





GEMINI 4 - Crew Announcement Press Conference (1964, HD) full audio, training footage, Gemini IV 📺

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Retro Space HD

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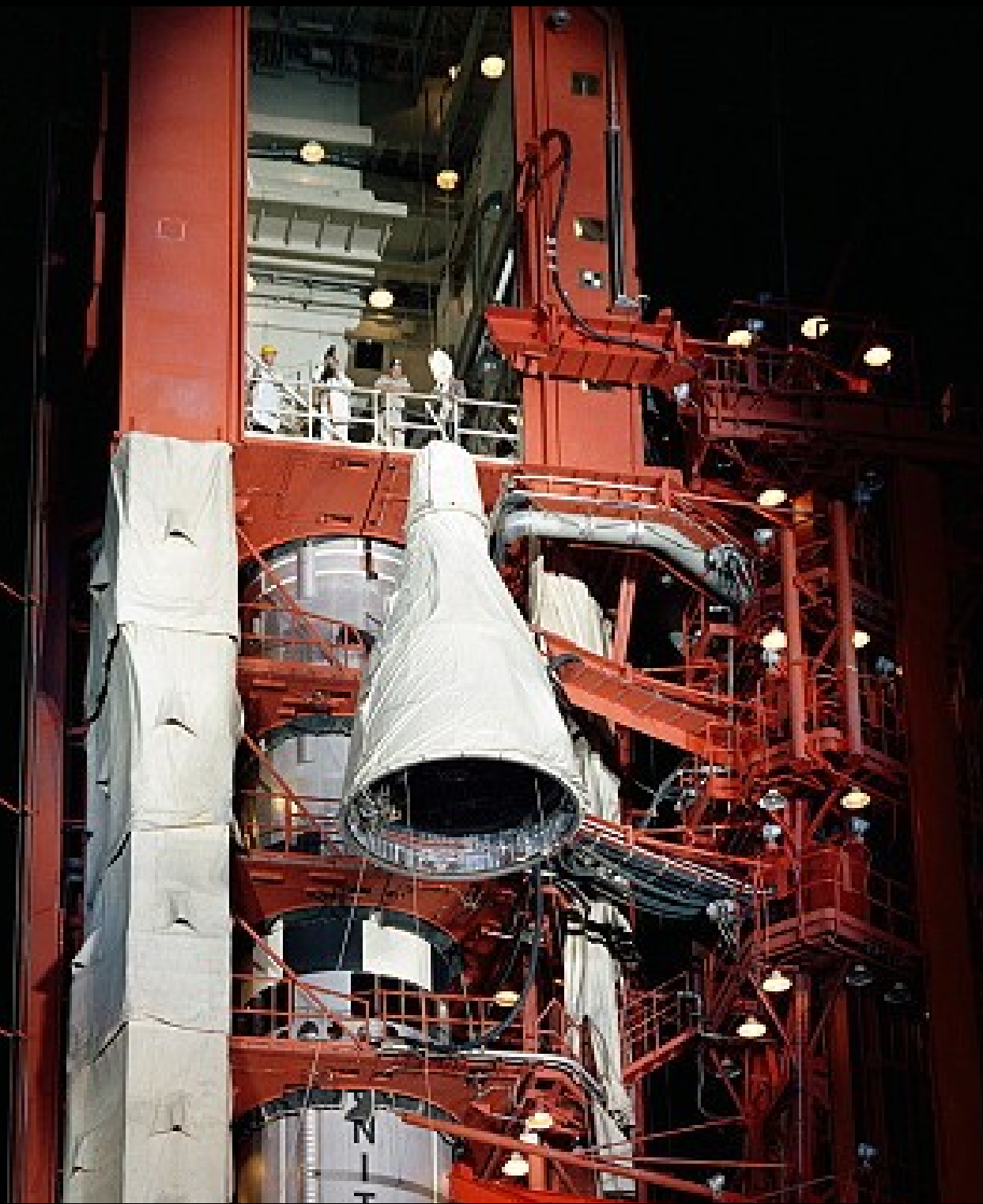
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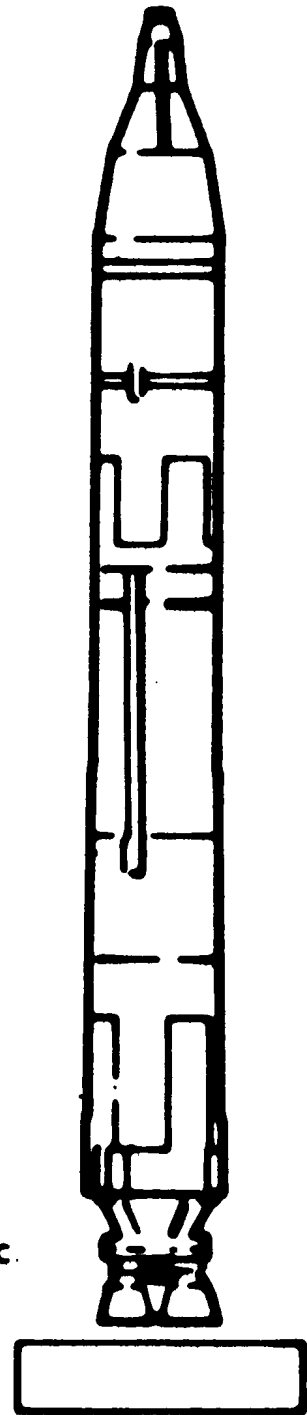
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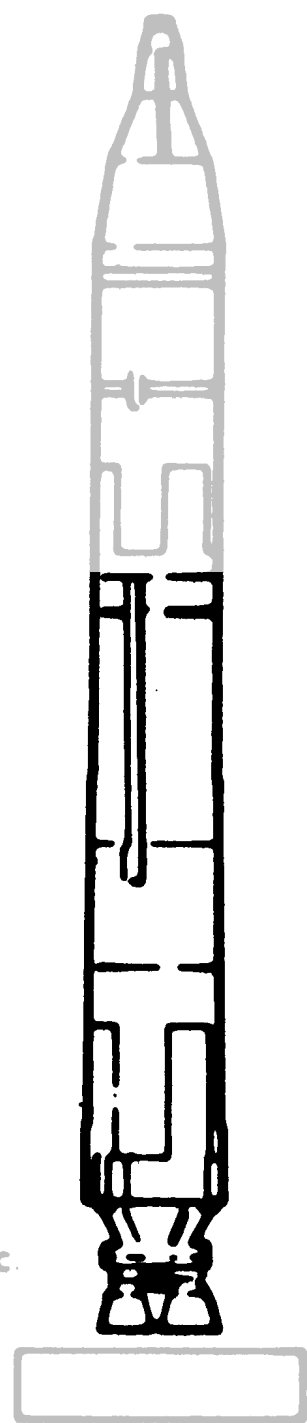




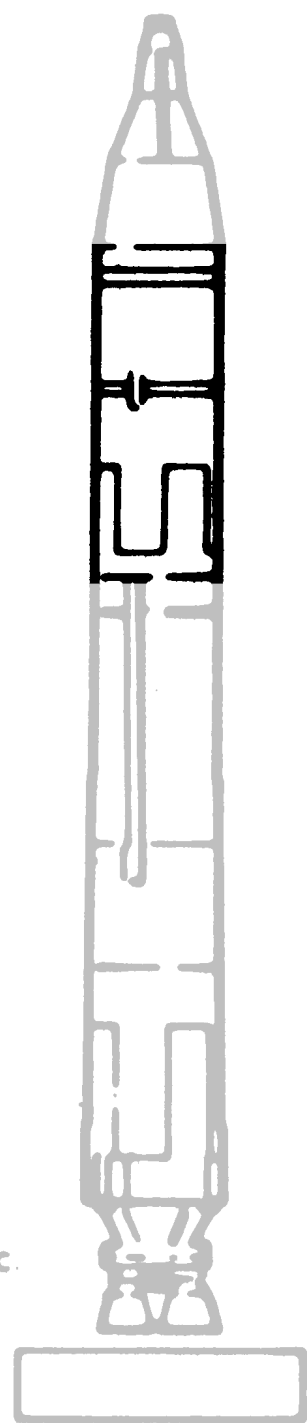




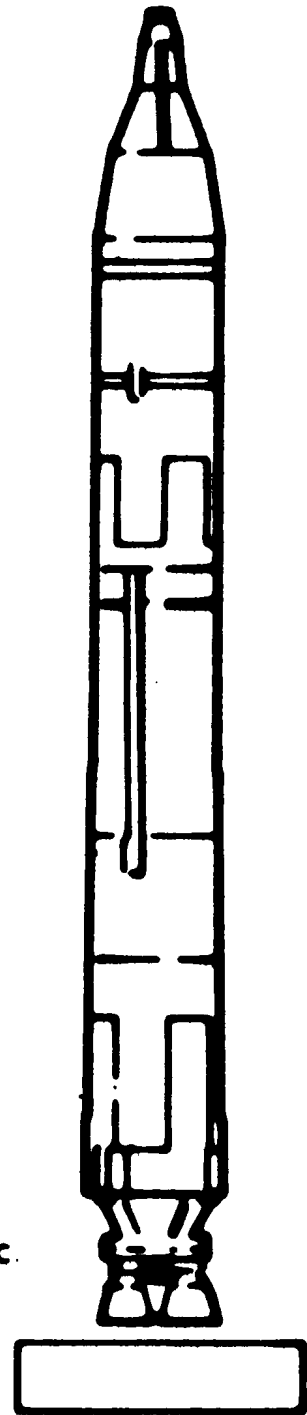
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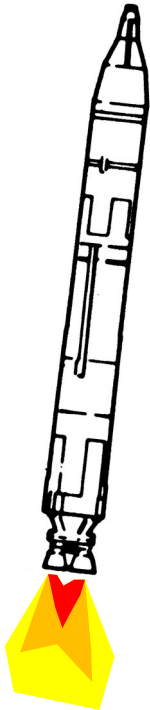
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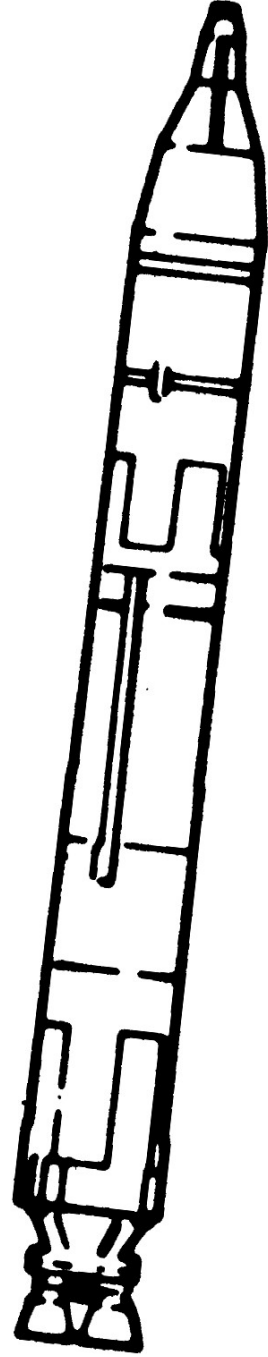


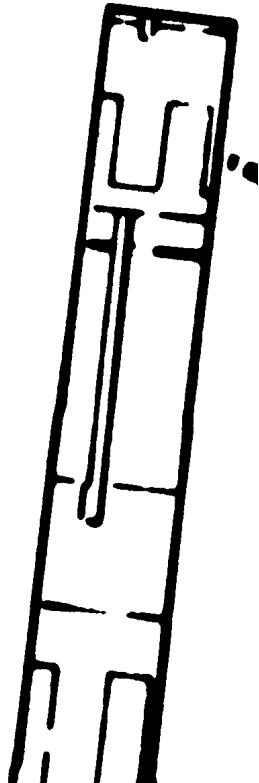
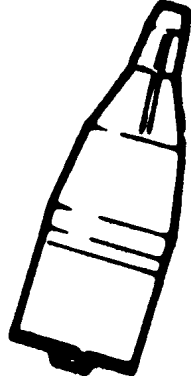
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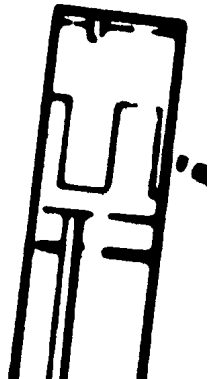
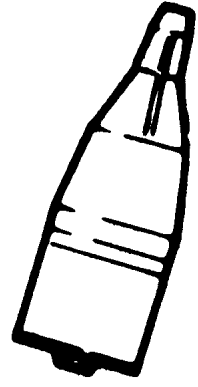


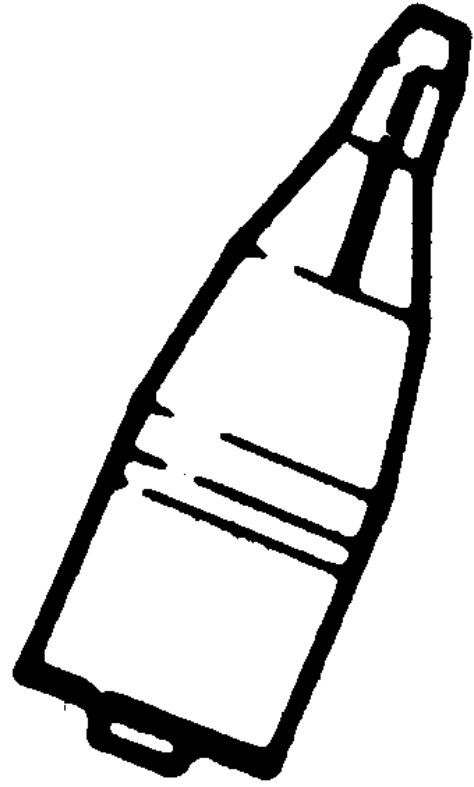
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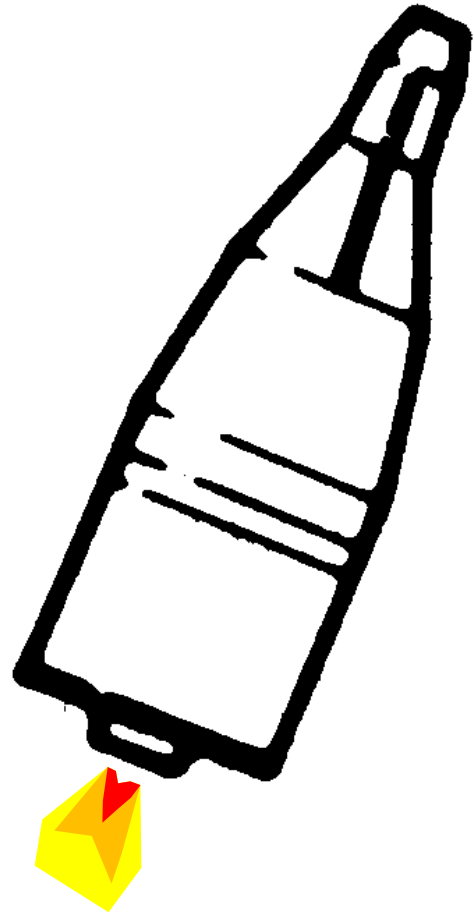


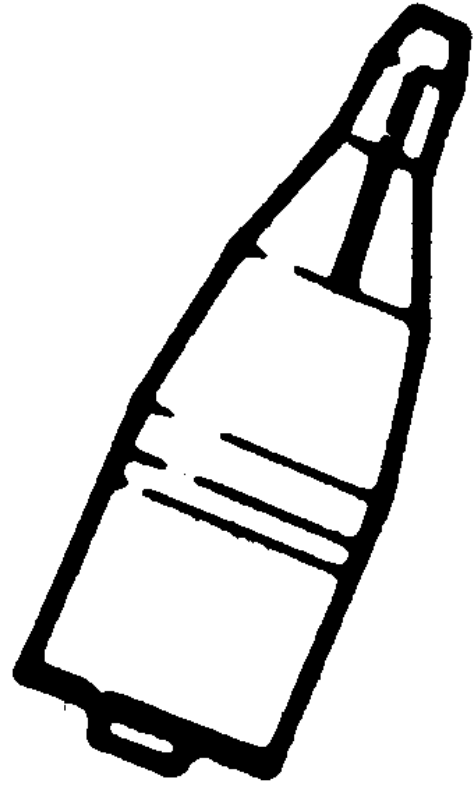


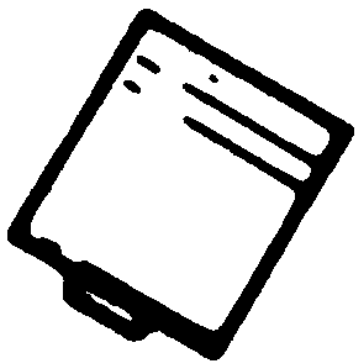
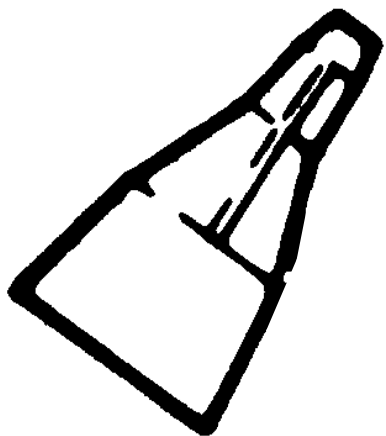


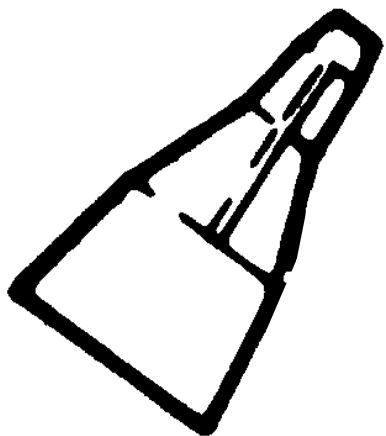


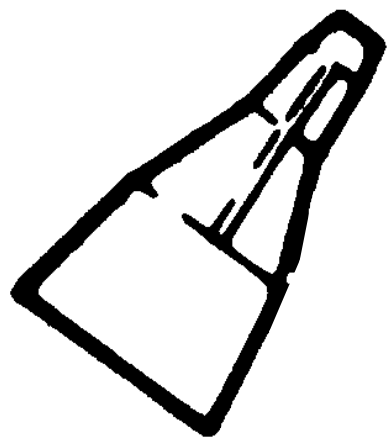


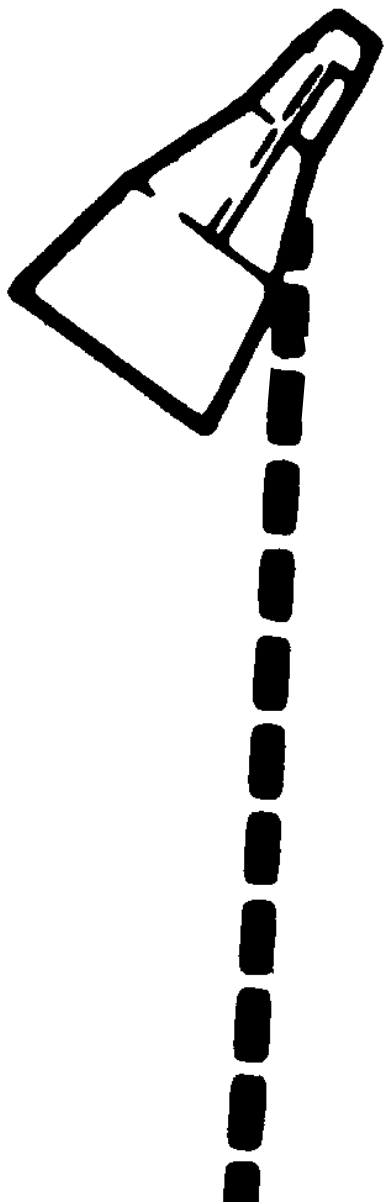


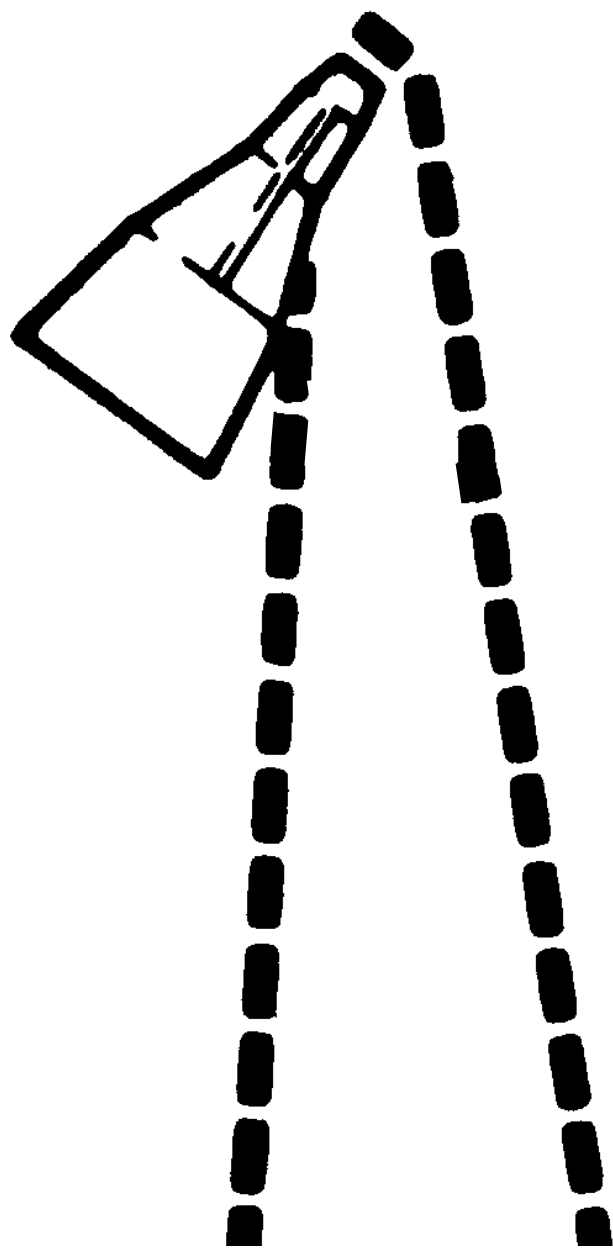


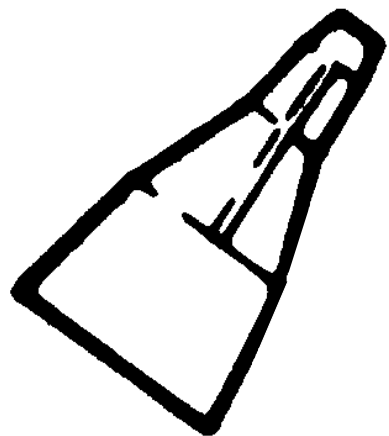






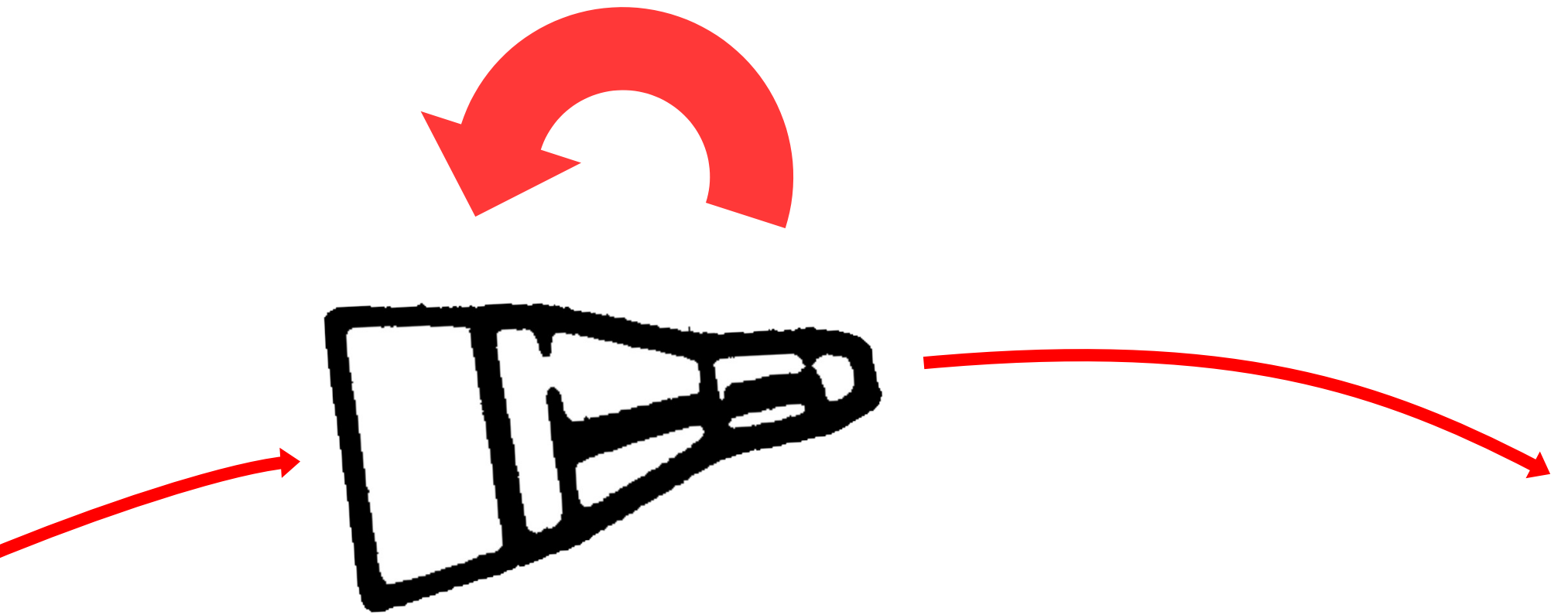


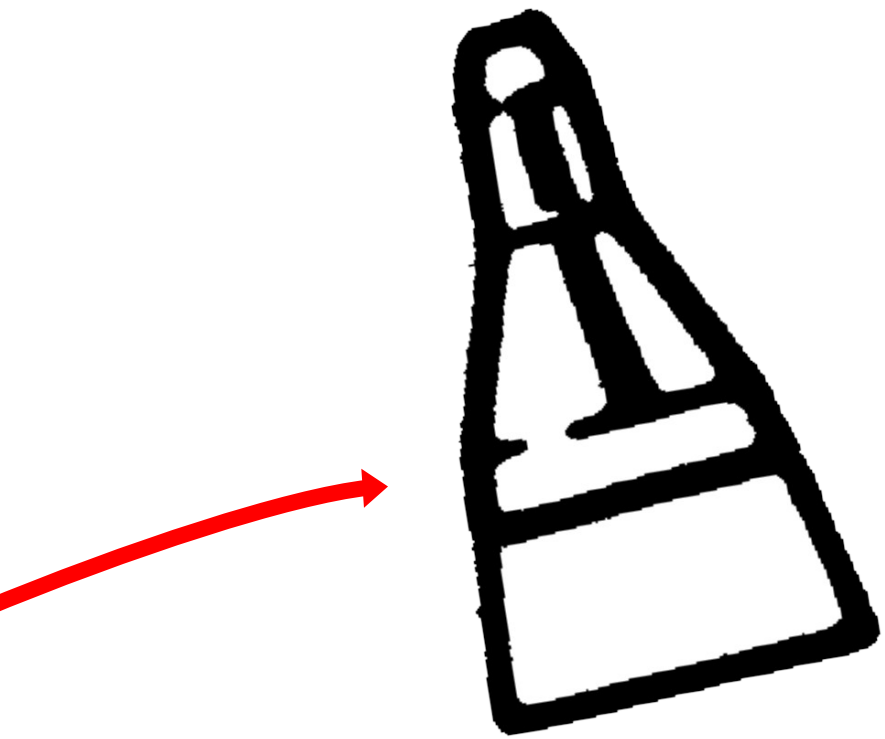


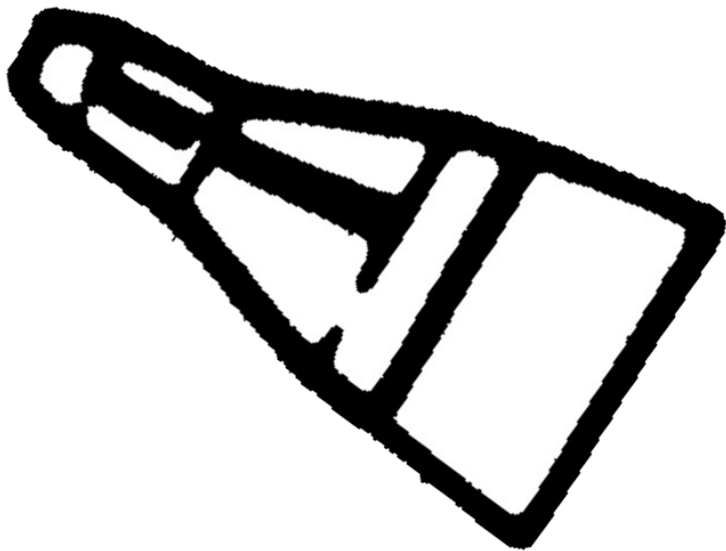


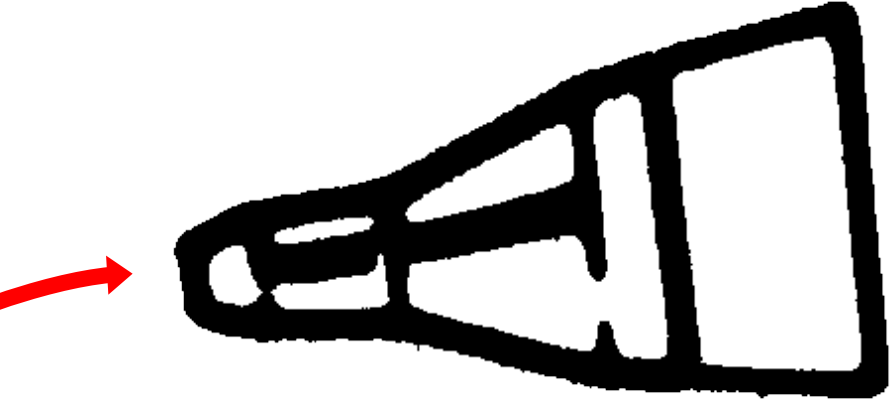


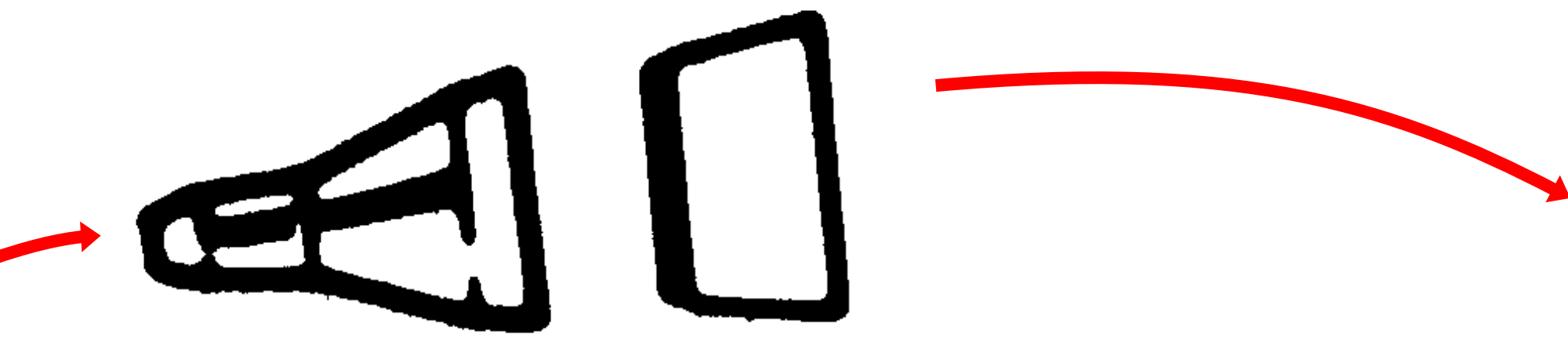


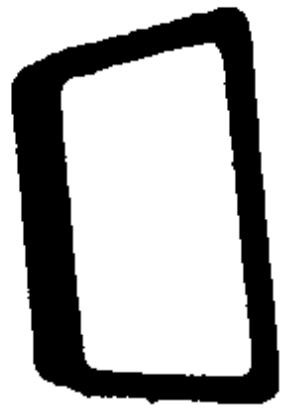














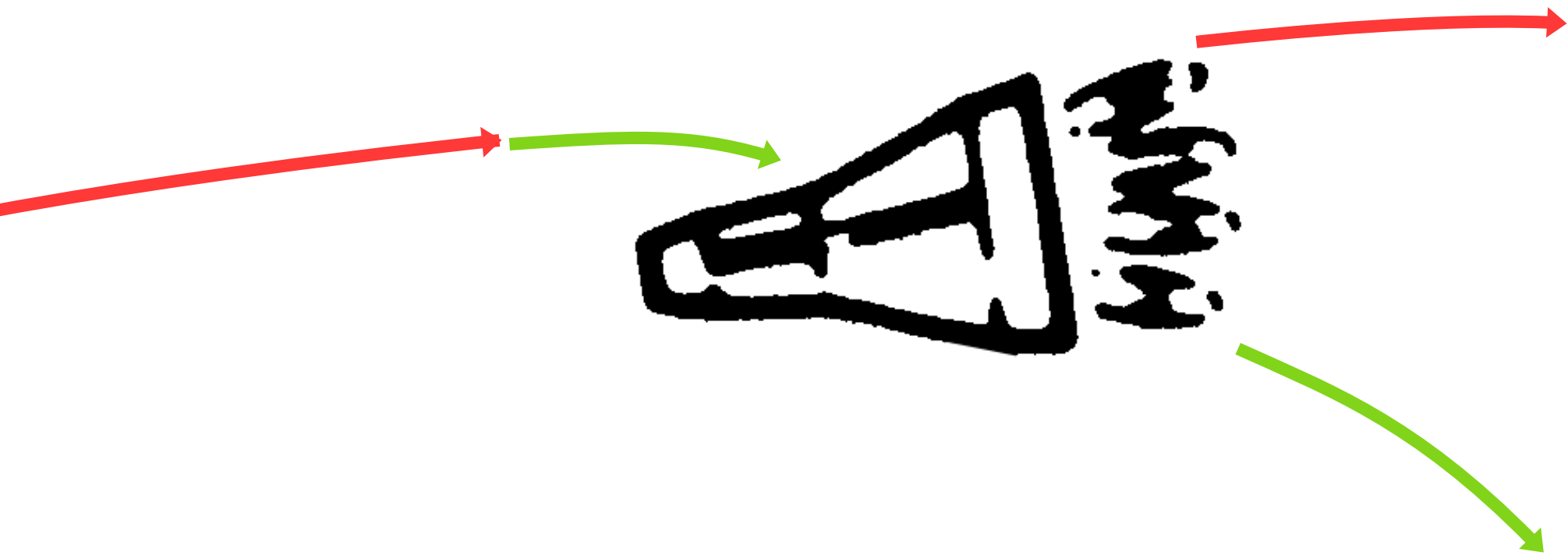


RETRO FIRE : YR



RETRO FIRE : T_R







錐



**RETRO
JETT**

T_R = 45 SEC.



