video\)](#)

# ETMY

Point A (bright  
field video)

Category:

Damaged Absorber

Notes:

Bright field video

Changing focus

<https://youtu.be/P4cyuvRQz3w>





# ETMY

## Point A (green

back illumination video)

Category:

## Damaged Absorber

Notes:

Bright field video

Green back illumination

Changing focus

<https://youtu.be/JW-bHO>

[8BGjM](#)



# ETMY

Point A (white  
side illumination video)

Category:

Damaged Absorber

Notes:

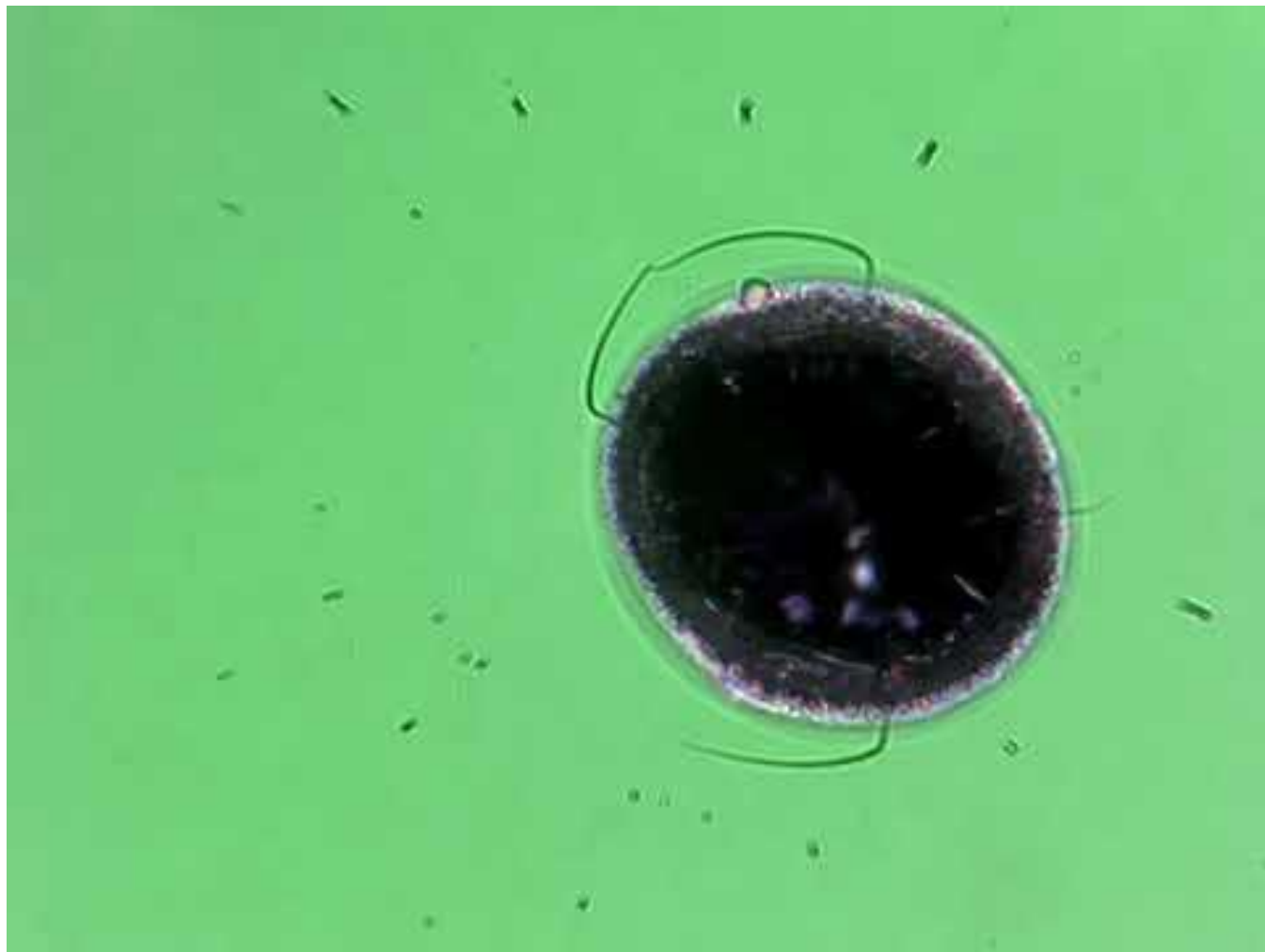
Bright field video

White side illumination

Changing focus

<https://youtu.be/kTyuJE>

[6ILtQ](#)



# ETMY

## Point A<sub>(dark)</sub>

white side illumination after fc video)

Category:

Damaged Absorber

Notes:

After FC Cleaning

Coaxial illumination OFF

White side illumination

Changing focus

<https://youtu.be/P72uJW>

[\\_4kxc](#)



# ETMY

## Point A (dark

white side illumination better after fc  
video)

Category:

## Damaged Absorber

### Notes:

After FC Cleaning

Coaxial illumination OFF

White side illumination

Changing focus - better!

<https://youtu.be/ue-G9m>

[EKwVA](#)





# ETMY

## Point A (dark

white front illumination after fc  
video)

Category:

## Damaged Absorber

Notes:

After FC Cleaning

Coaxial illumination OFF

White front illumination

Changing focus

<https://youtu.be/w8W1V>

[gbg\\_Fw](#)



# ETMY

## Point A (dark

green front illumination after fc  
video)

Category:

## Damaged Absorber

### Notes:

After FC Cleaning

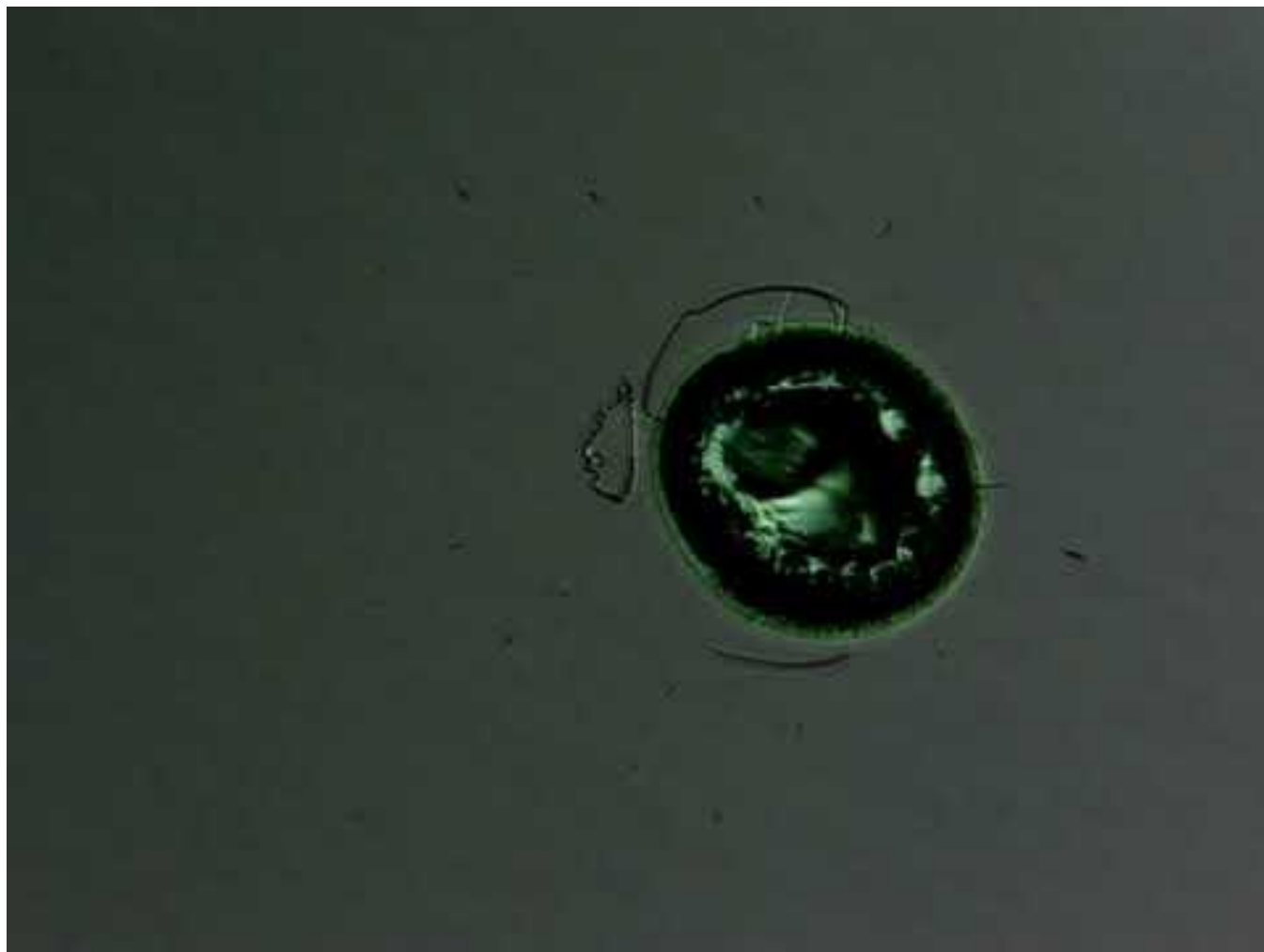
Coaxial illumination OFF

Green front illumination

Changing focus

<https://youtu.be/yKZVqp>

[wa-tg](#)



# ETMY

## Point A (dark

green front illumination after fc  
video)

Category:

## Damaged Absorber

### Notes:

After FC Cleaning

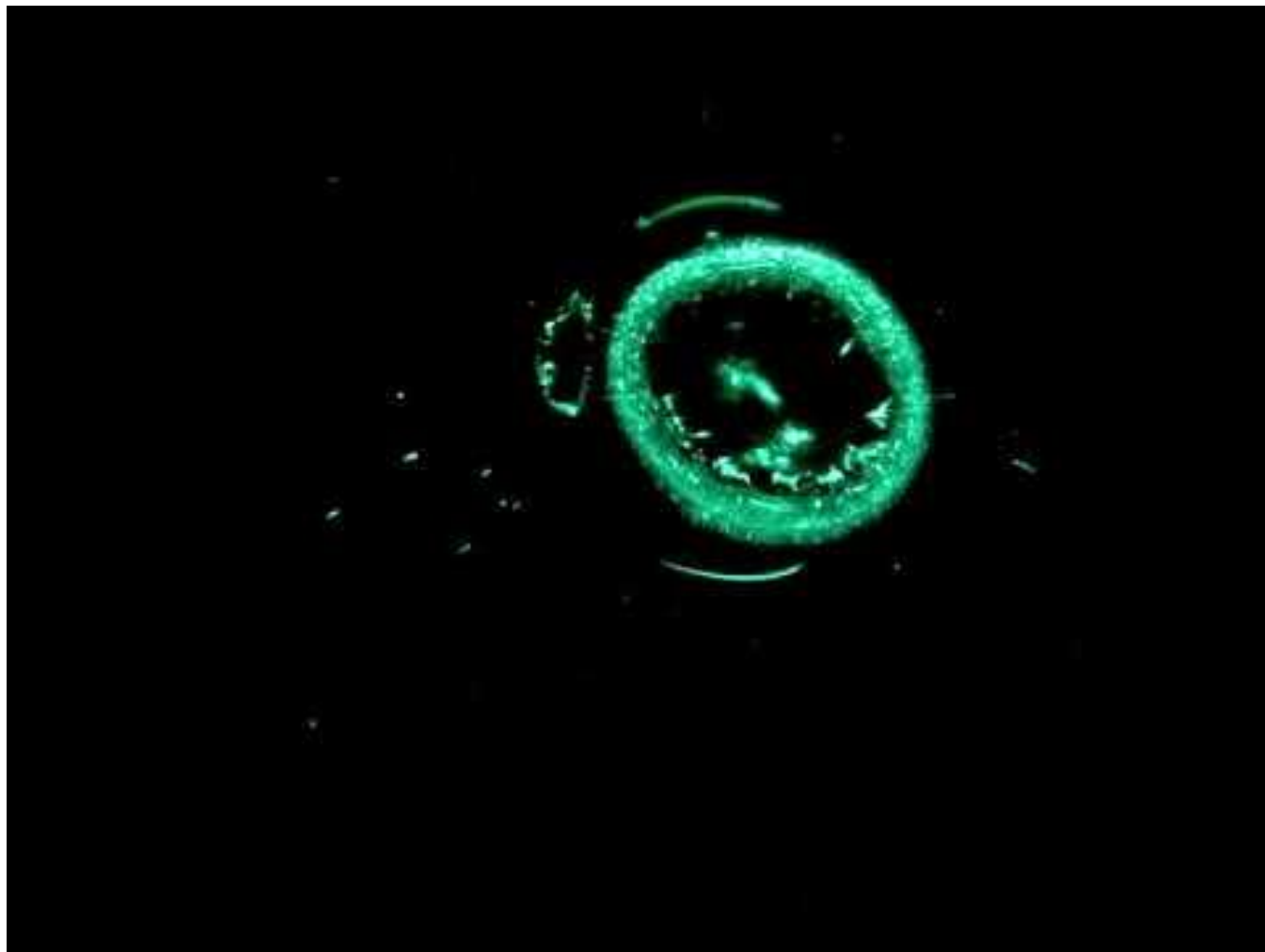
Coaxial illumination OFF

Green side illumination

Changing focus

<https://youtu.be/hEY4M>

[EnPZao](#)



# ETMY

## Point G (bright

field video)

Category:

Debris

Notes:

Bright field image

Changing focus

<https://youtu.be/h6PFjfCDEdU>





# Grouping - Damaged Absorbers

## [ETMX POINT VIDEOS](#)

### [ETMX Point D](#)

Also [ETMX Point D \(green\)](#)

Also [ETMX Point D \(overview\)](#)

### [ETMX Point G](#)

Also [ETMX Point G \(green\)](#)

Also [ETMX Point G \(overview\)](#)

### [ETMX Point P](#)

Also [ETMX Point P \(green\)](#)

Also [ETMX Point P \(overview\)](#)

## [ETMY POINT A VIDEOS](#)

### [ETMY Point A](#)

Also [ETMY Point A \(after FC cleaning\)](#)

Also [ETMY Point A \(green\)](#)

Also [ETMY Point A \(overview\)](#)

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[ETMX Point J](#)

[ETMX Point L](#)

[ETMX Point O](#)

[ETMX Point M](#)

# Grouping - Halos

[ETMX Point N](#)

[ETMY Point C](#)

[ETMY Point E](#)

[ETMY Point F](#)

# Grouping - Other Categories

## Debris

[ETMX Point A](#)

[ETMX Point B](#)

[ETMX Point C2](#)

[ETMX Point H](#)

[ETMX Point I](#)

[ETMX Point K](#)

[ETMY Point B](#)

[ETMY Point G](#)

[ETMY Point I1](#)

## Unknown

[ETMX Point F](#)

[ETMY Point D](#)

[ETMY Point H](#)

[ETMY Point I2](#)

[ETMY Point LRQ NEW](#)

[ETMY Point NEW](#)

[ETMY Point DOT](#)

[ETMY Point HORZ STREAK](#)