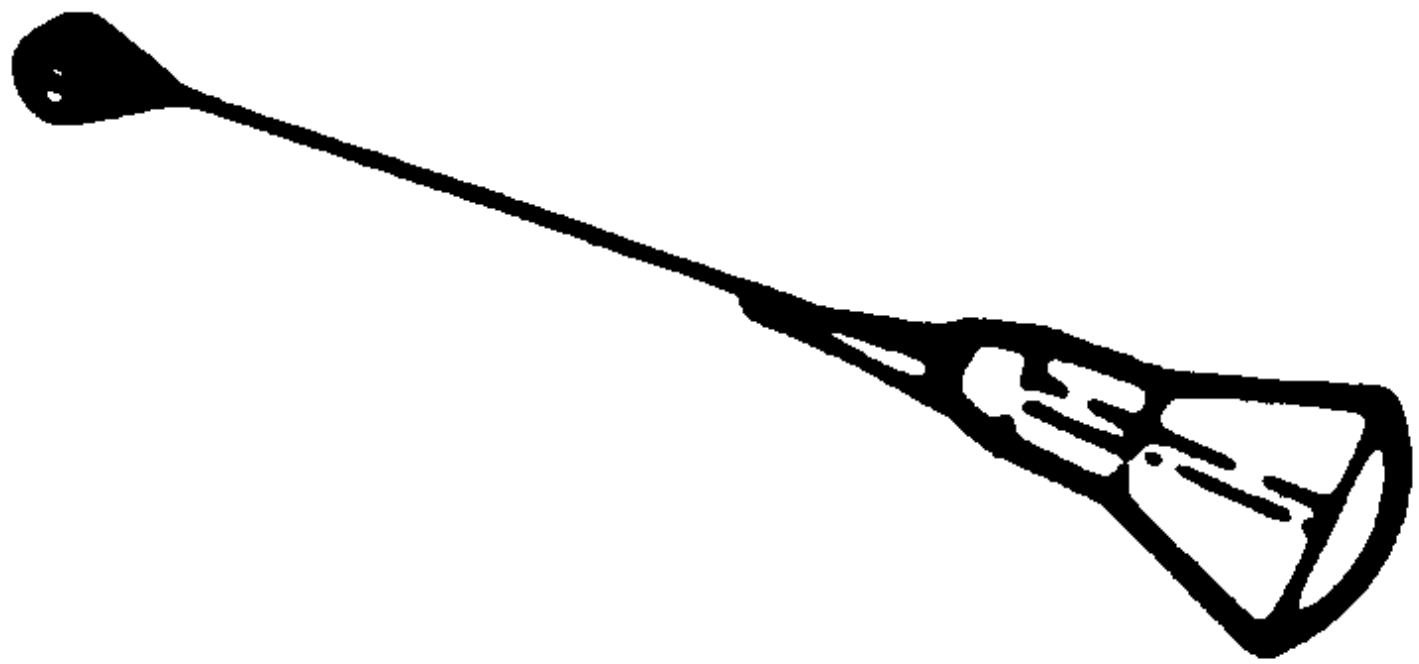


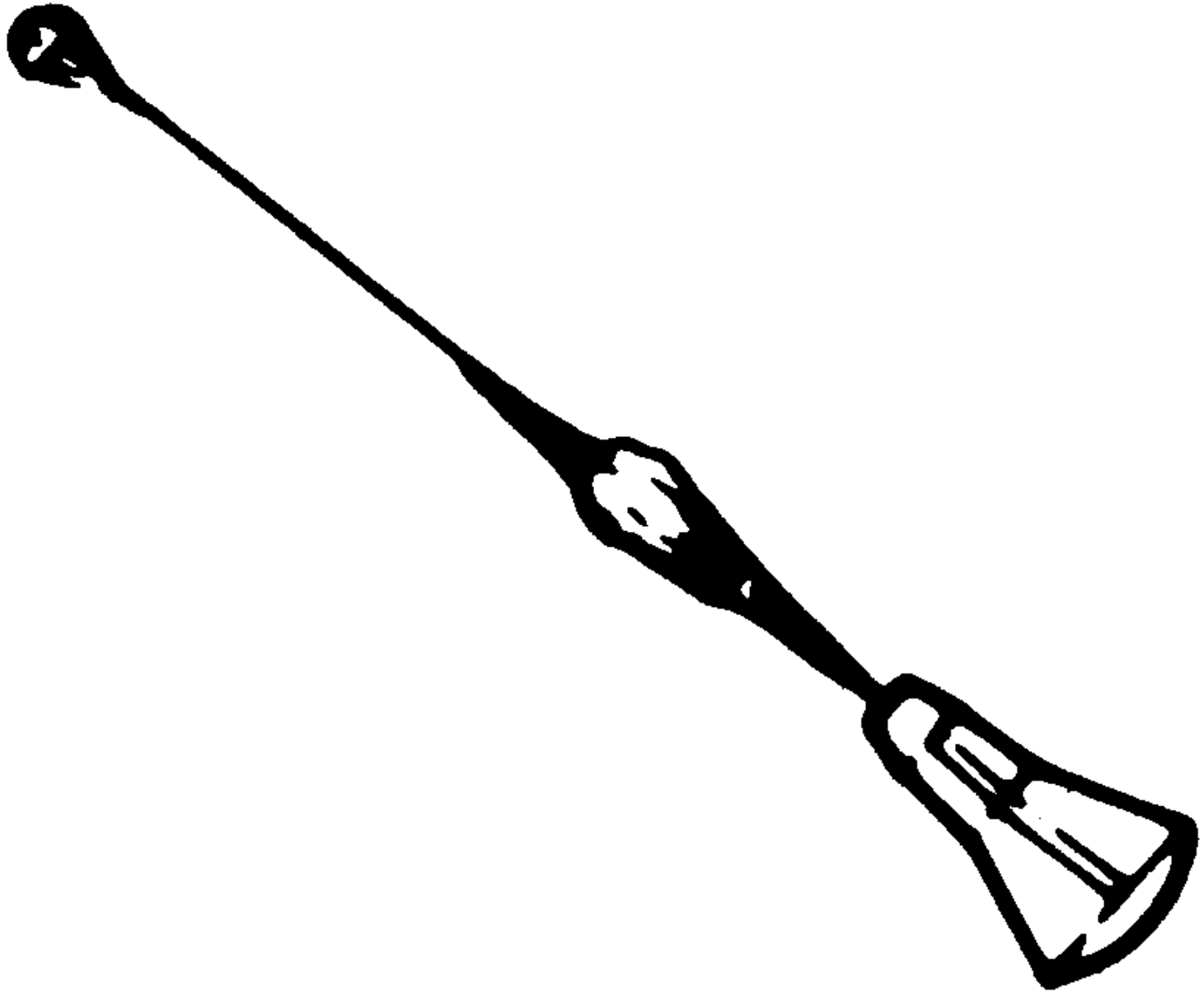


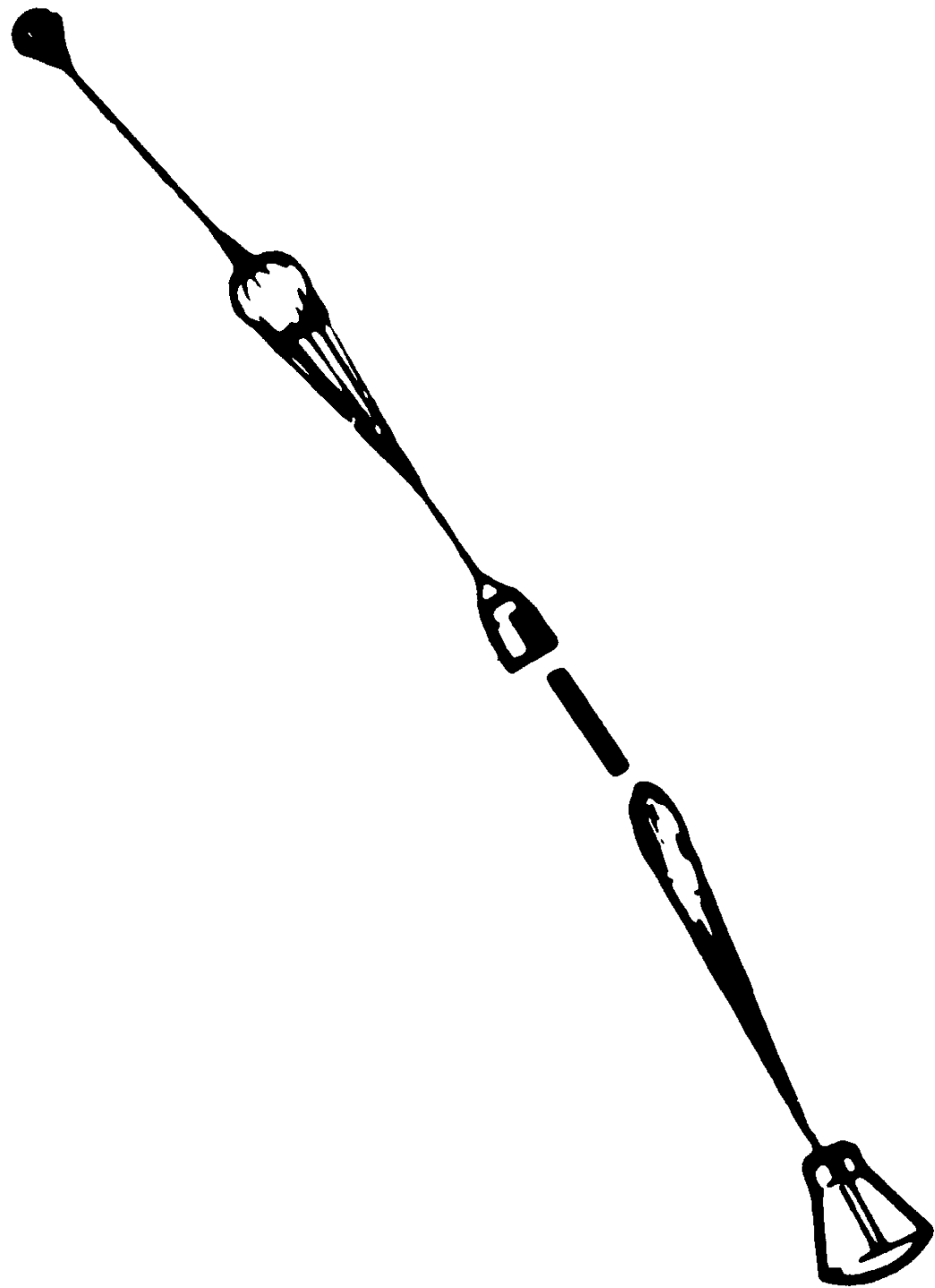


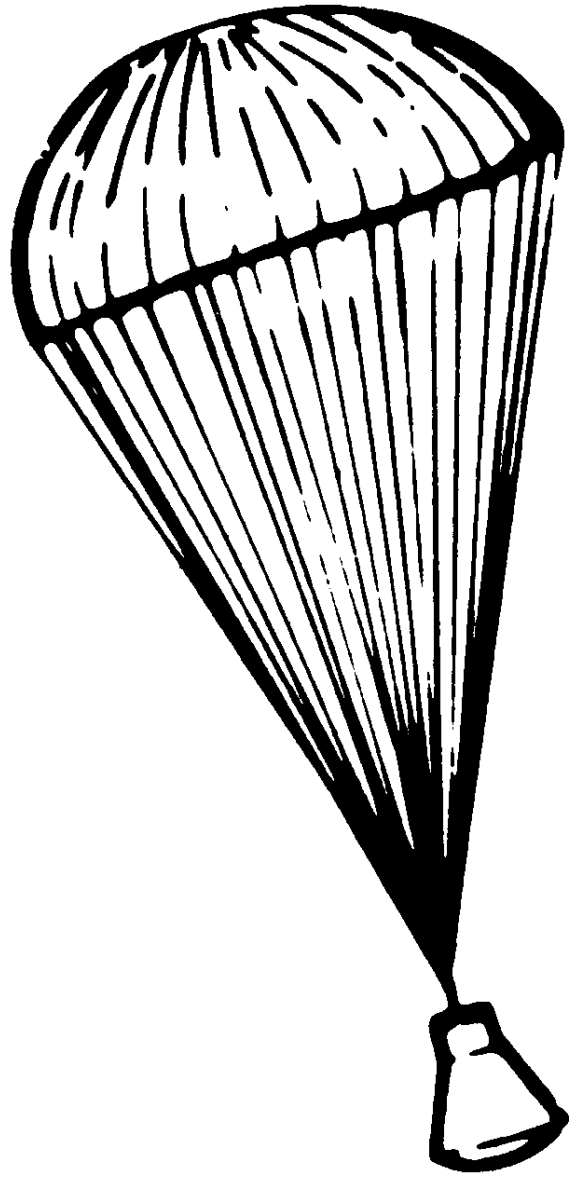


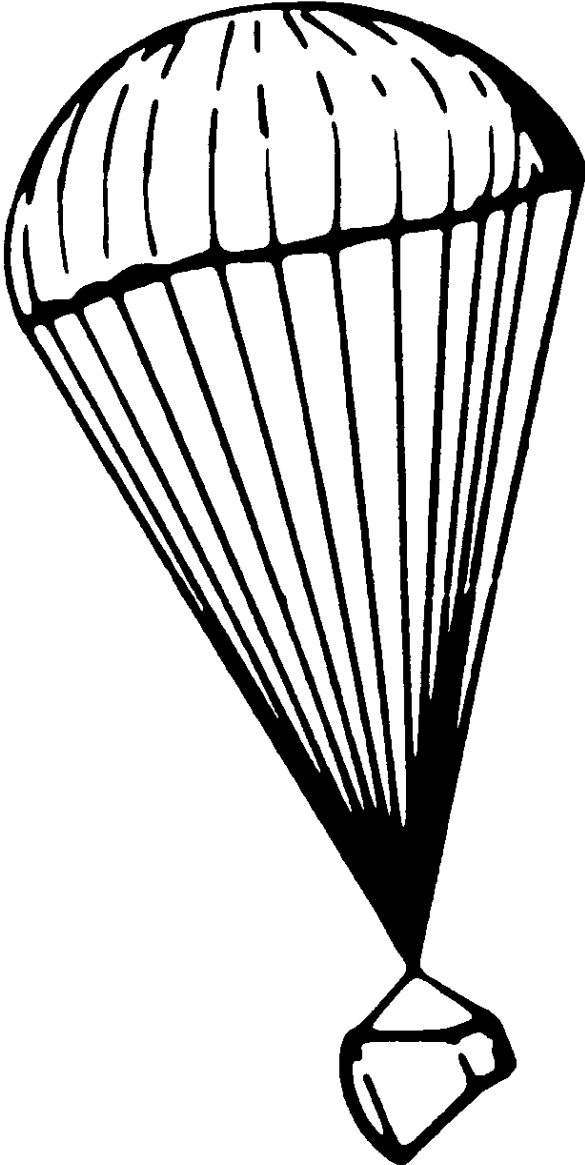


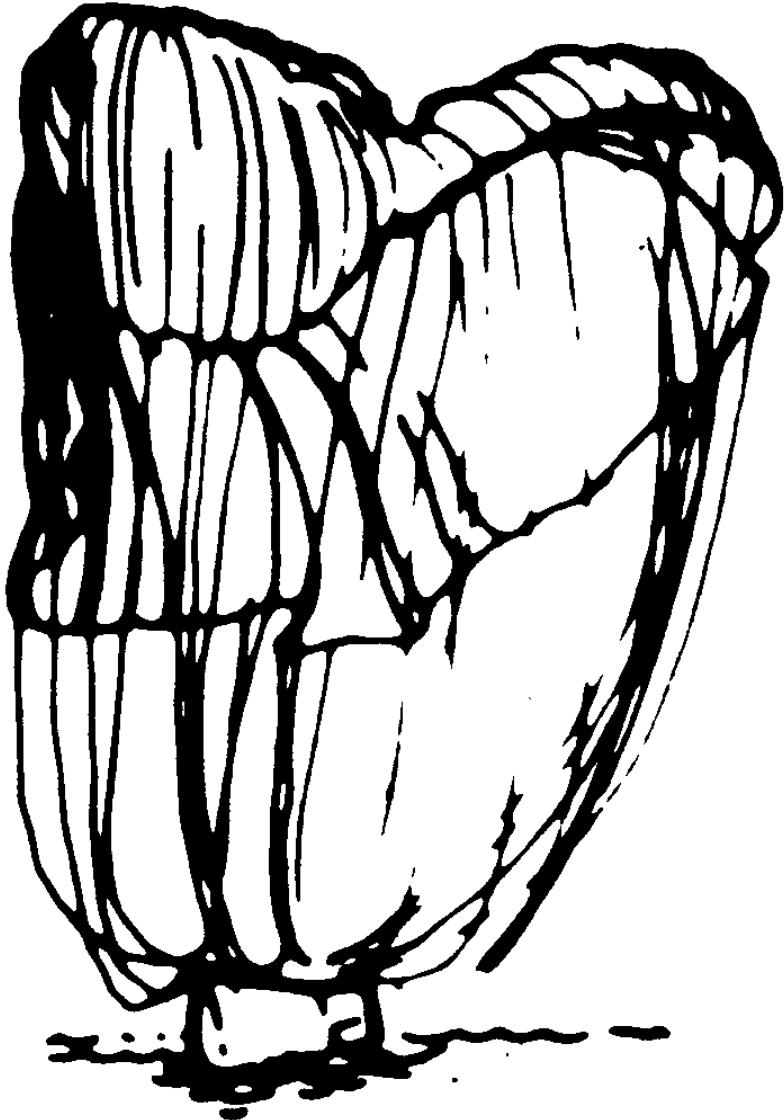




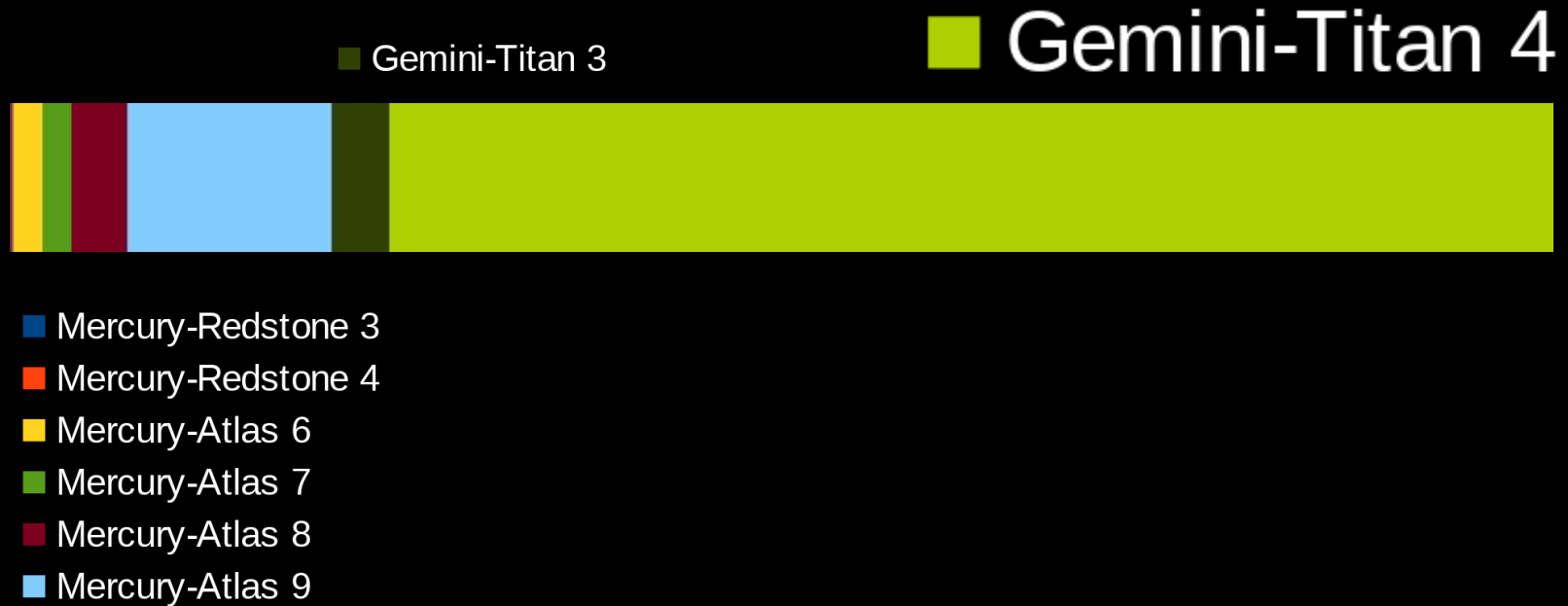








US Man-Hours in Space

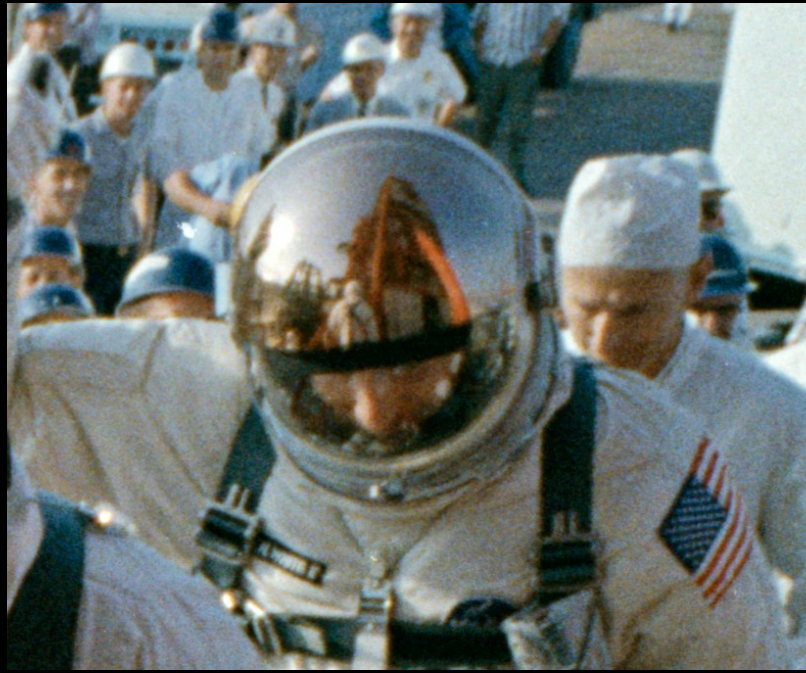


















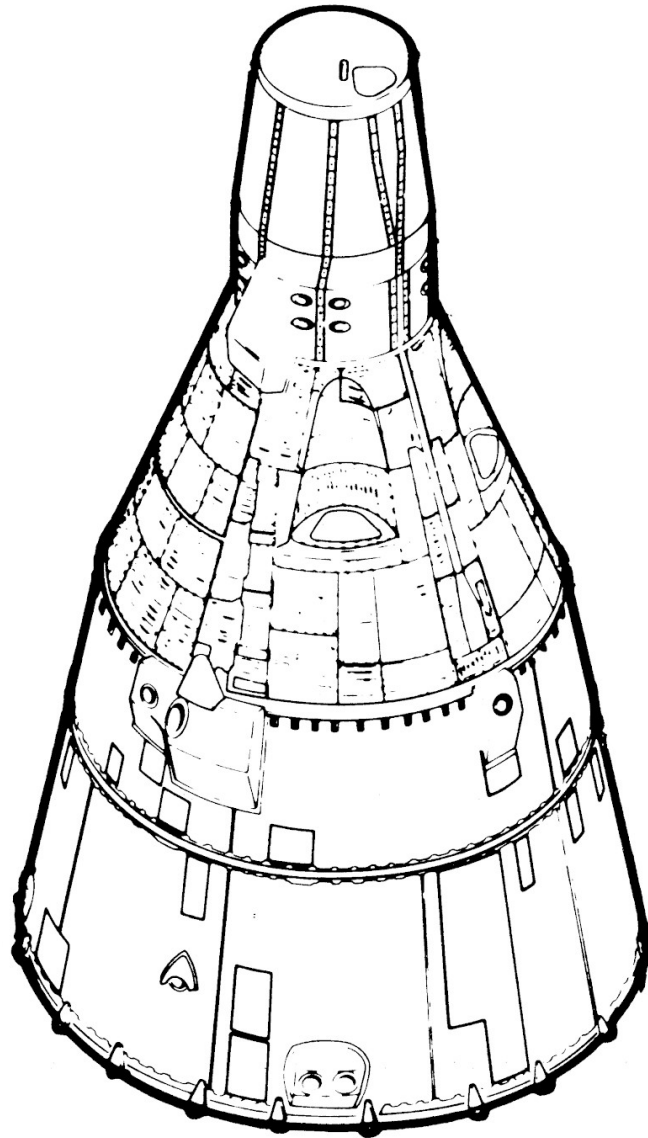


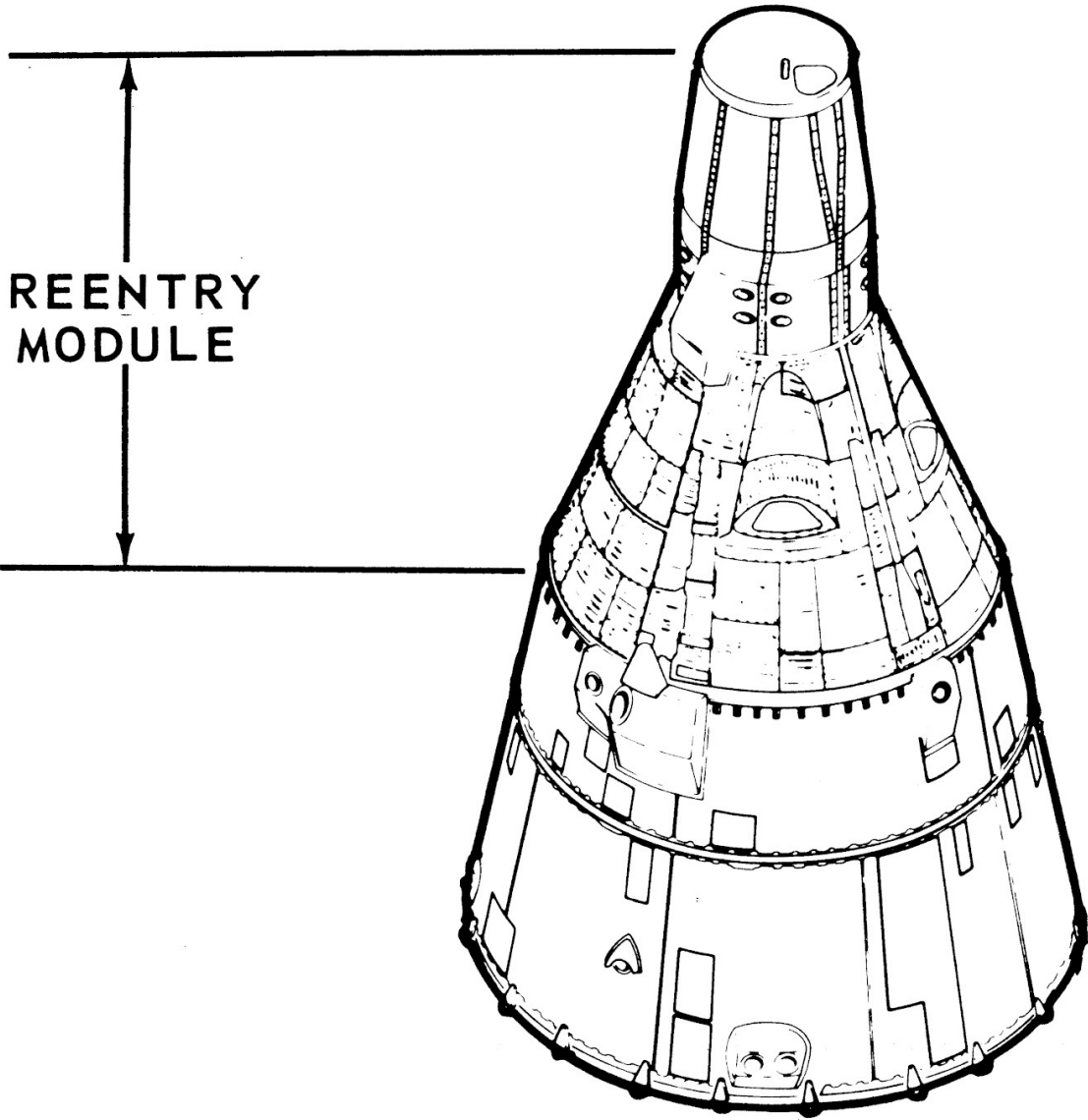


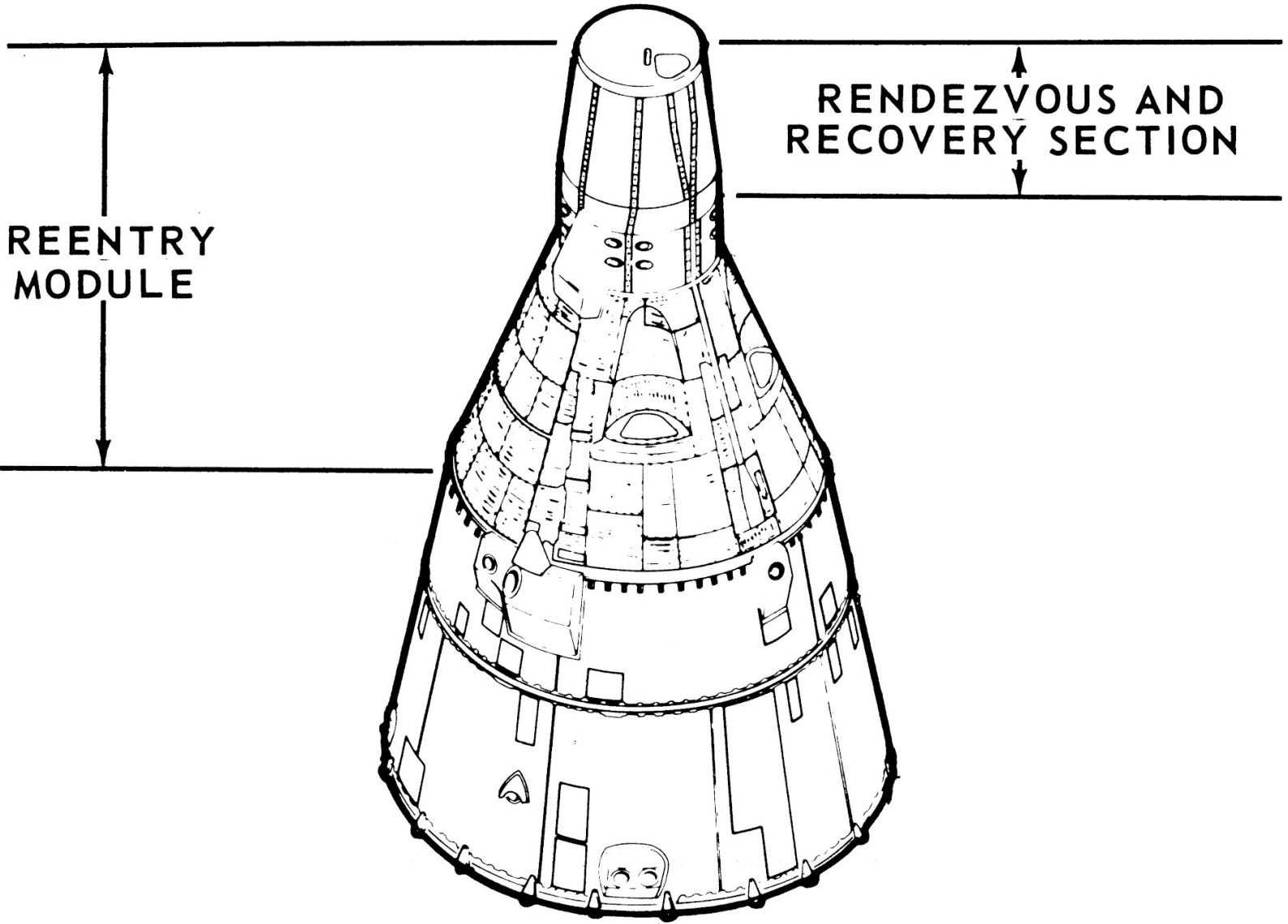






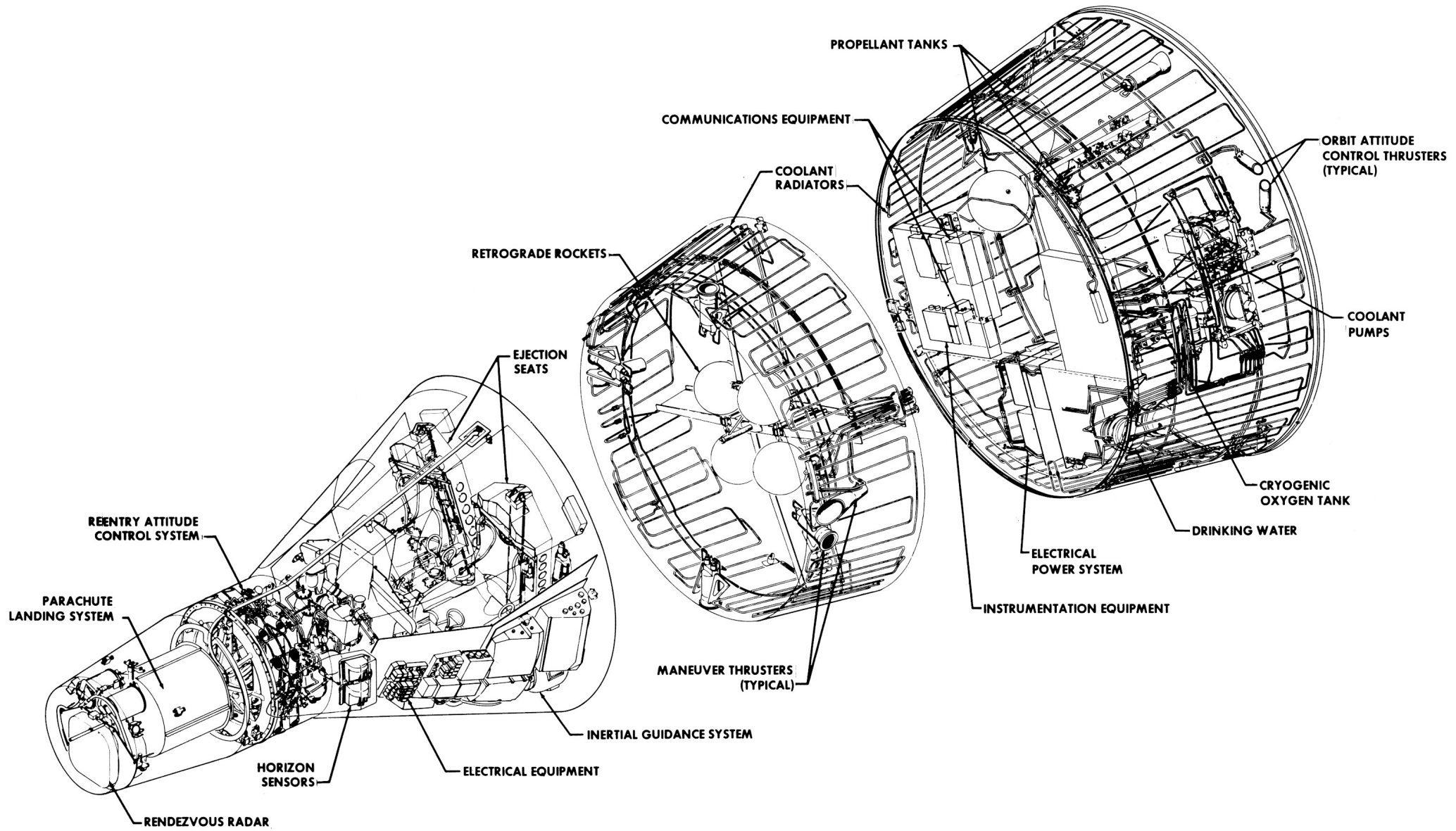


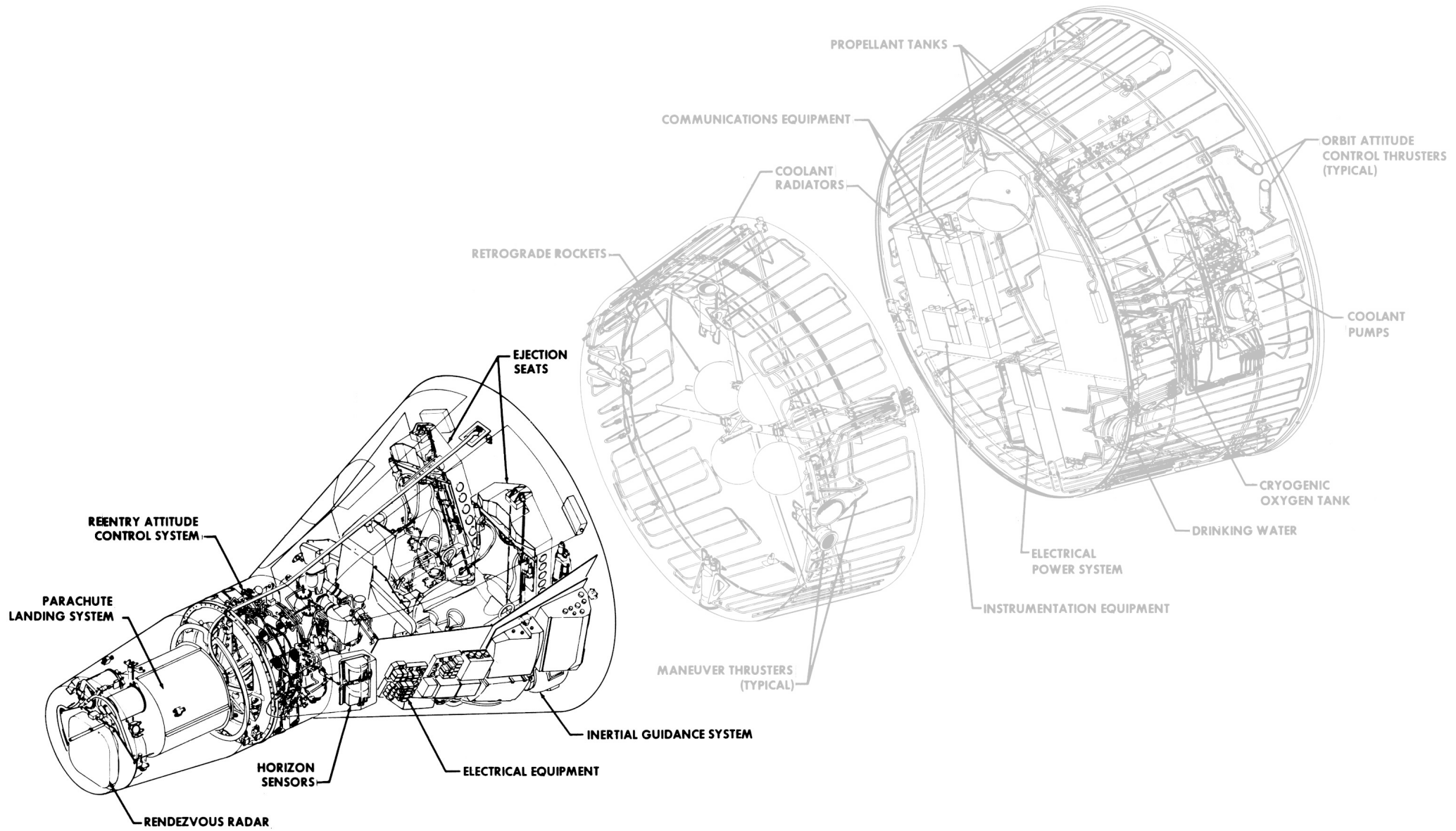


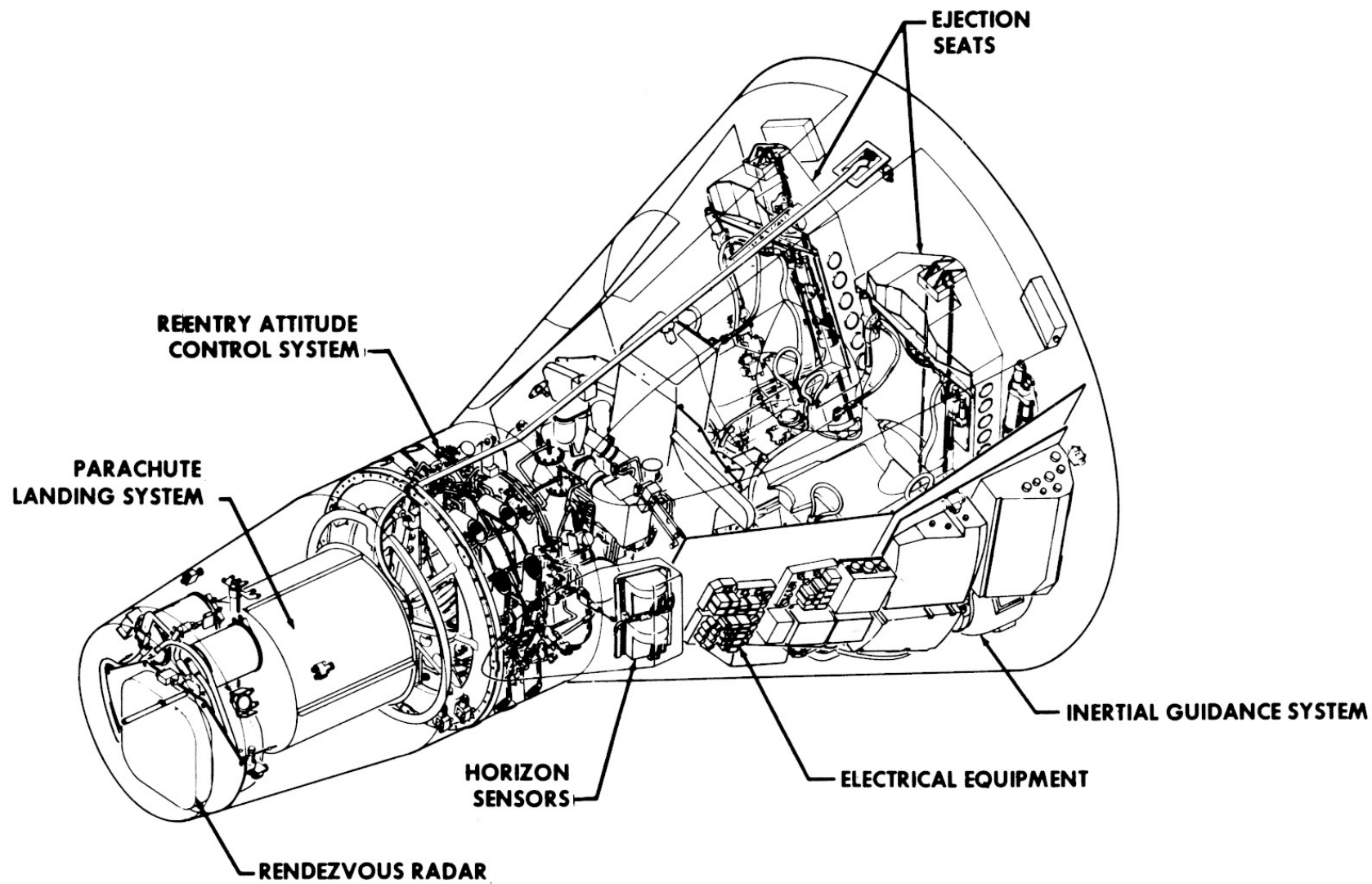


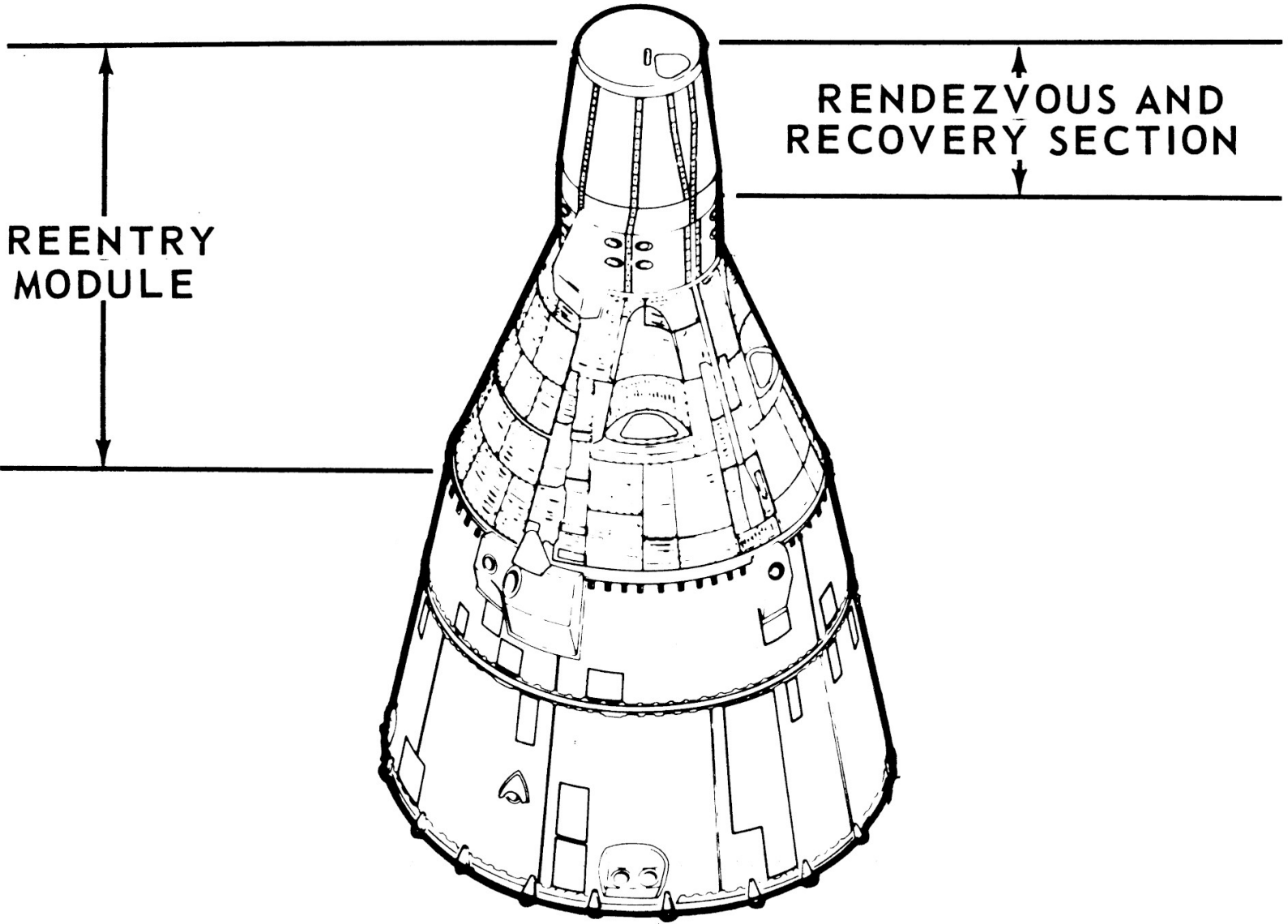
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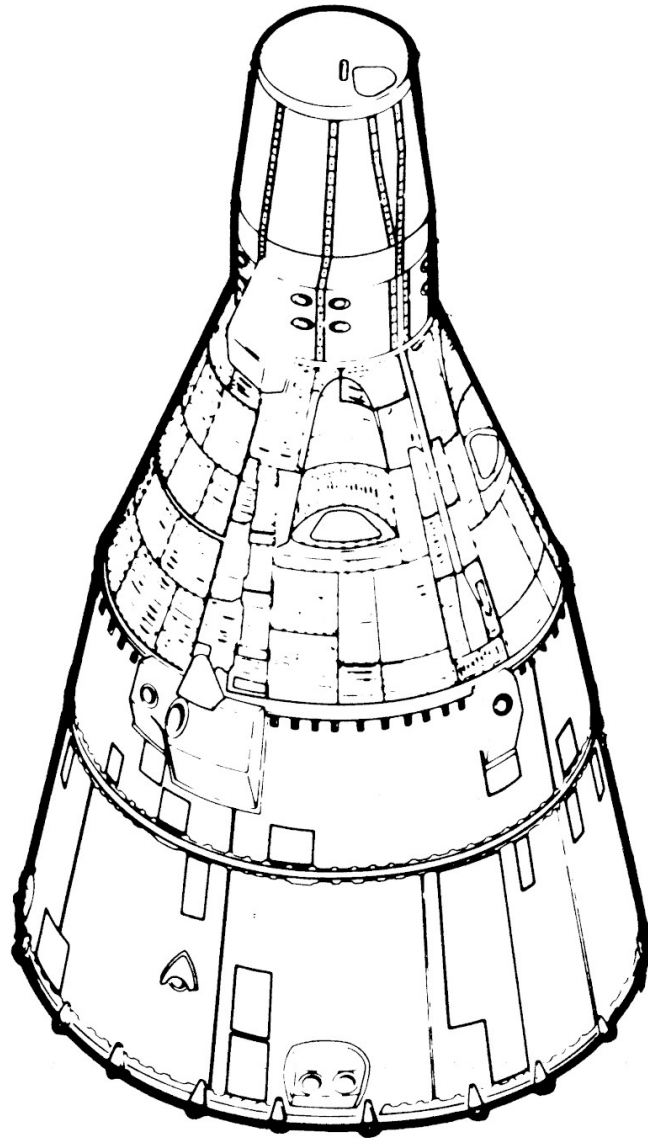
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MODULE

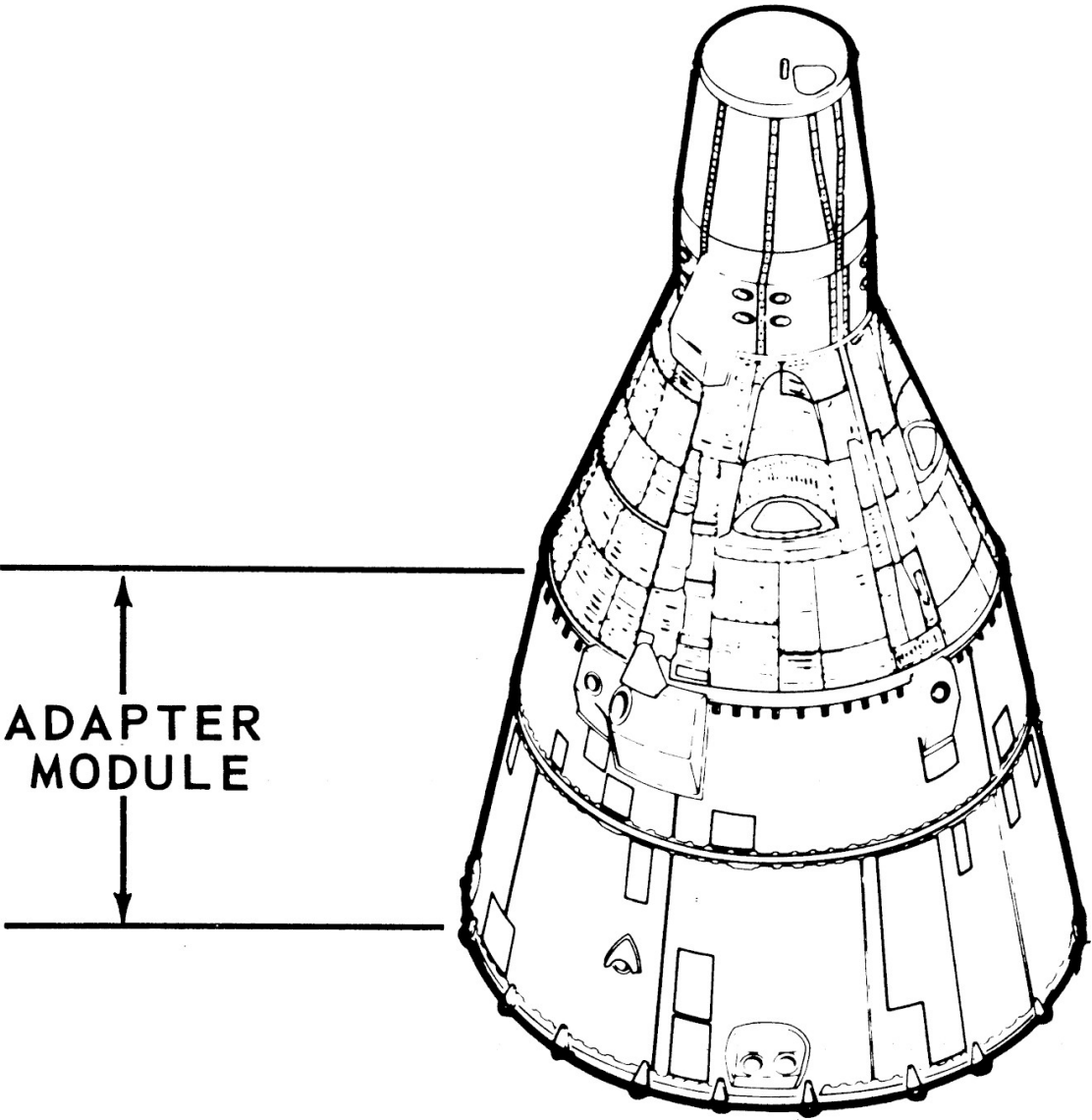




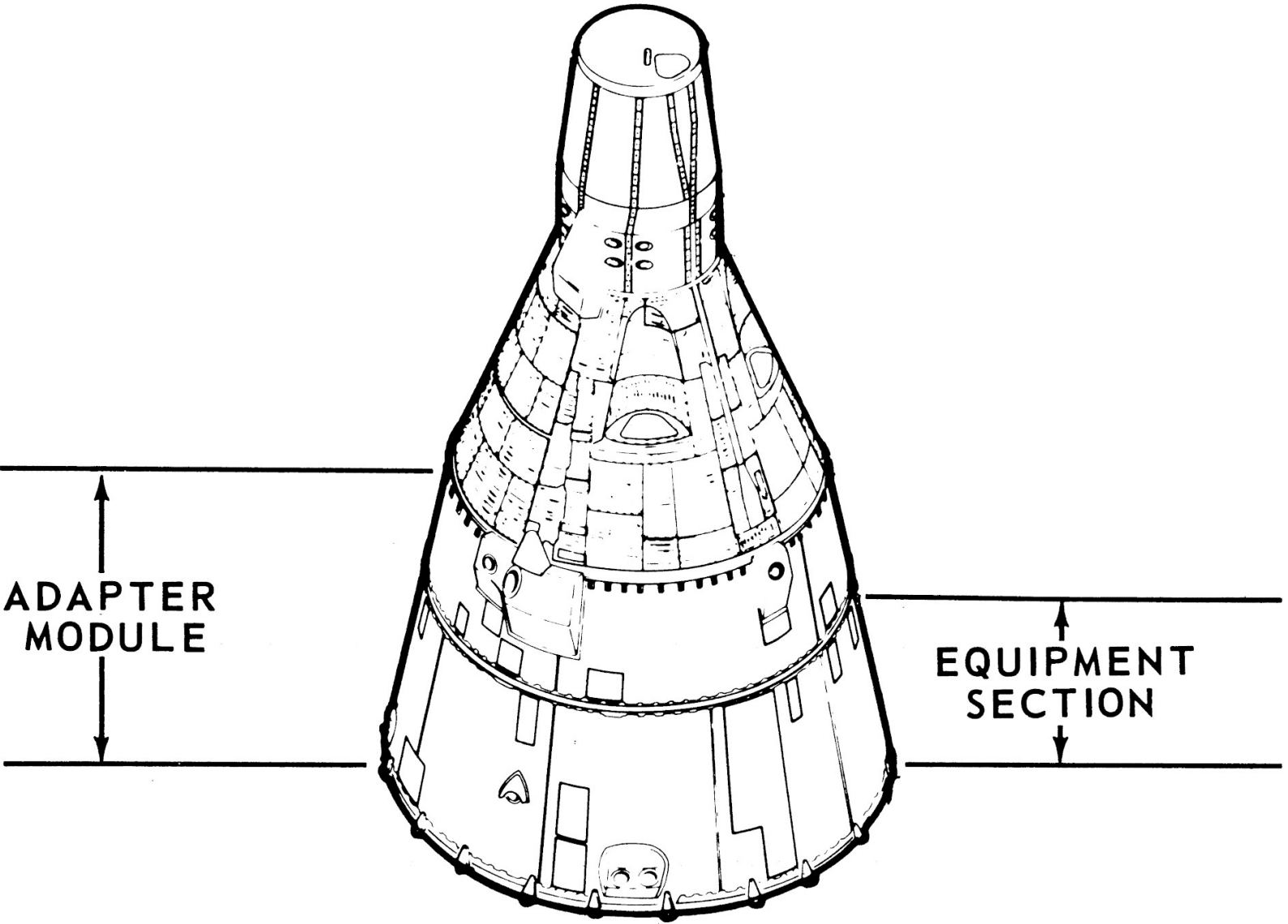






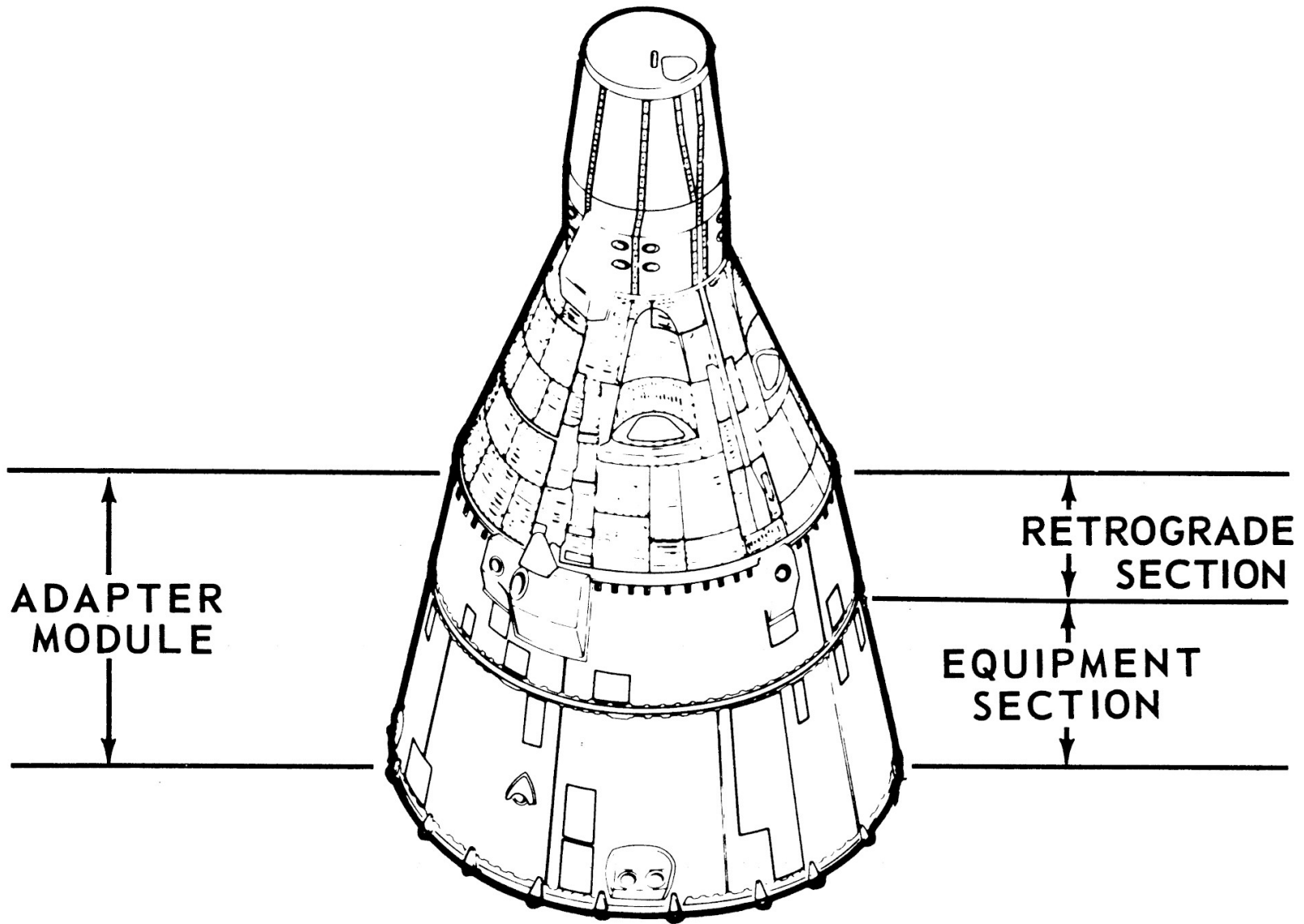


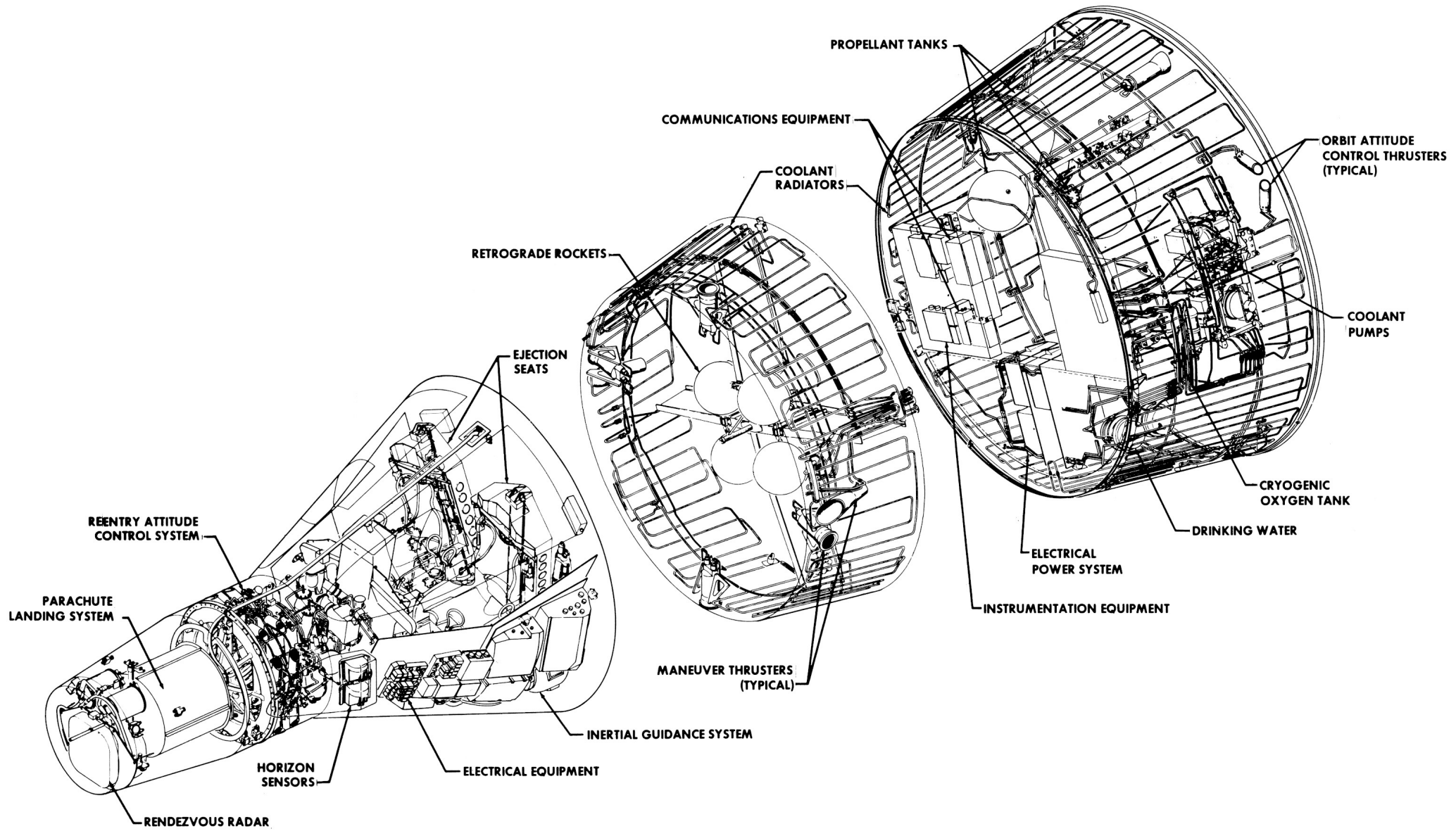
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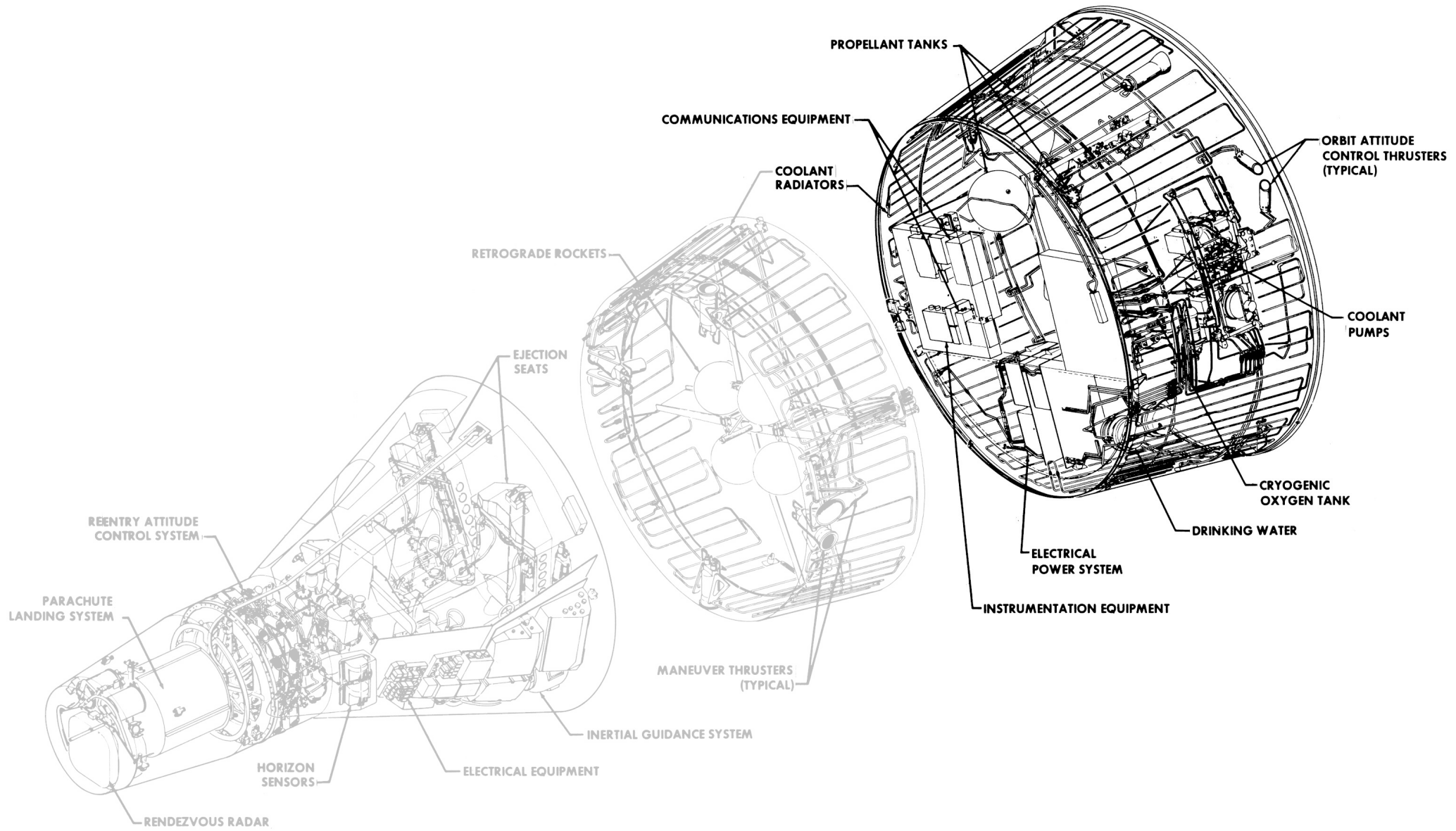


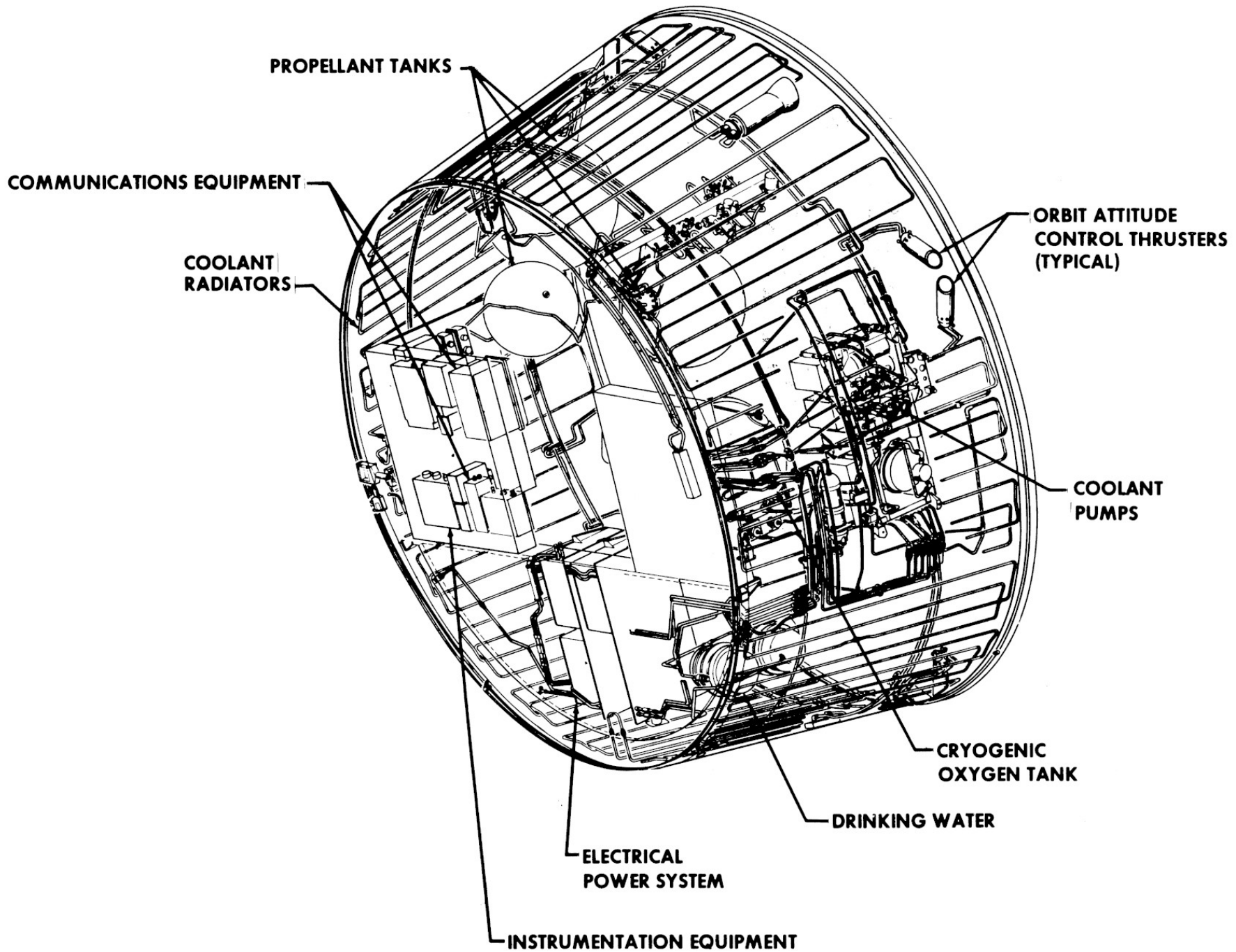
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MODULE

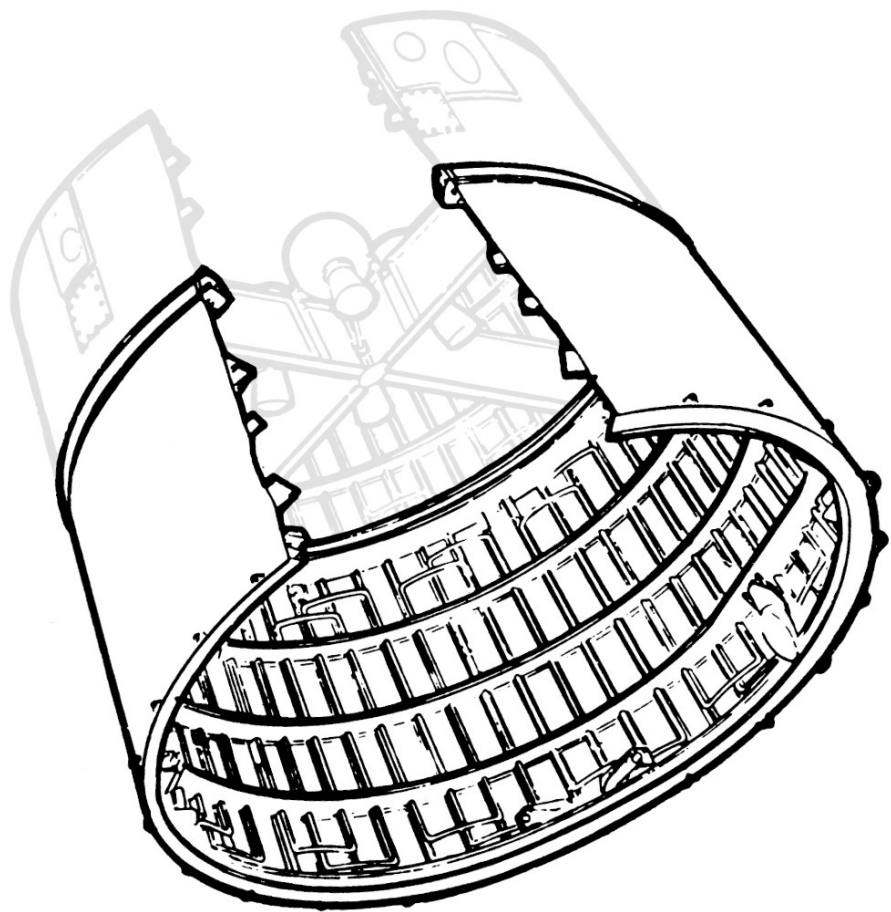
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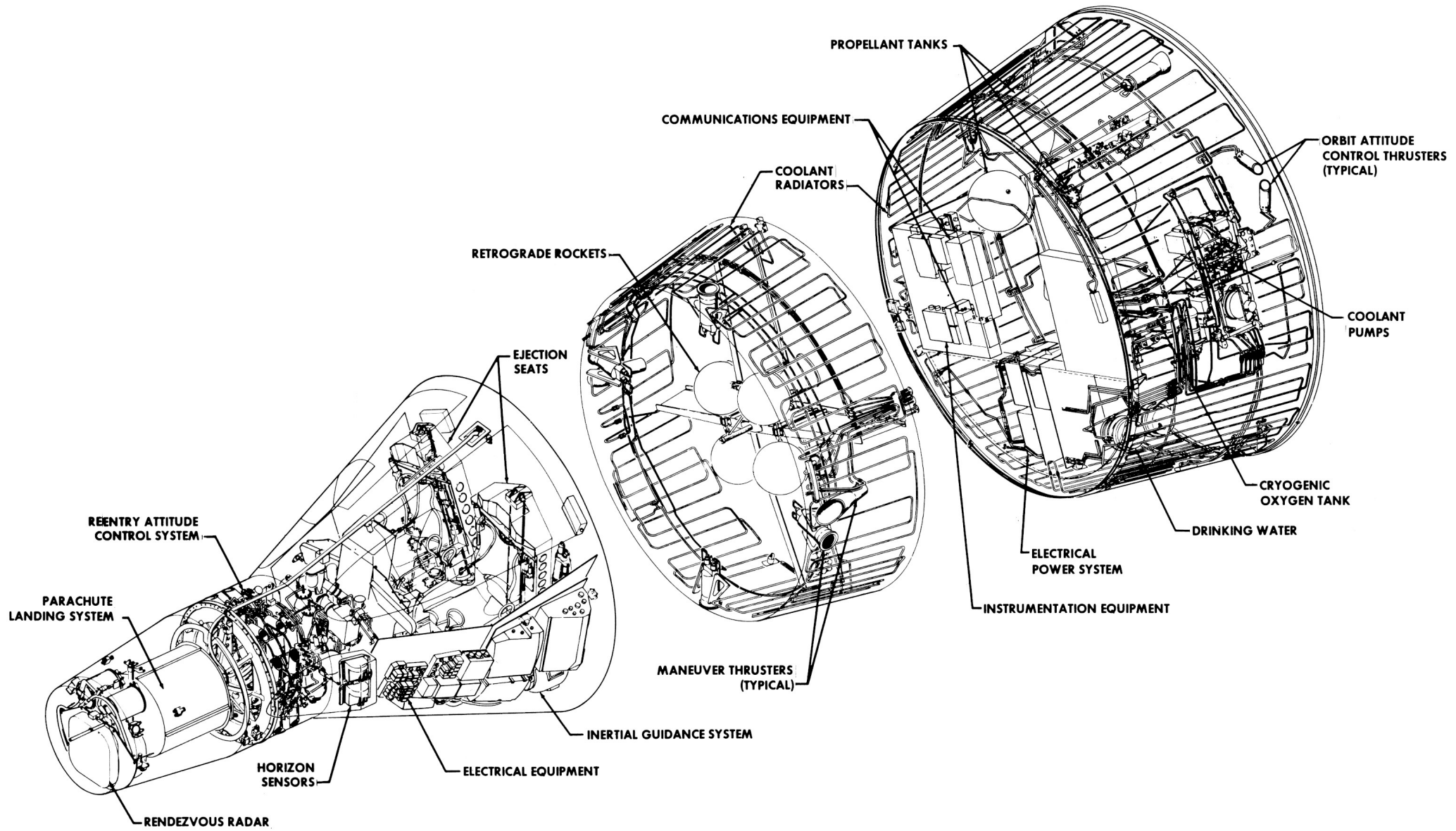


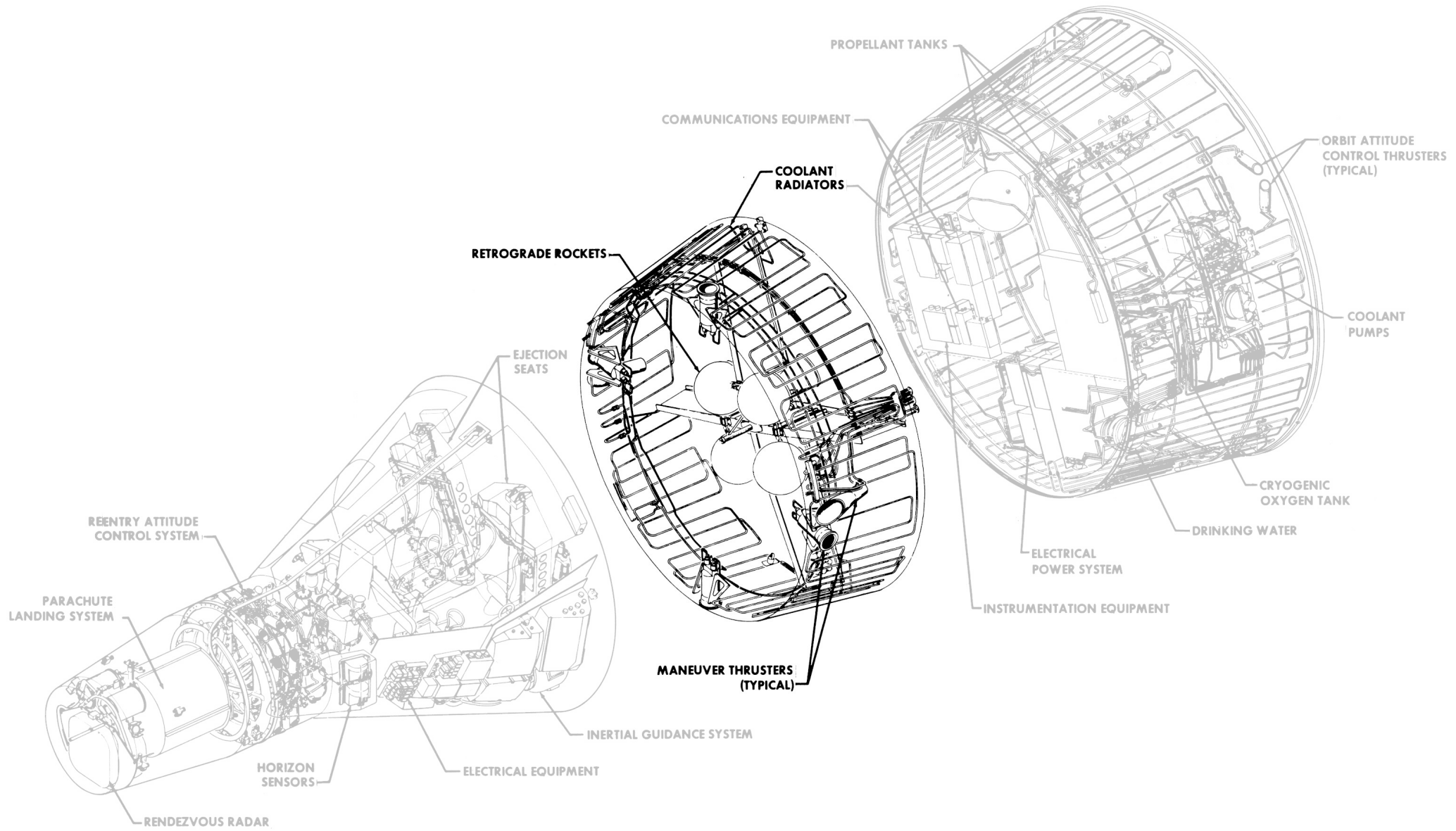


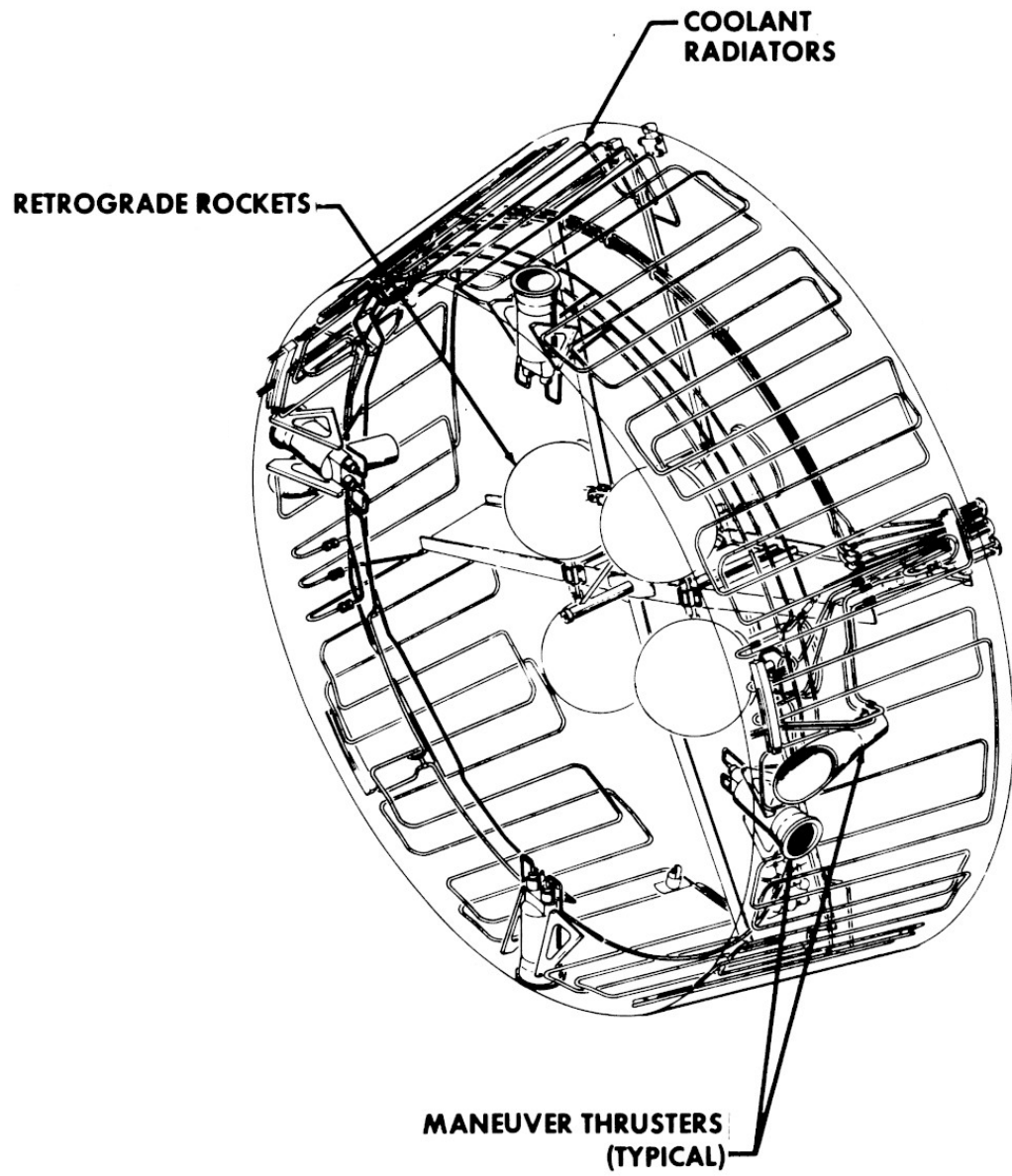


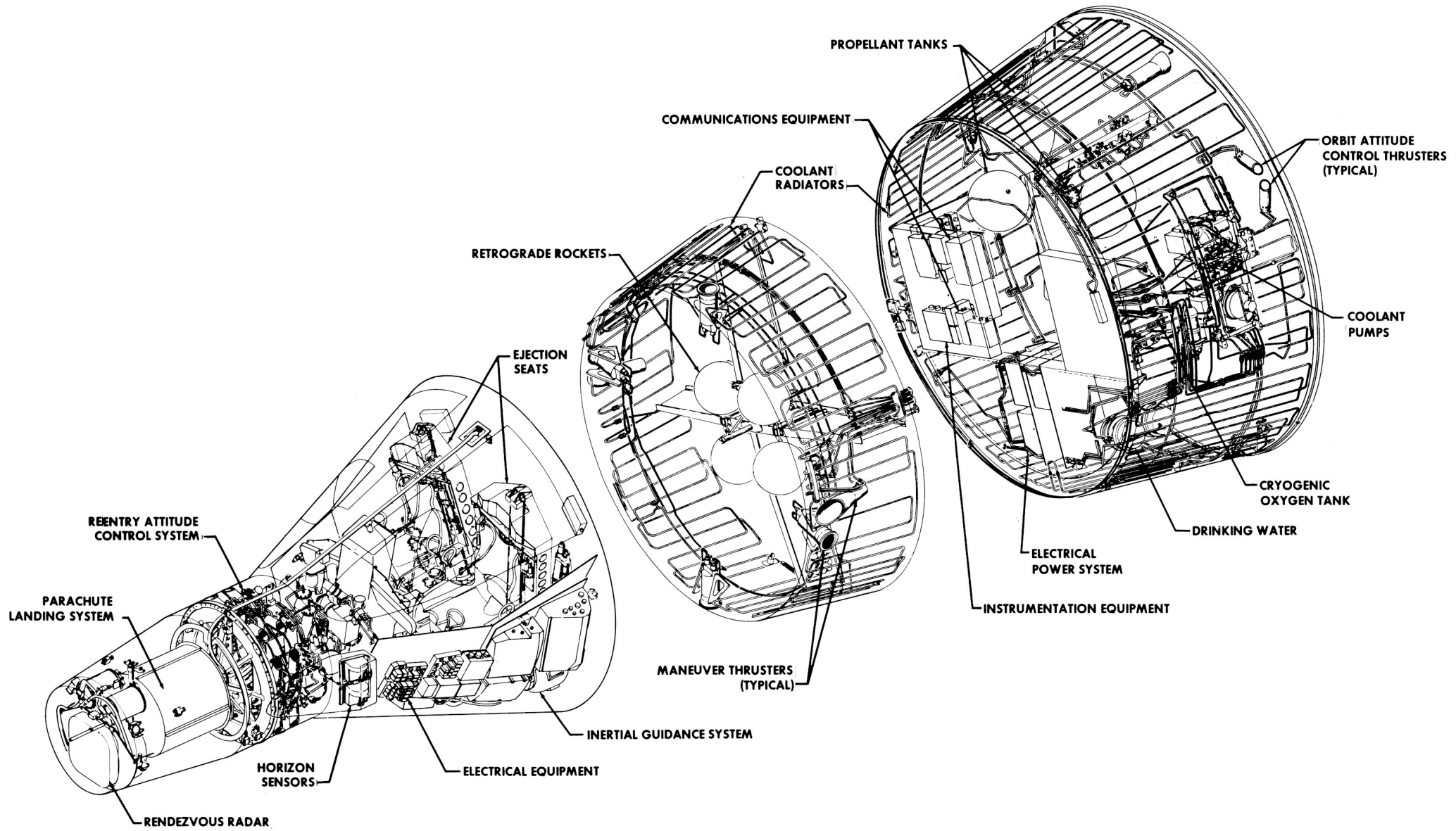


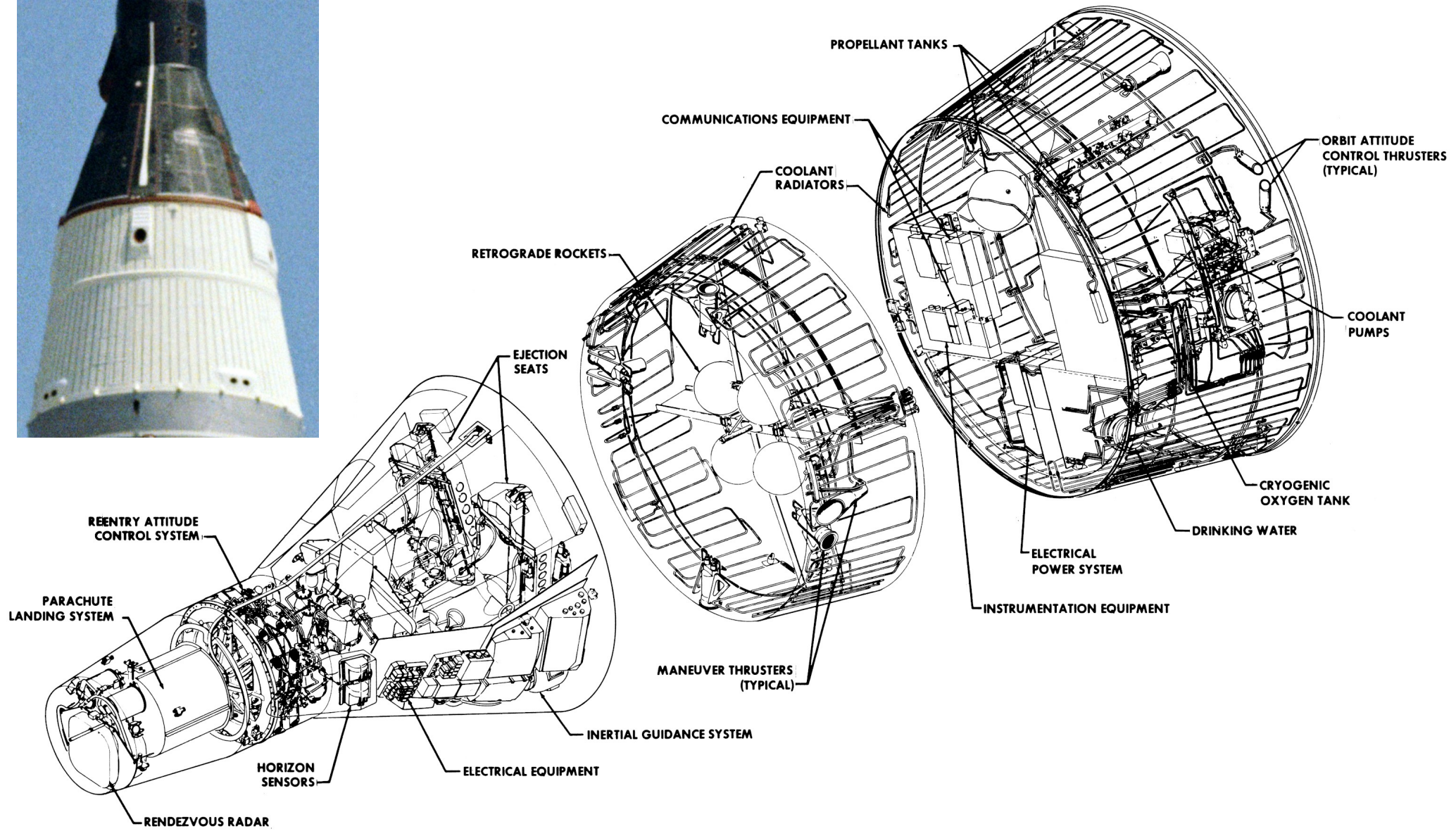












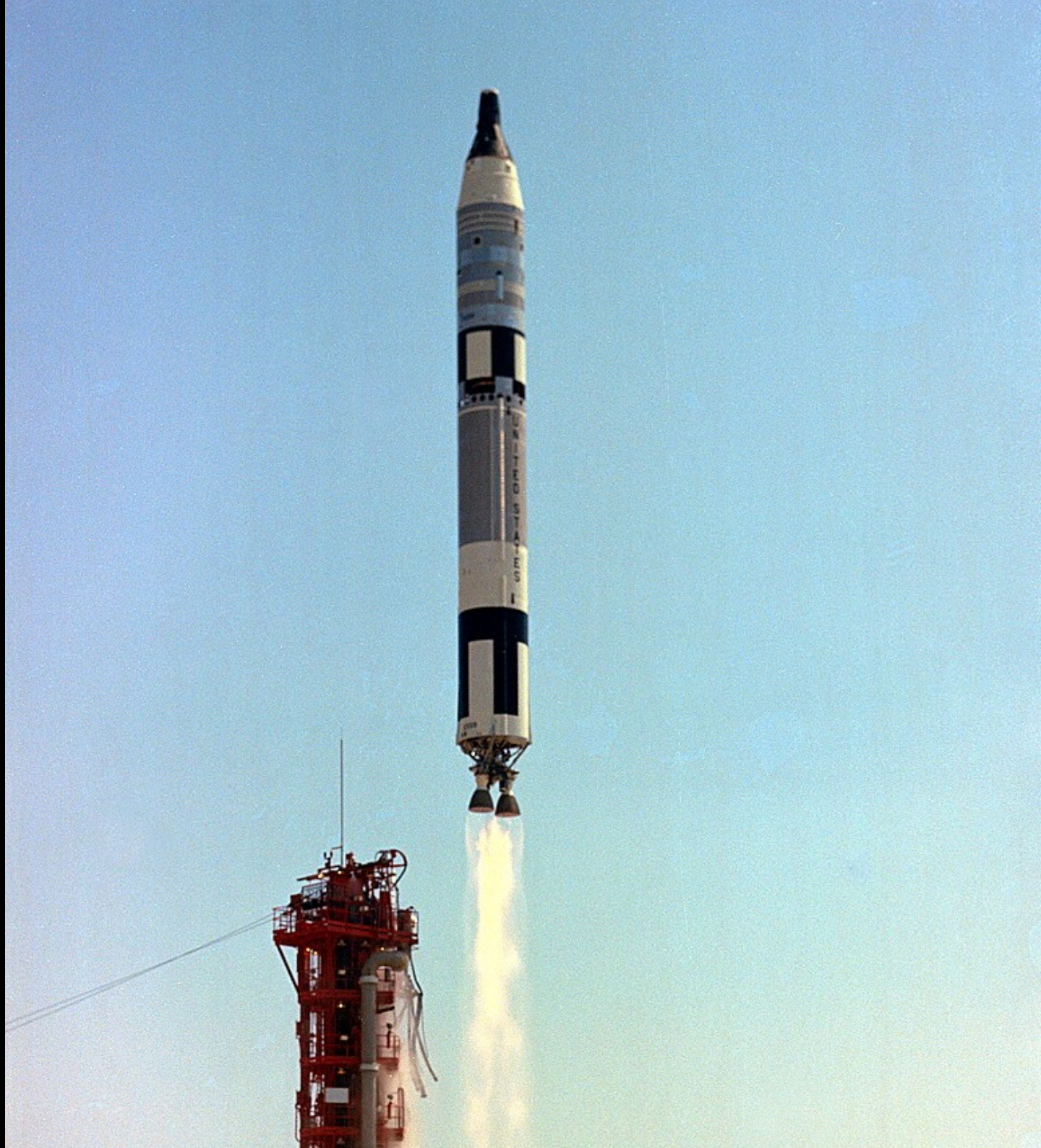


TABLE 5.1-V. - GUIDANCE ERROR AT SECO

TABLE 5.1-V.- GUIDANCE ERROR AT SECO

| | Position, ft | | | Velocity, ft/sec | | |
|----------------------|--------------|------|-----|------------------|-----------|-----------|
| | X | Y | Z | \dot{X} | \dot{Y} | \dot{Z} |
| Total guidance error | 200 | -600 | 300 | -7 | -5 | 15 |

TABLE 5.1-V. - GUIDANCE ERROR AT SECO

| | Position, ft | | | Velocity, ft/sec | | |
|----------------------|--------------|------|-----|------------------|-----------|-----------|
| | X | Y | Z | \dot{X} | \dot{Y} | \dot{Z} |
| Total guidance error | 200 | -600 | 300 | -7 | -5 | 15 |



700 ft

TABLE 5.1-V.- GUIDANCE ERROR AT SECO

| | Position, ft | | | Velocity, ft/sec | | |
|----------------------|--------------|------|-----|------------------|-----------|-----------|
| | X | Y | Z | \dot{X} | \dot{Y} | \dot{Z} |
| Total guidance error | 200 | -600 | 300 | -7 | -5 | 15 |



700 ft



17 ft/sec

TABLE 5.1-V. - GUIDANCE ERROR AT SECO

| | Position, ft | | | Velocity, ft/sec | | |
|----------------------|--------------|------|-----|------------------|-----------|-----------|
| | X | Y | Z | \dot{X} | \dot{Y} | \dot{Z} |
| Total guidance error | 200 | -600 | 300 | -7 | -5 | 15 |

700 ft

0.1%

17 ft/sec

0.1%

00 02 34 C Good staging.

00 02 36 CC Roger. We confirm good staging.

00 02 50 C Guidance initiated.

00 02 52 CC Roger, guidance initiated.

00 03 04 C The errors have come in. They're just right on null now.

00 03 08 CC Say again, Gemini.

00 03 10 C I say, our errors have come into a null.

00 03 13 CC Roger.

00 03 15 C Just like they are supposed to.

00 03 17 CC Yes. Everything is going great.

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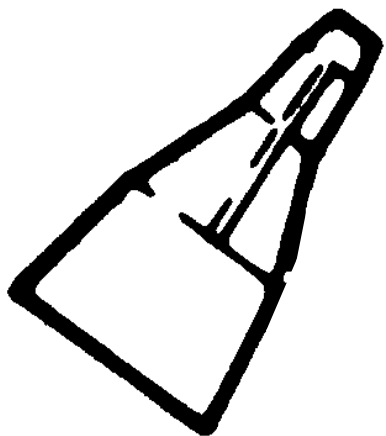
00 03 13 CC Roger.

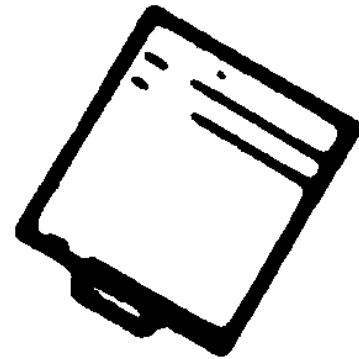
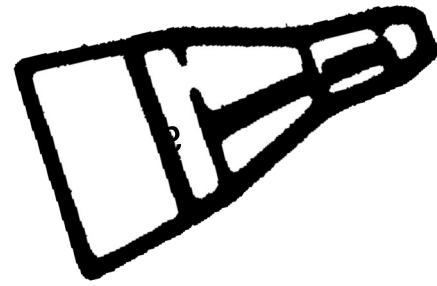
00 03 15 C Just like they are supposed to.

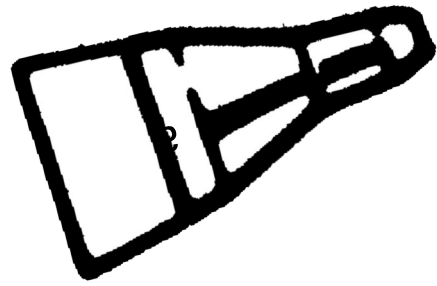
00 03 17 CC Yes. Everything is going great.

CC Yes. Everything is going great.

CC Yes. Everything is going great.

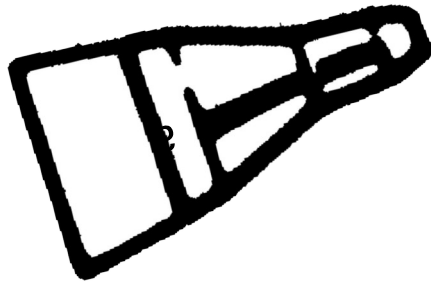


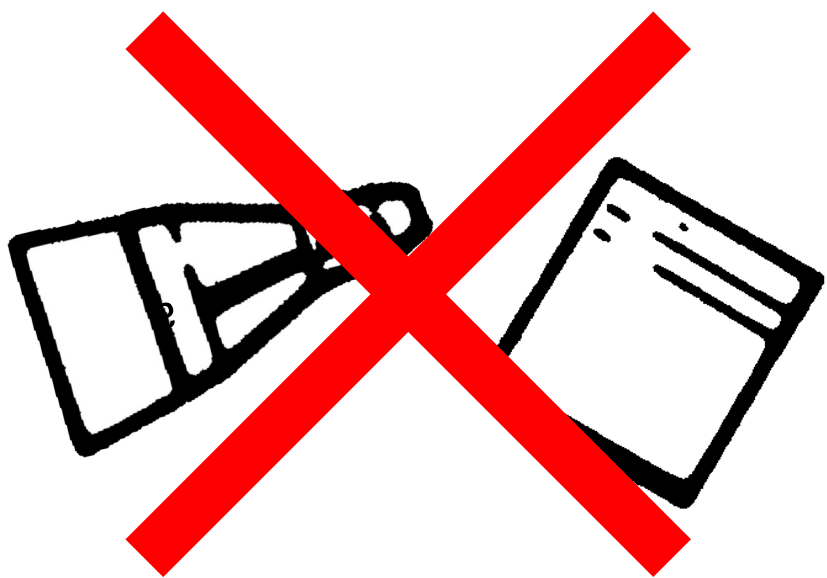


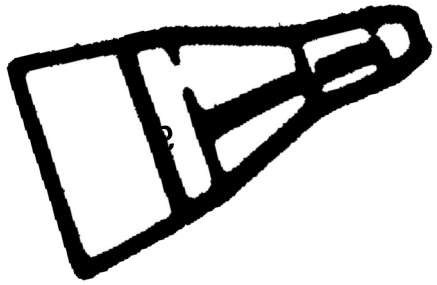


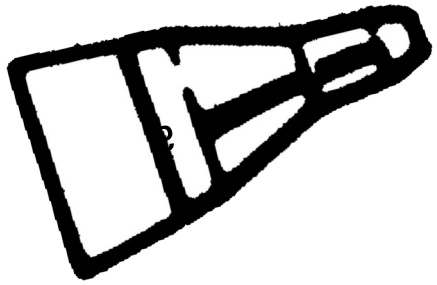


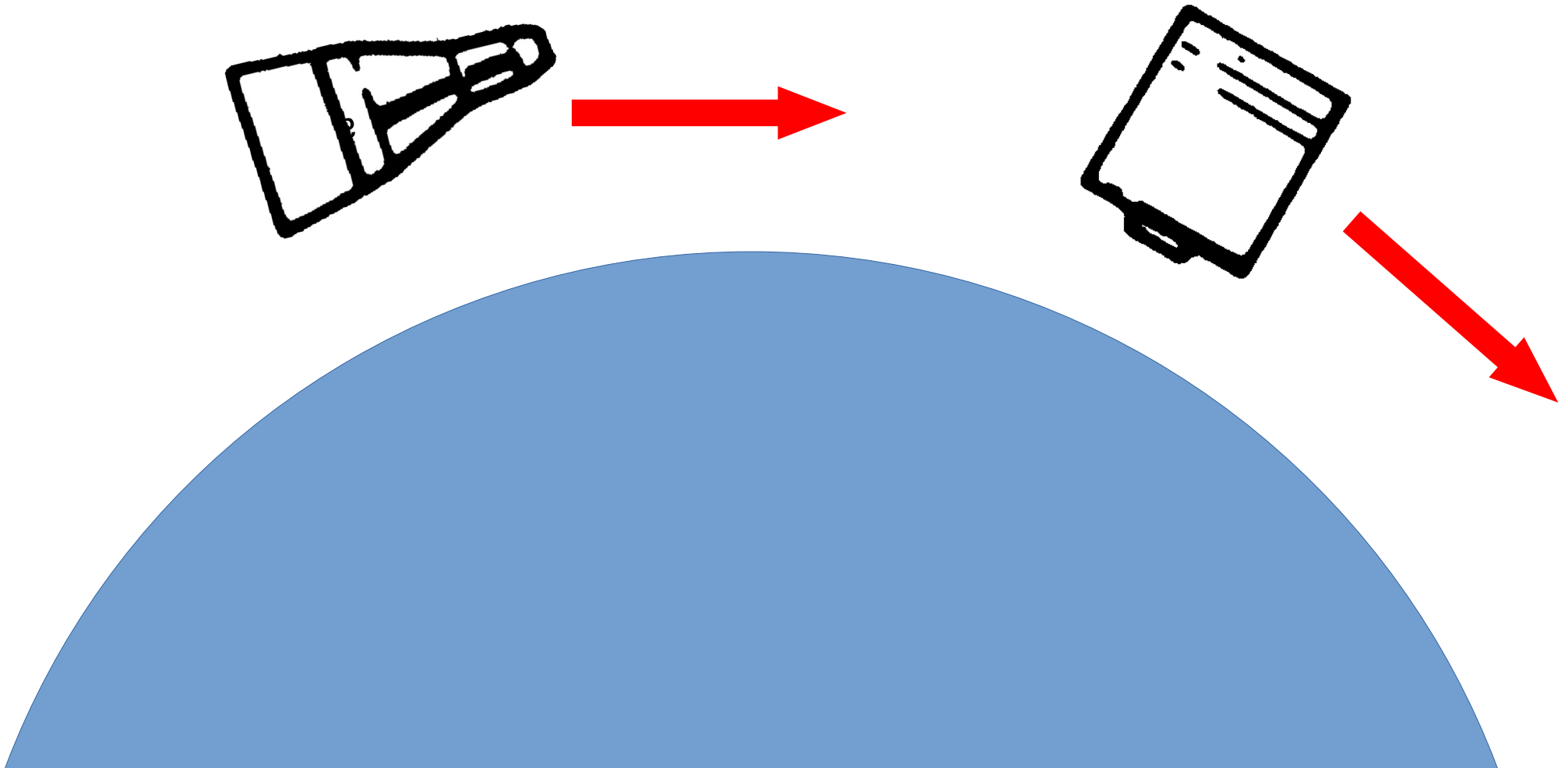


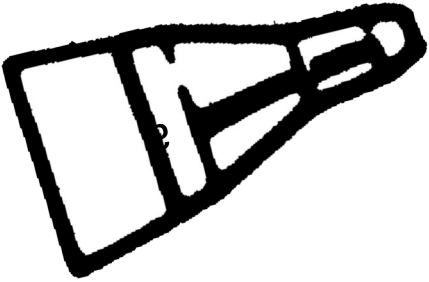


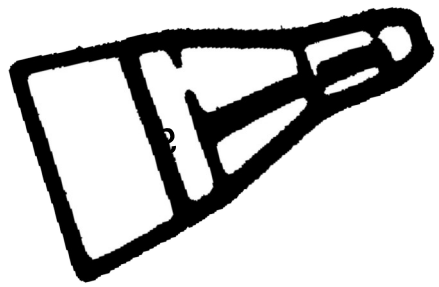


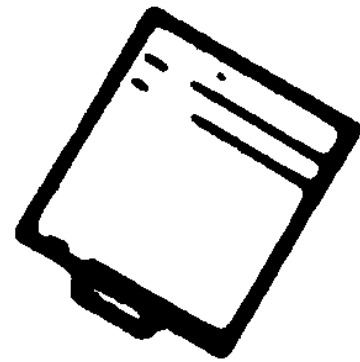


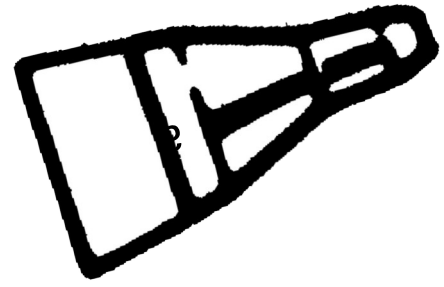














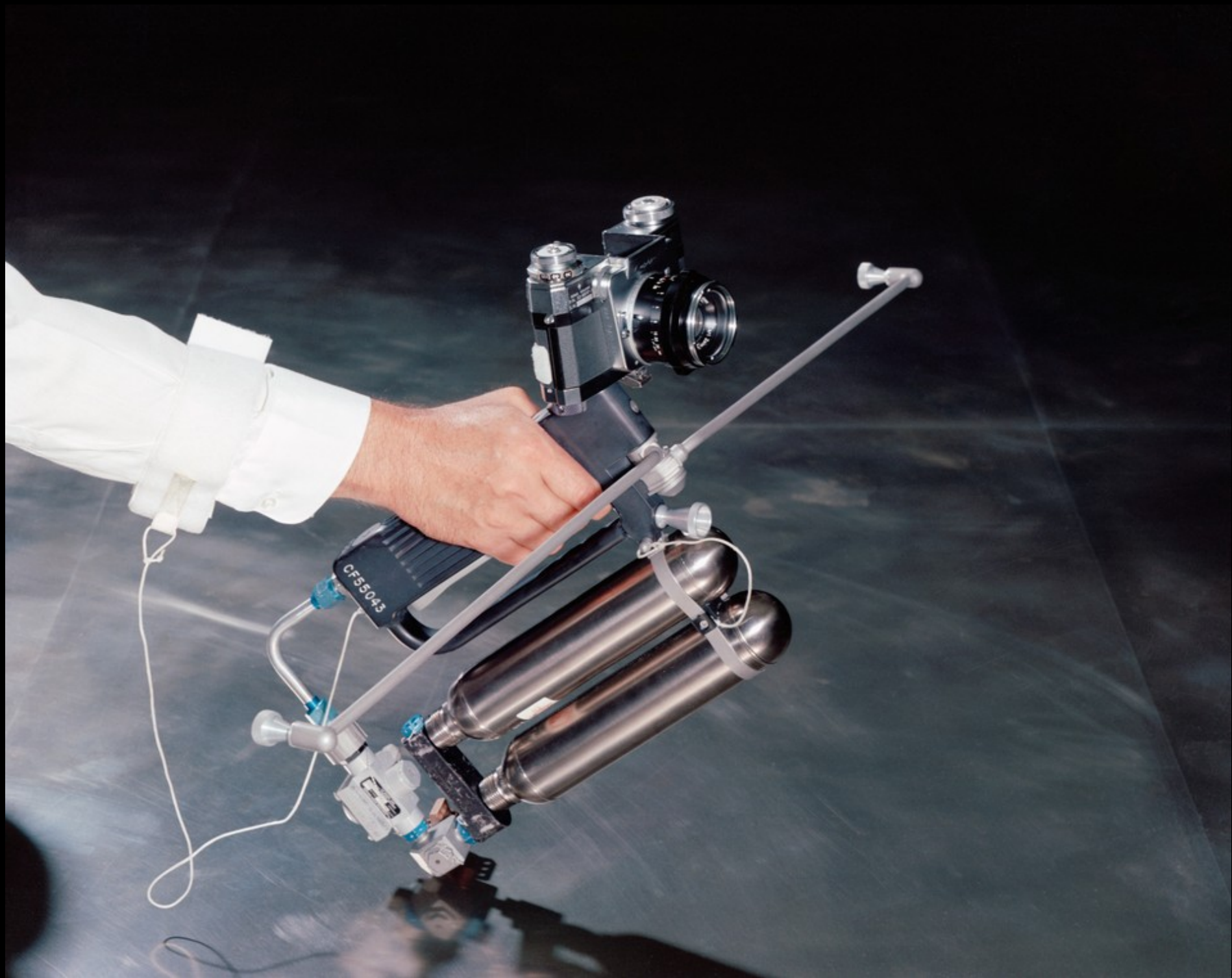


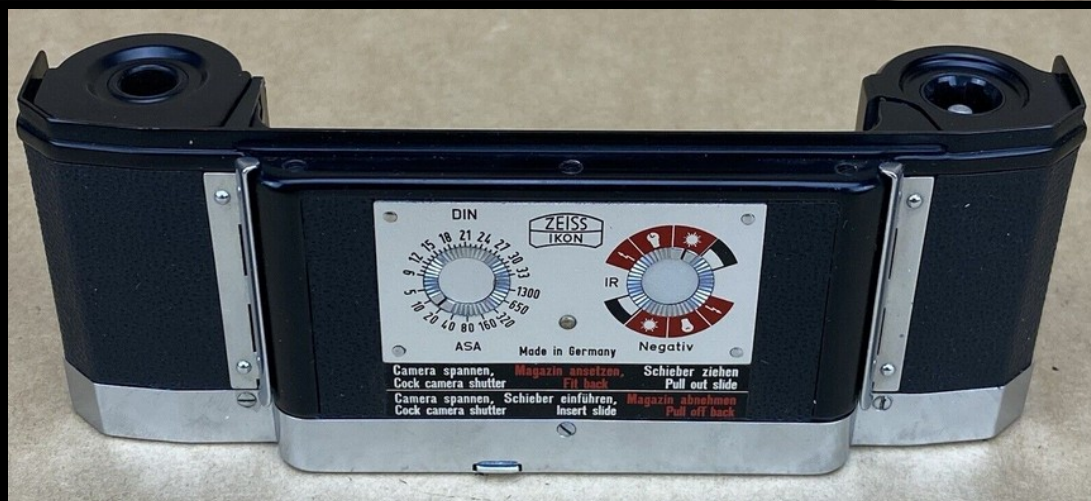




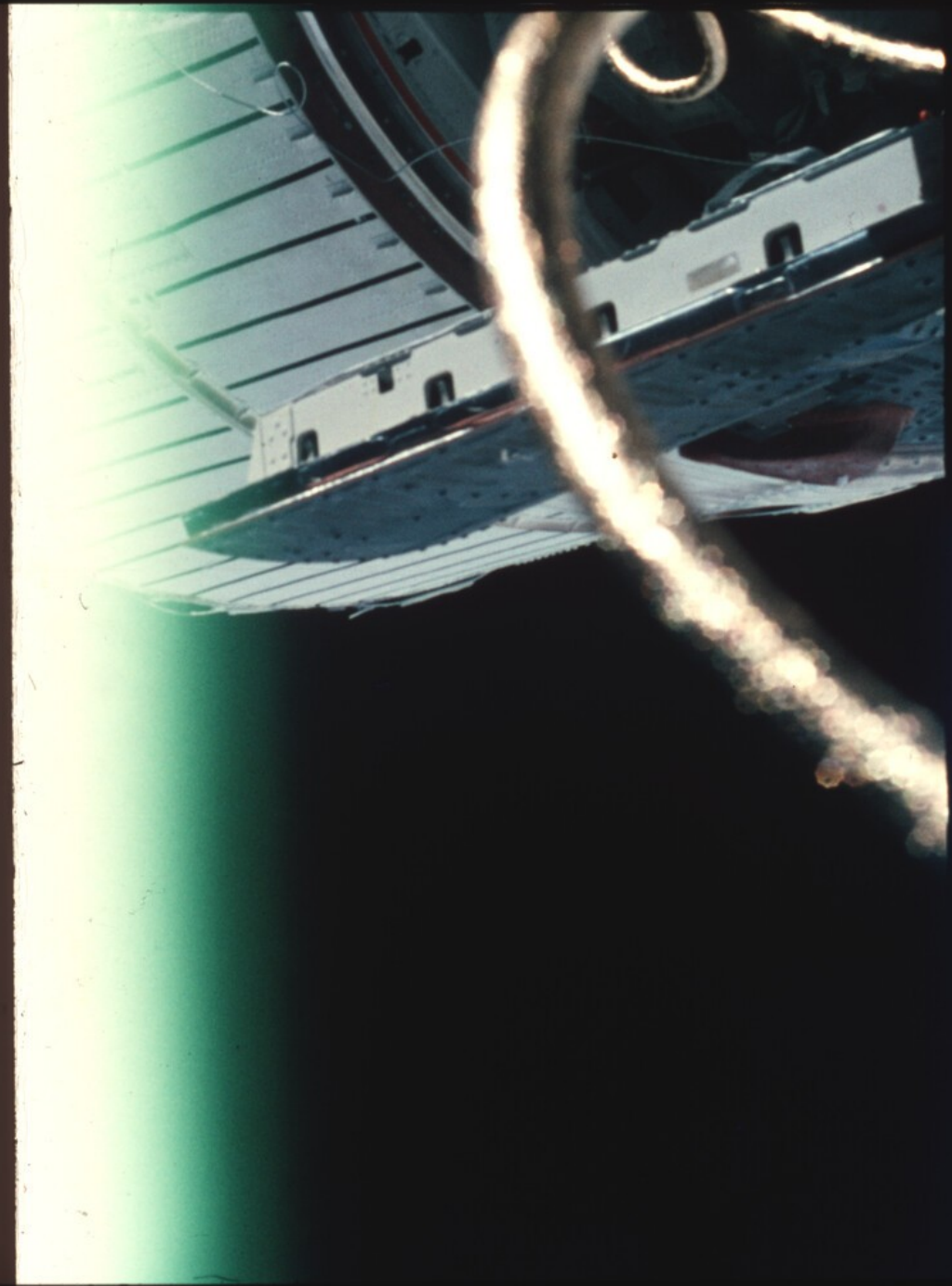




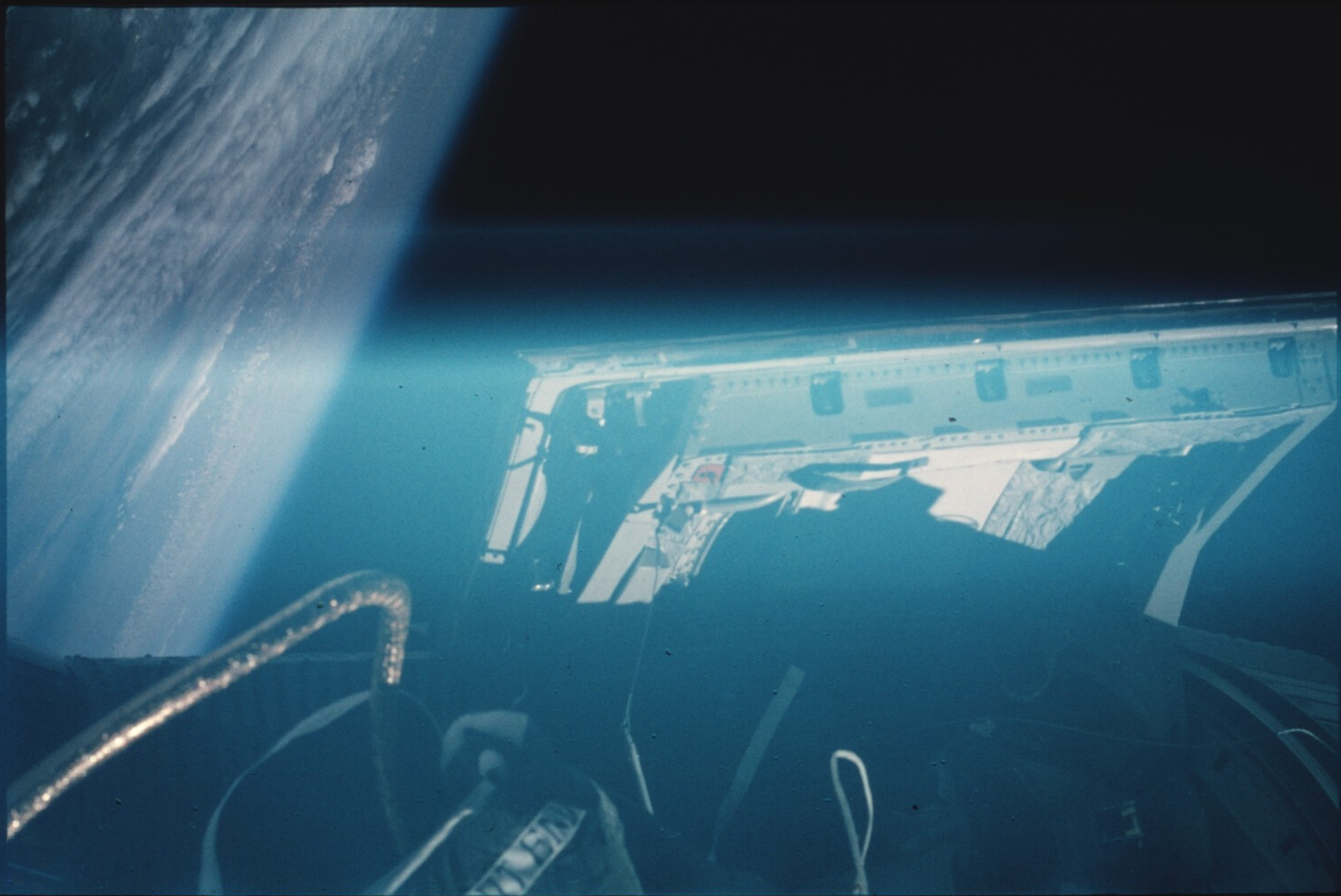


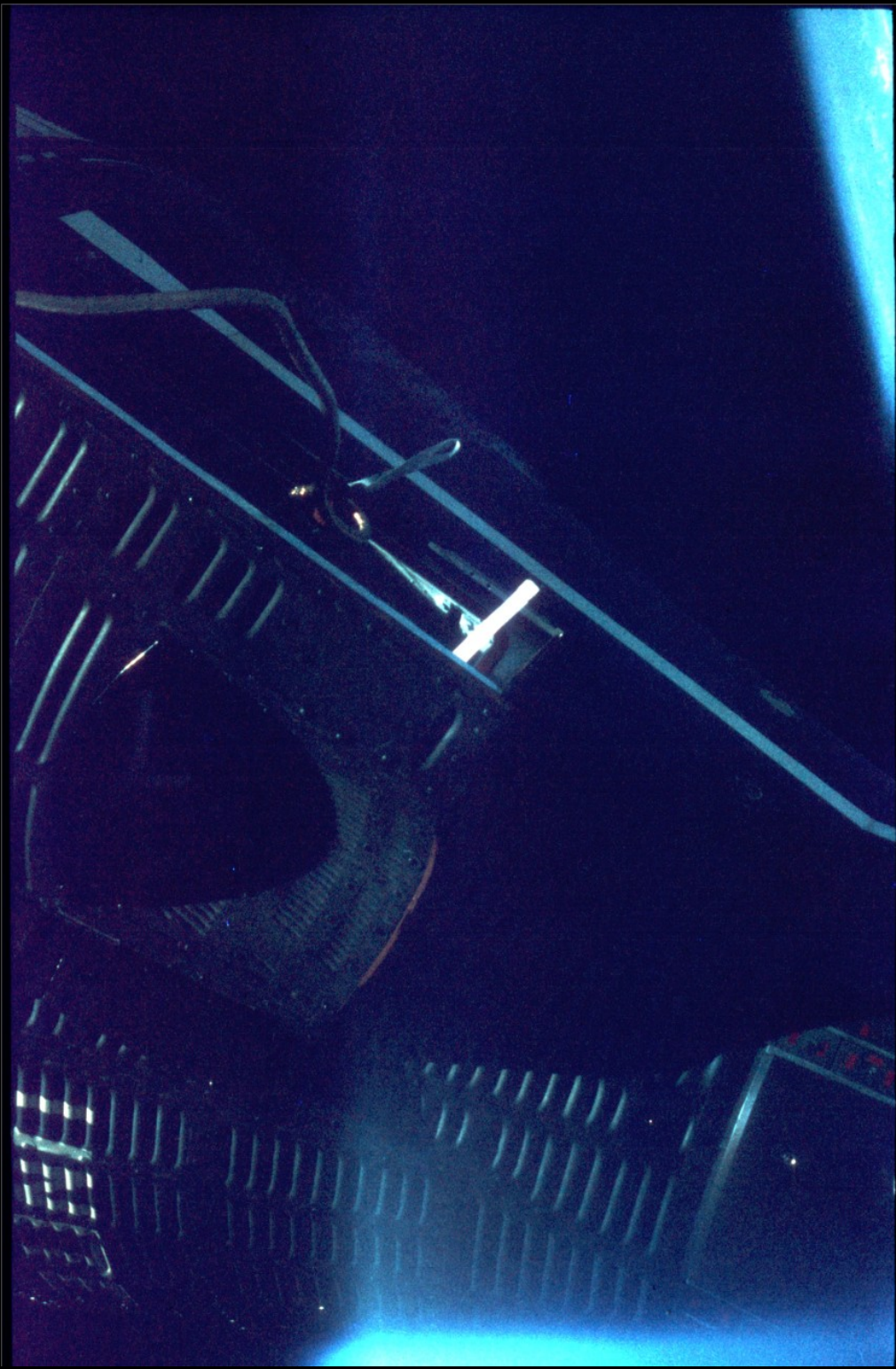


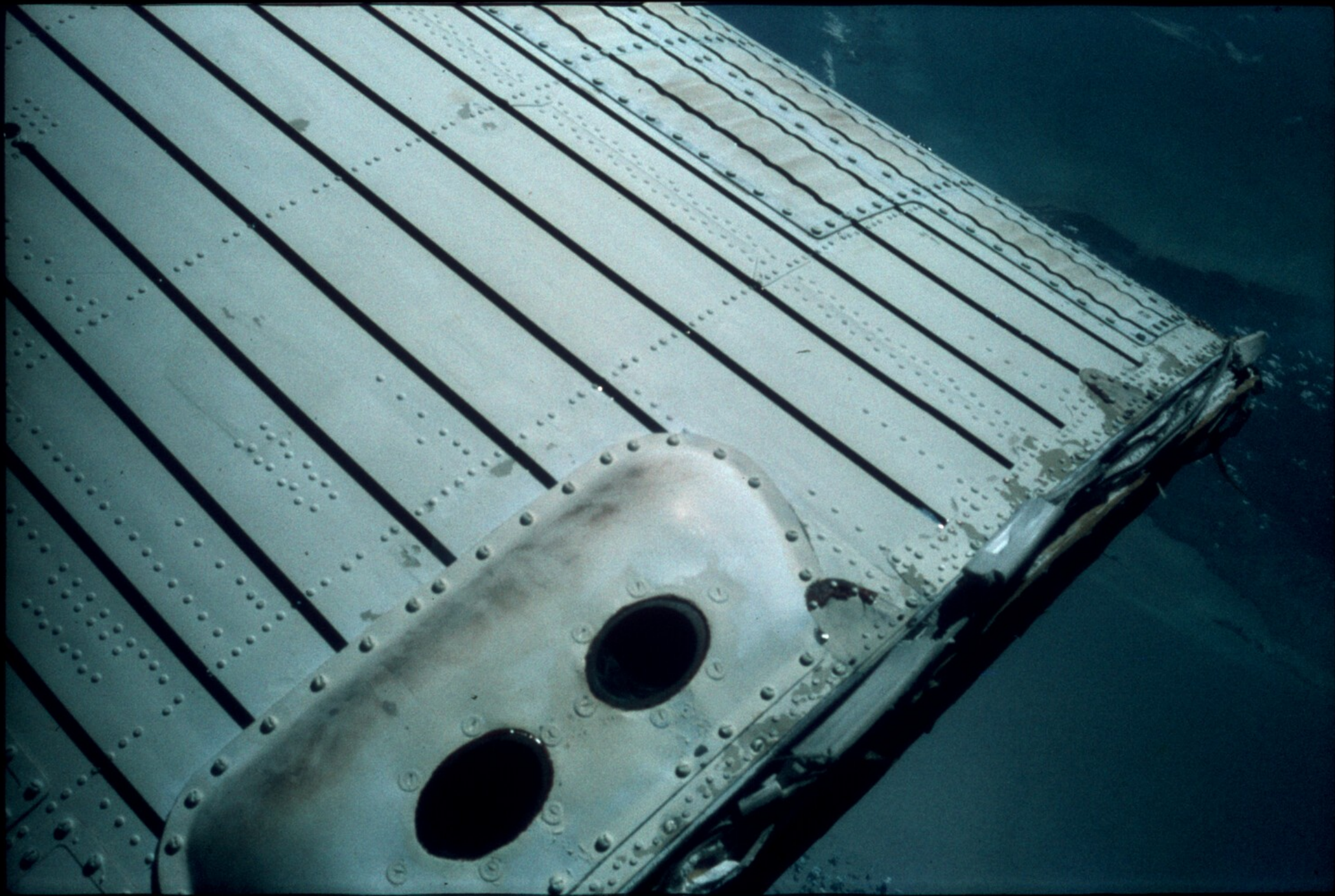


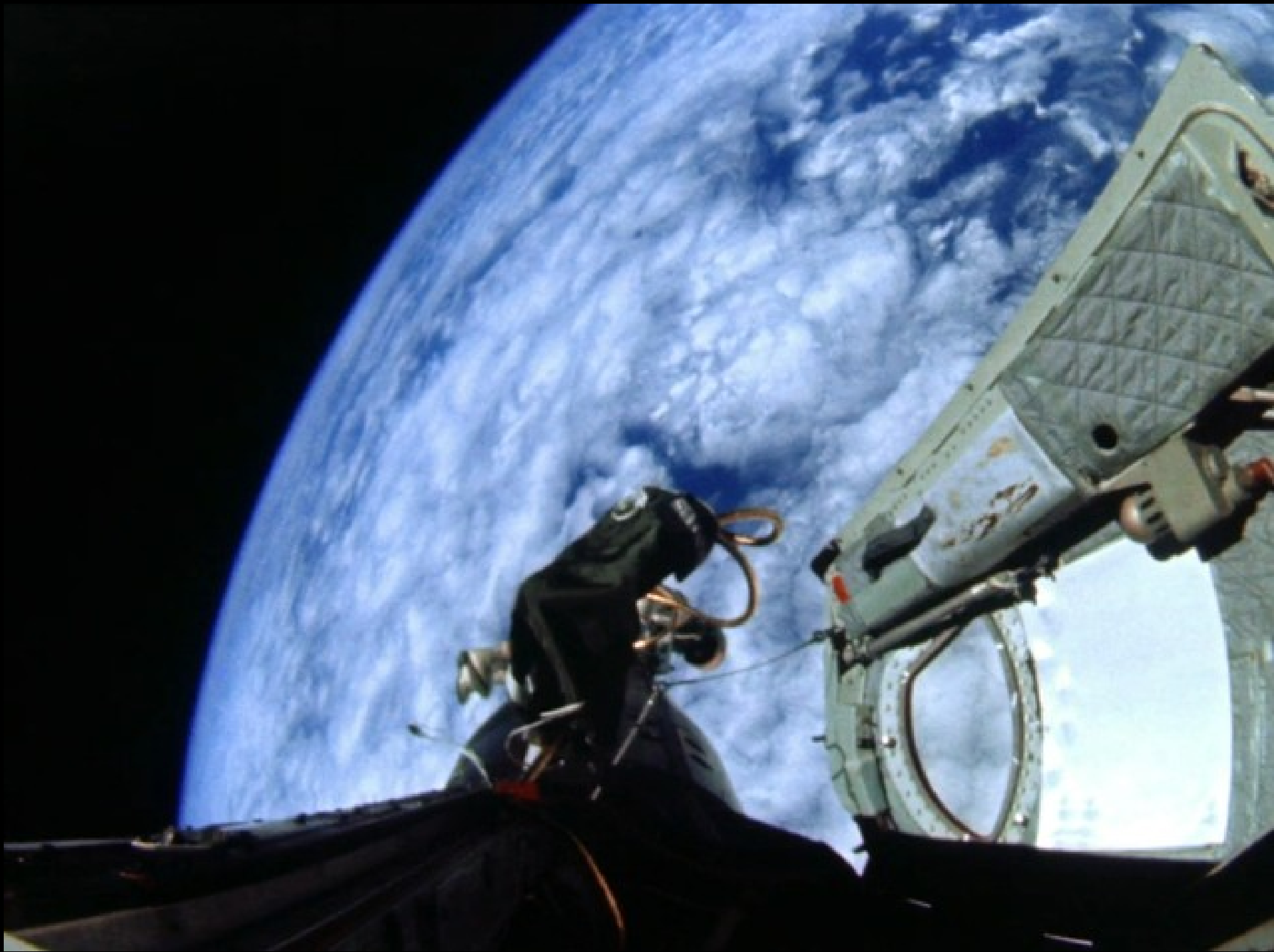












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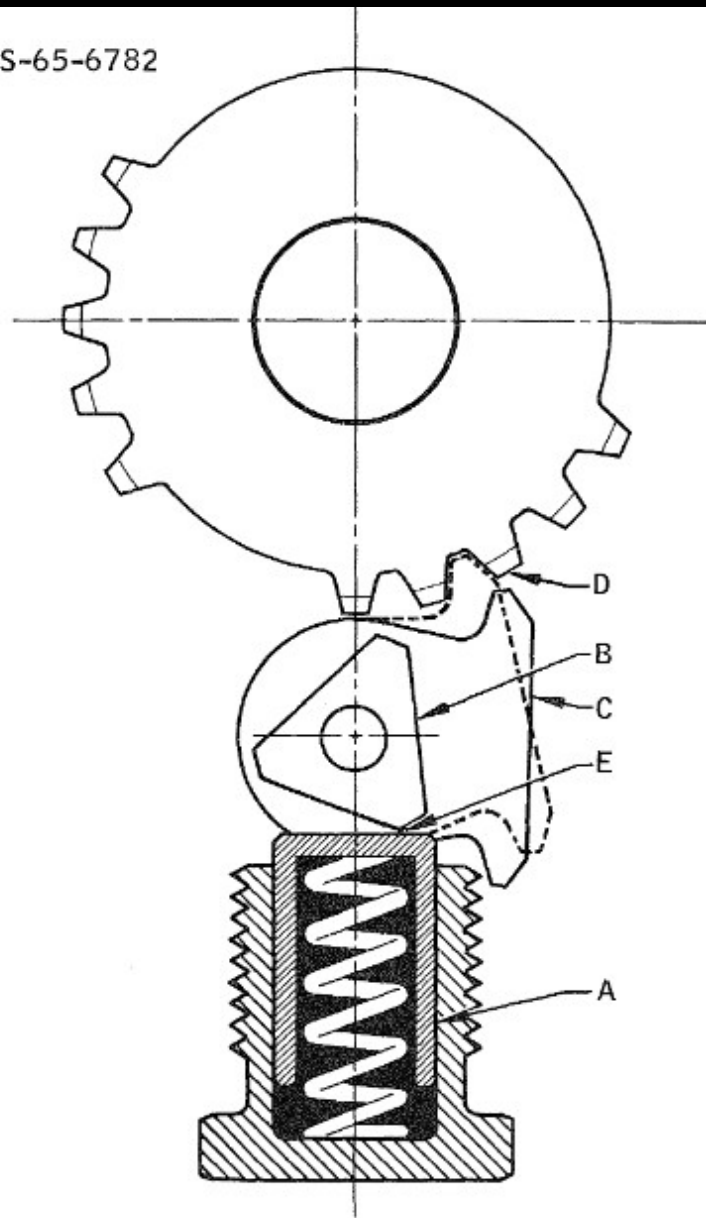
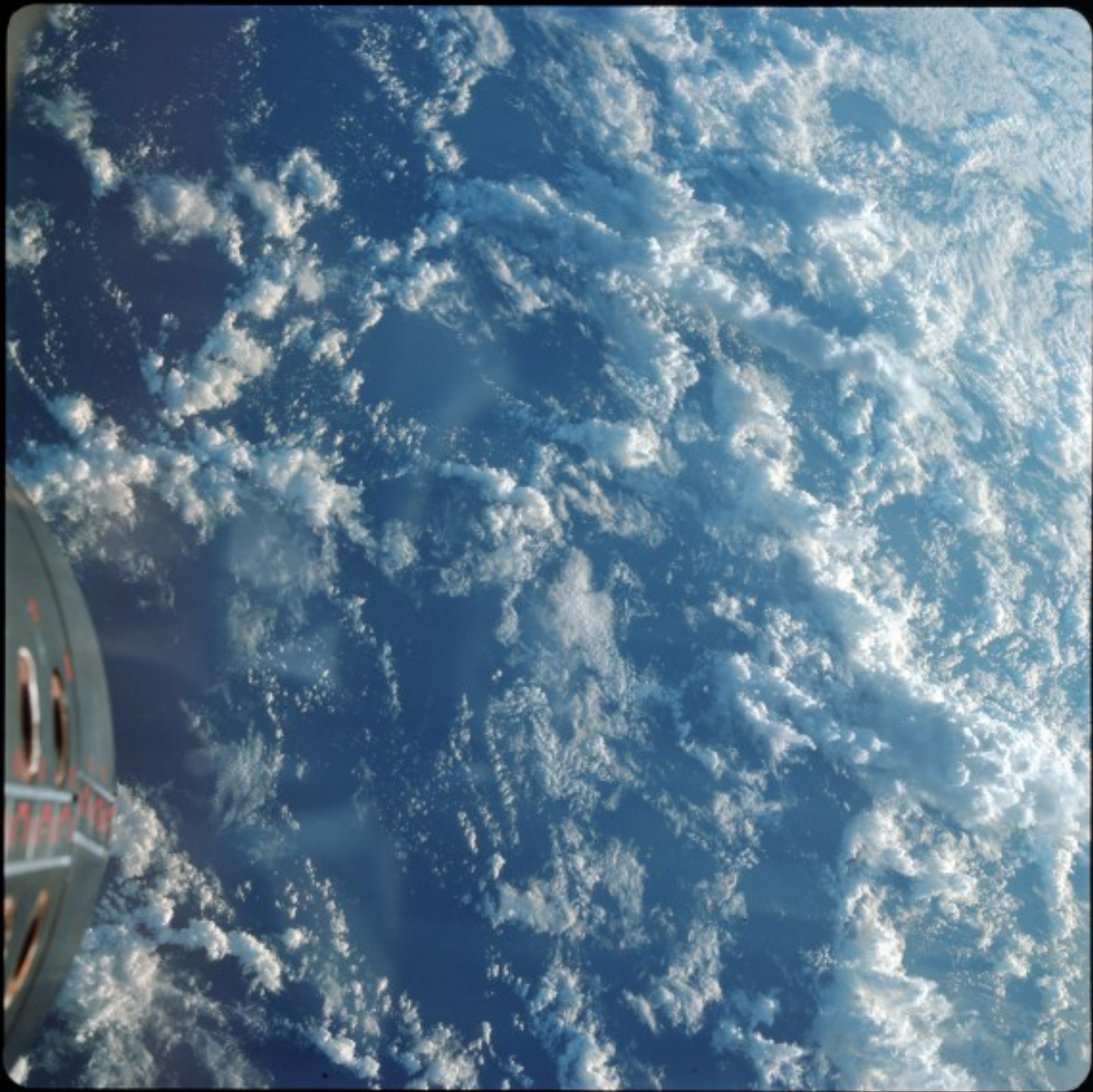
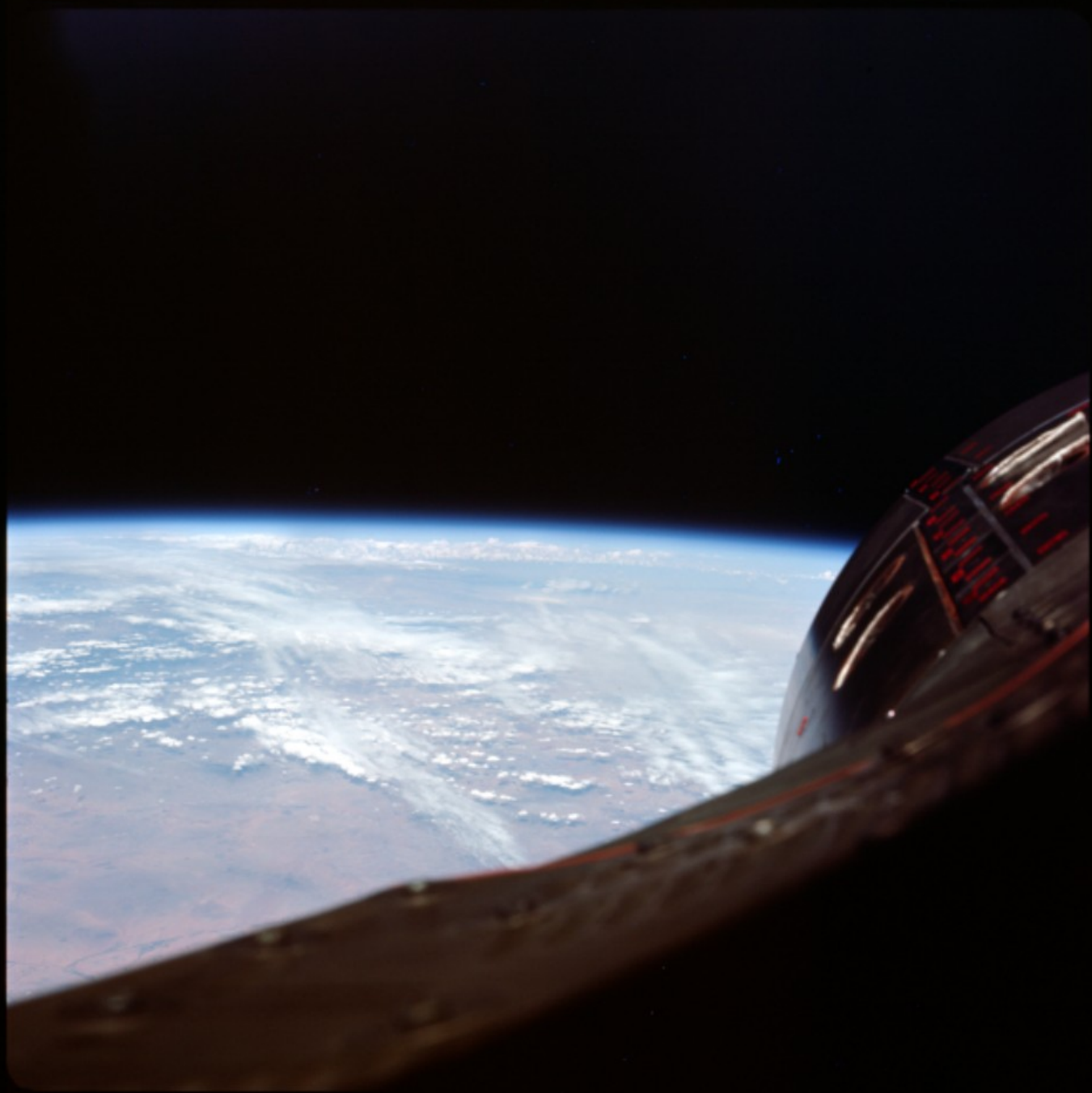


Figure 5.1-7. - Schematic of hatch latching ratchet.



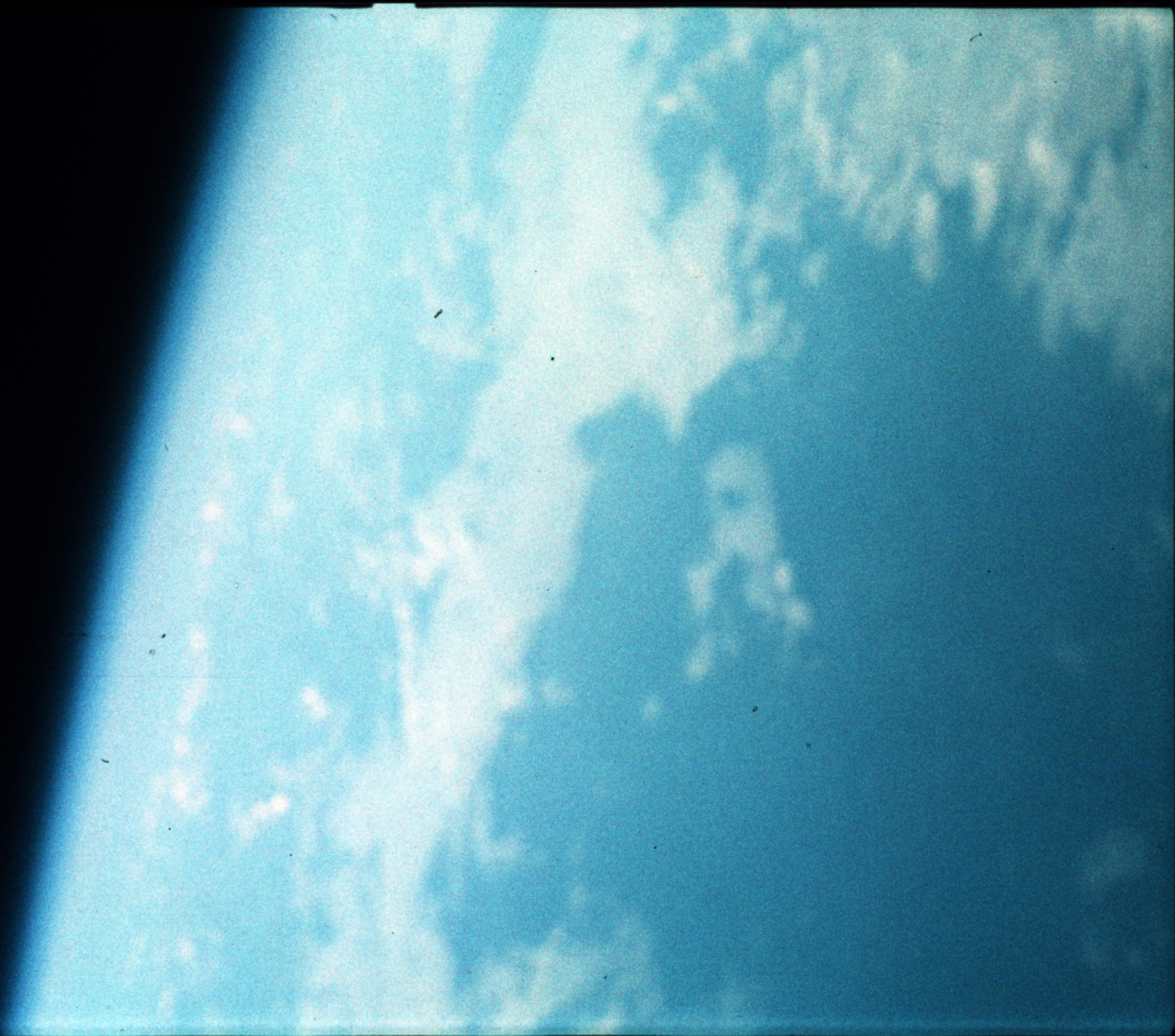


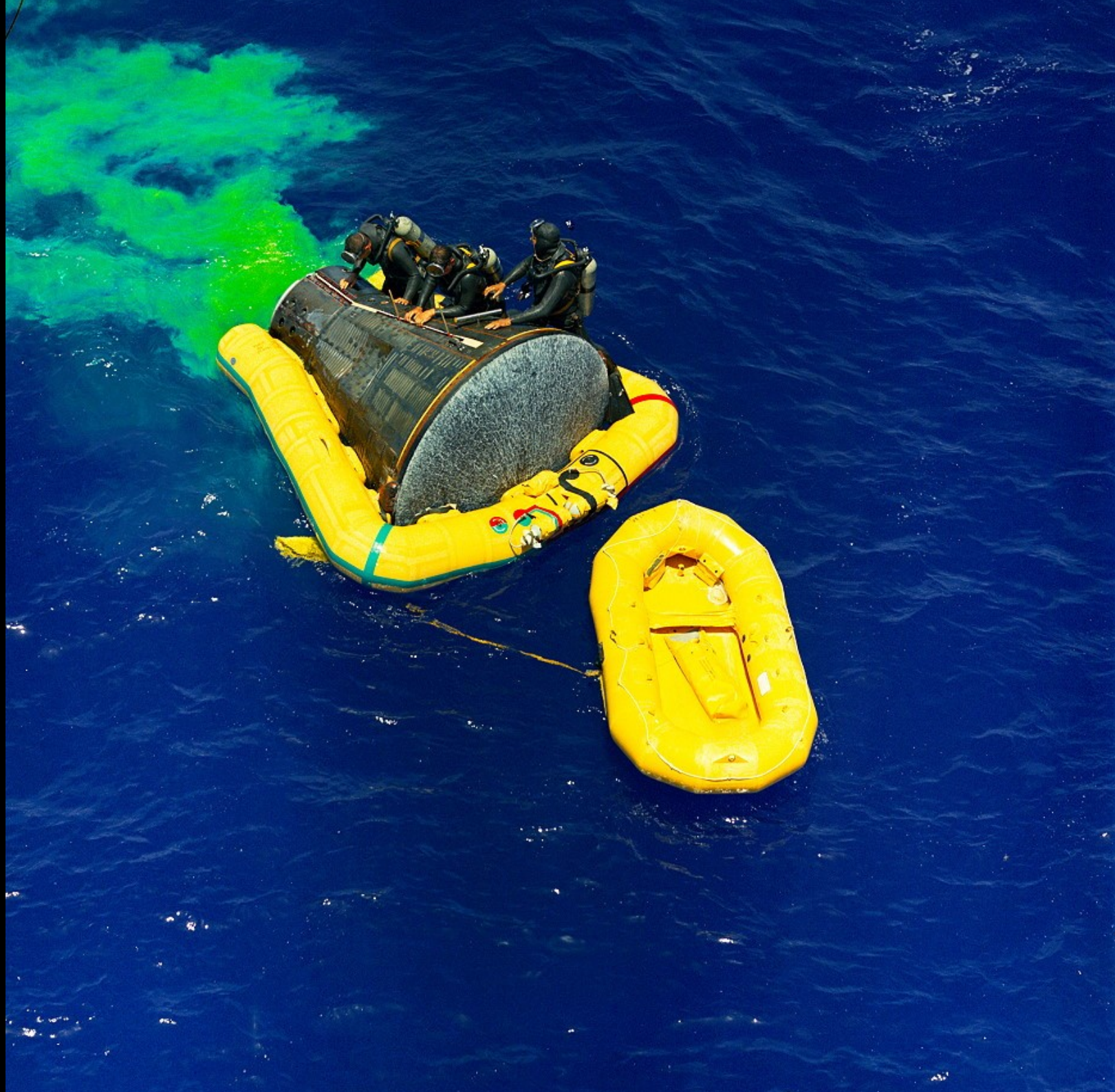


















(JAE) JACKSON, Mich., June 16.—HOMETOWN HONORS THEIR HERO
Spaceman James McDivitt and wife, Patricia, wave to
crowd from open car as the astronaut was honored with
a downtown parade in Jackson home today.
(AP WIREPHOTO) (ps51112atf) 1965



(A012)ANN ARBOR,MICH.,JUNE 15—IT'S NOW DR.WHITE AND DR.MCDIVITT—The Gemini IV space twins,James McDivitt (top) and Edward White,become "doctors of astronomical science" as newly created honorary degrees were conferred upon them by the University of Michigan today. Both were graduated in 1959 at the university with degrees in aeronautical engineering. (See wire story)(AP Wirephoto)(FN31630str) '65





TABLE 12-V.- SUMMARY OF PHOTOGRAPHIC DATA AVAILABILITY

| Mission phase | Number of still photographs | Motion picture film, footage |
|---|-----------------------------|------------------------------|
| Onboard spacecraft | | 500 |
| Extravehicular operation | 29 | |
| Experiment S-5, Synoptic Terrain Photography | 125 | |
| Experiment S-6, Synoptic Terrain Photography | 107 | |
| Experiment MSC-10, Two-Color Earth's Limb Photographs | 28 | |
| Apollo Landmark Experiment | 35 | |
| Miscellaneous general purpose photography | 108 | |

“The exploration of space will go ahead, whether we join in it or not, and it is one of the great adventures of all time . . . ”

John F. Kennedy



Mercury, Gemini, and Apollo Digital Image

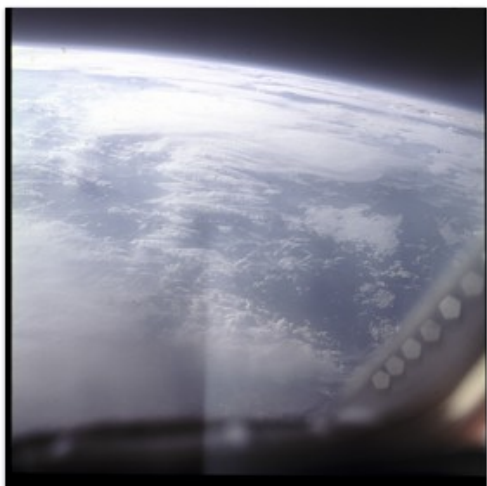
Mercury, Gemini, and Apollo Digital Image Archive

Welcome to March to the Moon. This website serves as a digital repository for the hand-held camera photography captured during the Mercury, Gemini, and Apollo programs, which flew between 1958 and 1972. NASA team members at Johnson Space Center scanned the films in an

ongoing effort to preserve, share, and commemorate some of the greatest historical achievements of humankind.

Following the completion of each mission, master duplicates were produced and the original flight films were placed into archival storage. These galleries are digital

scans of the original films – and the first instance in which they have been provided on the Internet. Select a program below to begin exploring these amazing photographic moments in human history.



Mercury

Project Mercury was the United States' first man-in-space program. The objectives of



Gemini

The Gemini program was the training



Apollo

The Apollo program, flown from 1961 to 1972, was a national effort that fulfilled a

About the Film Scans

Film Storage & Cleaning

Storing the Film

The goal of this program is to preserve the Apollo flight film products - in both the digital and physical formats - for generations to come. All the original Apollo film can be found in the Film Archive (Building 8) at Johnson Space Center (JSC). Due to the importance in preserving these films, the original film is not allowed to leave the building. The film is stored in a freezer (0° F), which is located in a large refrigerator that is maintained at 55° F. The staff at JSC has a rigorous procedure for removing film from the freezer for scanning or making copies.

1. The sealed film canister is transferred from the freezer to the refrigerator where it is allowed to equilibrate for 24 hours.
2. The sealed canister is then removed from the refrigerator and placed in a room temperature environment and allowed to equilibrate for an additional 24 hours.
3. The film is then removed from the canister, hand cleaned (see below) and scanned.
4. The film is placed back in the canister, sealed, and then placed back in the cold vault.



Acknowledgments

Many people have contributed efforts to make this program possible. First the Johnson Space Center Team does the bulk of the work applying their years of experience and quality control. LPI has provided much support data and valuable feedback. The National Air and Space Museum NASA Regional Planetary Image Facilities lent outreach and technical expertise. ASU students and staff have developed software, provided archiving expertise, and processed scans to final products. The USGS Branch of Astrogeology provided valuable assistance evaluating test scans and discussing instrument geometry and lunar coordinates. The NASA Ames Research Center provided test scan evaluations and inputs on camera geometry and stereo analysis. Leica Geosystems provided excellent support during the proposal stage and has worked hard to maximize the capabilities of the scanner.

Jim Garvin (GSFC) and John Grunsfeld (JSC) played key roles during the proposal stage of the program, and NASA's Exploration Systems Mission Directorate (ESMD) has generously provided the funding to make this program possible.

| | | |
|-----------------|----------------------------------|------------------------|
| JSC Team | NASM Team | ASU Team |
| Will Close | Tom Waters | Mark Robinson |
| Robert Bode | Mark Salvatore | Ernest Bowman-Cisneros |
| John Grunsfeld | Jennifer Levasseur | Nick Estes |
| Rob Ingram | | Emerson Speyerer |
| Larry Jefferson | USGS Team | Kristen Paris |
| Sheryl Locke | Brent Archinal | Aaron Boyd |
| Roger Mitchell | Randy Kirk | Jeff Leland |
| Tom Scarsella | Mark Rosiek | Rick Hoppe |
| Maura White | NASA Ames Research Center | Jacob Danton |
| Warren Harold | Michael Broxton | Sean Merritt |
| Rodney Dowell | Laurence Edwards | Carmen Sales |

March to the Moon

Mercury ▾

Gemini ▾

Apollo ▾

About

Resources



Search



Gemini IV s65-30433_g04-H

Image 39 of 259



March to the Moon

Mercury Gemini Apollo About Resources



Gemini IV GT4-37149-039_G04-U

Image 71 of 104



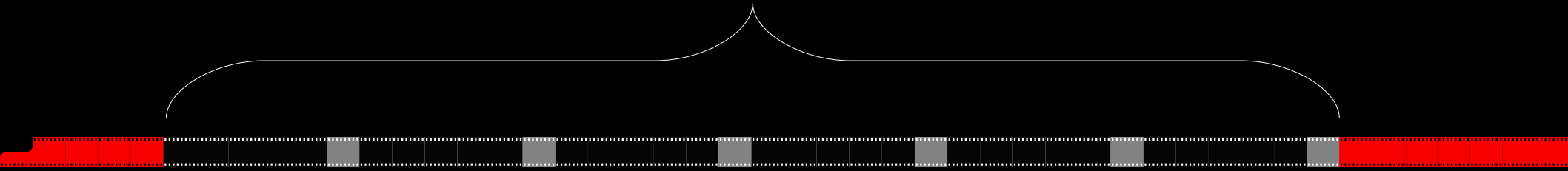
TABLE 3-III.- CREW STATION STOWAGE LIST

Operational Equipment

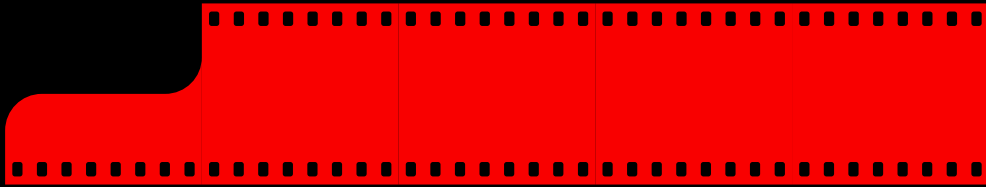
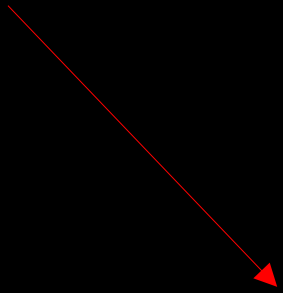
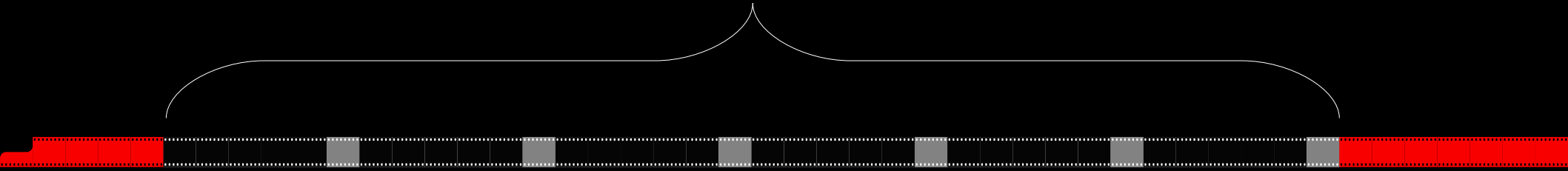
| Item | Quantity | Remarks |
|-------------------------|----------|--|
| 35-mm camera film backs | 3 | Film backs, containing cassettes, stowed in center stowage box |



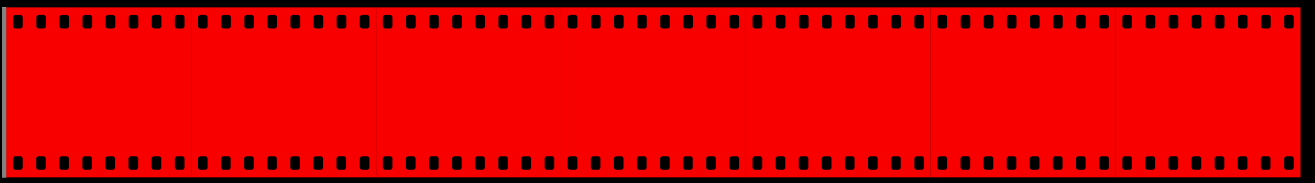
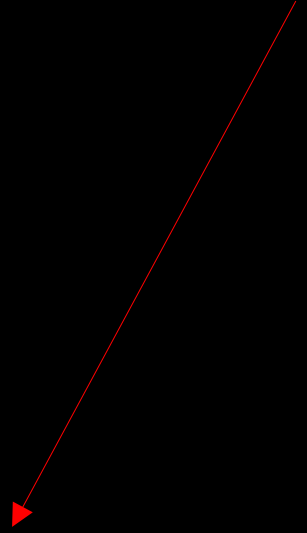
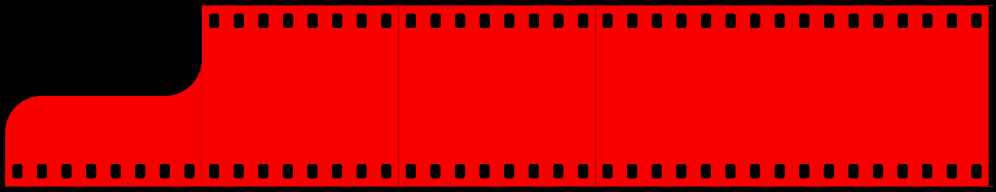
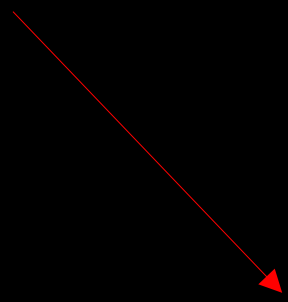
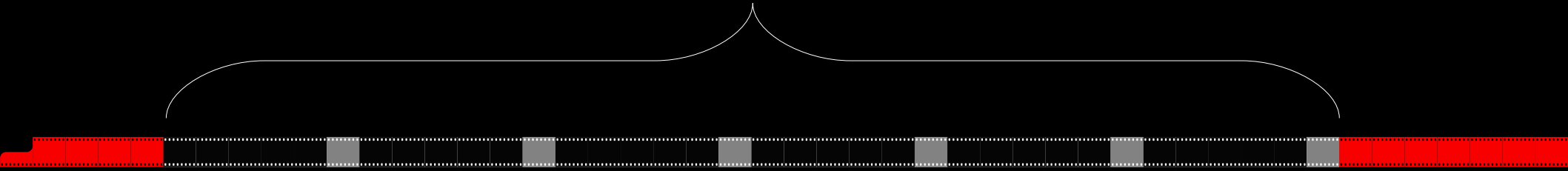
Frames **01** - **36**

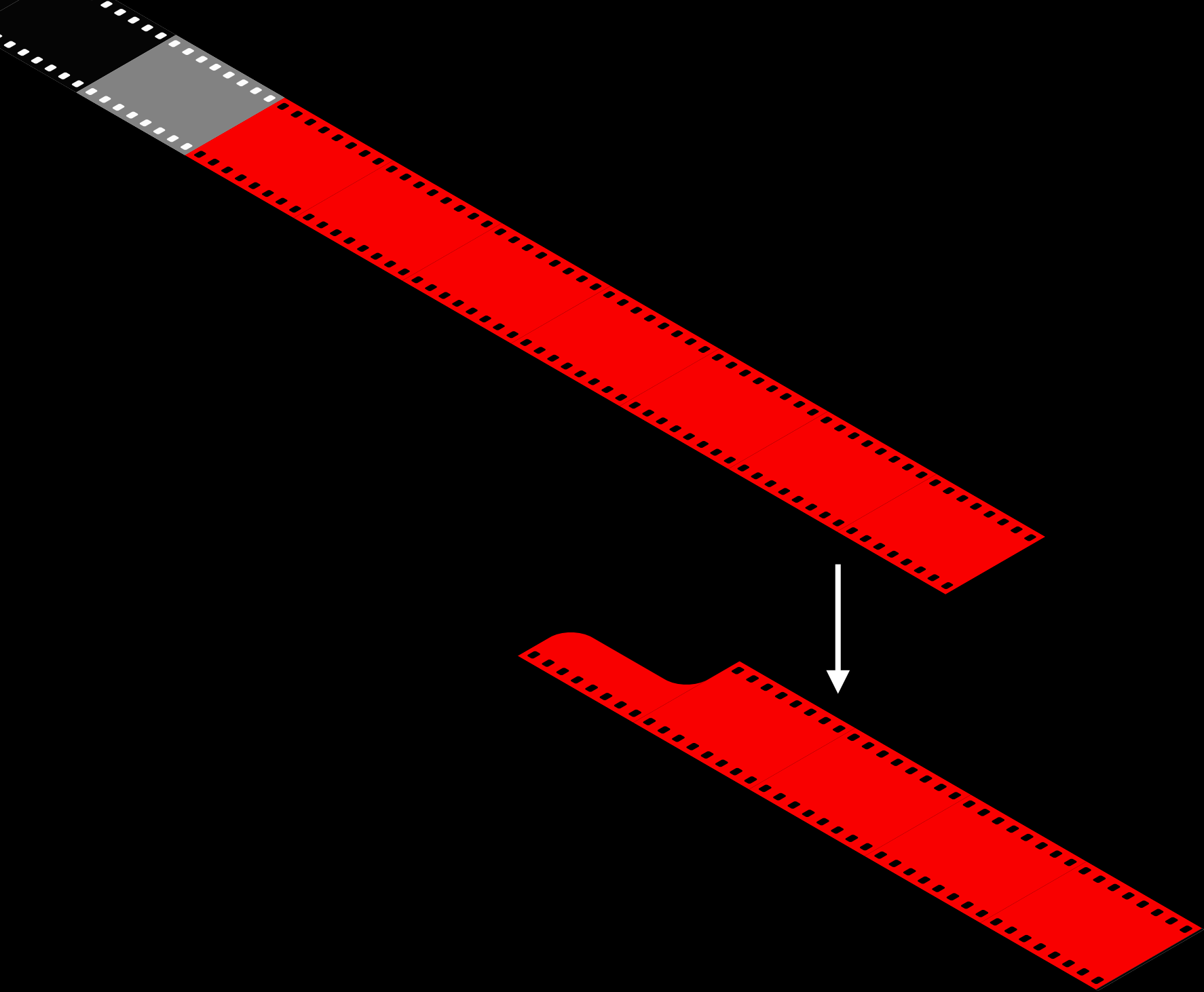


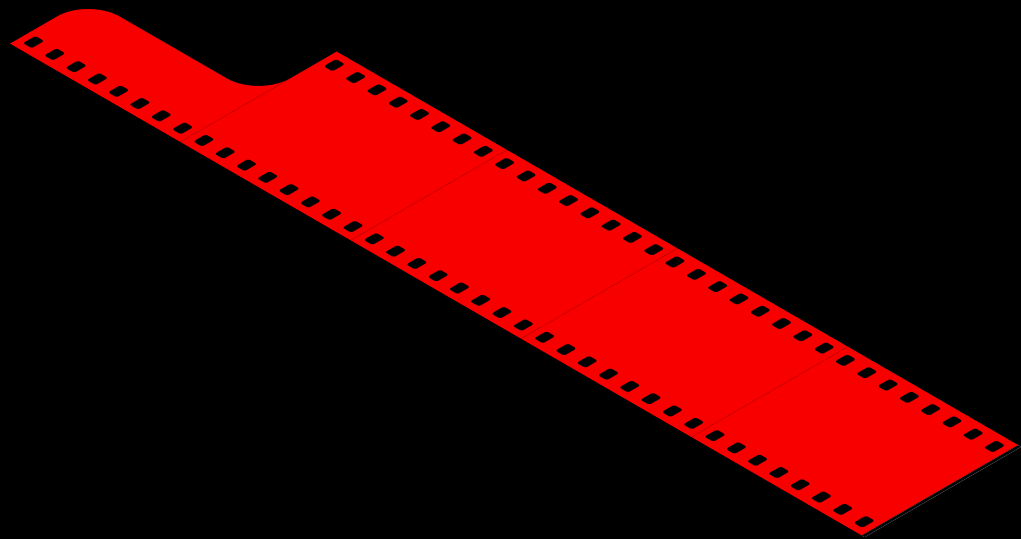
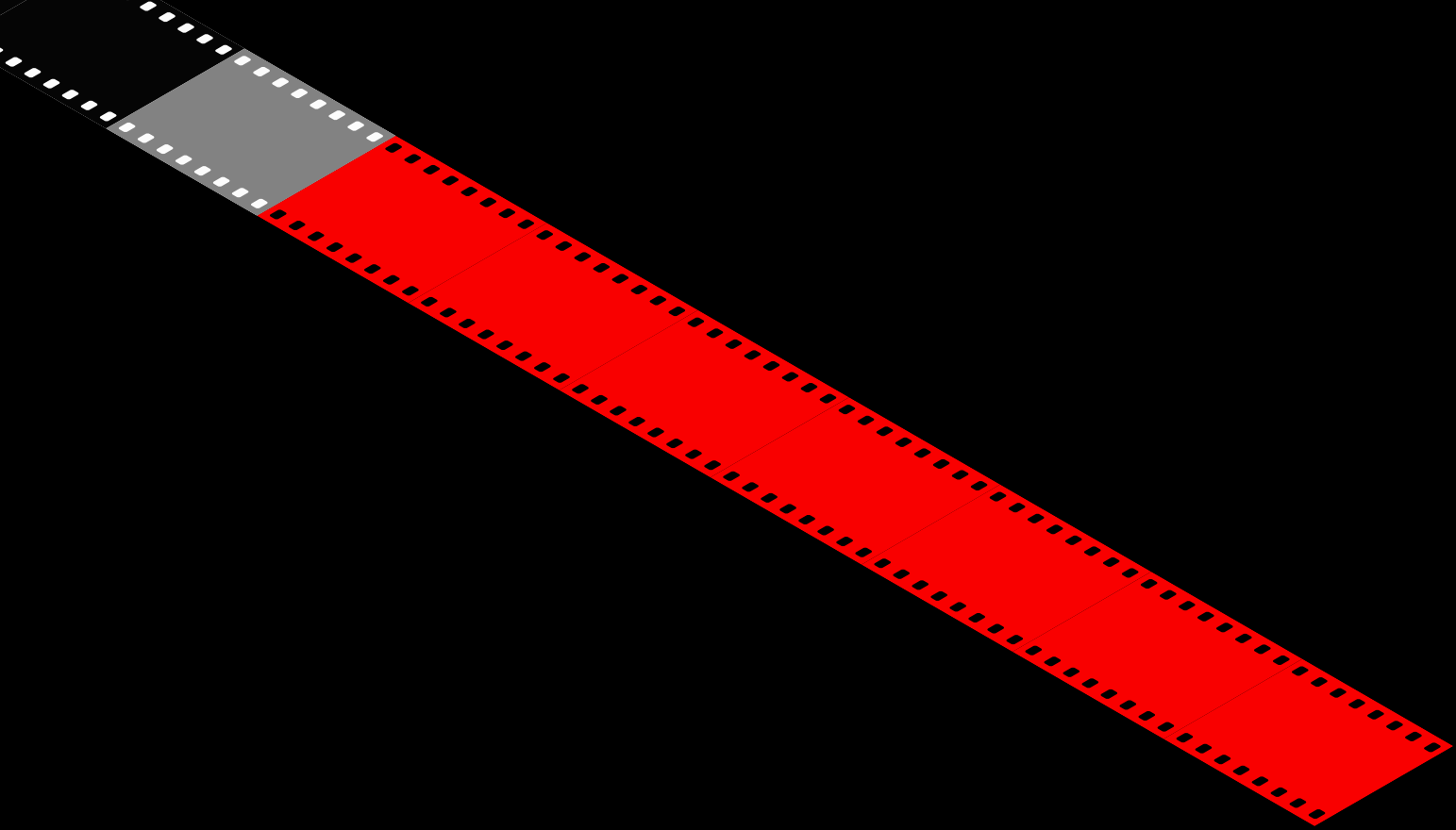
Frames **01 - 36**

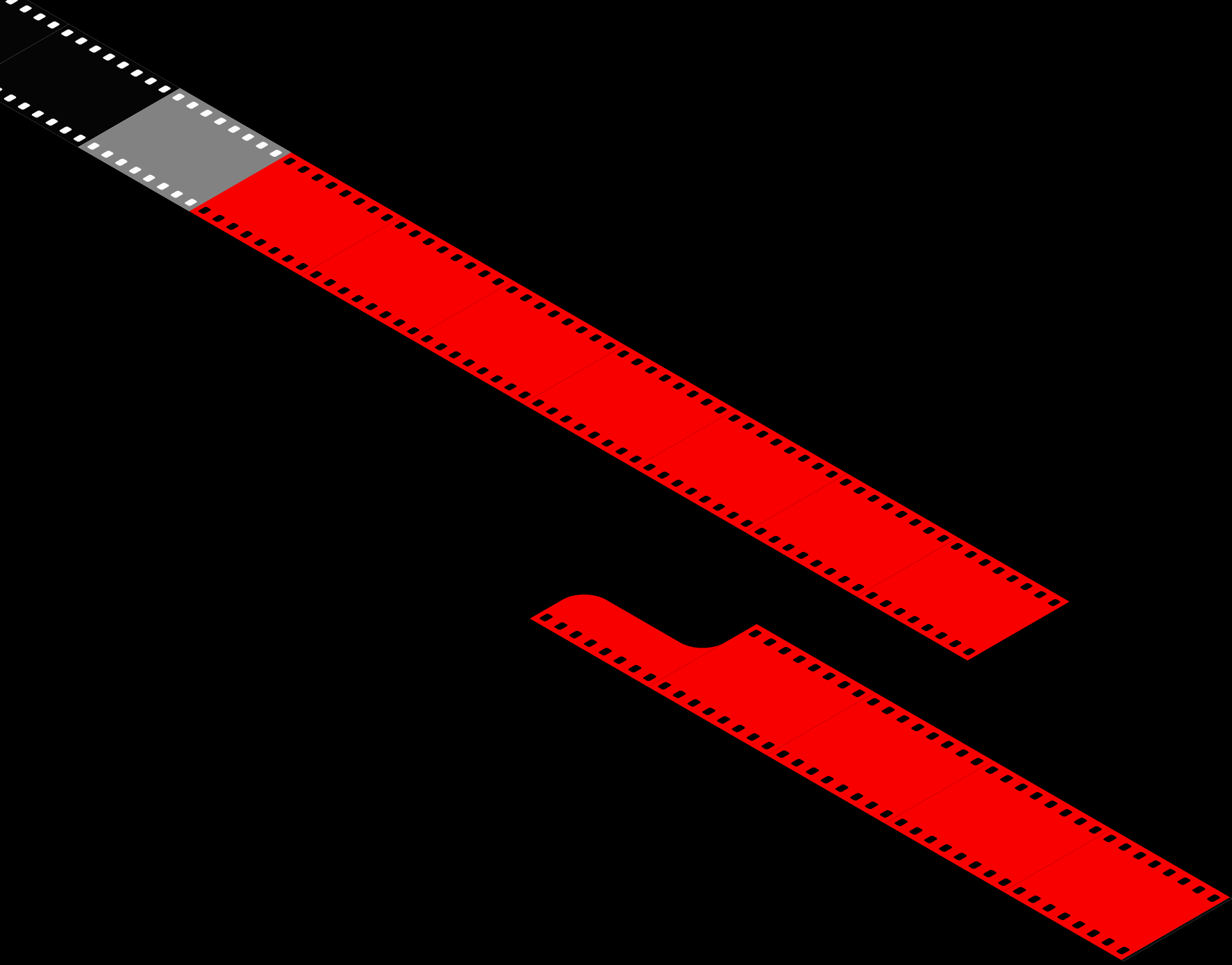


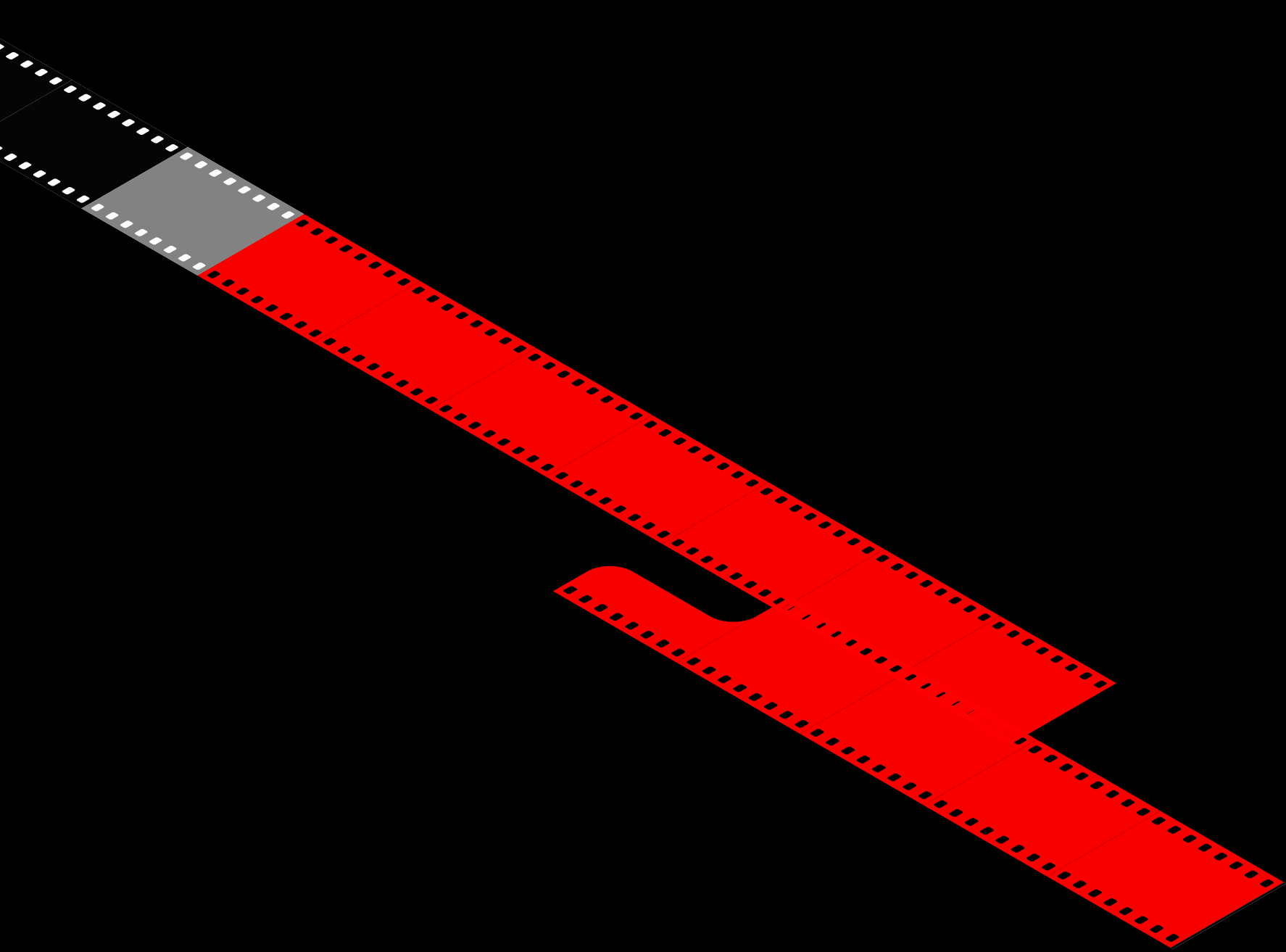
Frames **01 - 36**

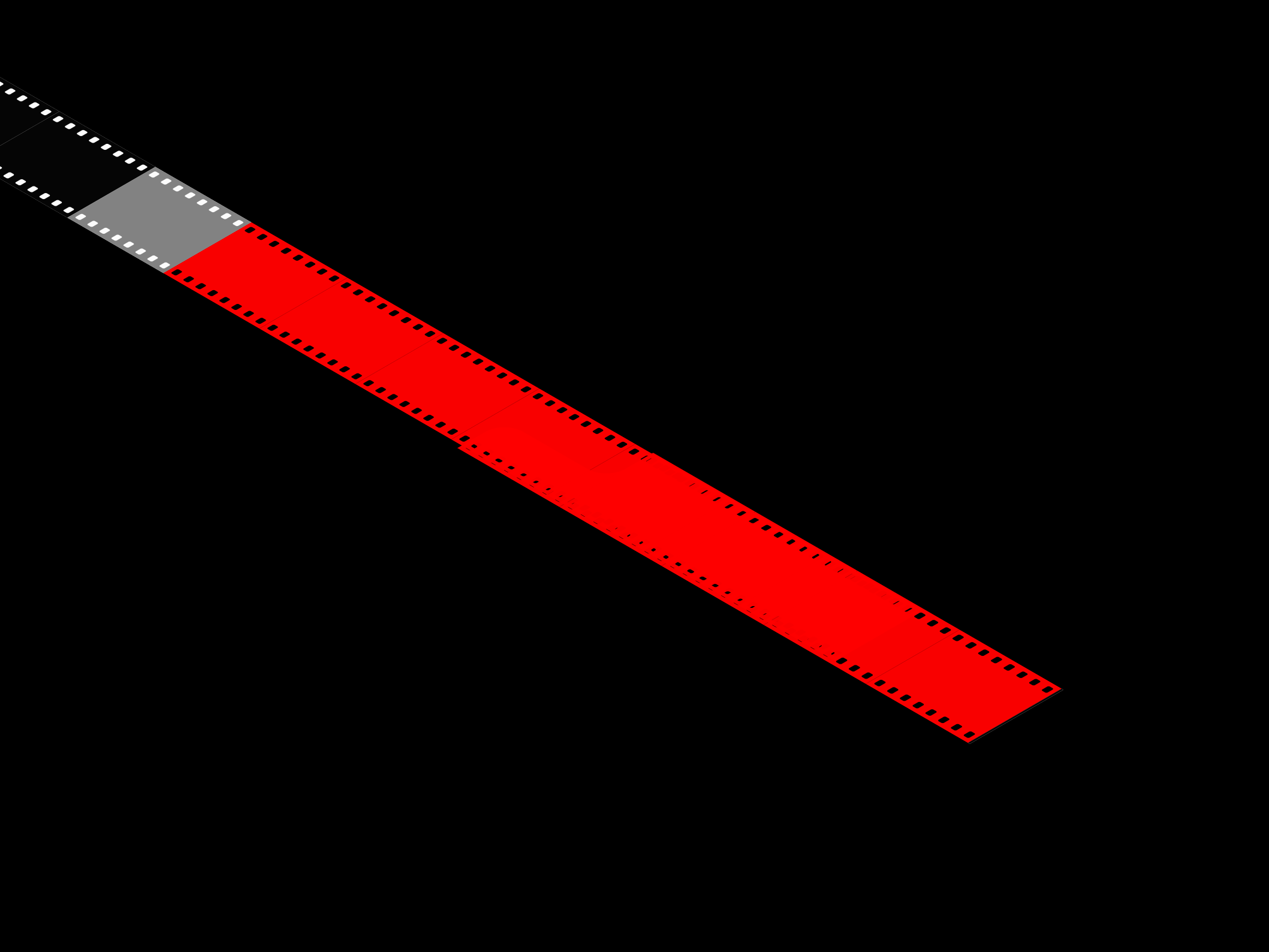


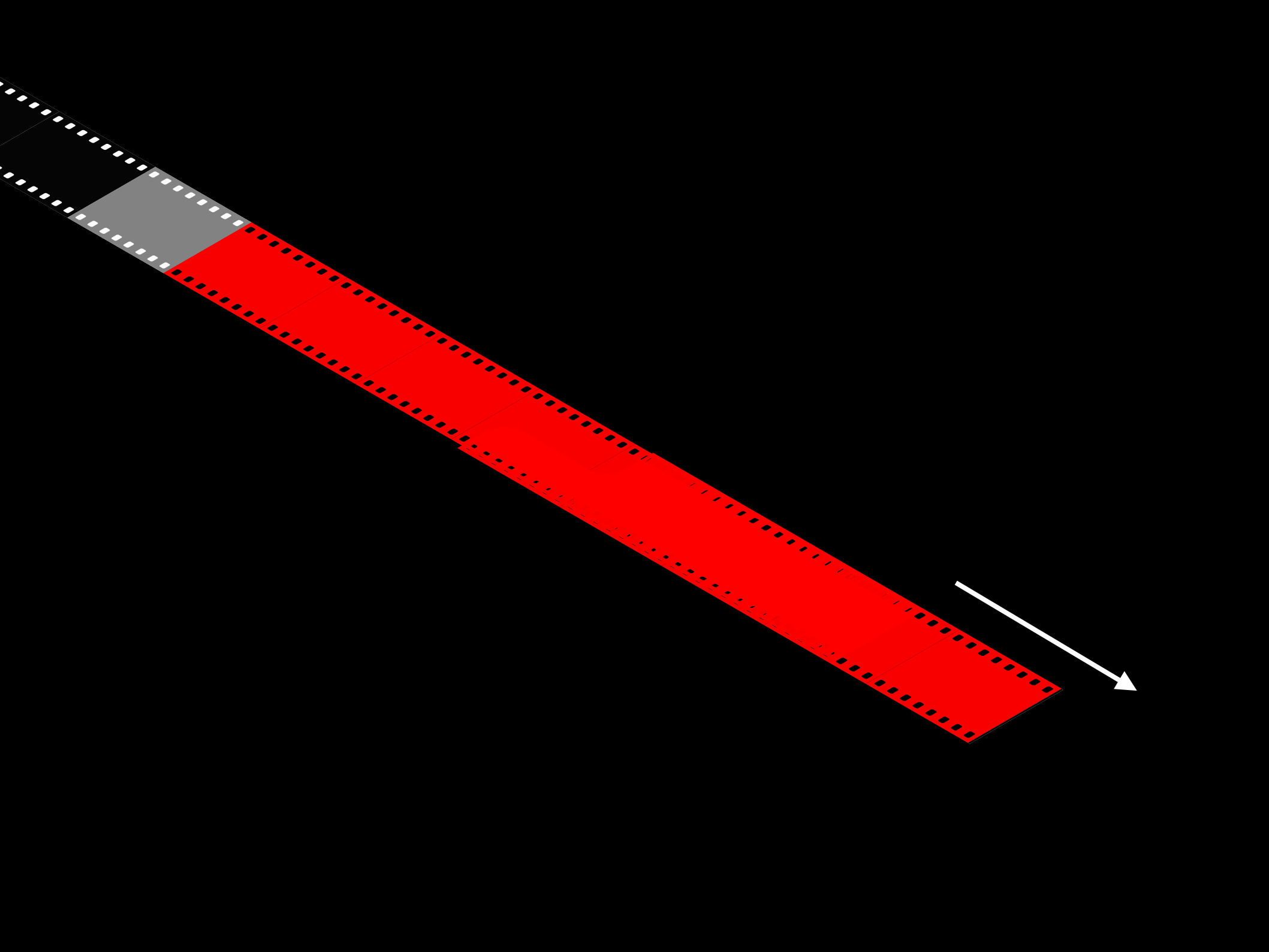












Roll 34929



Roll 34929



Roll 37199



Roll 34929



Roll 37199



Roll 37149



Roll 37149



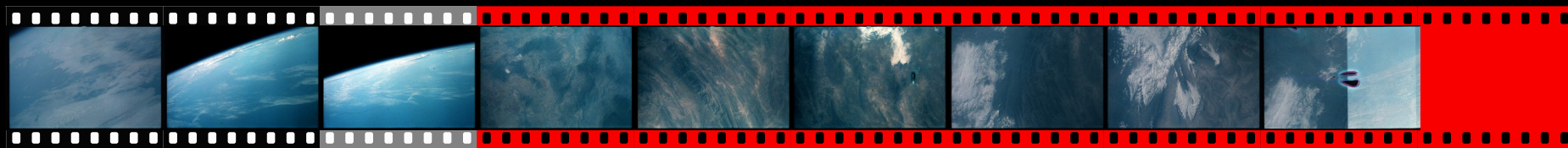
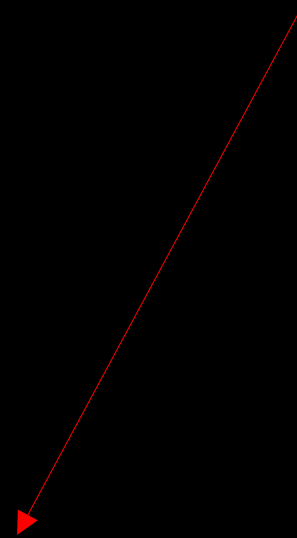
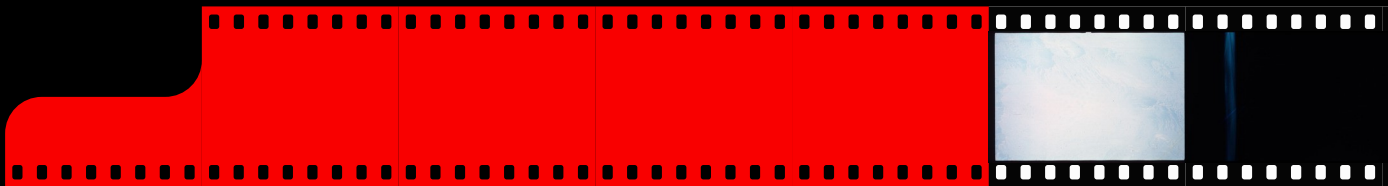
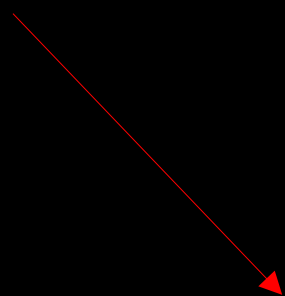
Roll 37149



Roll 37149



Roll 37149





35

36

37

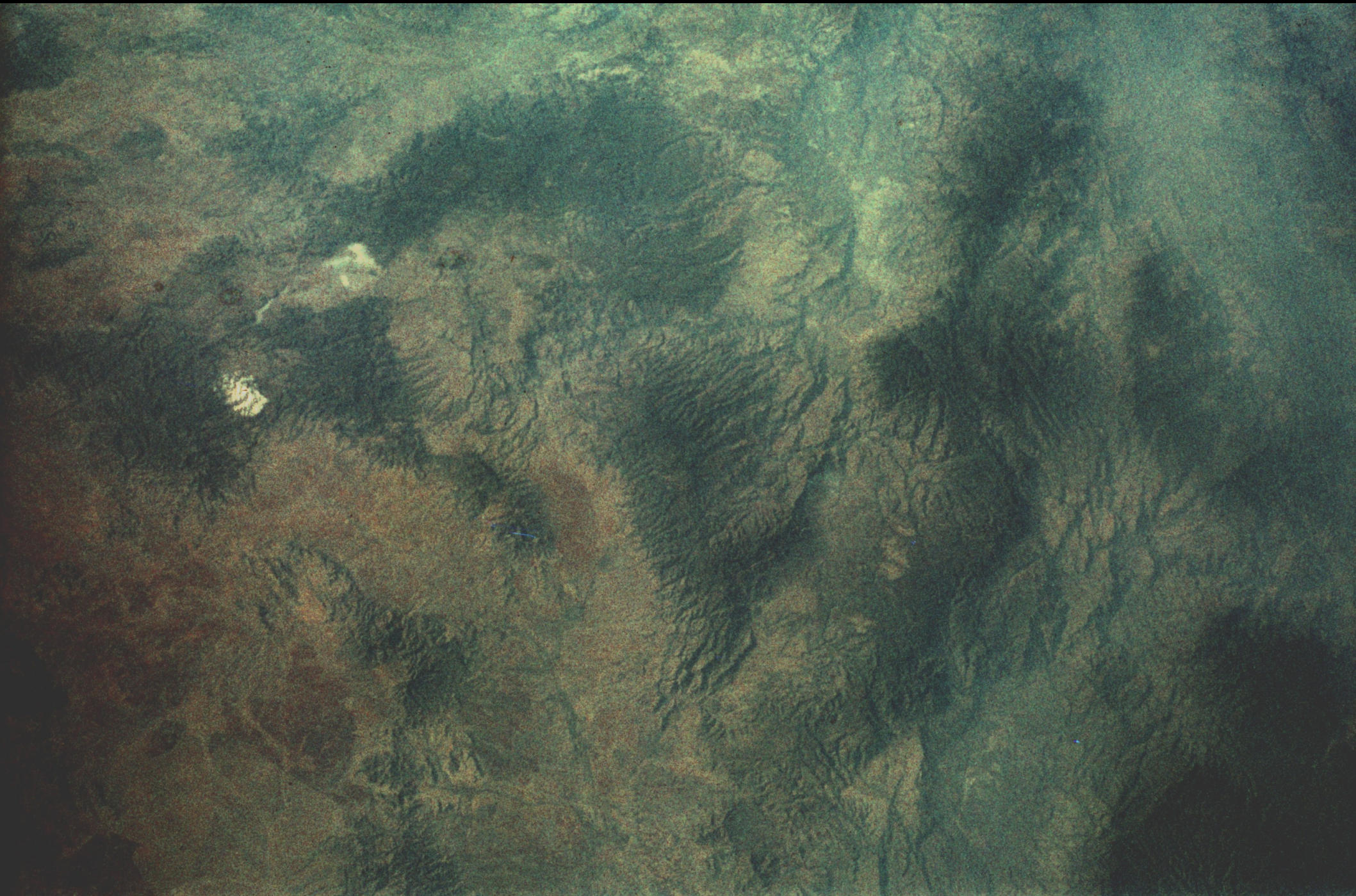
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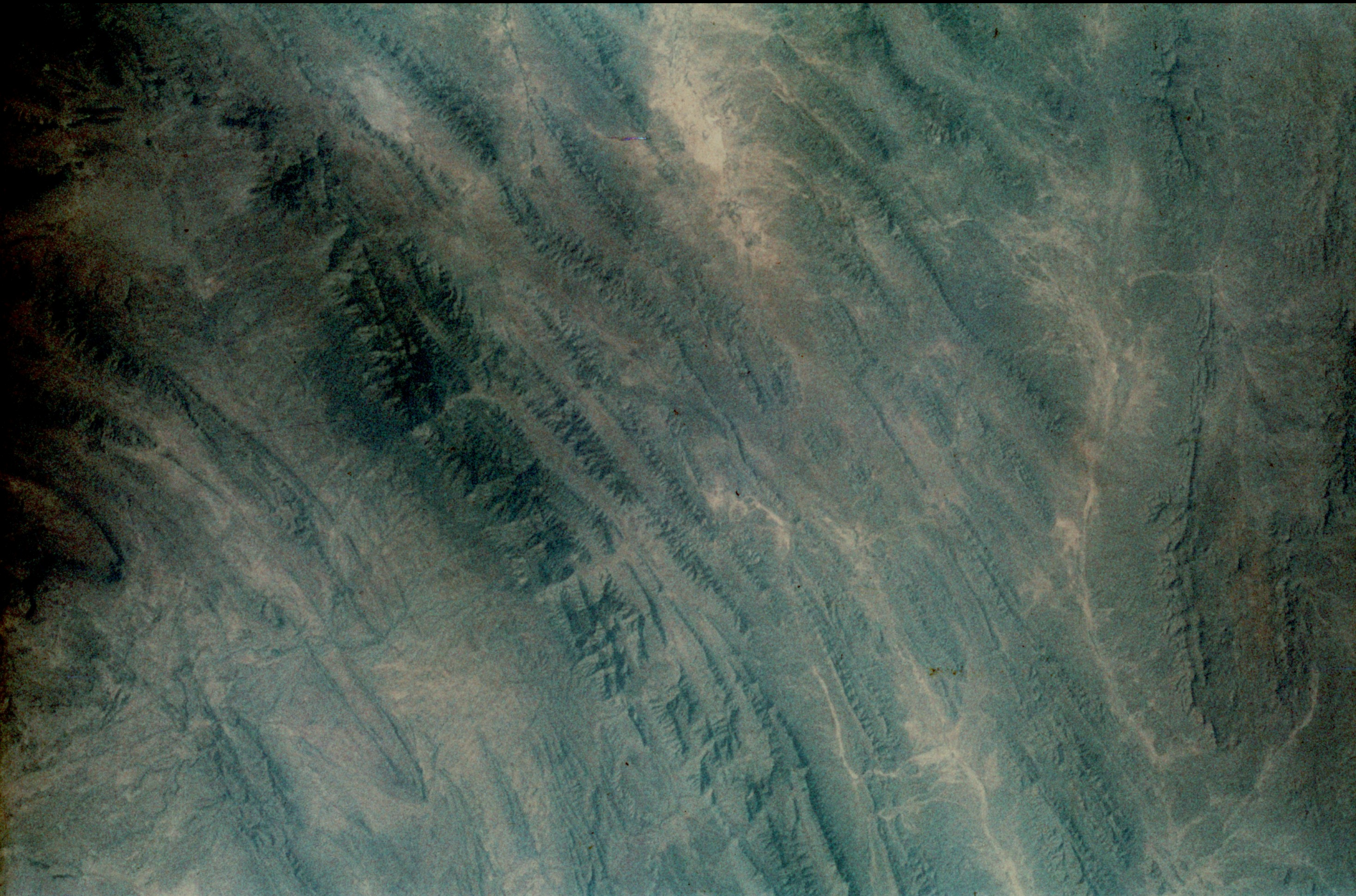
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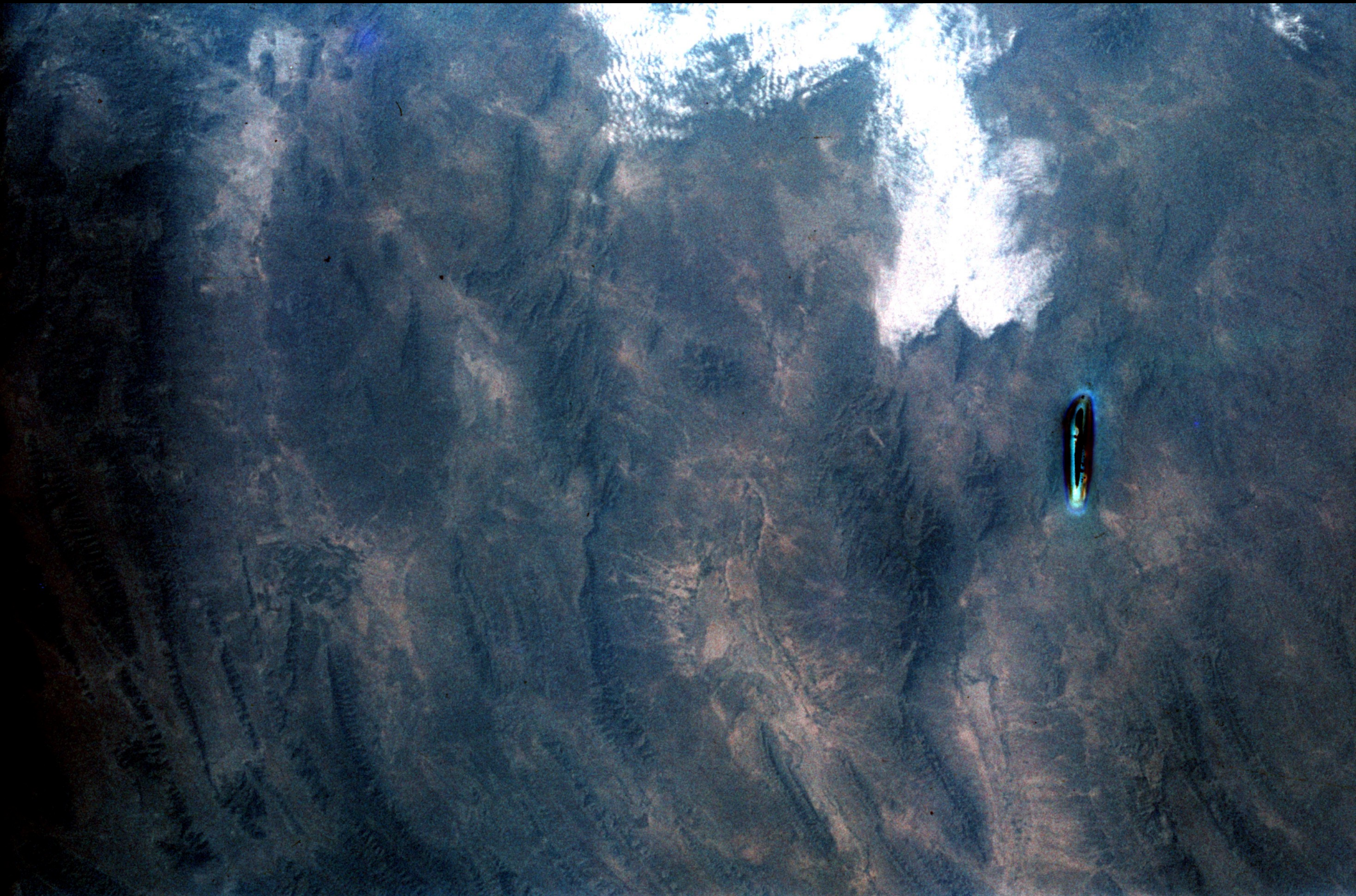
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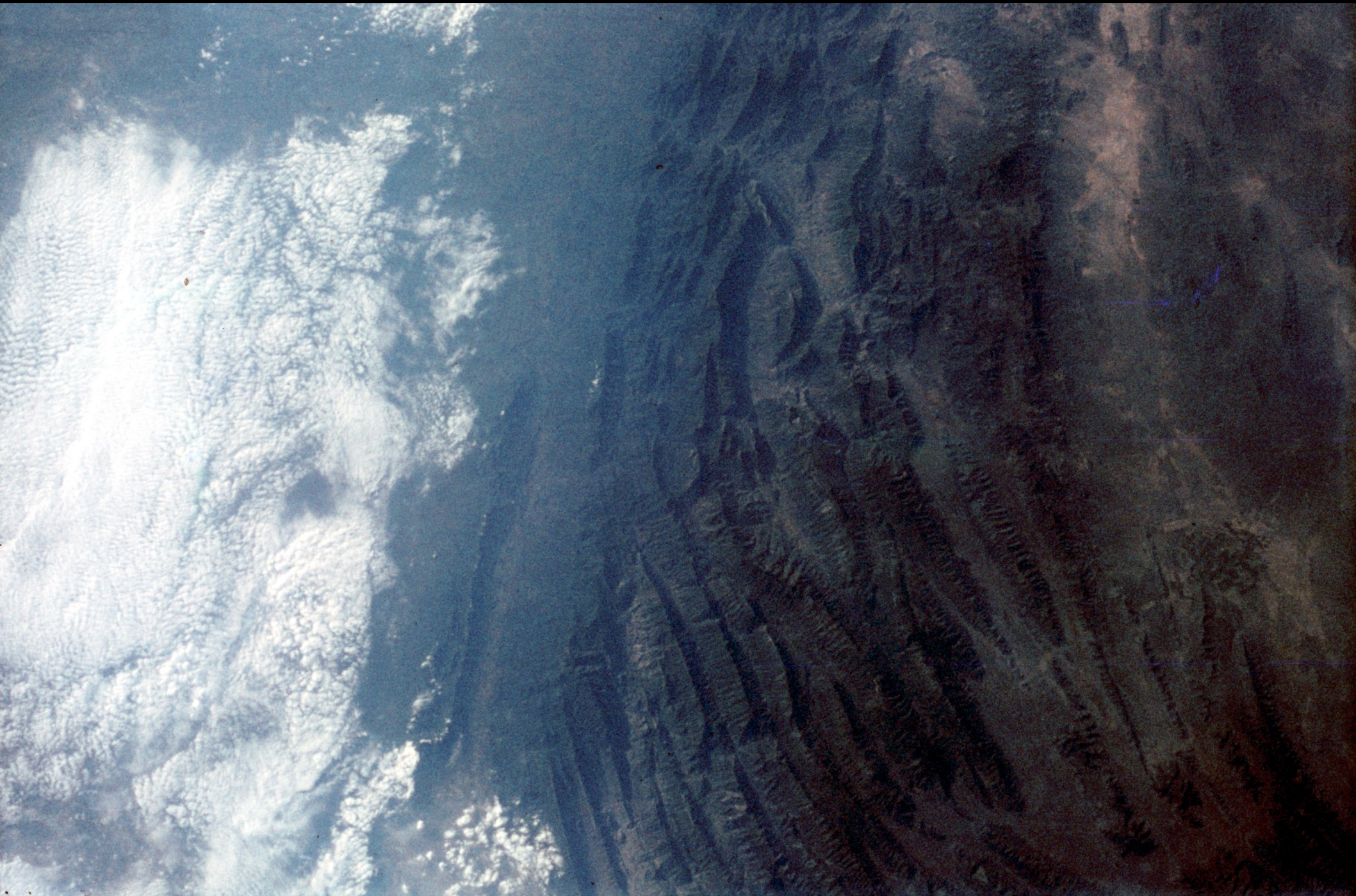
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42









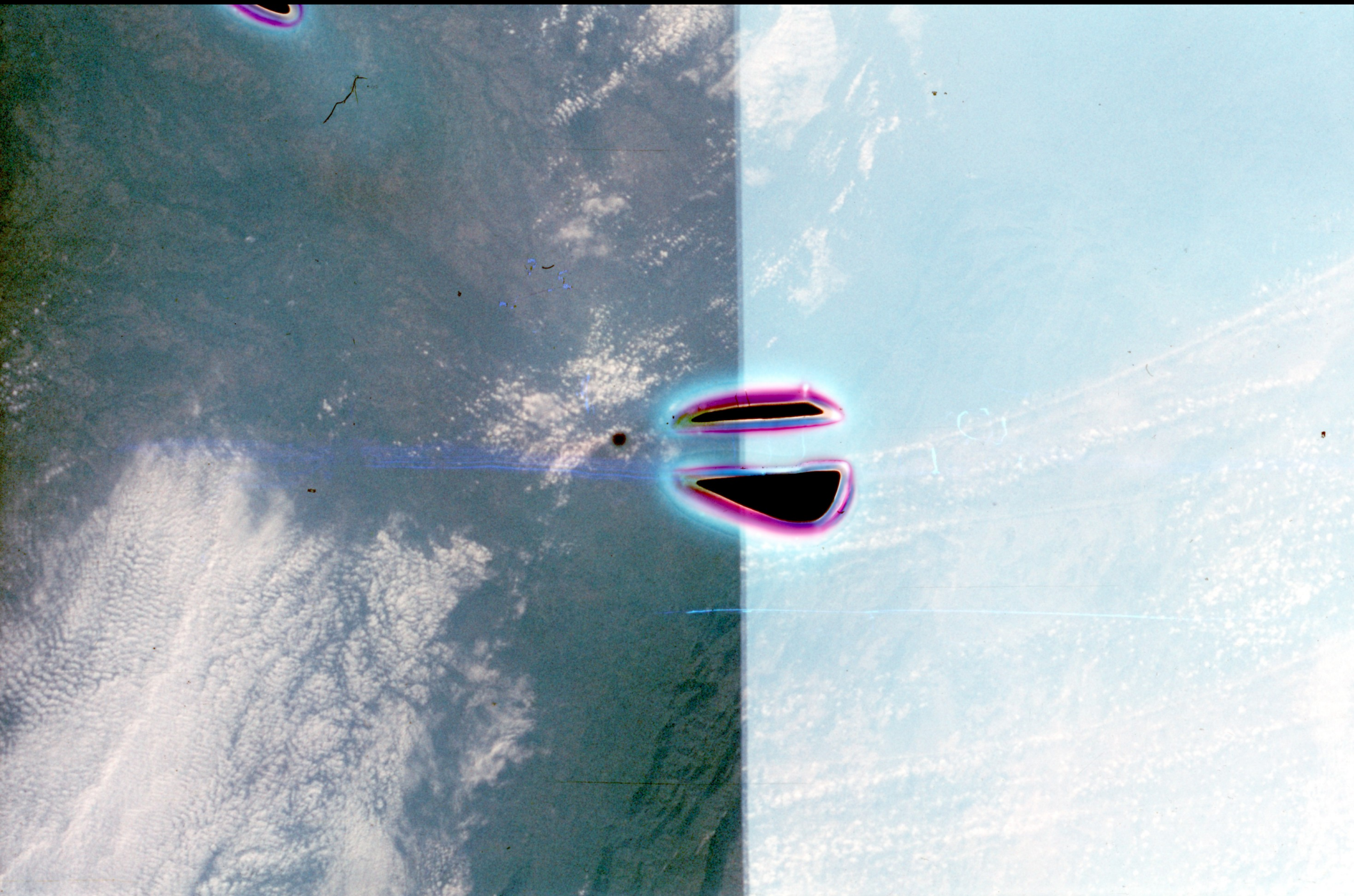
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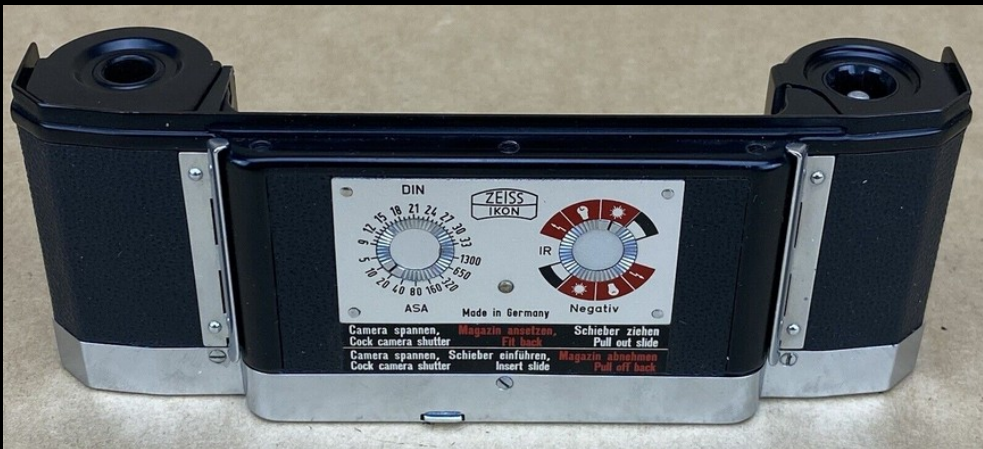




Roll 34149 / Frame 41



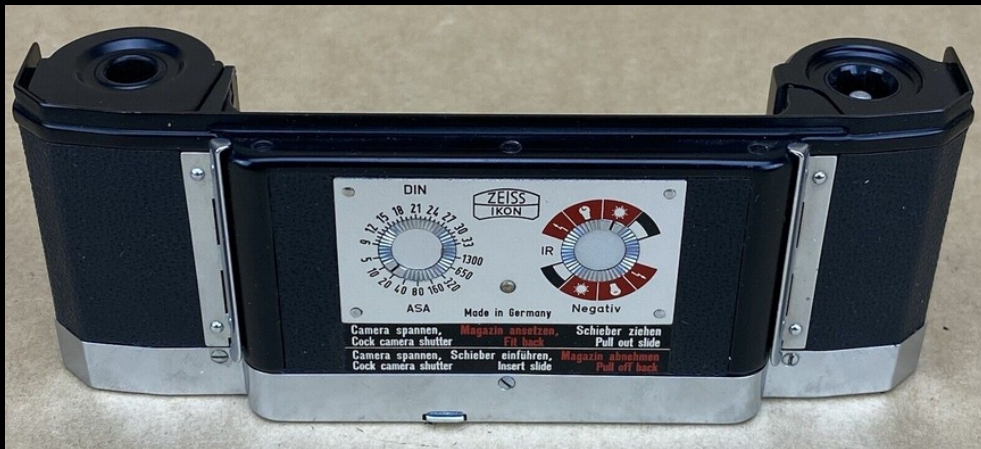
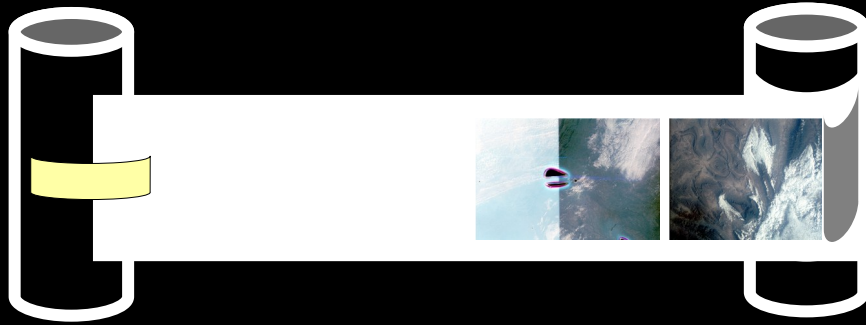


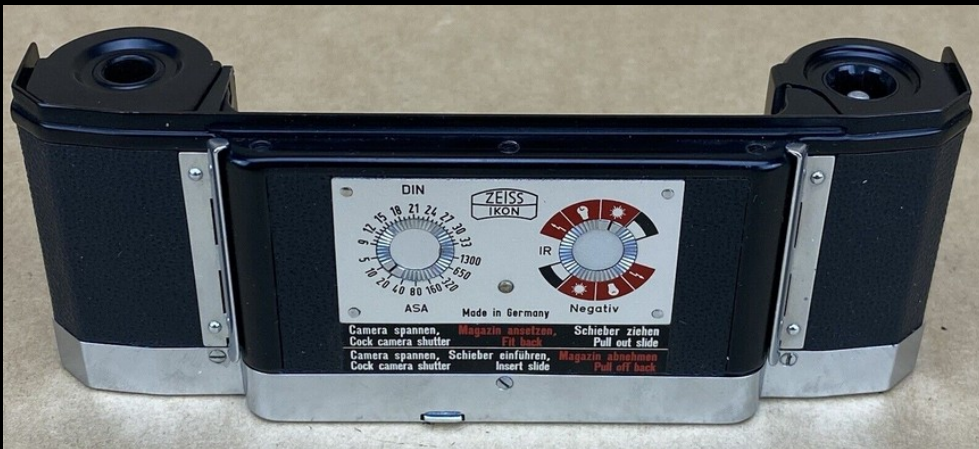
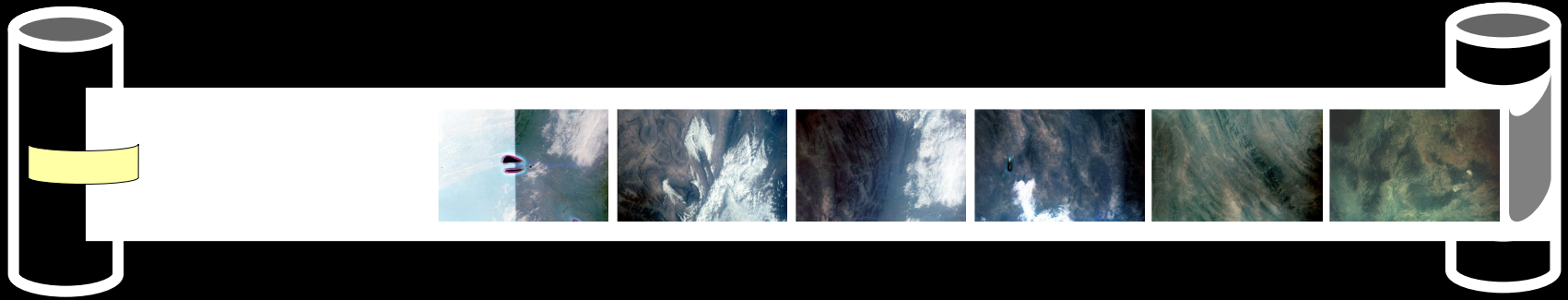


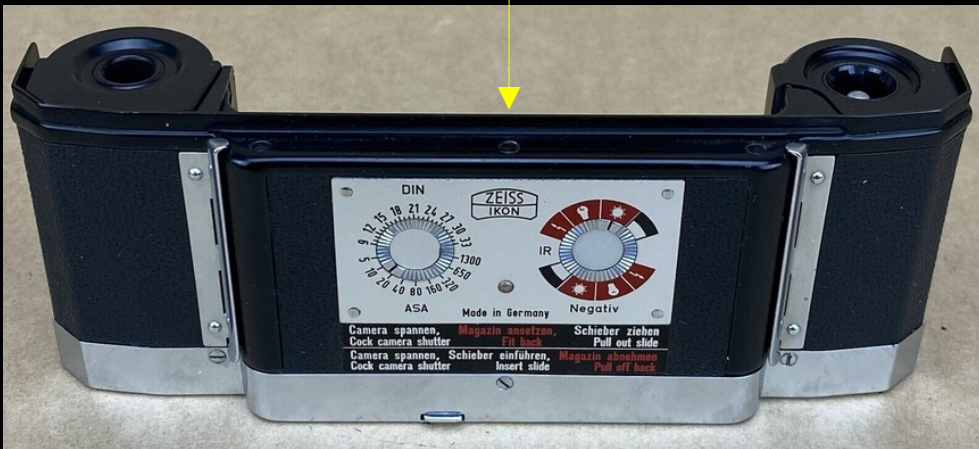
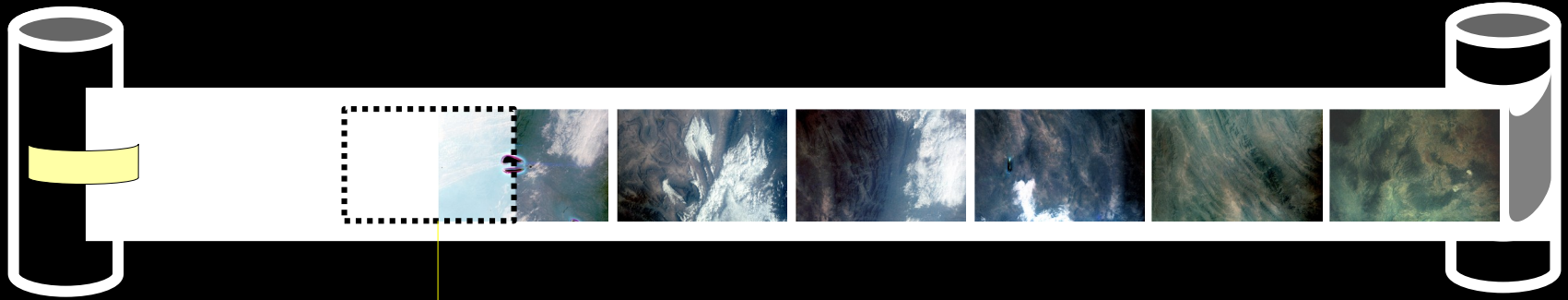


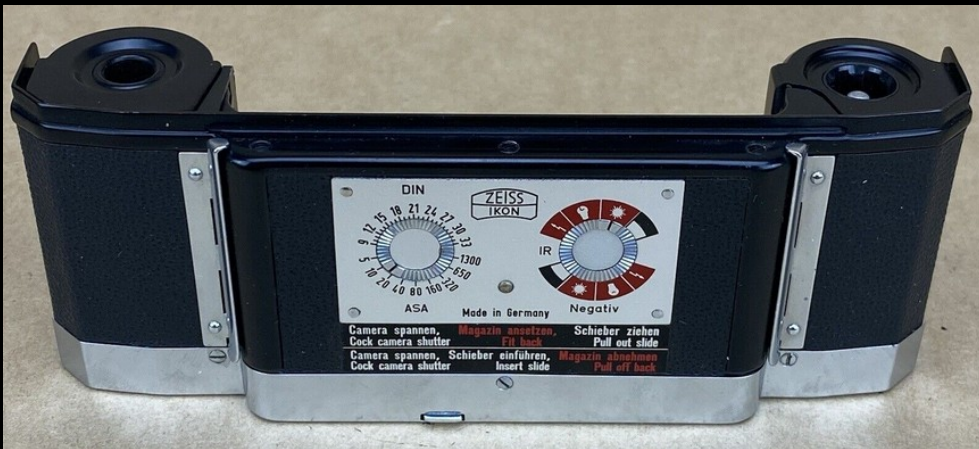
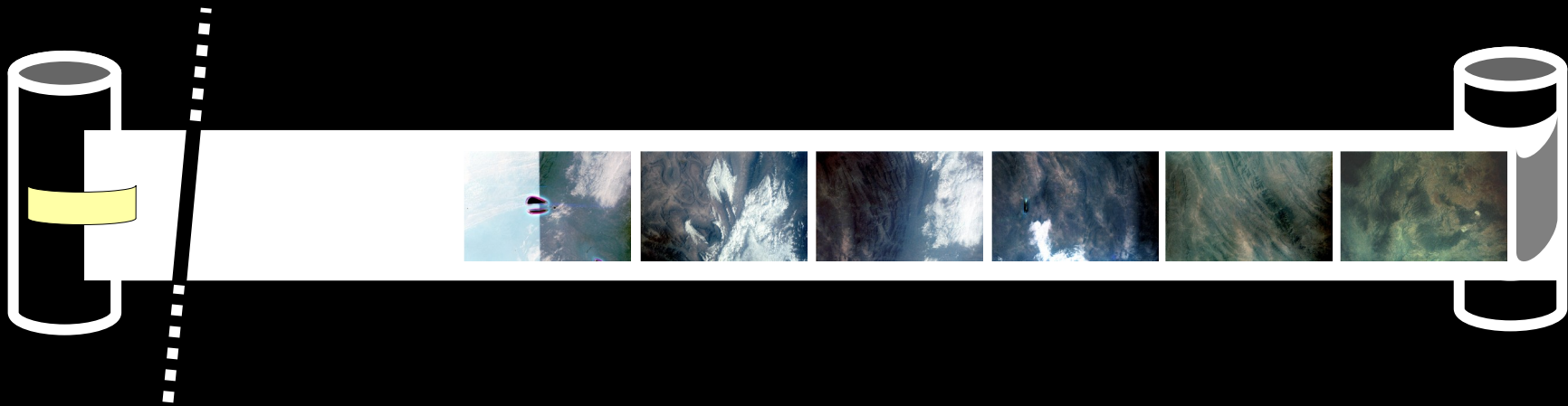
DIN
ZEISS
IKON
ASA
Made in Germany
Negativ

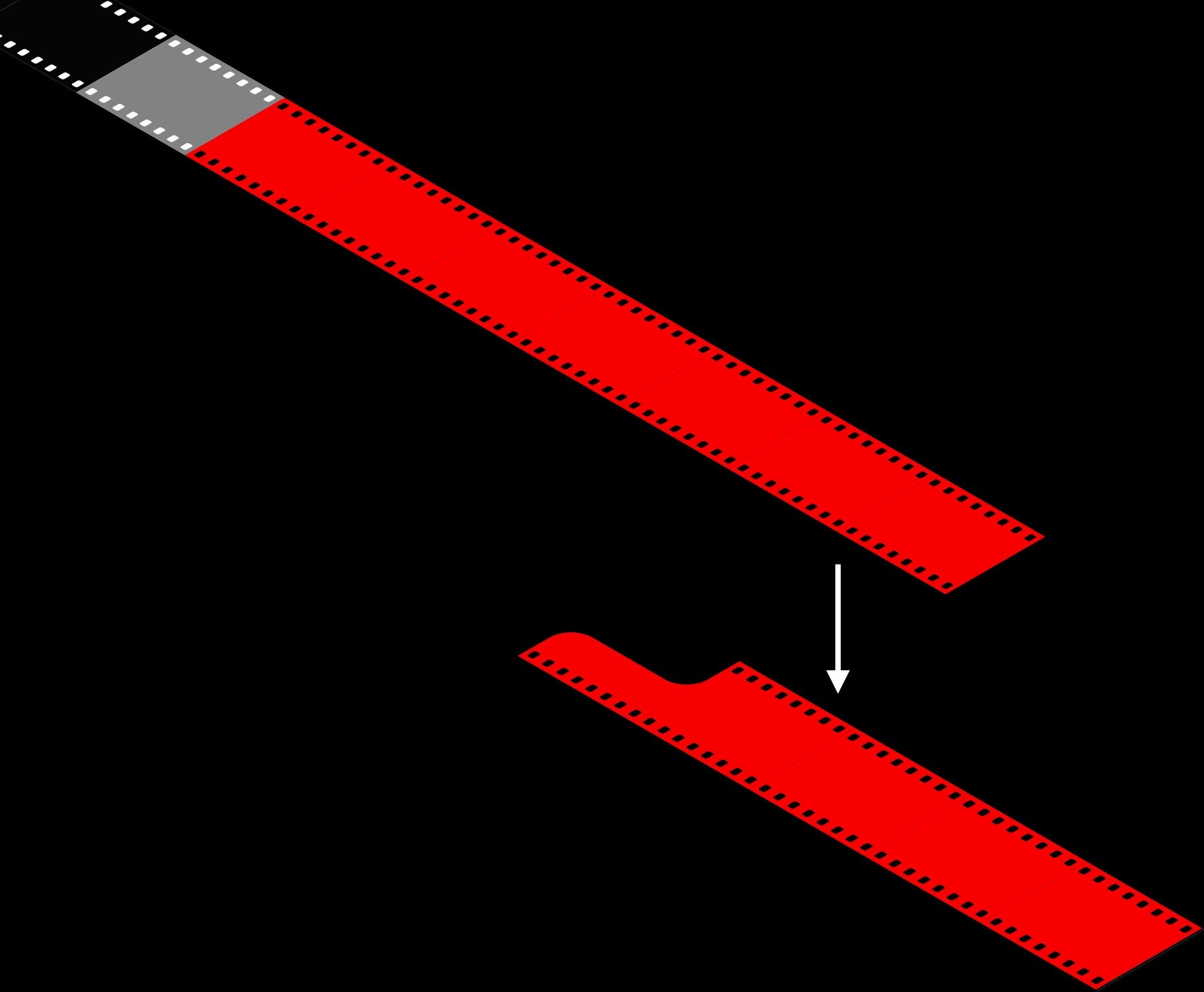
Camera spannen, Cock camera shutter
Magazin einsetzen, Pull back
Schieber ziehen, Pull out slide
Camera spannen, Schieber einführen, Magazine einsetzen, Pull off back

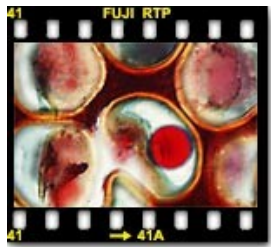




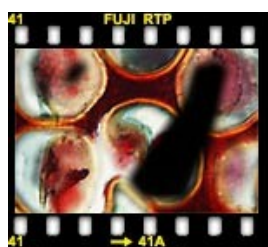




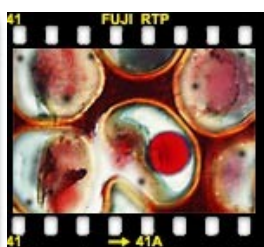




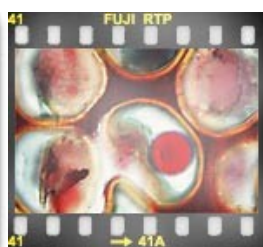
Ideal Transparency



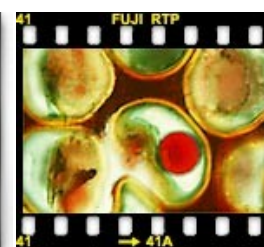
Blank Patches



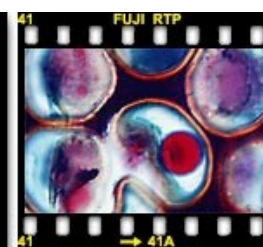
Air Bells



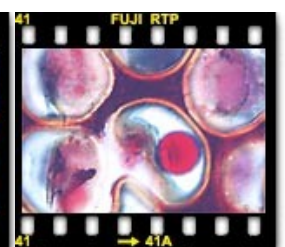
Cloudy Film



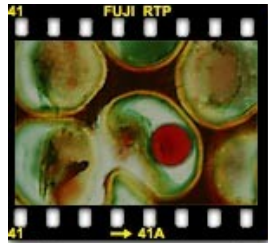
Yellow Color Balance



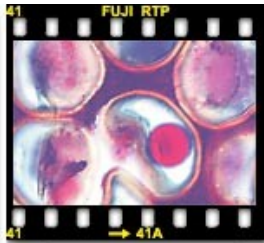
Blue Color Balance



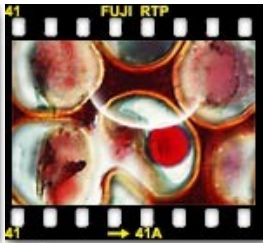
Contaminated Developer



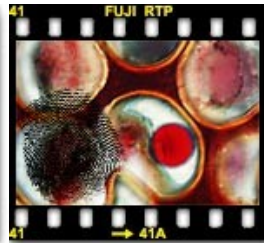
Contamination of First Developer with Bleach/Fixer



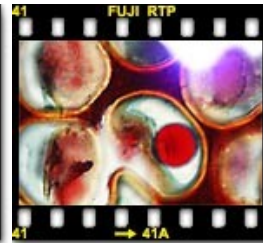
Contamination of Color Developer with Bleach/Fixer



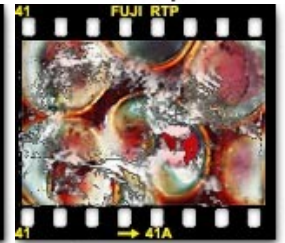
Crescent-shaped Marks



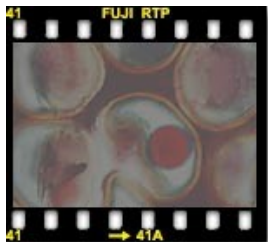
Fingerprints



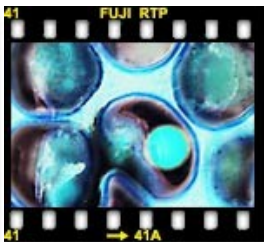
Fogging



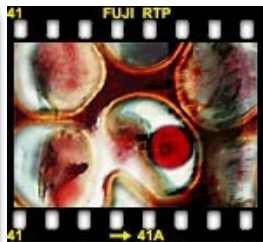
Gritty Residue on Film



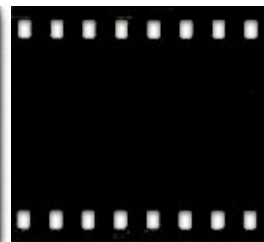
Inadequate Bleaching



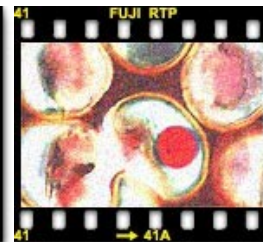
Colors Inverted



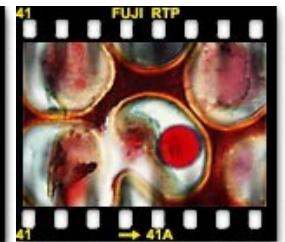
Loading Error



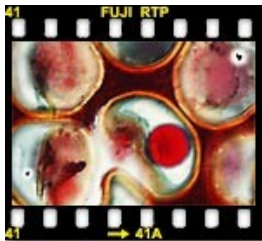
No Bleaching



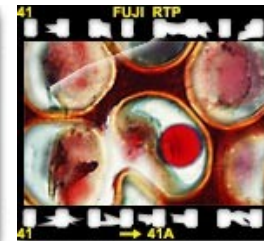
Overdevelopment



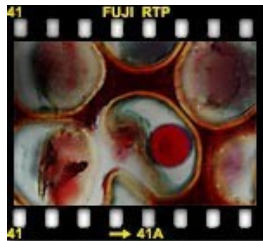
Overdeveloped Area Around Sprocket Holes



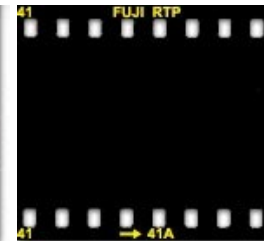
Static Marks



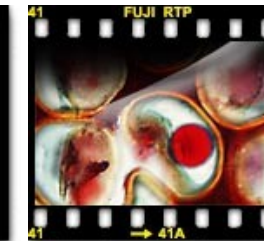
Torn Sprocket Holes



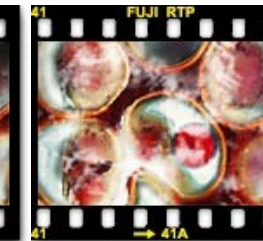
Uneven Development



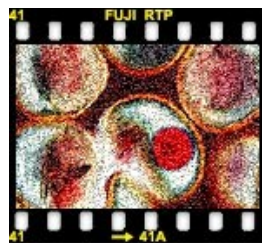
Unexposed Film



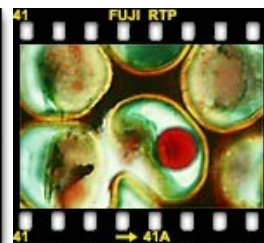
Insufficient Solution Volume



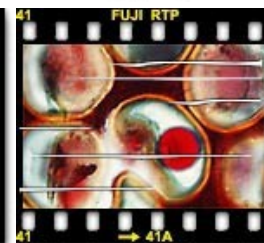
Water Marks



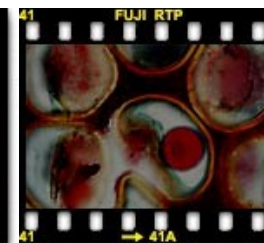
Reticulation



Reversal Bath Omitted

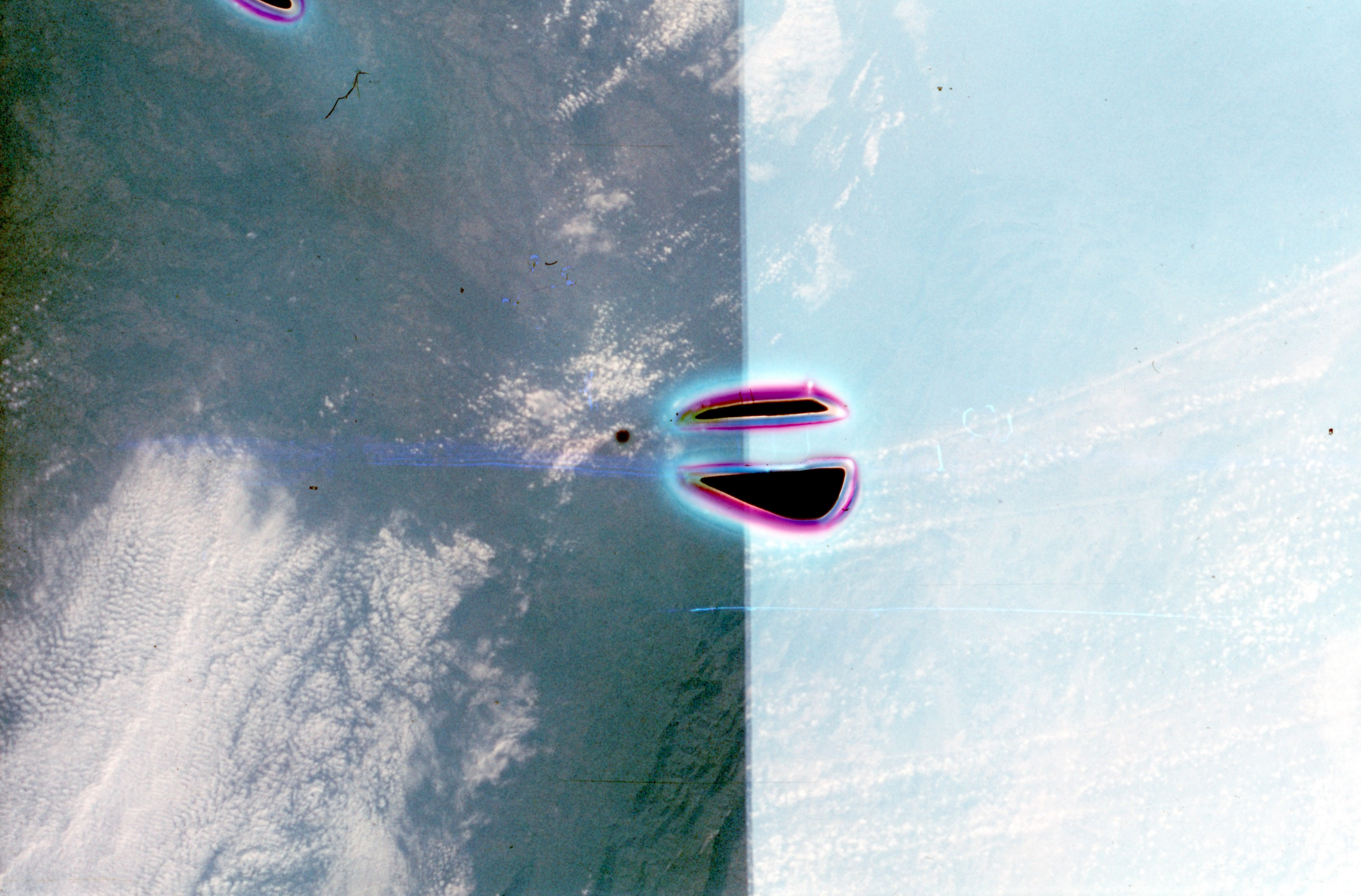


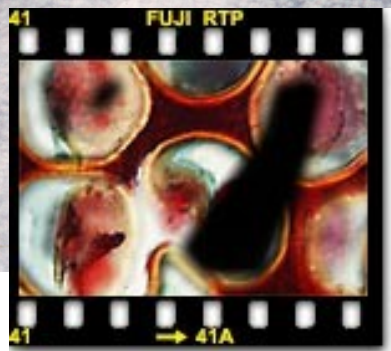
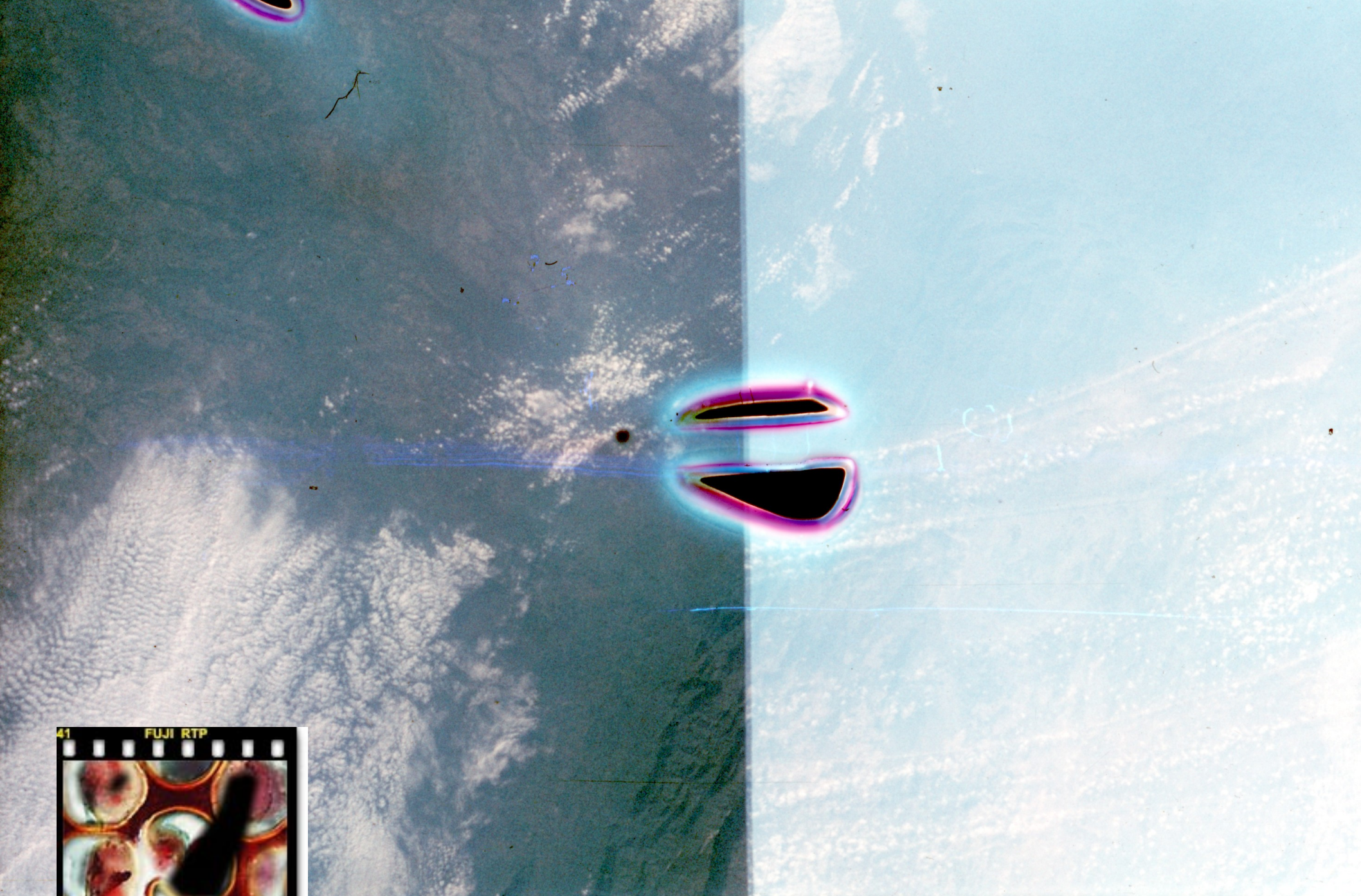
Scratch Lines



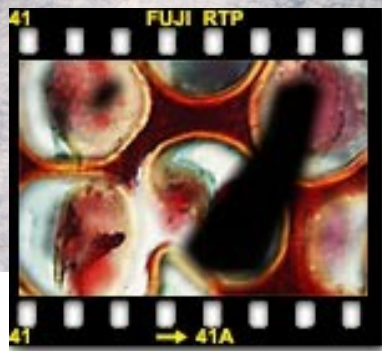
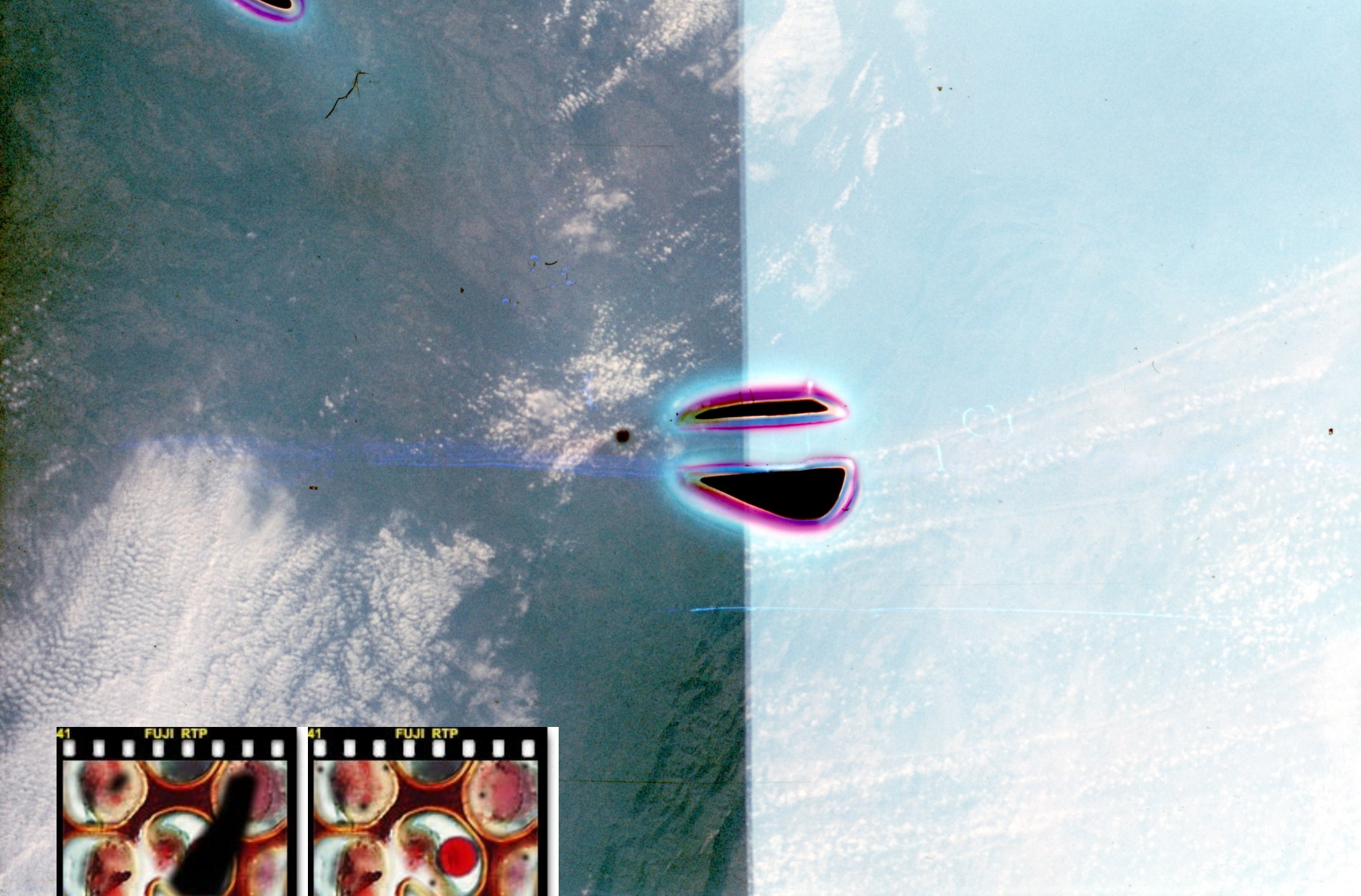
Underdevelopment

Photomicrography:
Color Transparency Film Processing Errors
(Olympus Life Science)

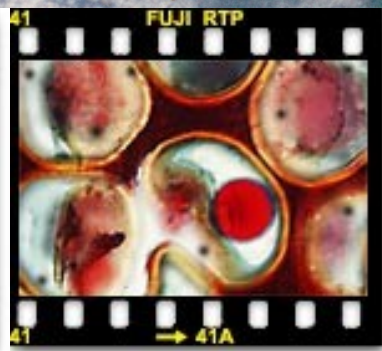




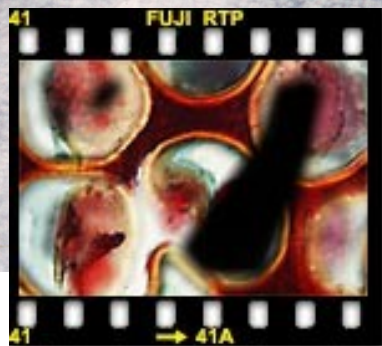
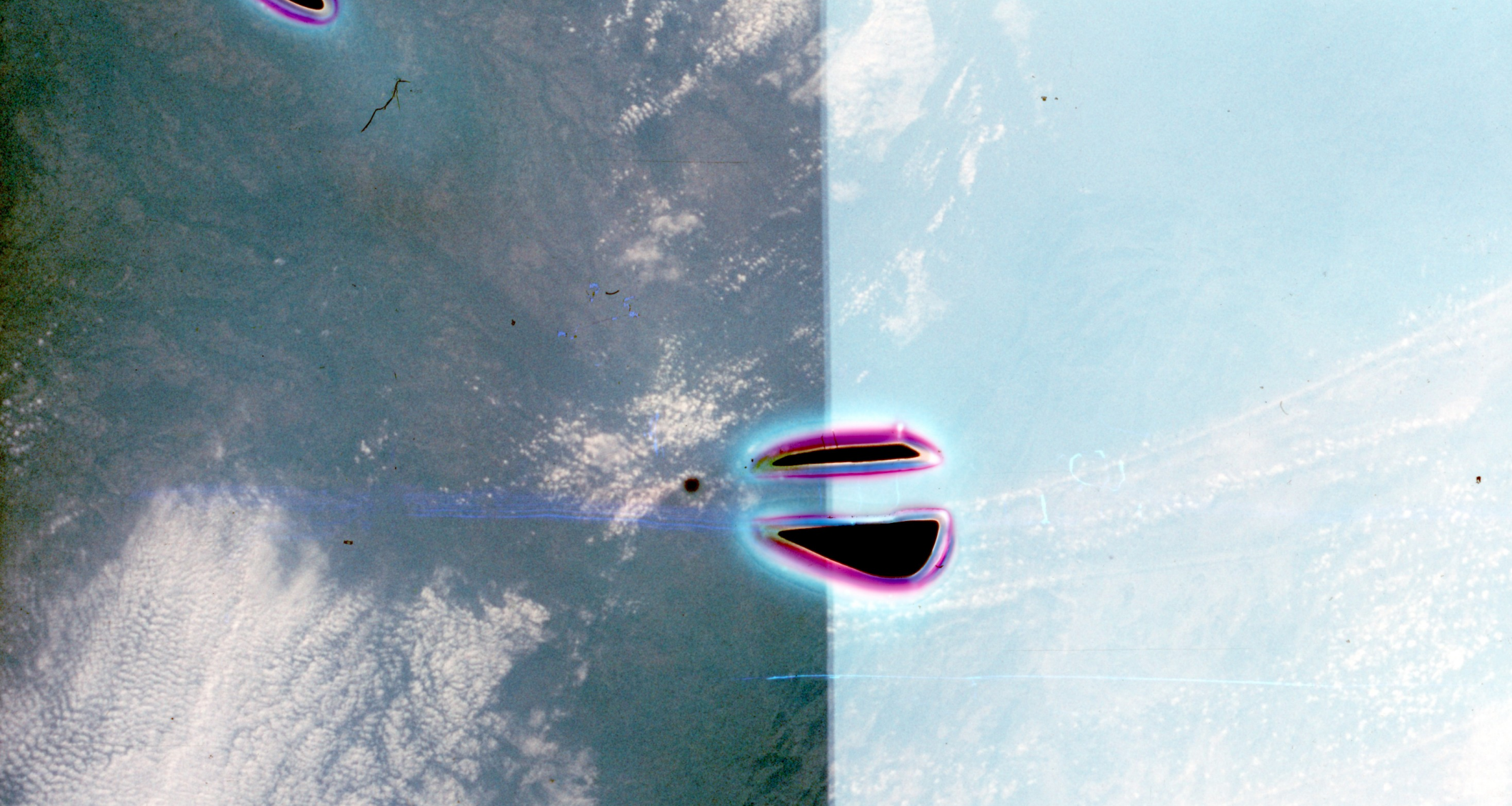
Blank Patches



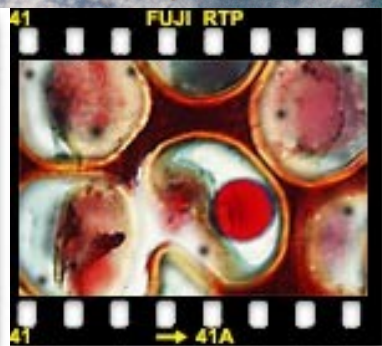
Blank Patches



Air Bells



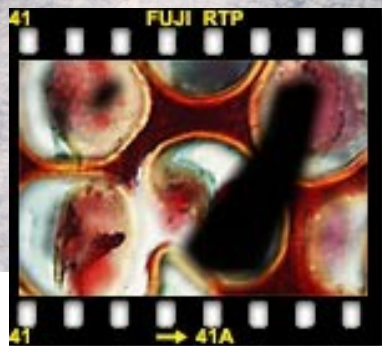
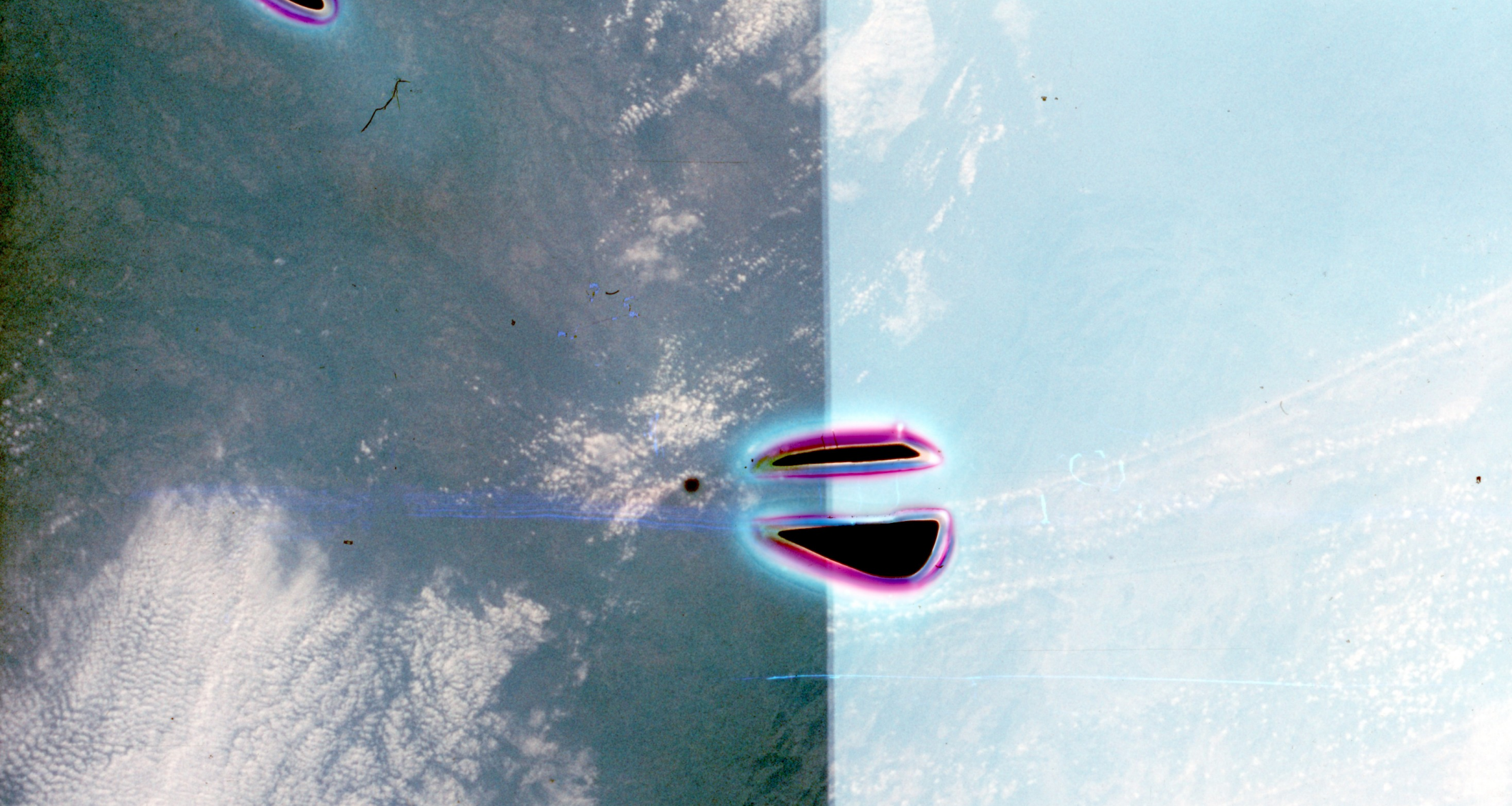
Blank Patches



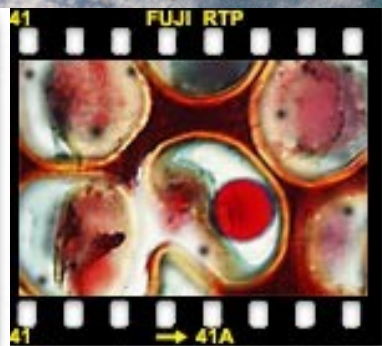
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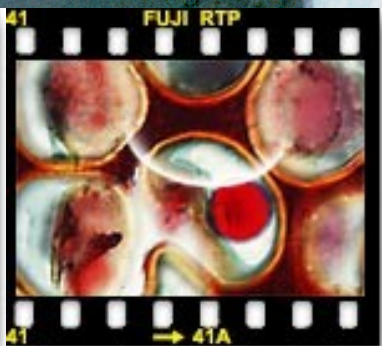
Crescent-shaped
Marks



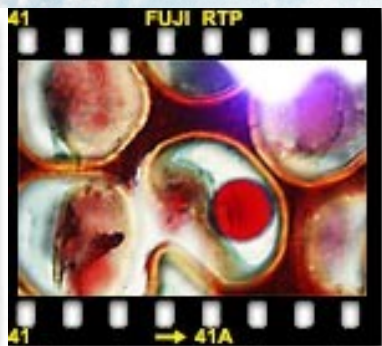
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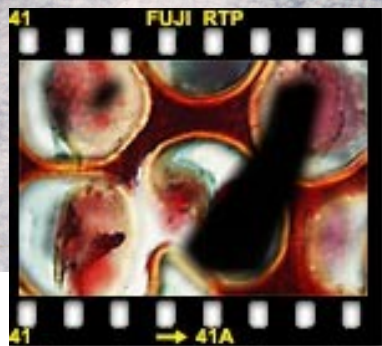
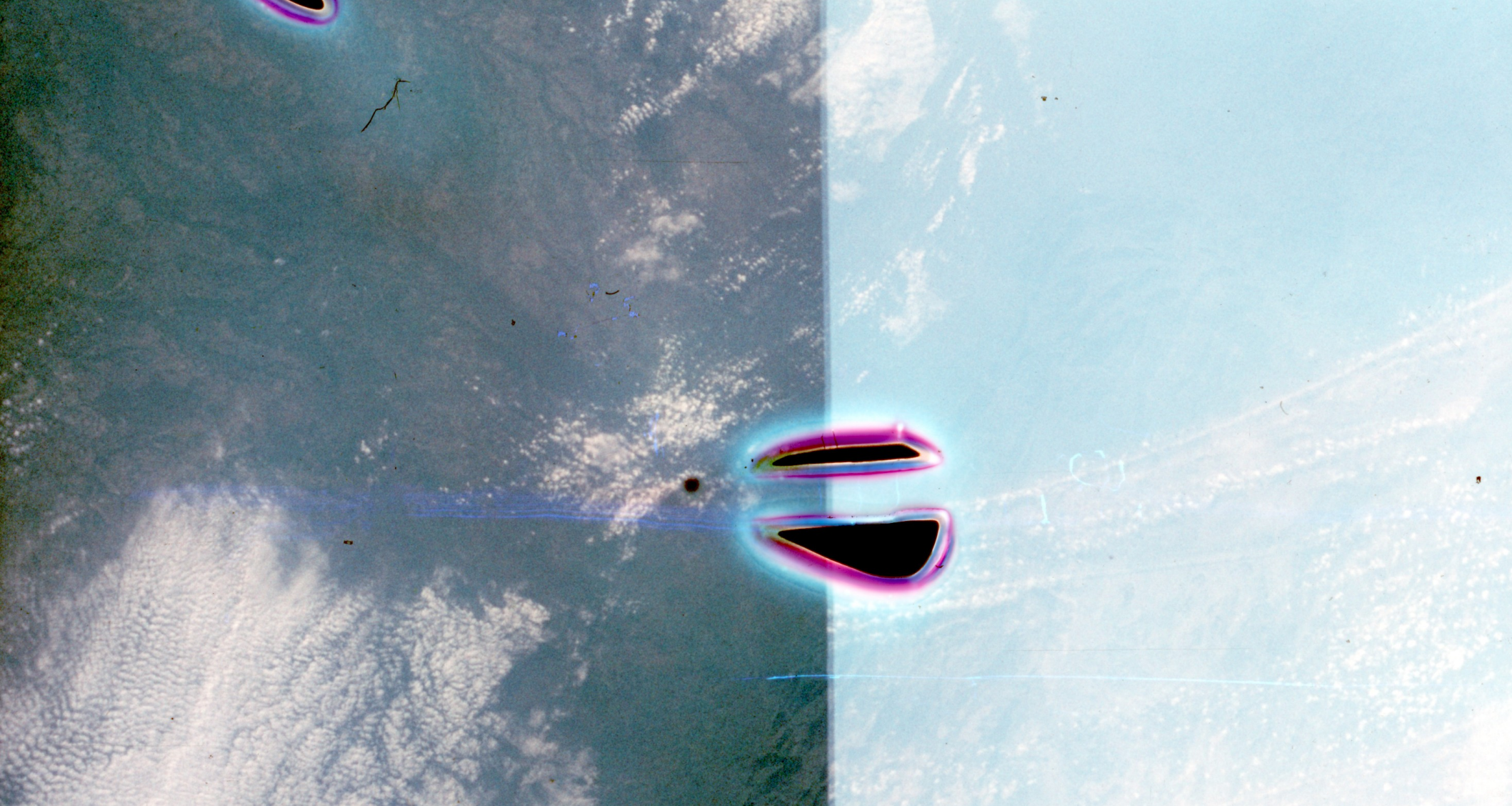
Air Bells



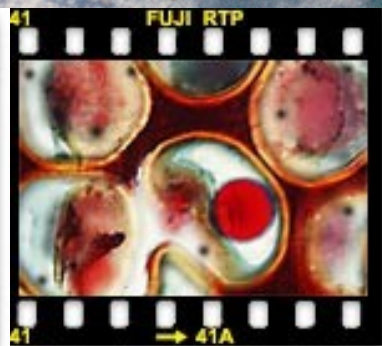
Crescent-shaped
Marks



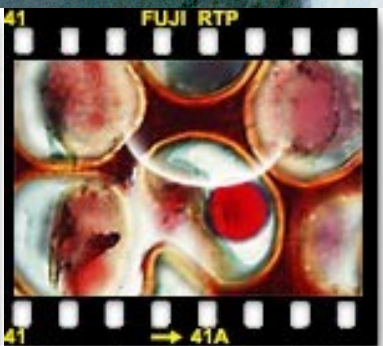
Fogging



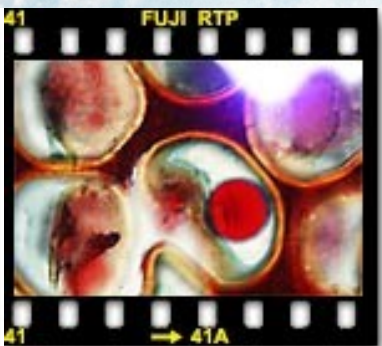
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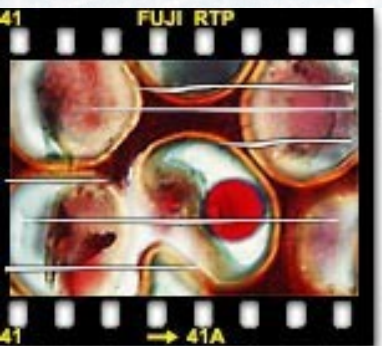
Air Bells



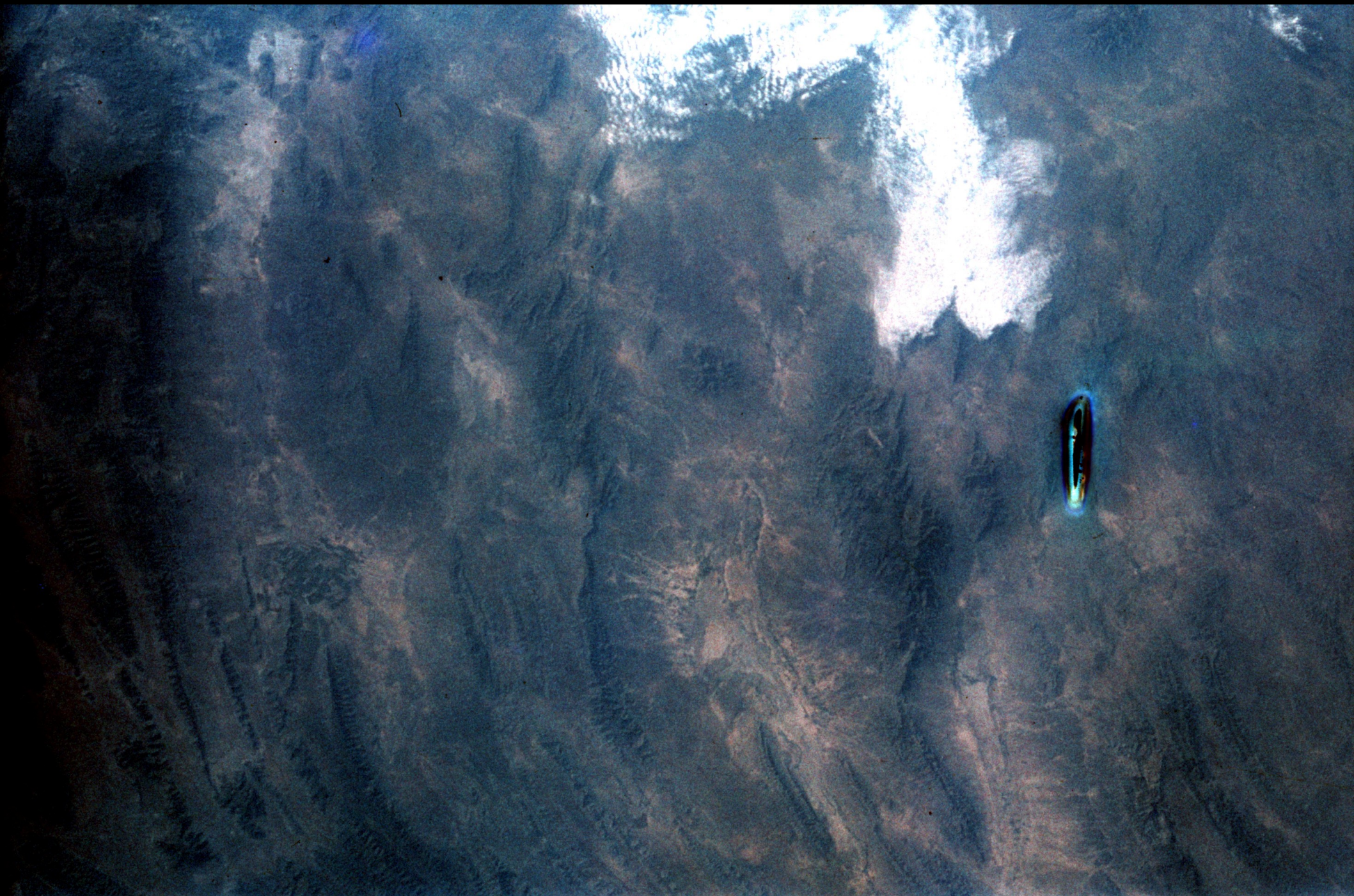
Crescent-shaped
Marks

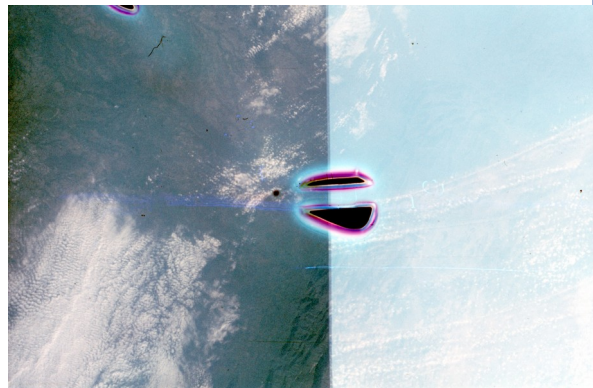
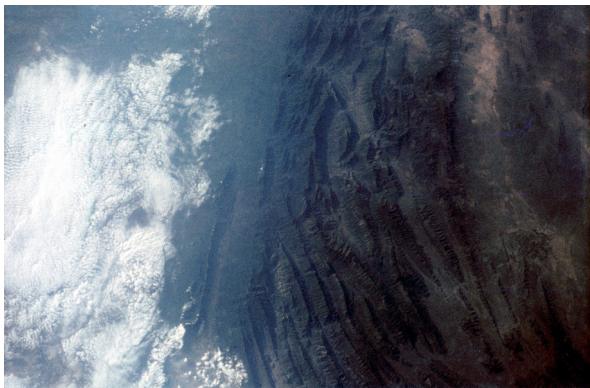
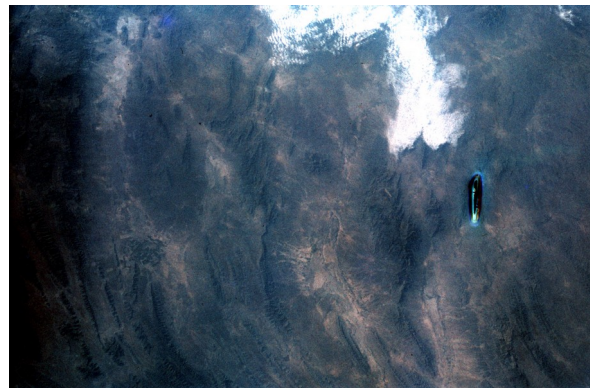
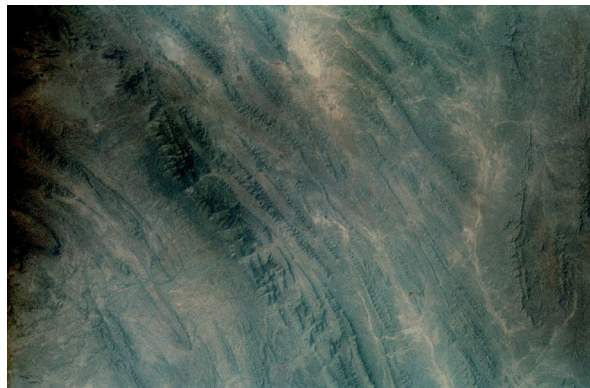


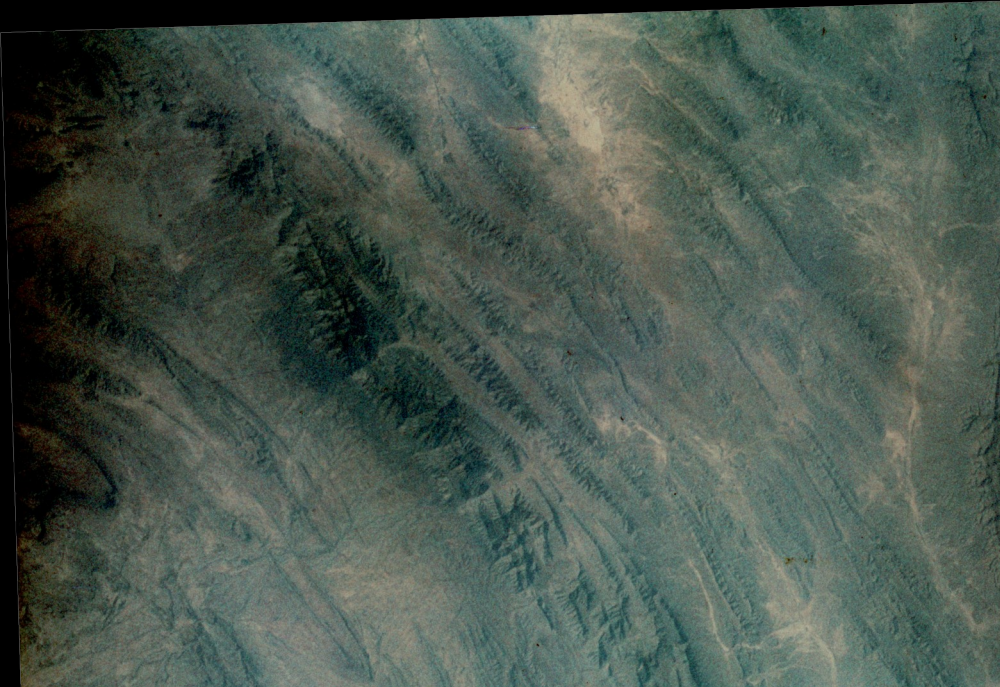
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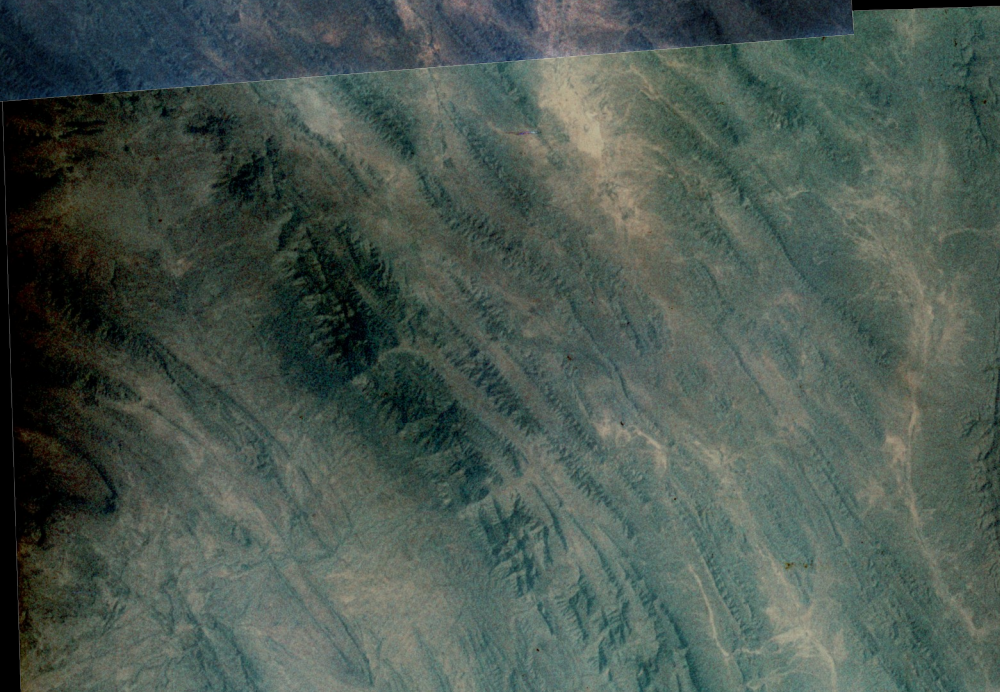
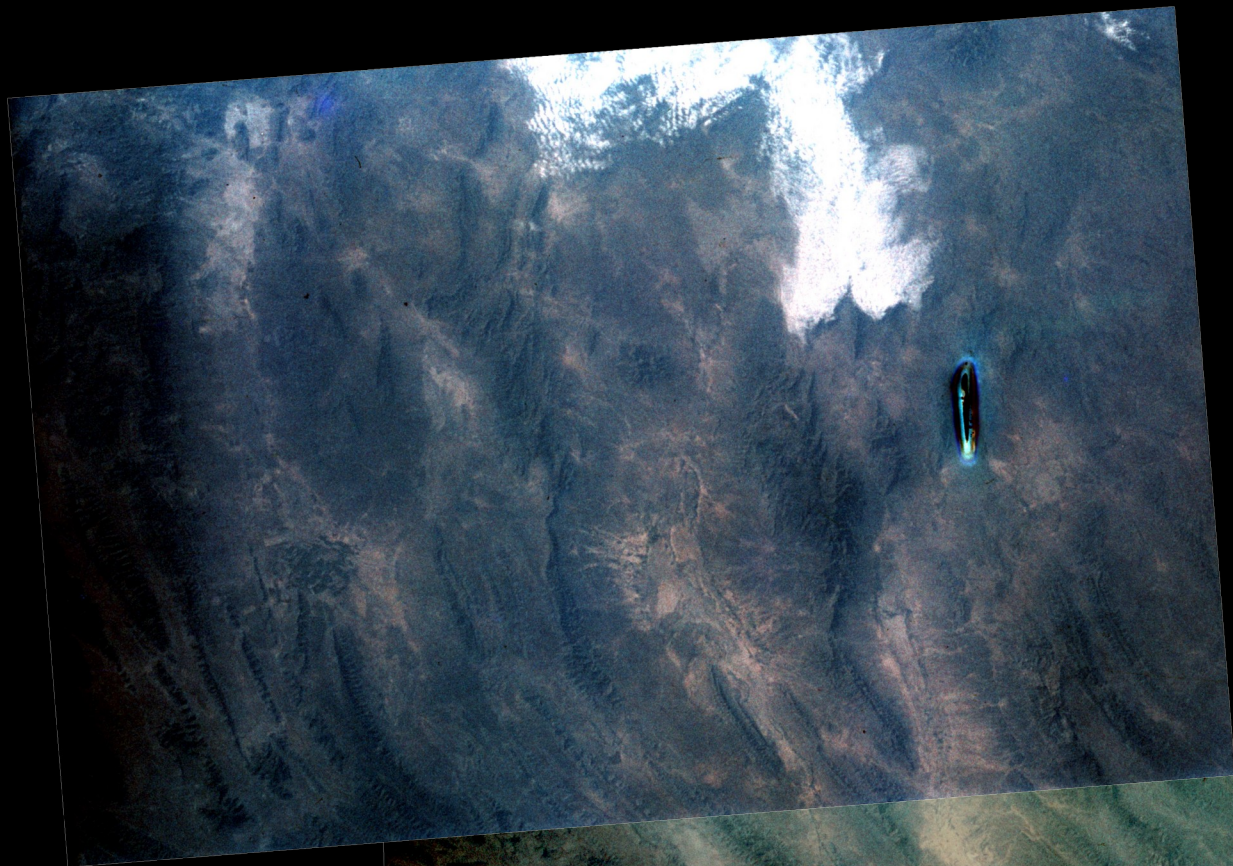


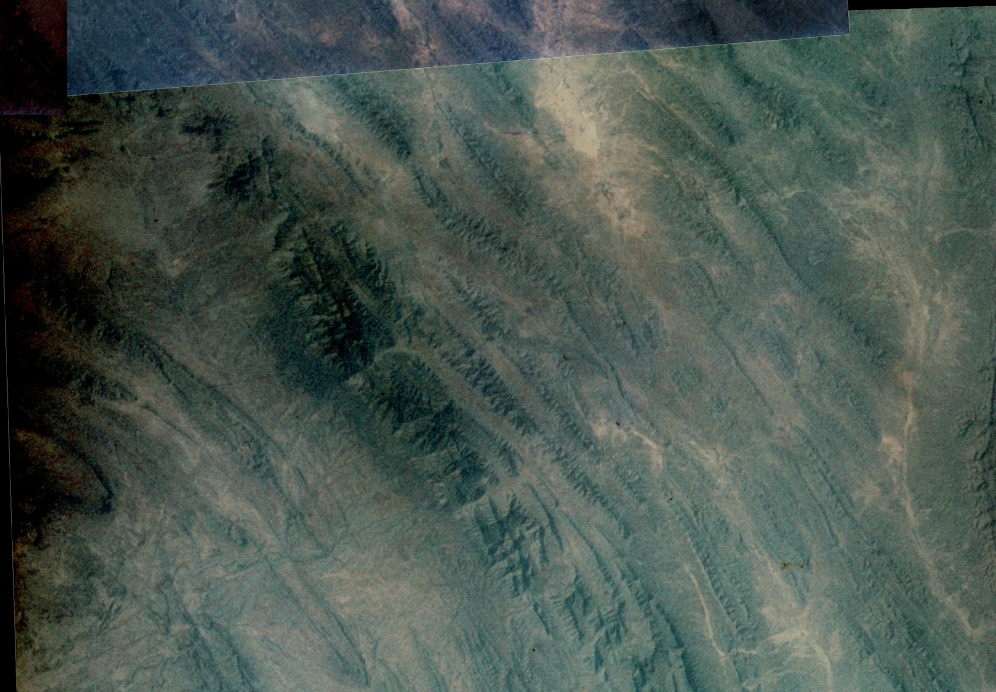
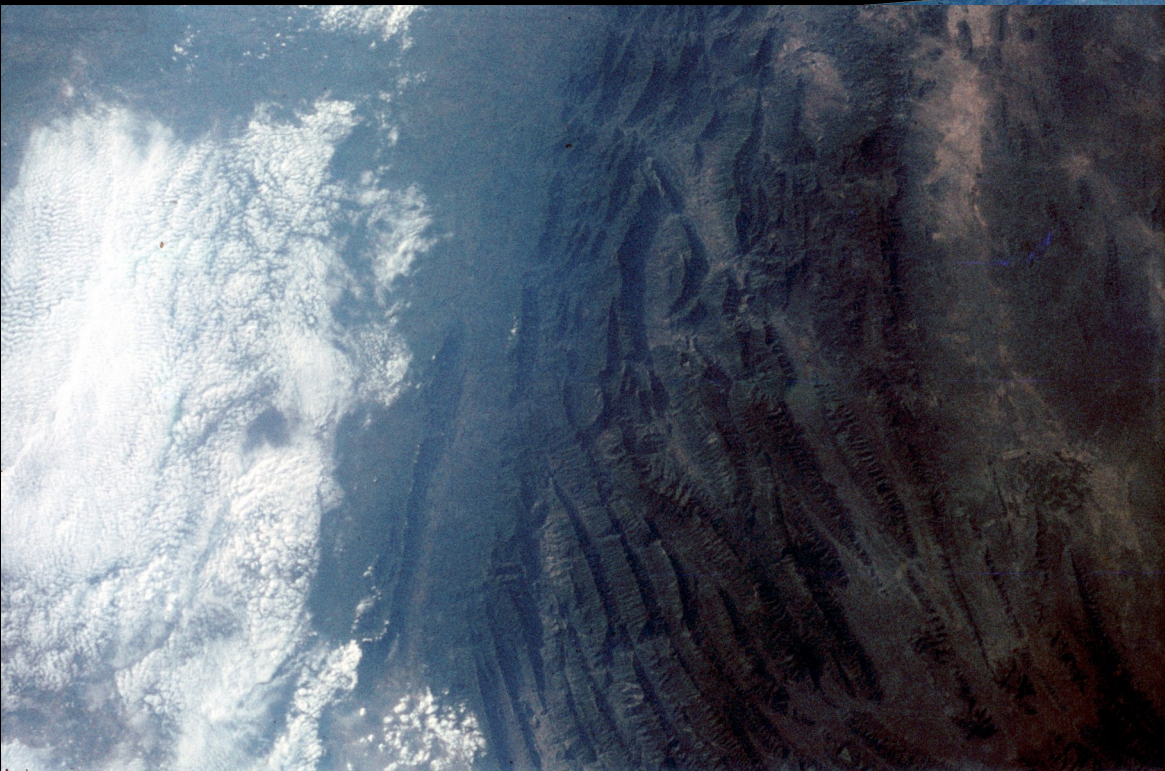
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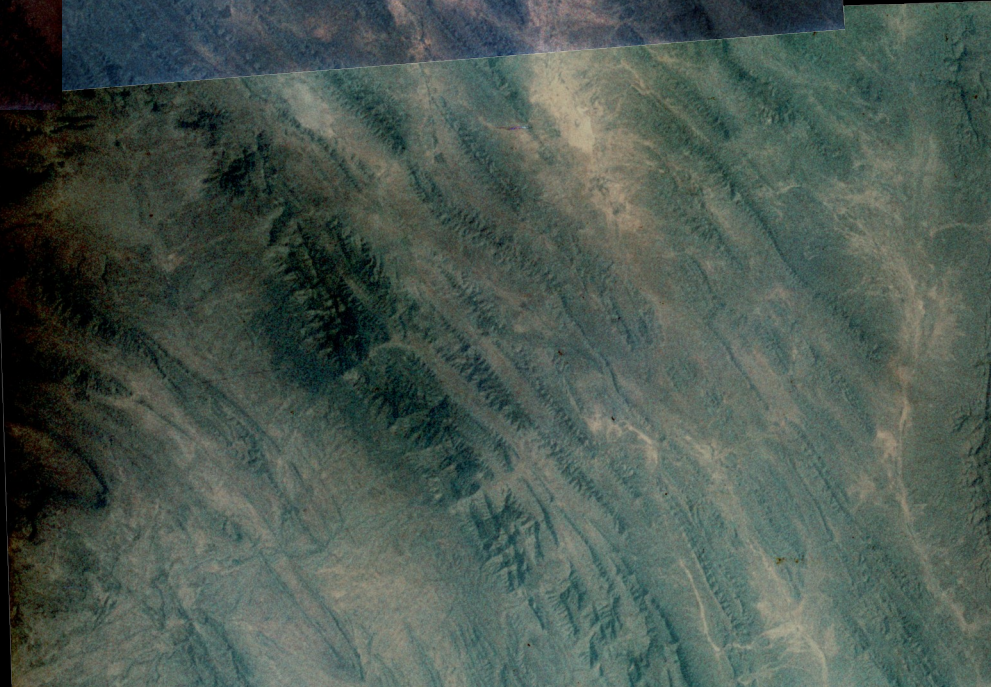
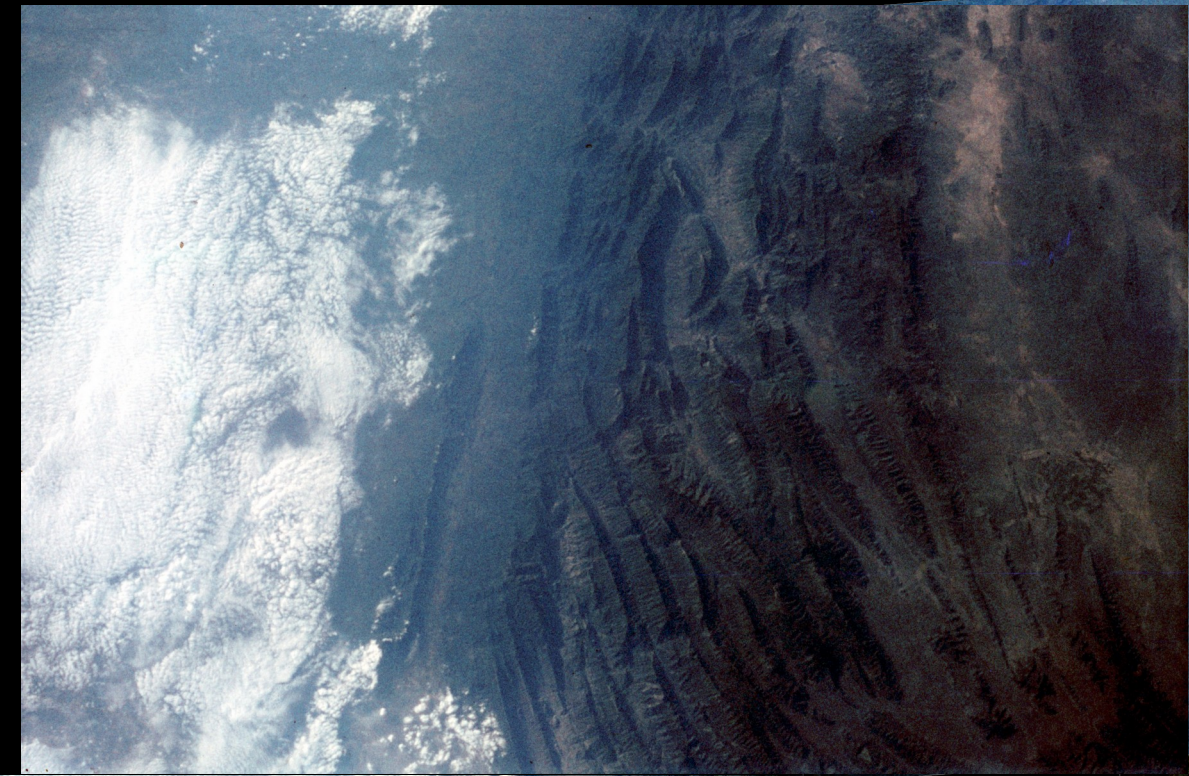


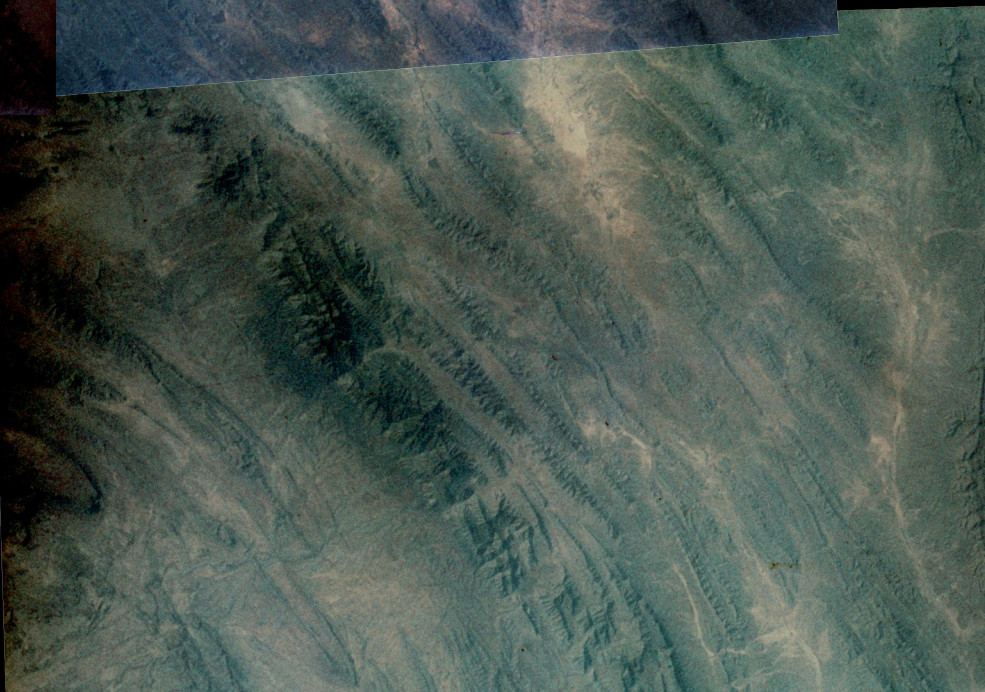
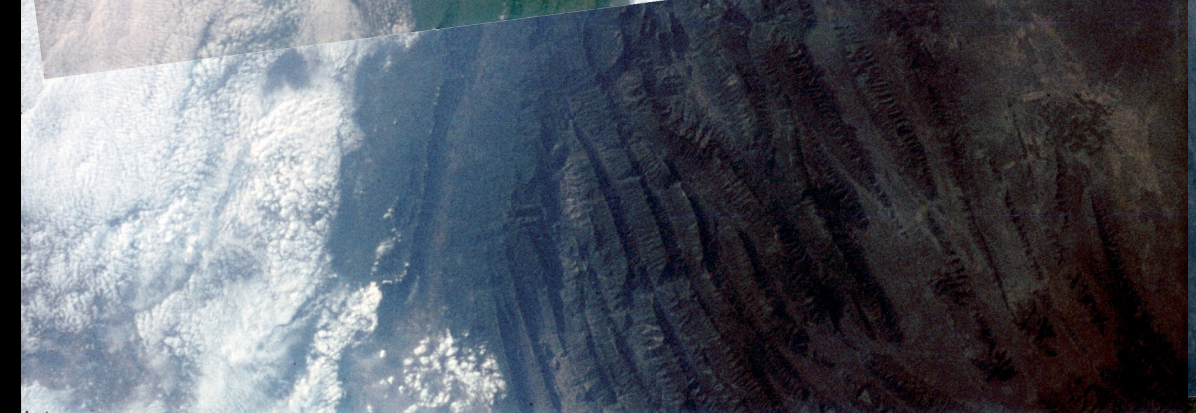
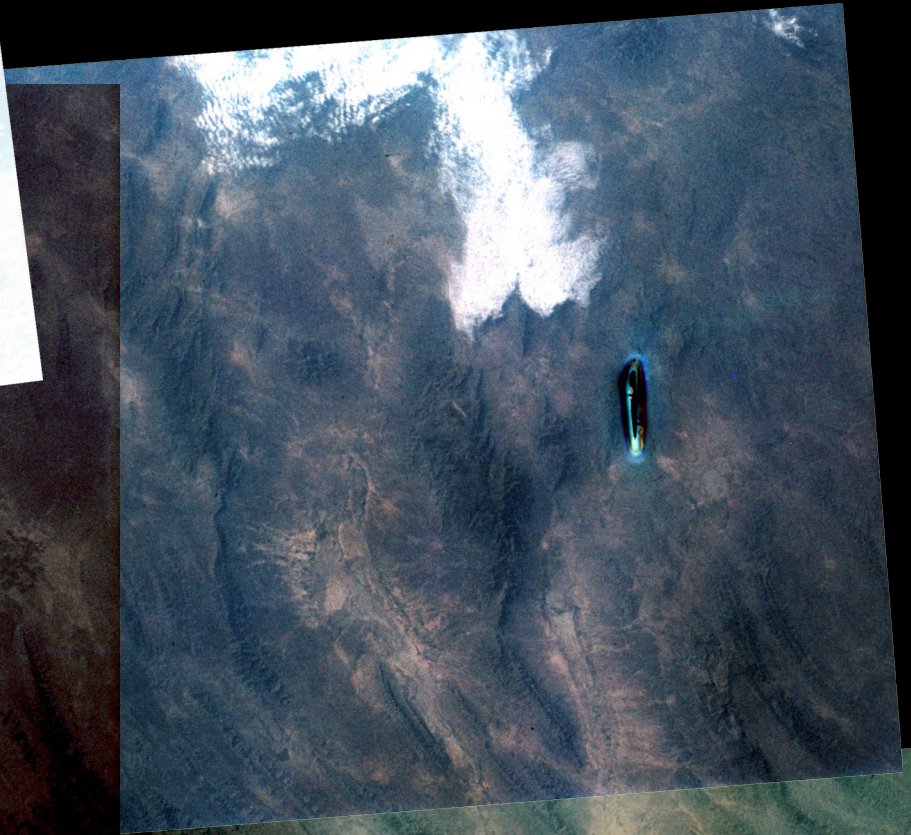
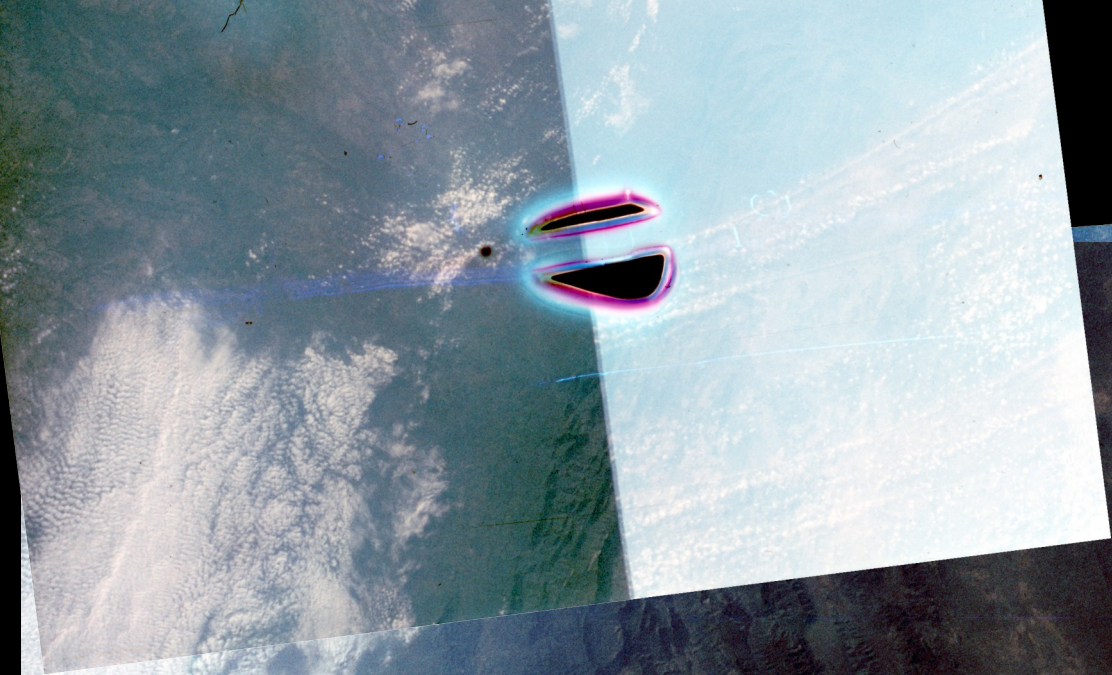


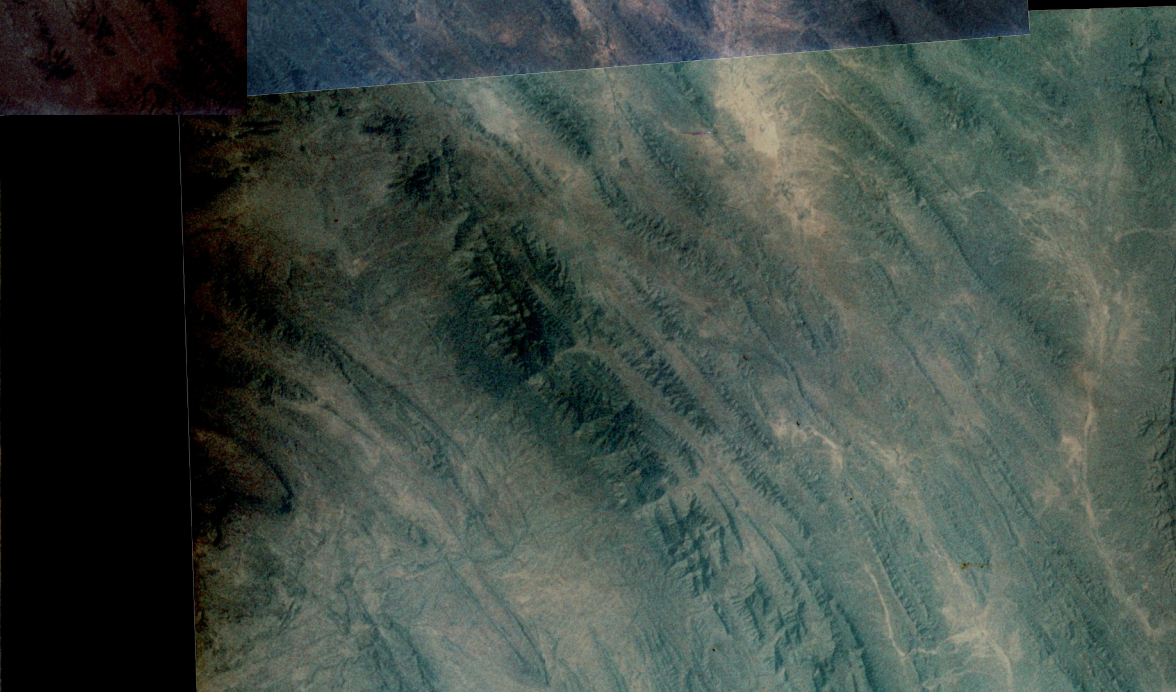
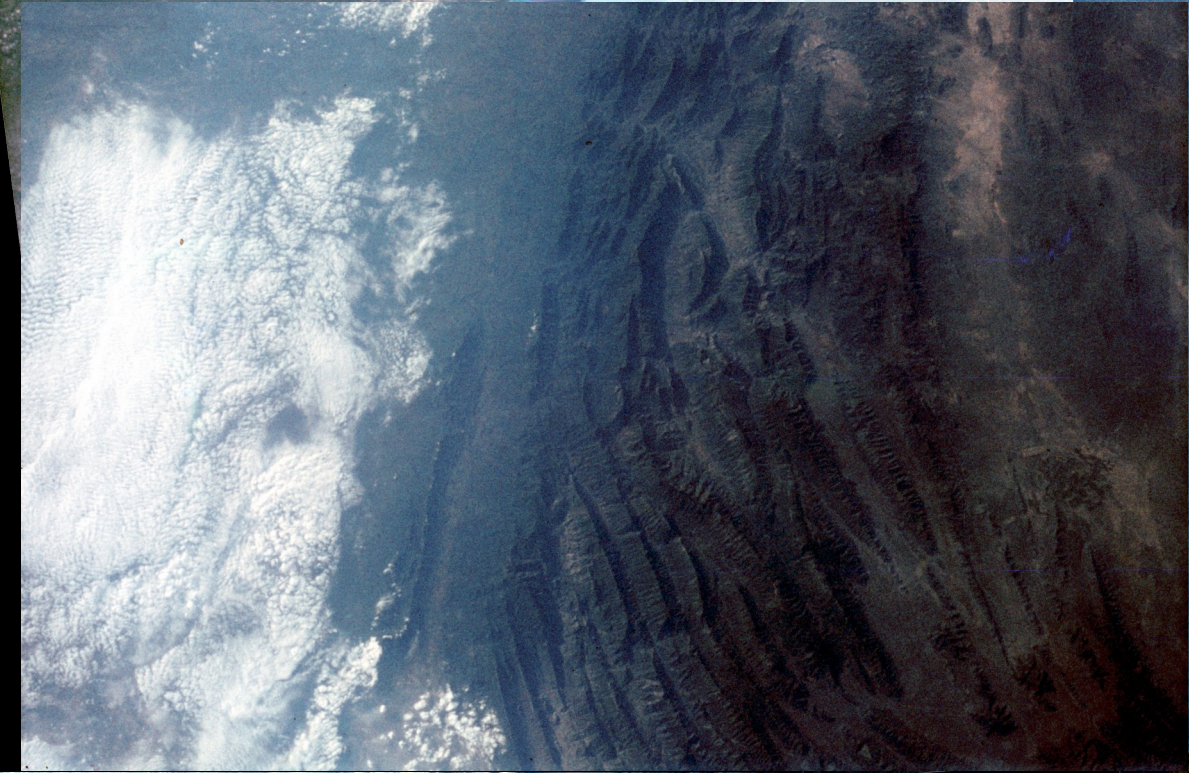
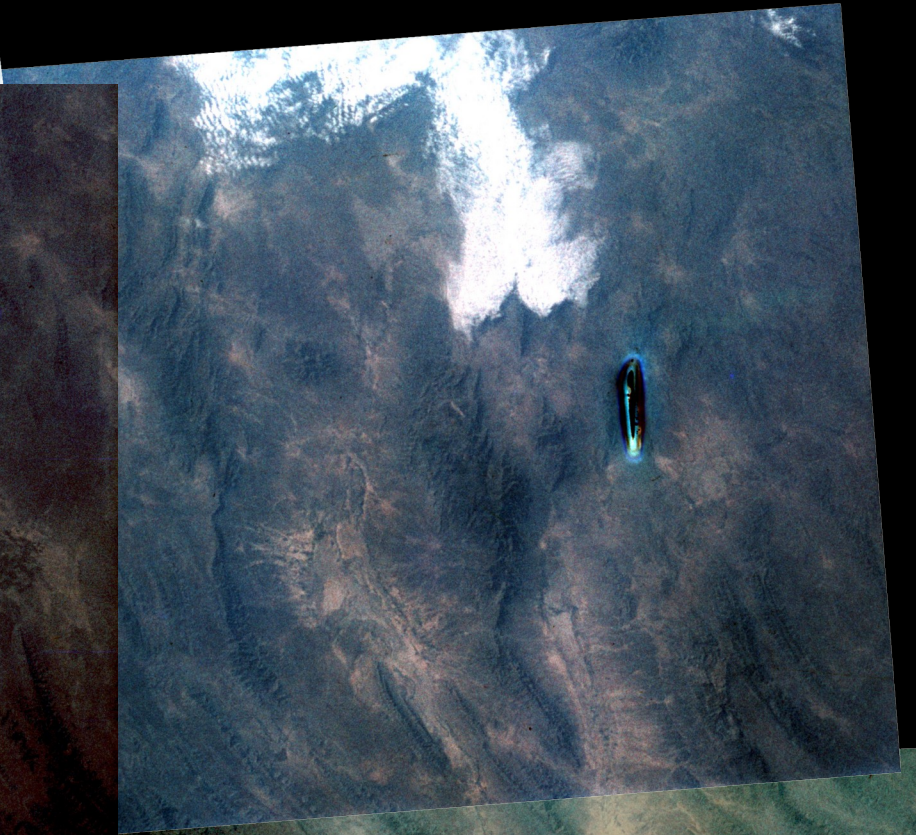
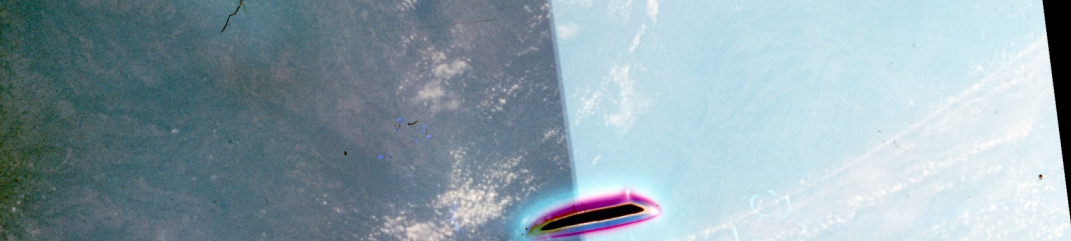


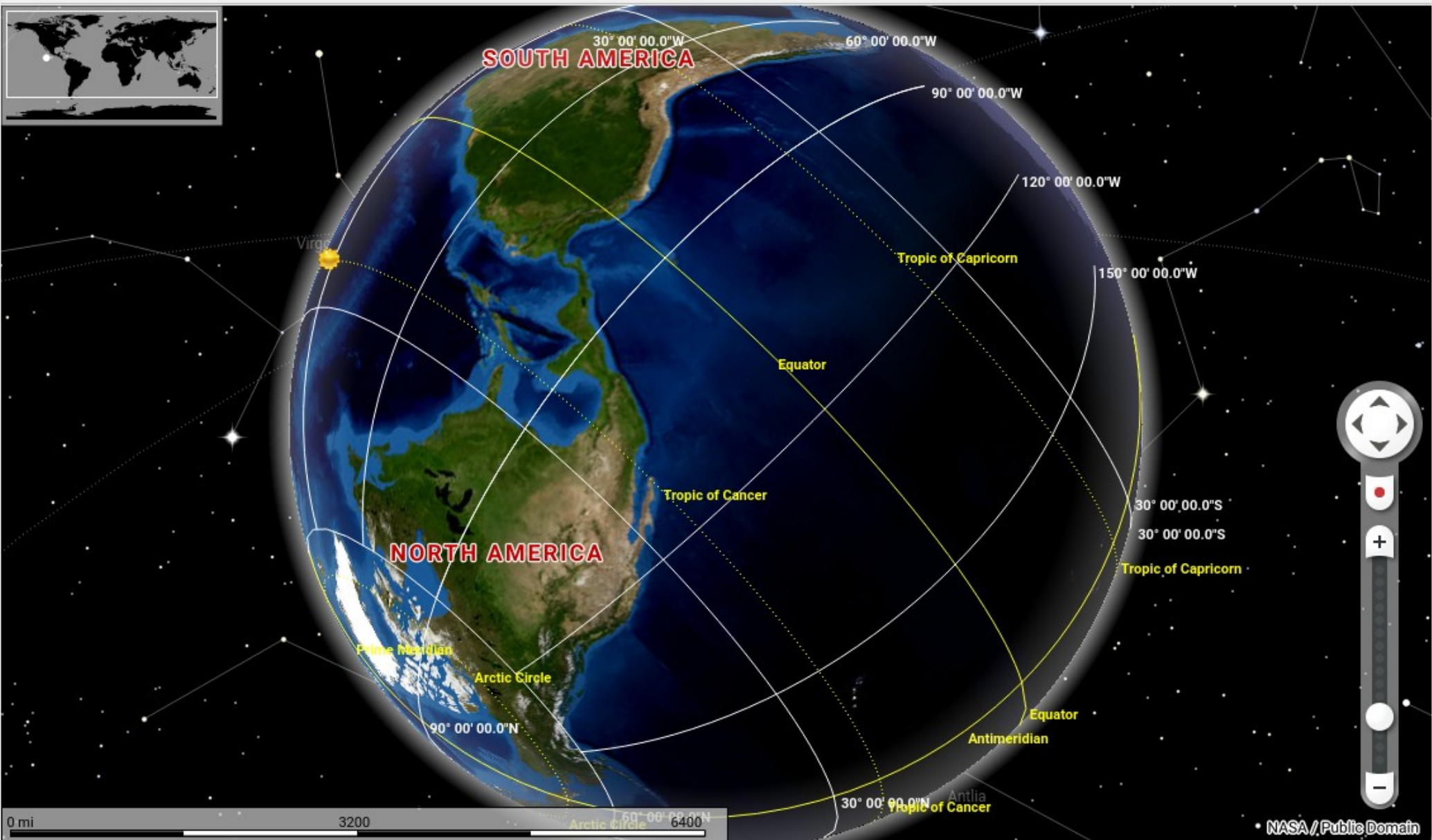
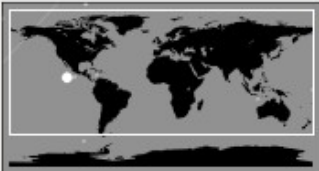


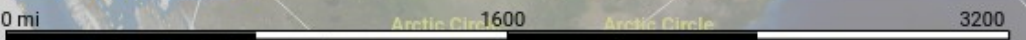
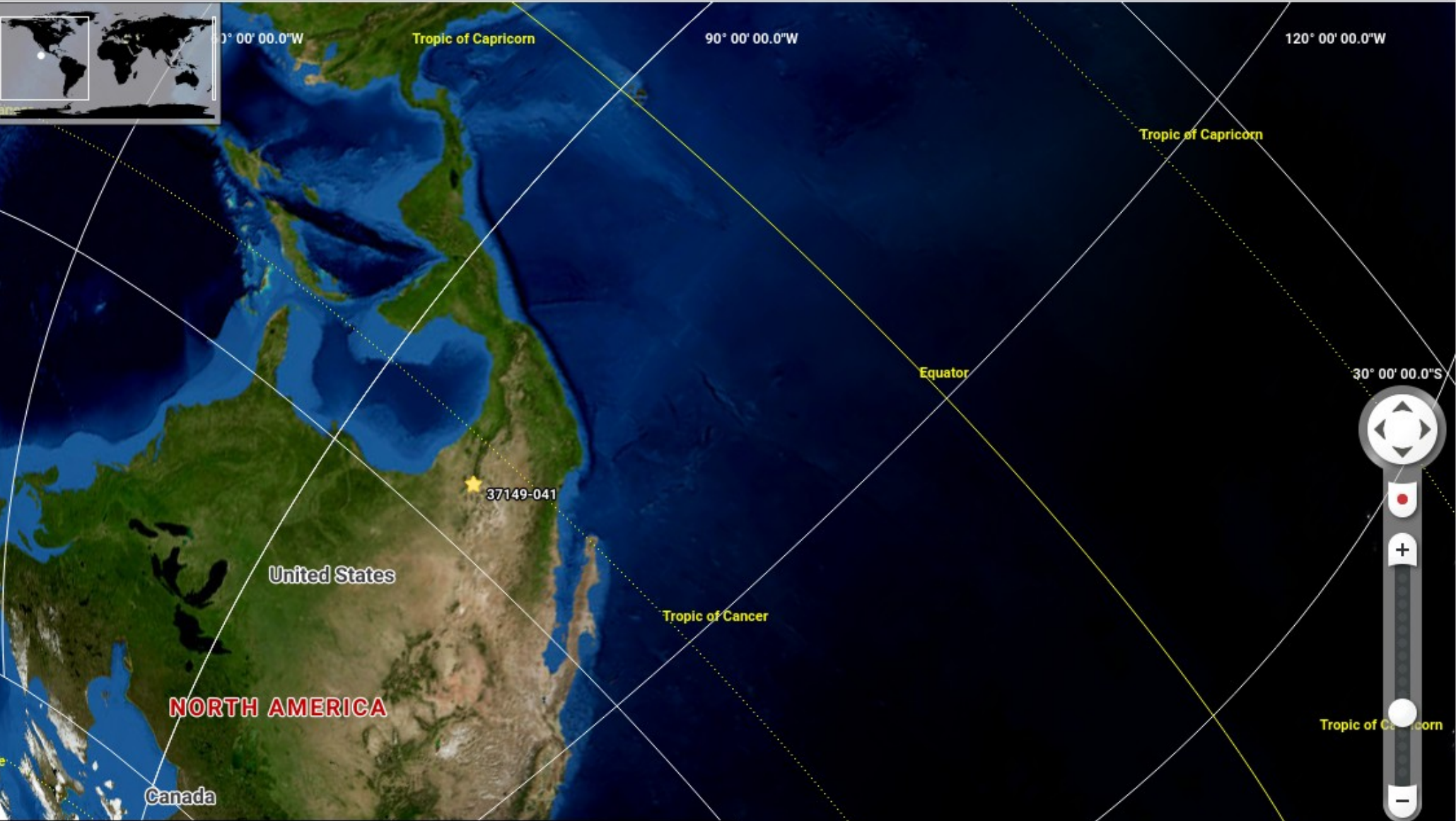
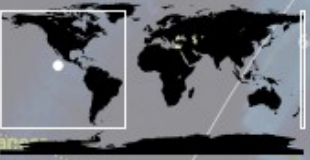


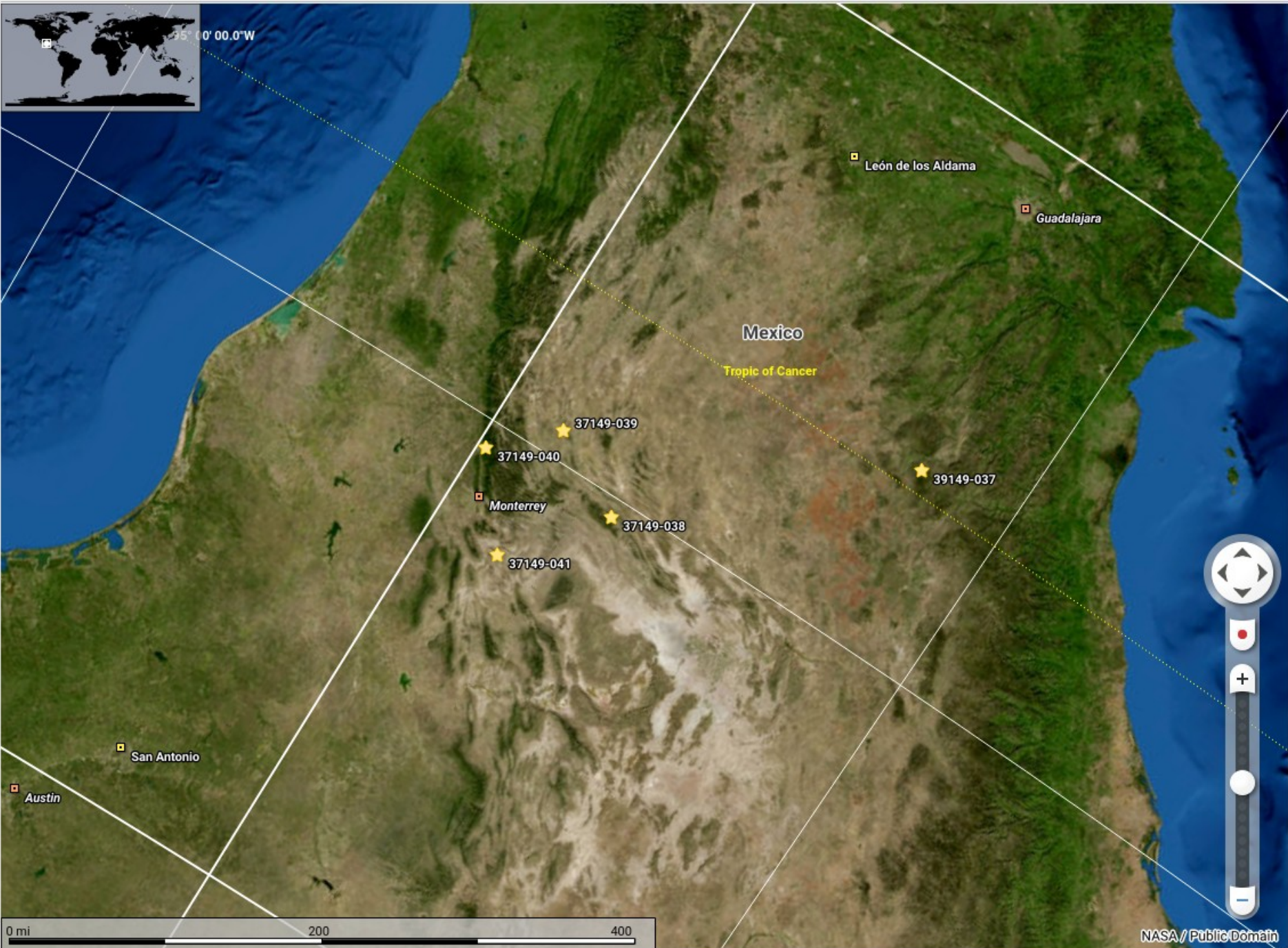


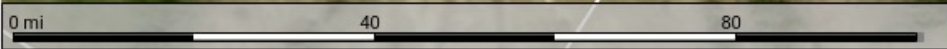


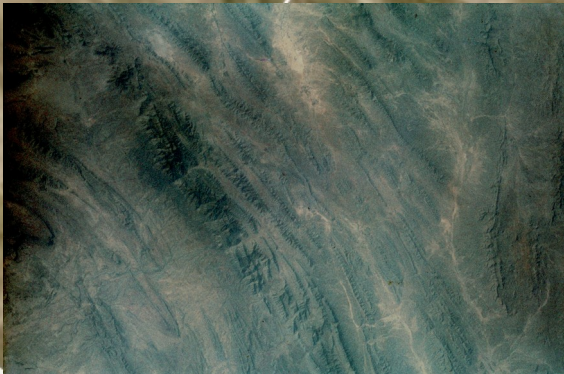
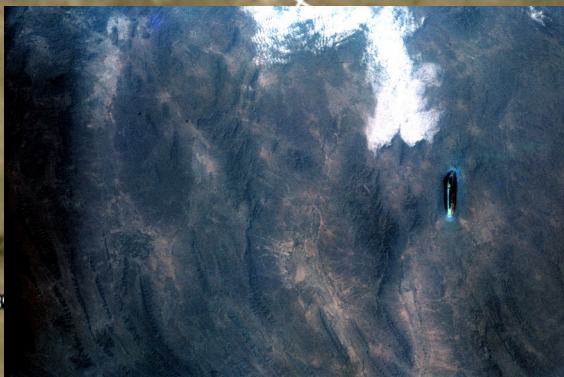












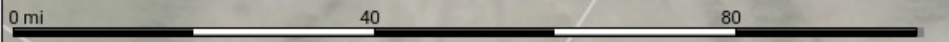
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Monterrey
San Nicolás de los Garza
Santa Catarina

Saltillo

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37149-038

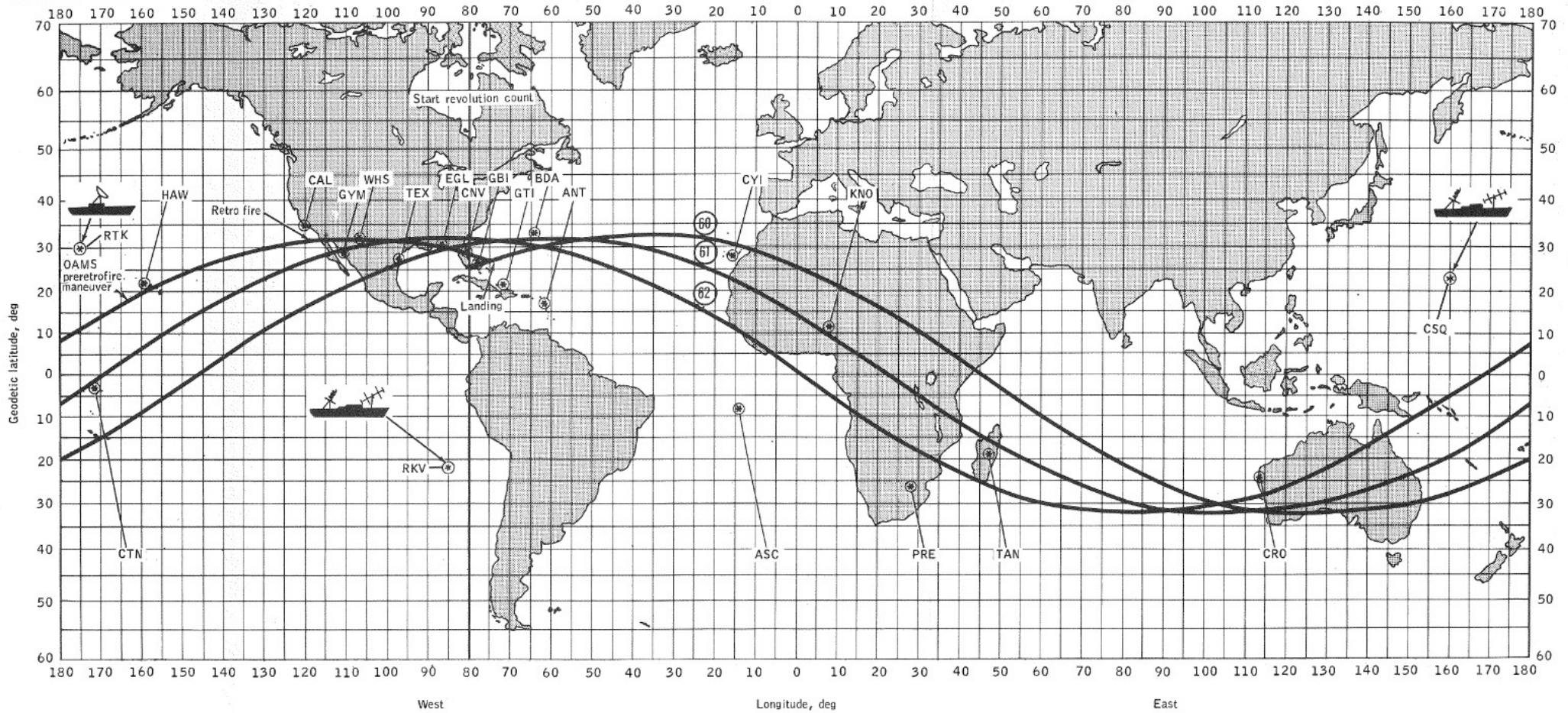
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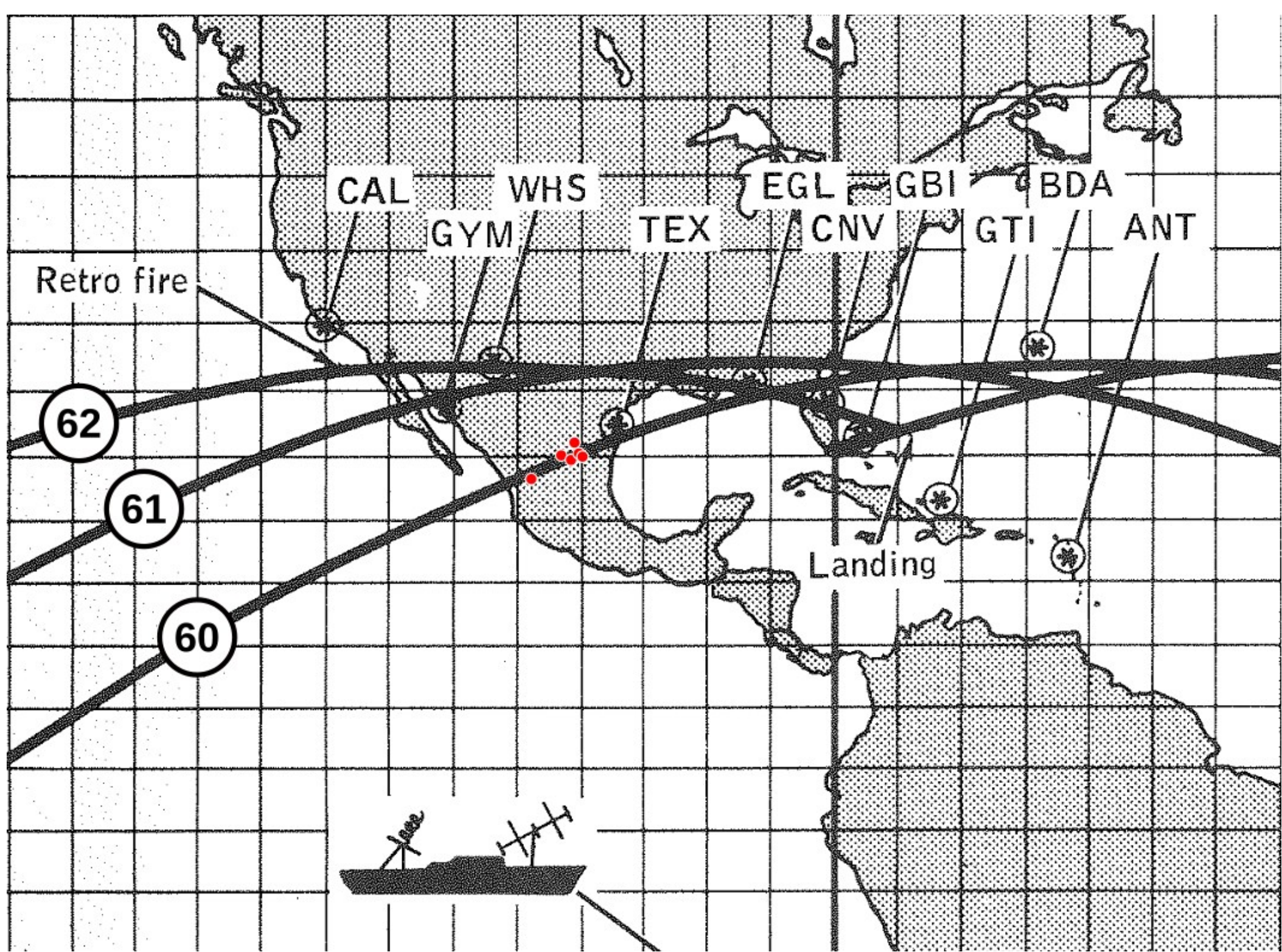
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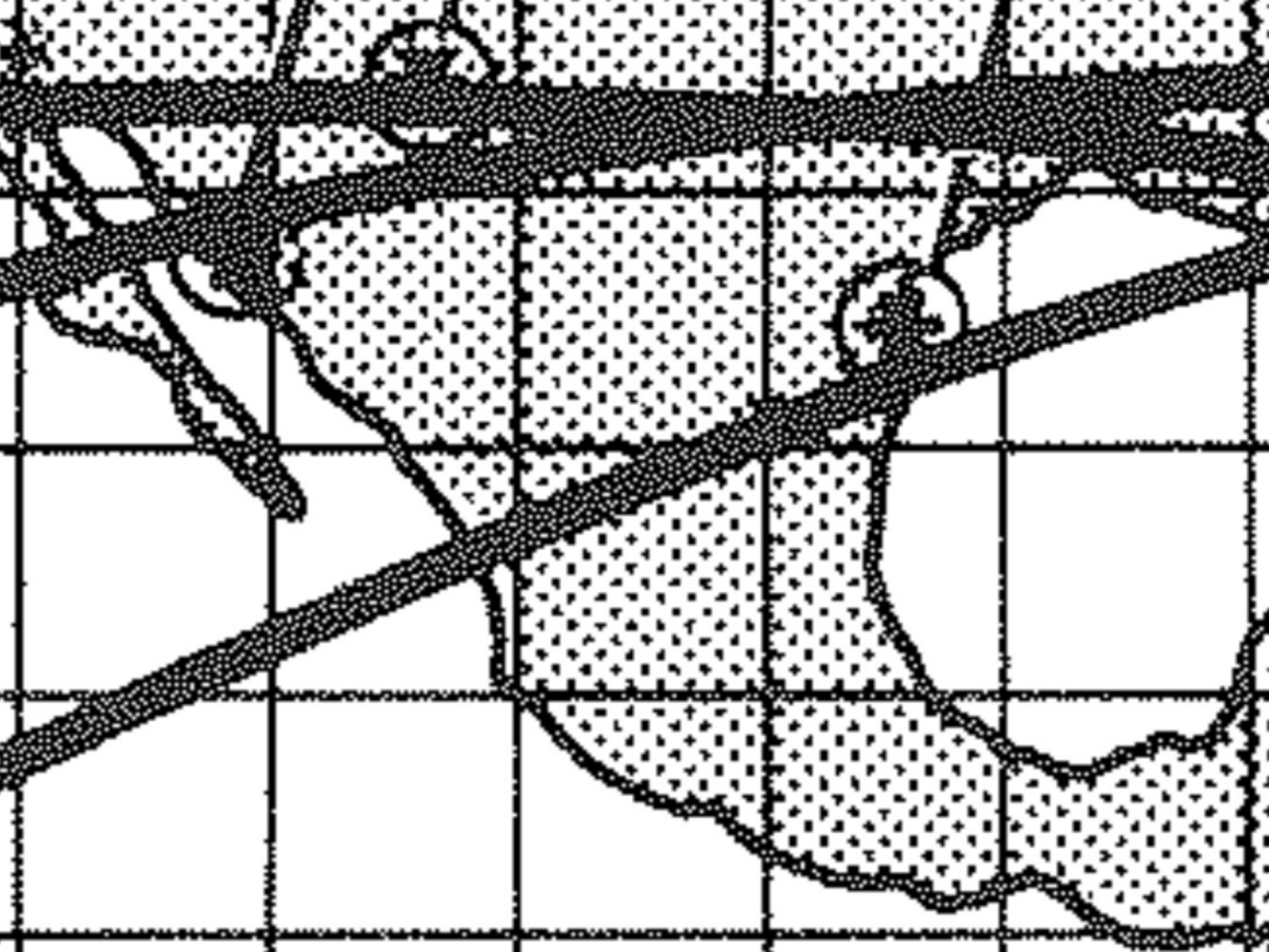
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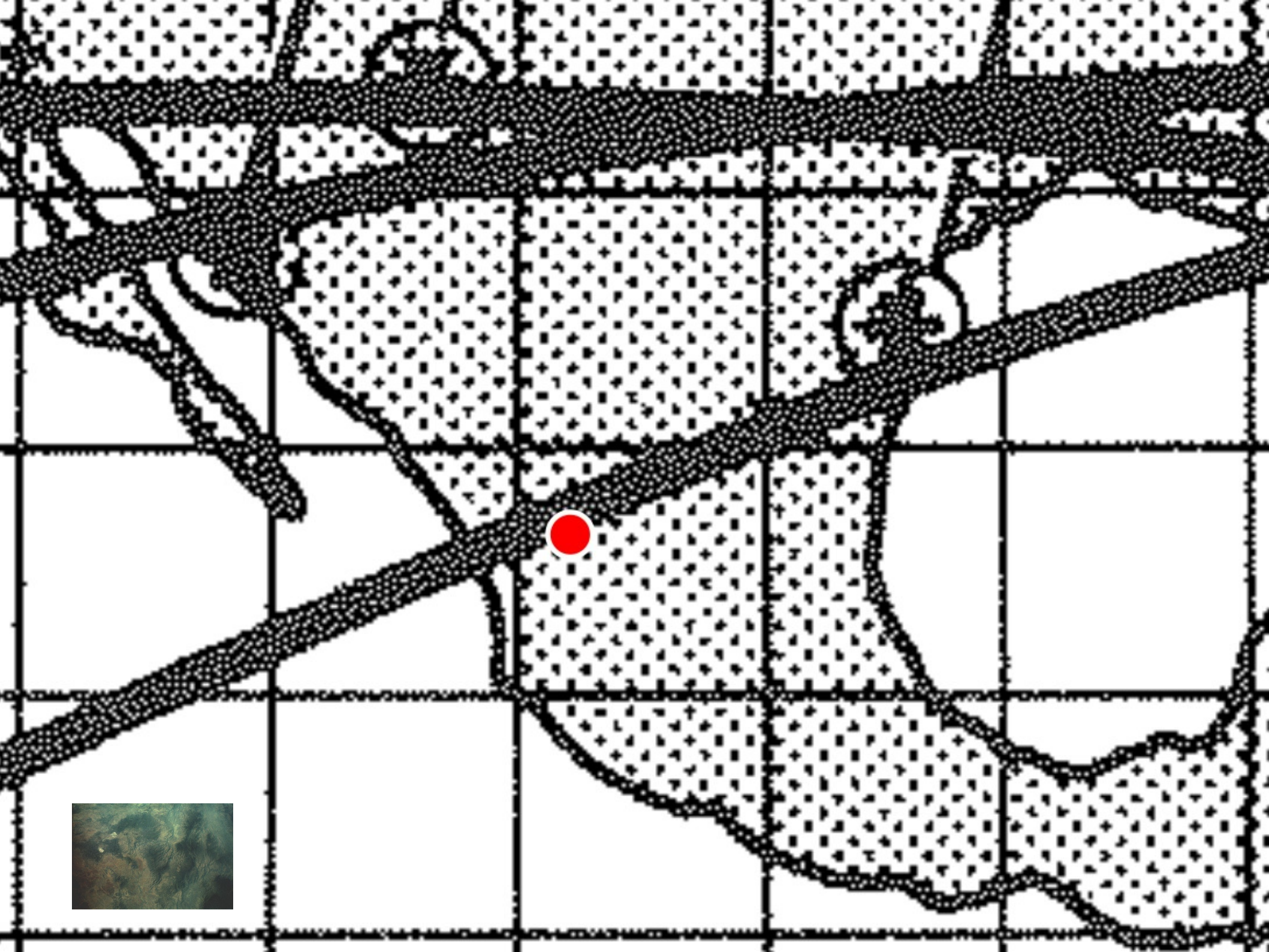


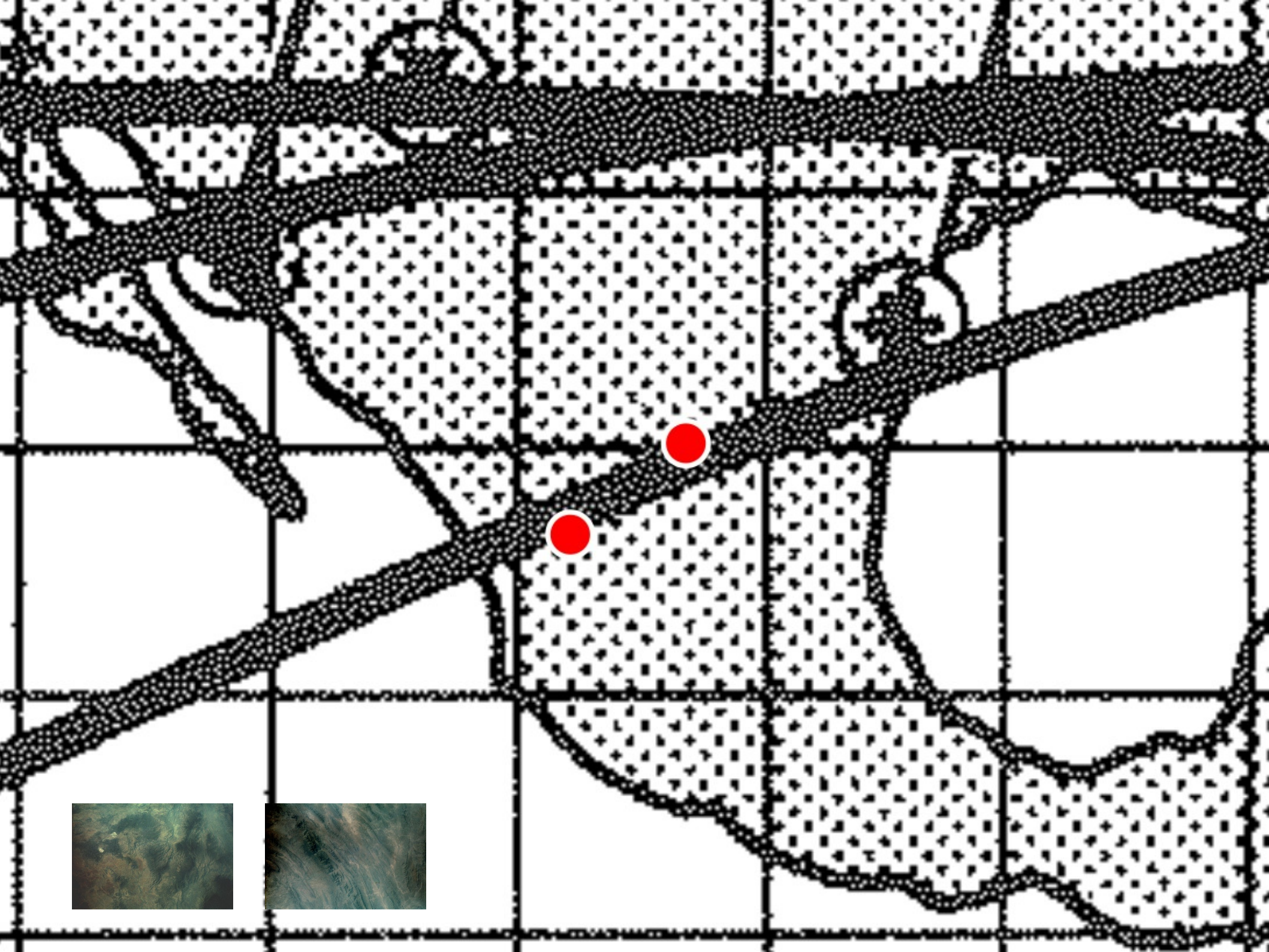
(b) Revolution 60 through landing

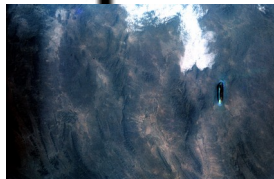
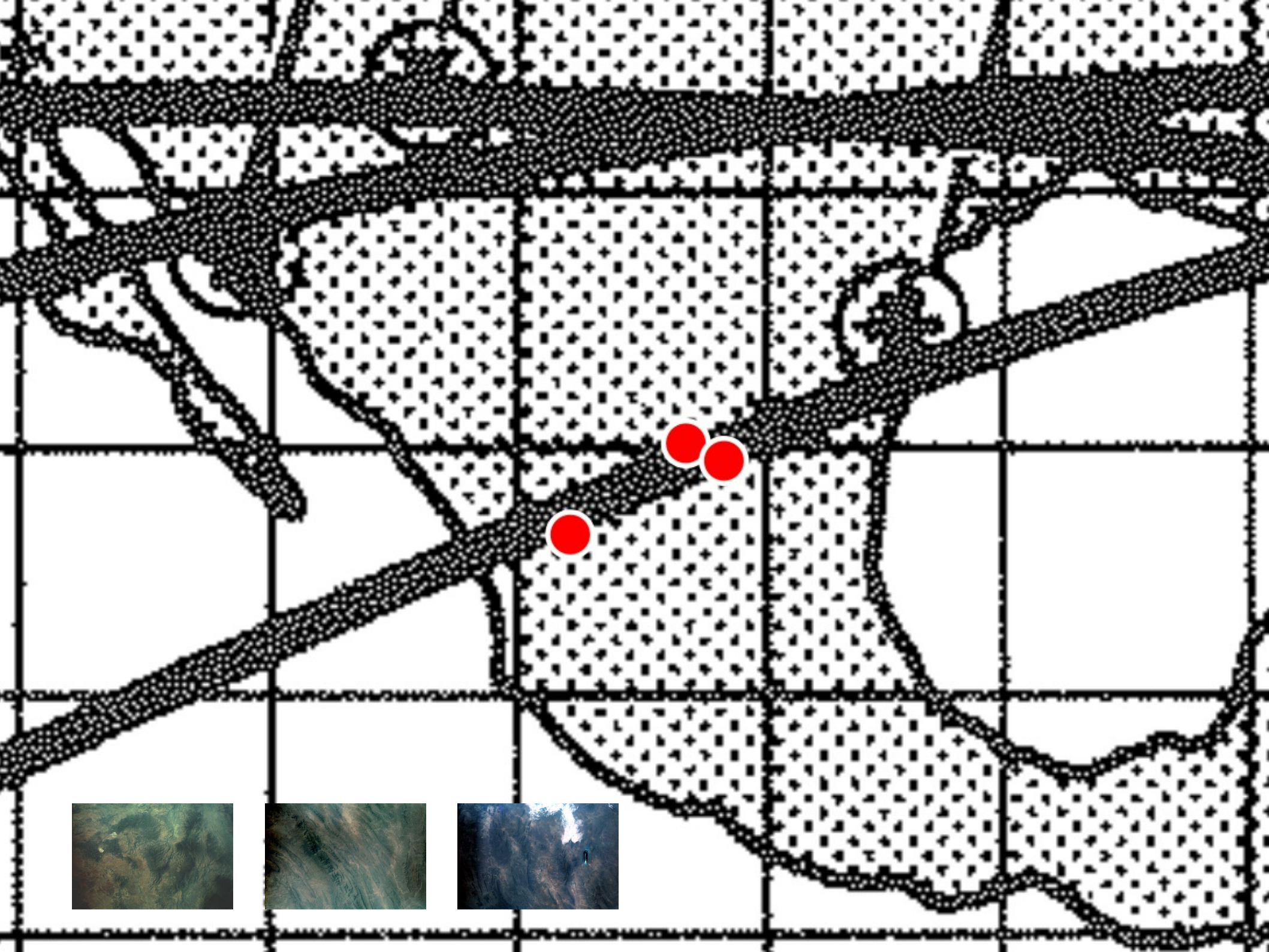
Figure 4-2.- Concluded.

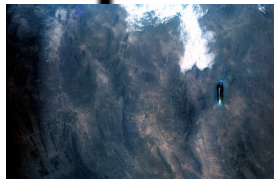
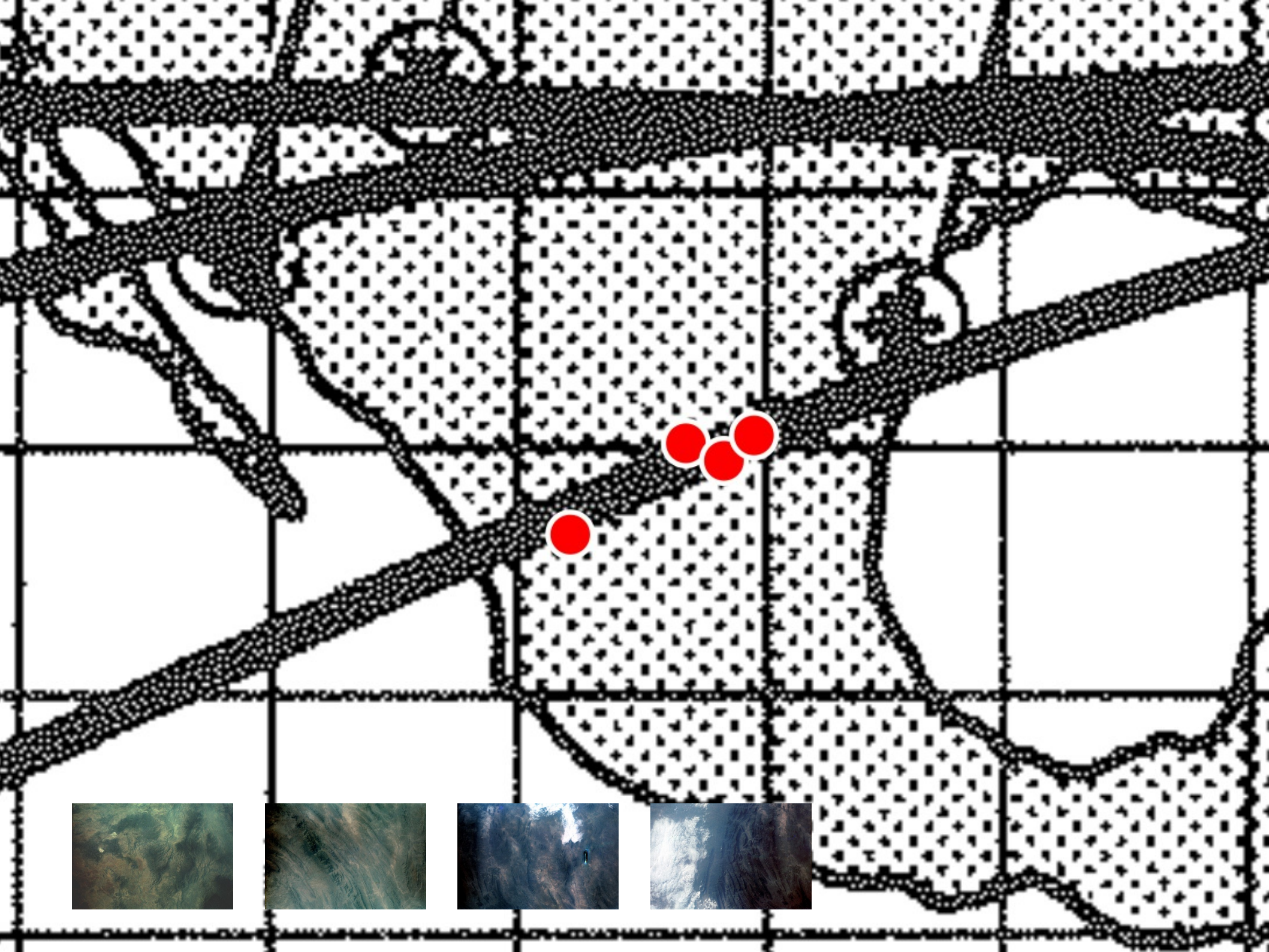


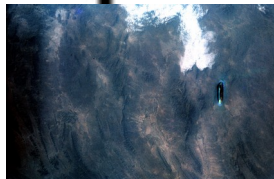
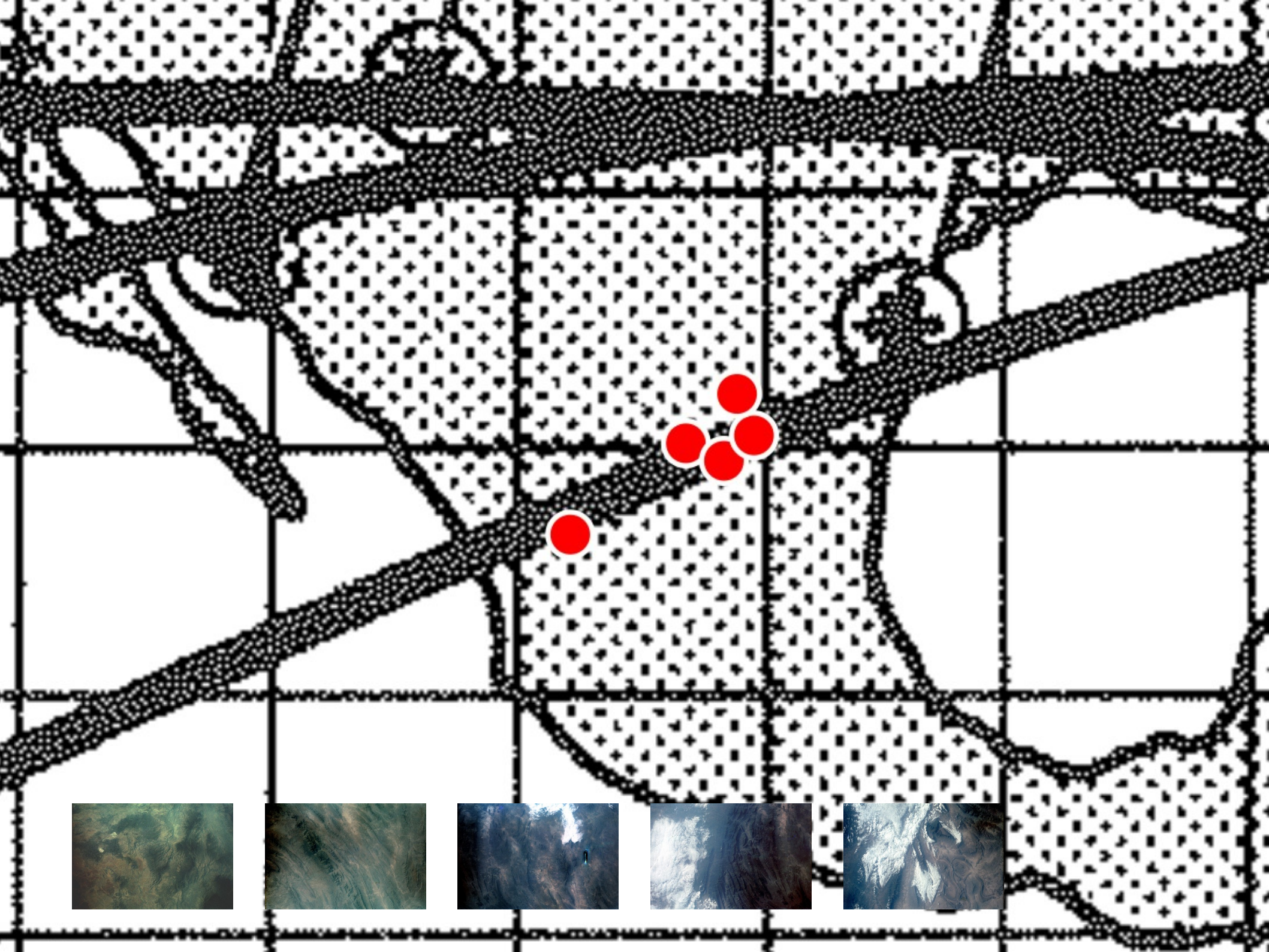


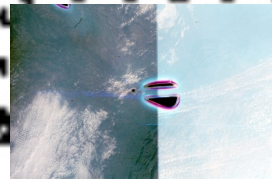
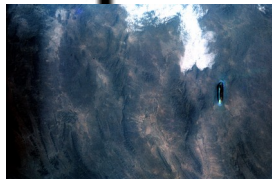
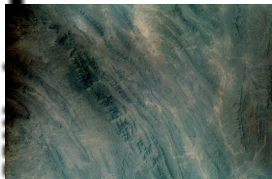
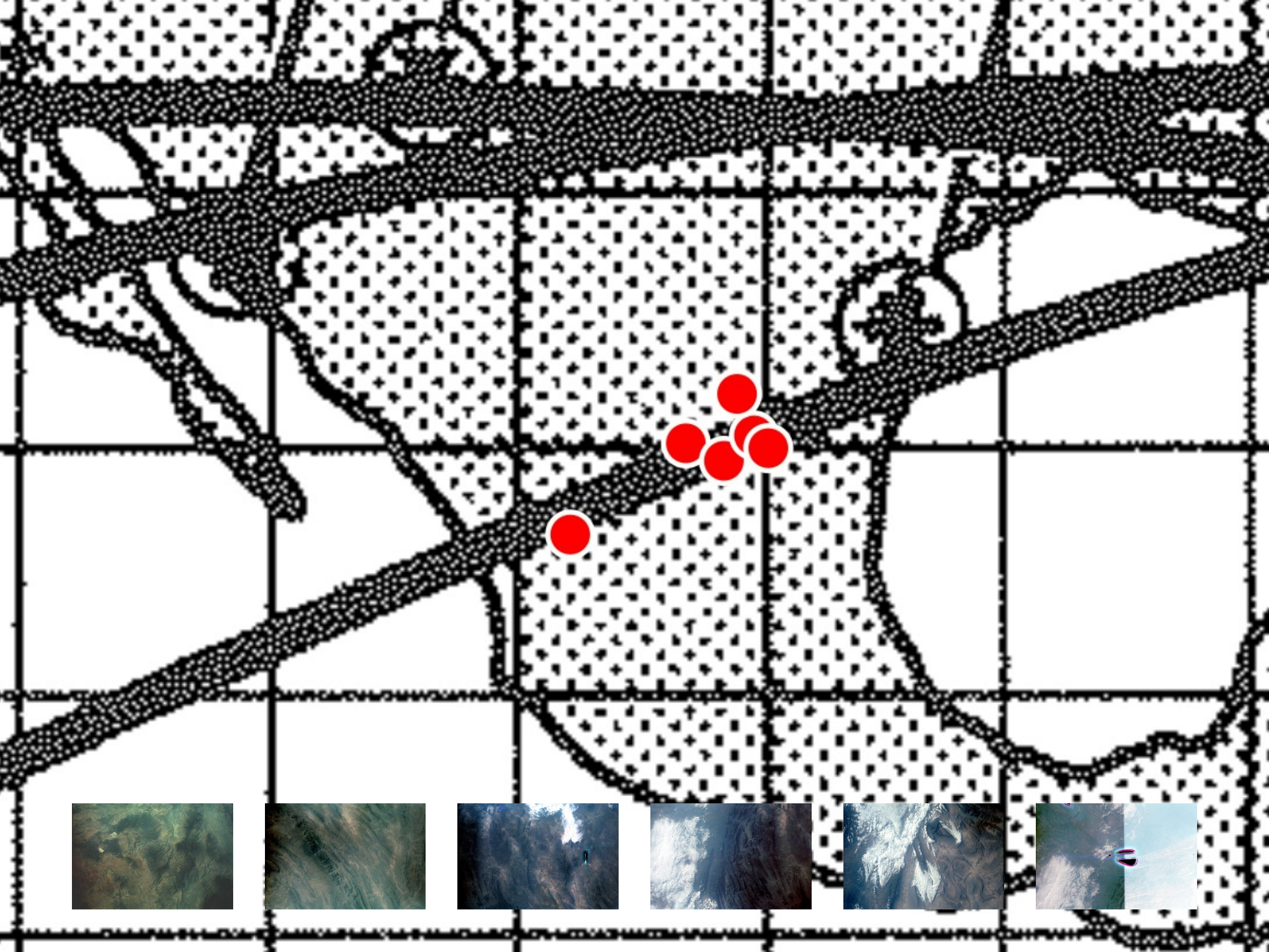


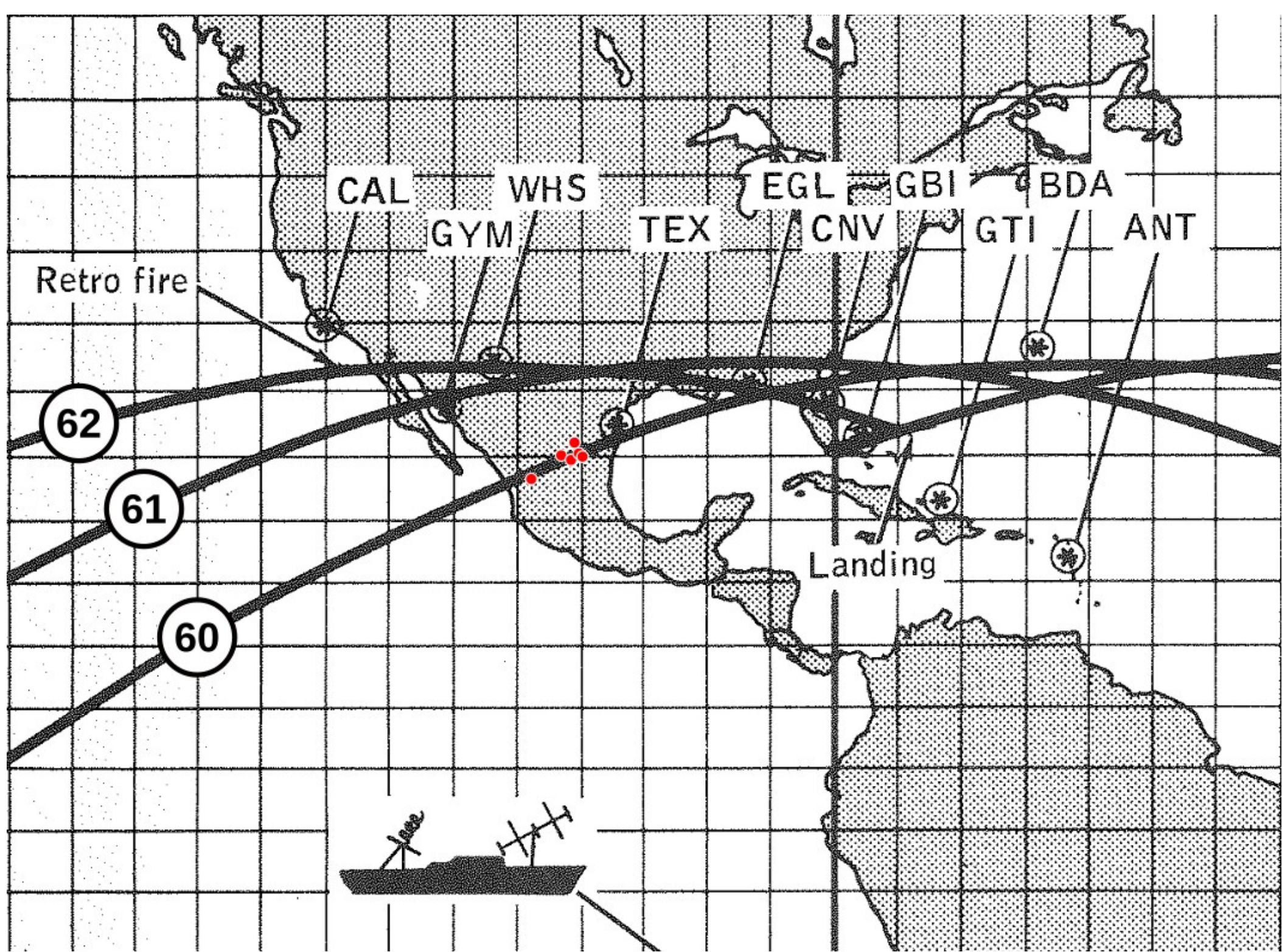












Gift of Stephen Bossert 11/26/15



1st EDITION, MAY 1965
PREPARED BY THE USAF
AERONAUTICAL CHART AND INFORMATION CENTER
(Illustrated by AIC 588)

AGS Library
UHM

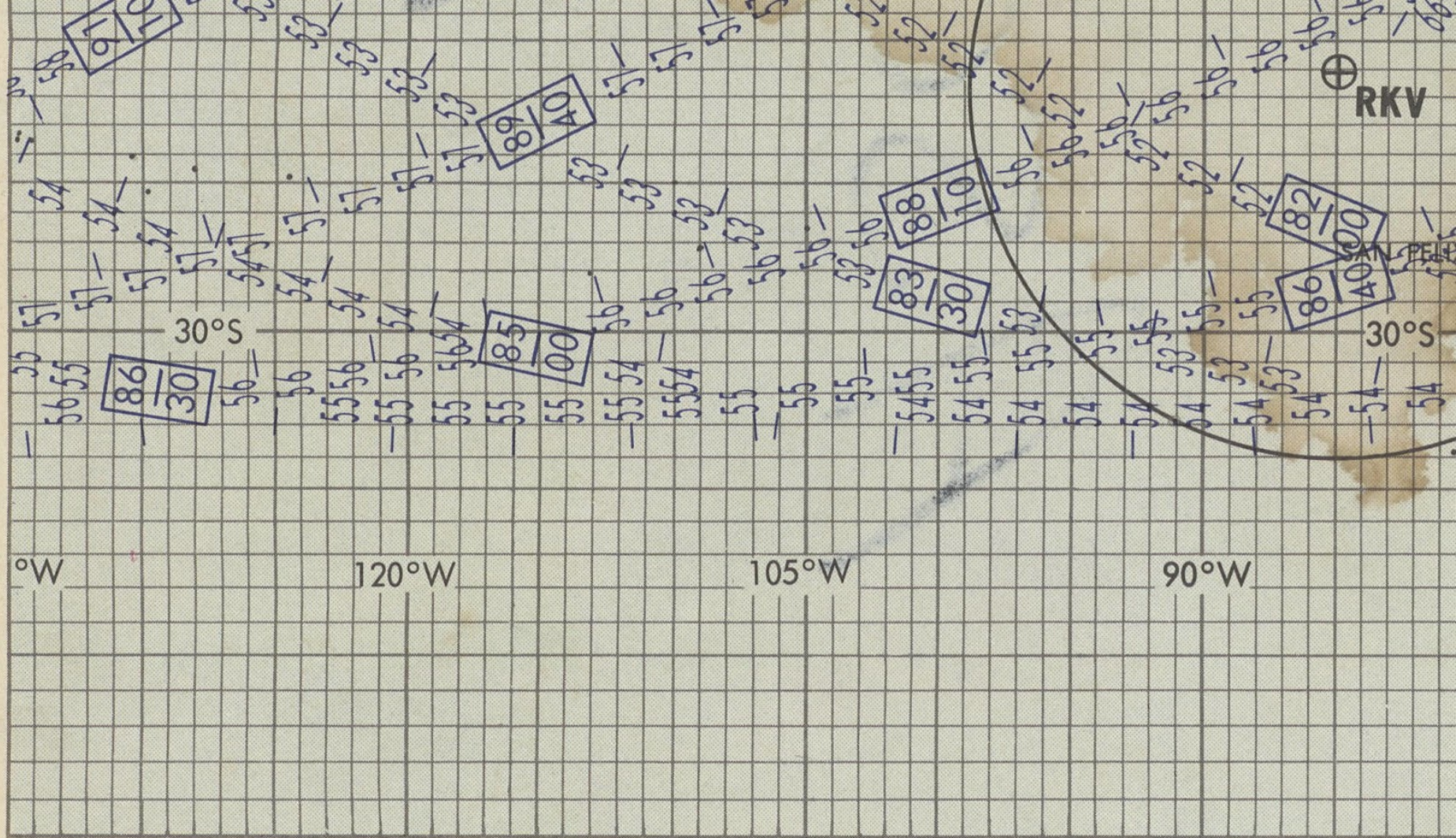
NOTE: Positions of CSQ, RTK and RRV are preliminary and
subject to change.

Scale 1:60,000,000 at the Equator

LEGEND
Tracking Sites (Coverage Limits)
Primary Radio Beacon
Primary Planned Landing Zone
Secondary Planned Landing Zone

GEMINI ORBIT CHART GOC-4 (GT-4)
SHEET 3 OF 3 (ORBITS 44-66)

050 K-1965



1st EDITION, MAY 1965

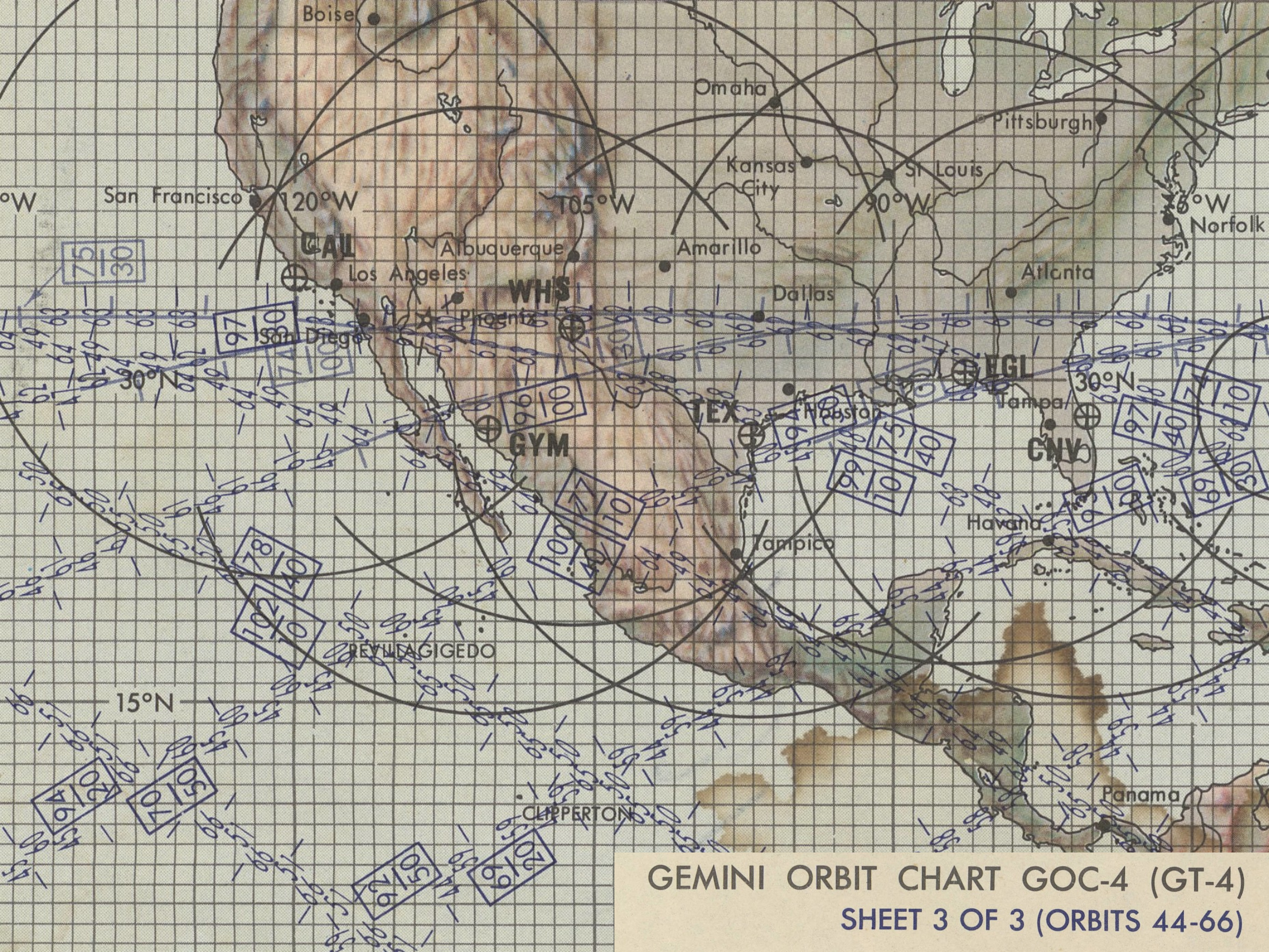
PREPARED BY THE USAF

AERONAUTICAL CHART AND INFORMATION CENTER

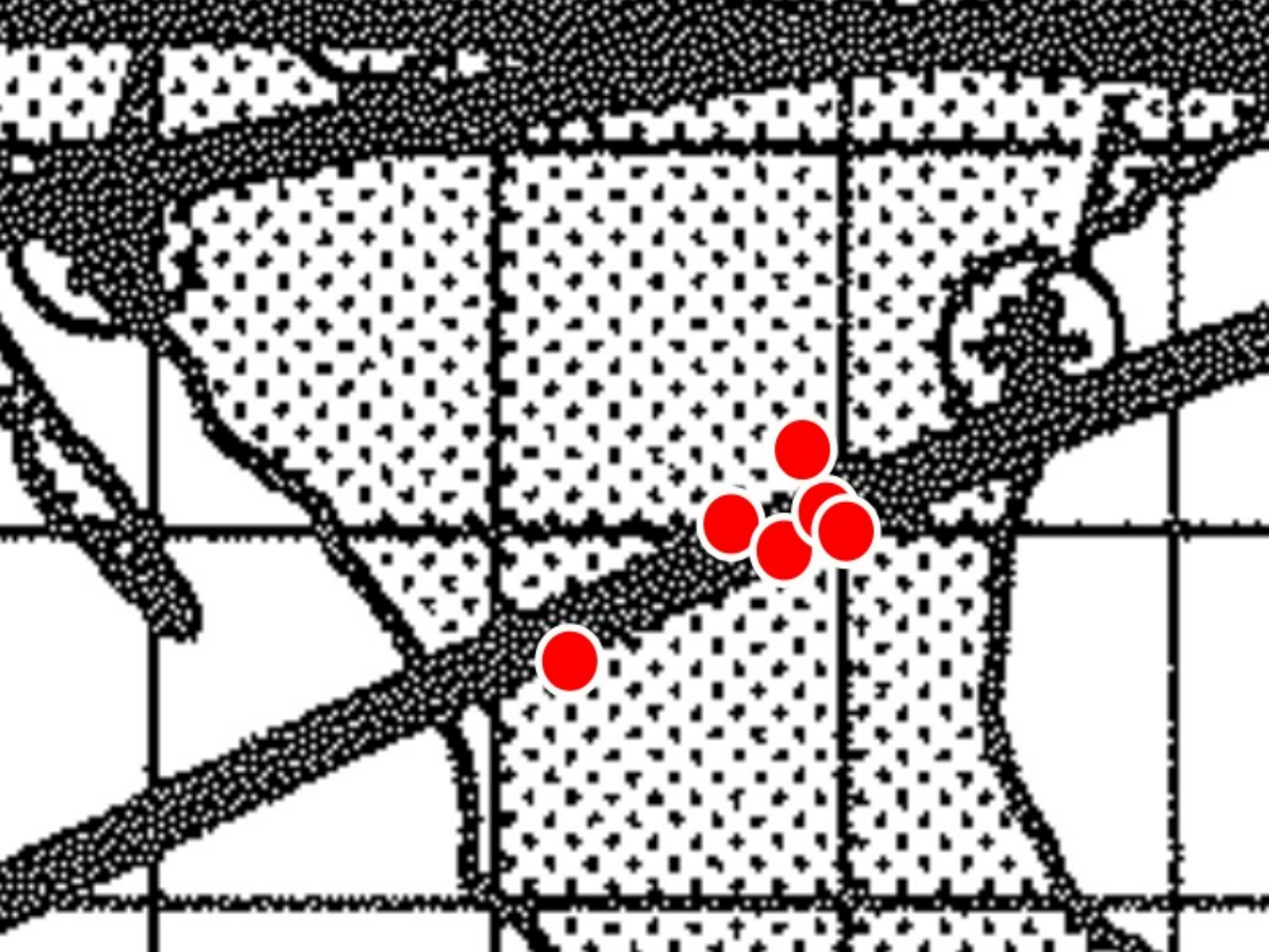
Lithographed by ACIC, 5-65

AGS Library
UWM

+ 050 K-1965



GEMINI ORBIT CHART GOC-4 (GT-4)
 SHEET 3 OF 3 (ORBITS 44-66)



94 40 04

94 40 04

C

Hey Houston, this is Gemini 4. We just took our -
oops, stand by.

94 40 04

C

Hey Houston, this is Gemini 4. We just took our -
oops, stand by.

94 41 03

CC

Gemini 4, this is Houston. How are you doing?

94 40 04 C Hey Houston, this is Gemini 4. We just took our -
oops, stand by.

94 41 03 CC Gemini 4, this is Houston. How are you doing?

94 41 08 C Very good. We're just taking a couple of pictures.
That's what the "oops" was for.

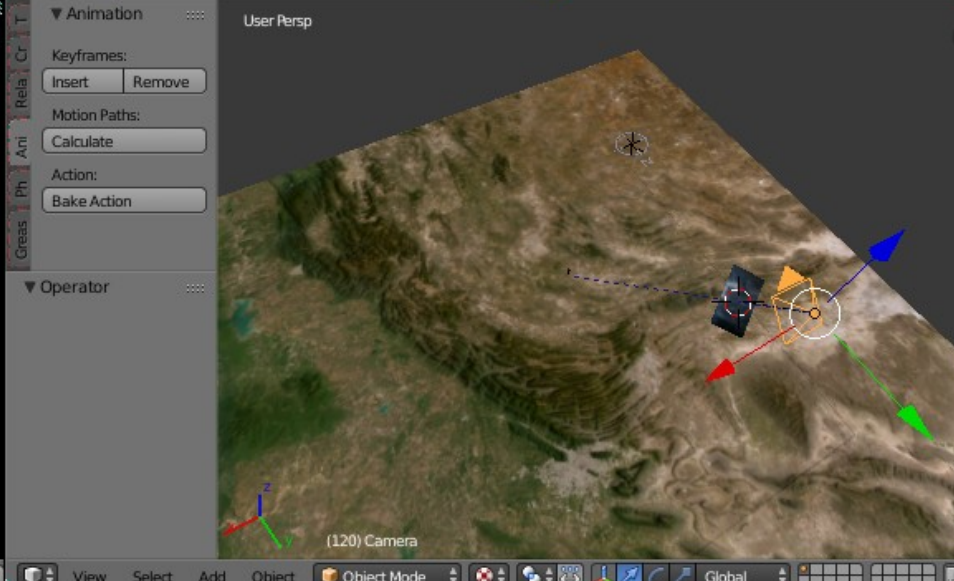
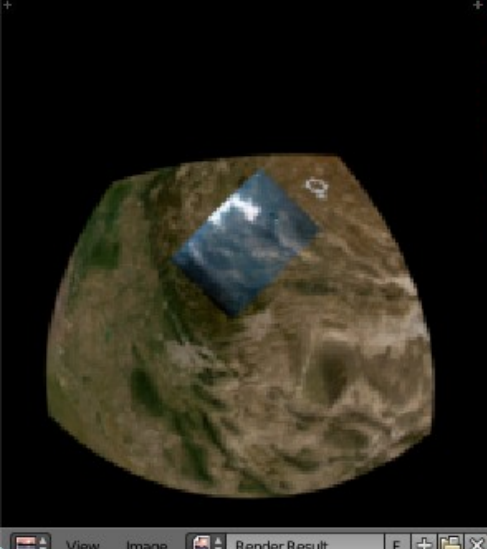
94 40 04 C Hey Houston, this is Gemini 4. We just took our -
oops, stand by.

94 41 03 CC Gemini 4, this is Houston. How are you doing?

94 41 08 C Very good. We're just taking a couple of pictures.
That's what the "oops" was for.

94 41 10 CC Oh, you had us shook up for a minute. Don't do that,
you're giving us heart attacks down here.





View Search All Scenes

- Scene
 - RenderLayers
 - World
 - Camera
 - Camera
 - Constraints
 - 039-no-border
 - Compass
 - Sun
 - focus-point
 - sample-out.glTF

Animation

Keyframes:
Insert Remove

Motion Paths:
Calculate

Action:
Bake Action

Operator

Camera Pano

(120) Camera

Transform

Location:
X: -4.54346
Y: 7.27015
Z: 13.07416

Rotation:
X: 0°
Y: 0°
Z: -184°

XYZ Euler

Scale:
X: 1.000
Y: 1.000
Z: 1.000

Grease Pencil Layer

Scene Object

Camera

Camera

Transform

Location:
X: -4.54346
Y: 7.27015
Z: 13.07416

Rotation:
X: 0°
Y: 0°
Z: -184°

Scale:
X: 1.000
Y: 1.000
Z: 1.000

Rotation Mode: XYZ Euler

Delta Transform

Transform Locks

Relations

Layers:

Parent: Object

Pass Index: 0

Relations Extras

Groups

Add to Group

Display

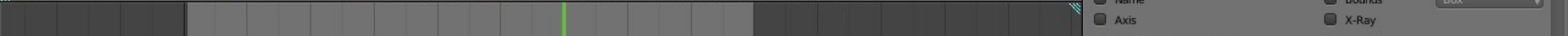
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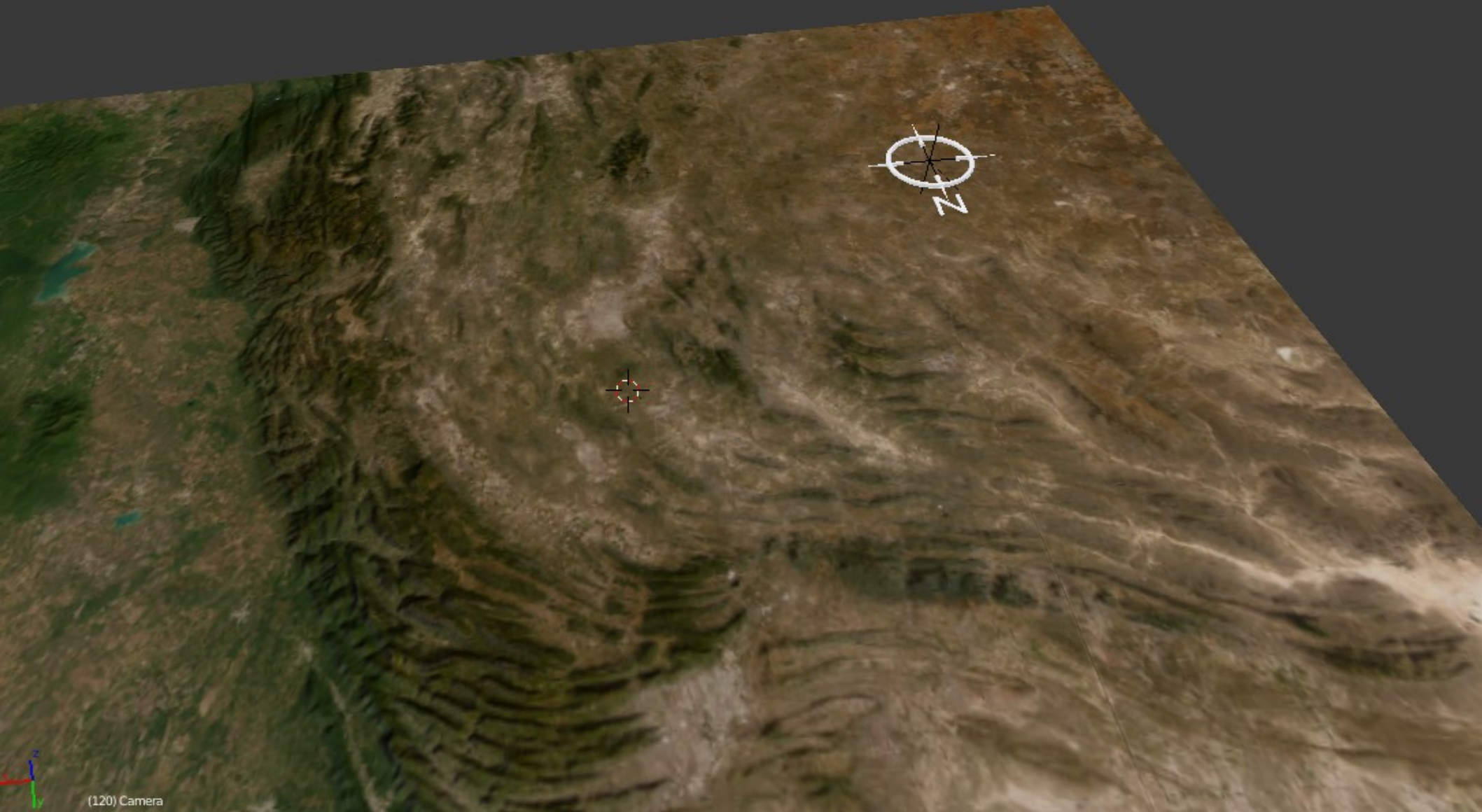
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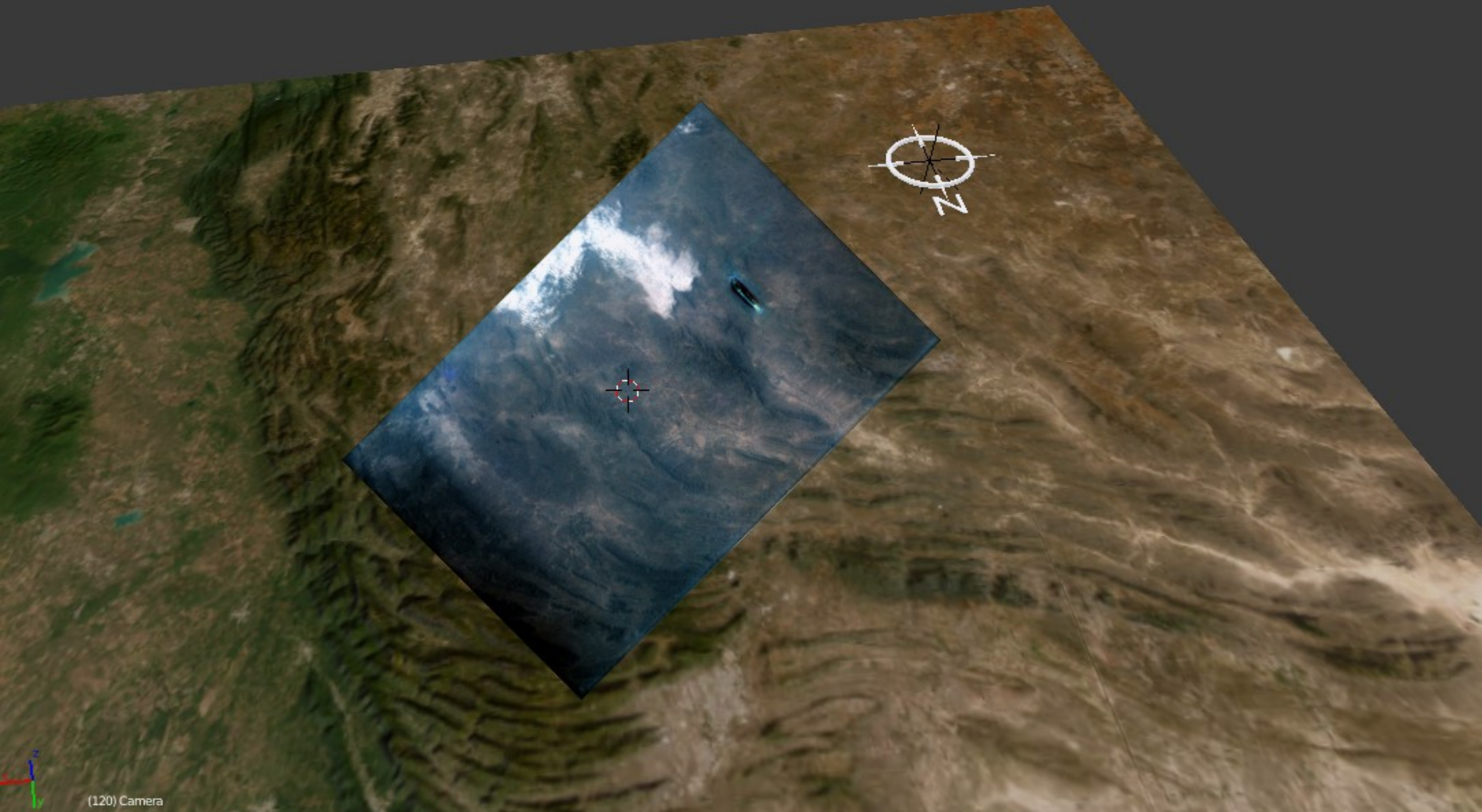
Bounds

X-Ray

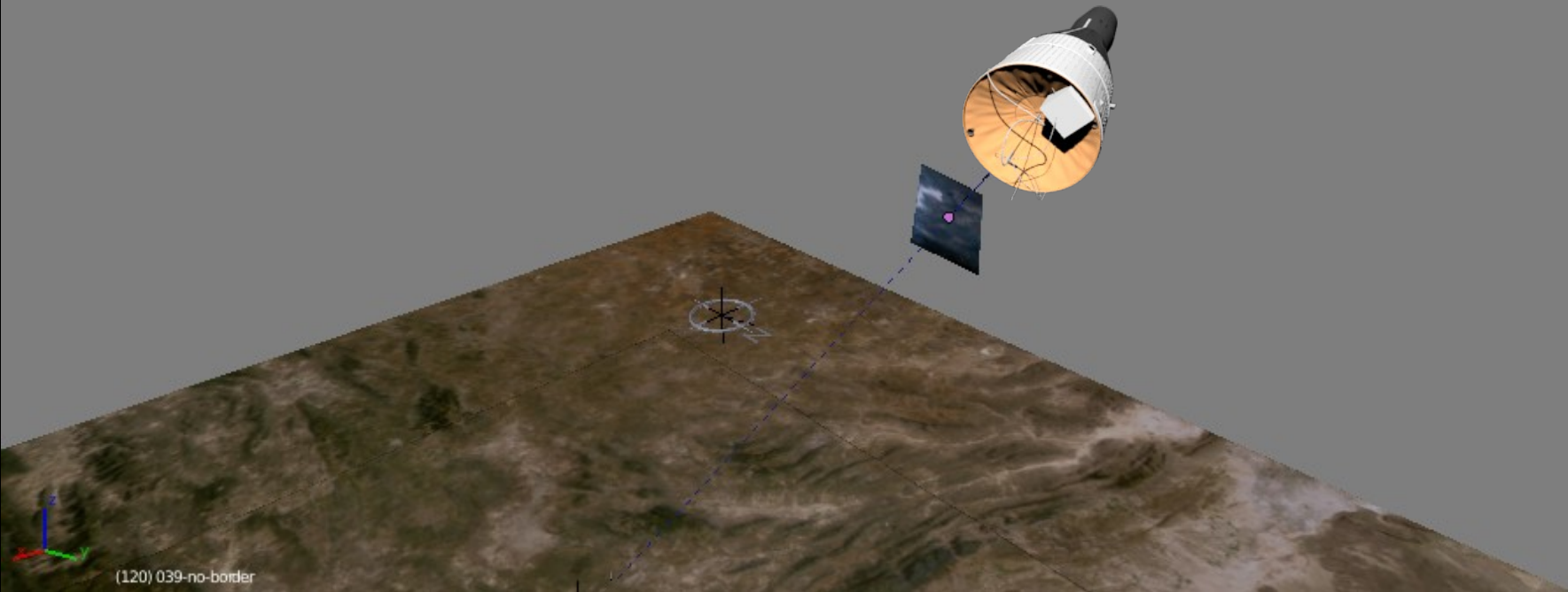
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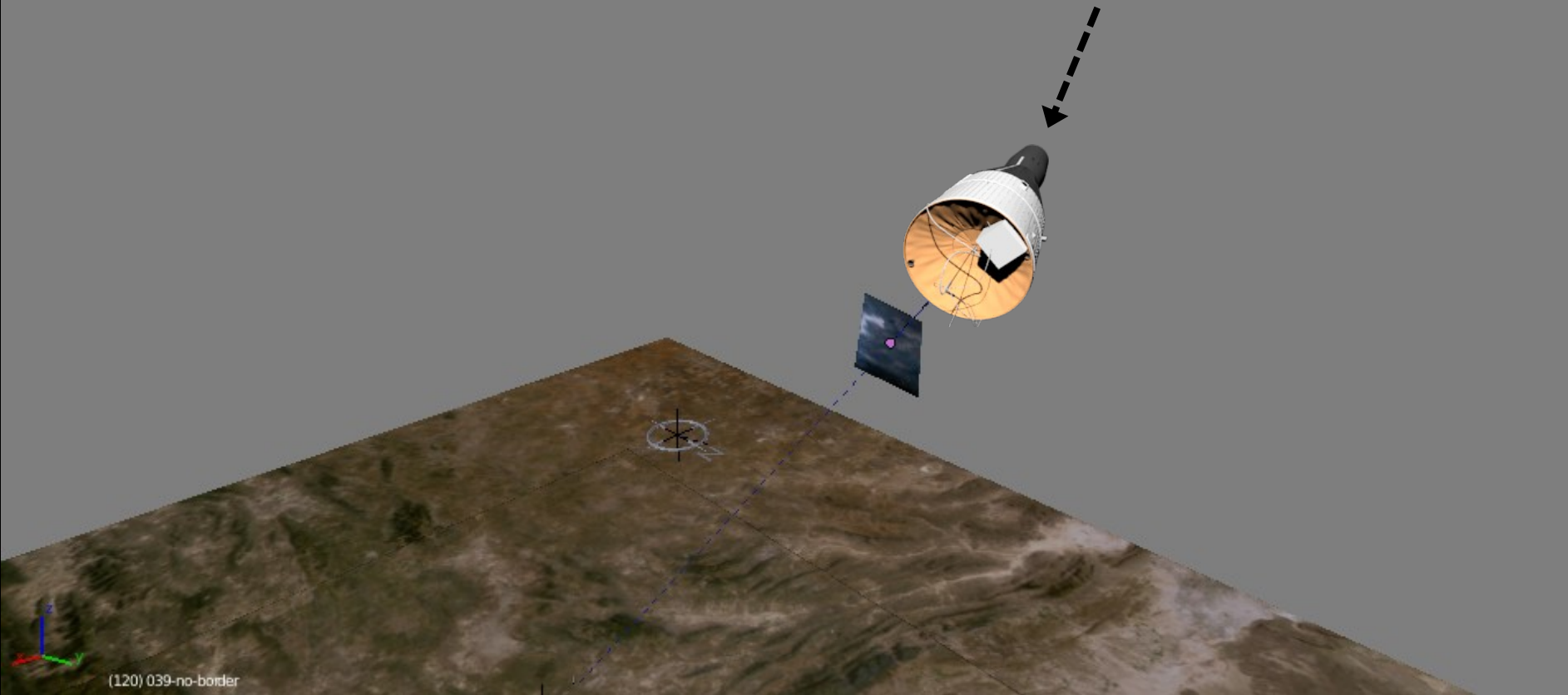


User Persp



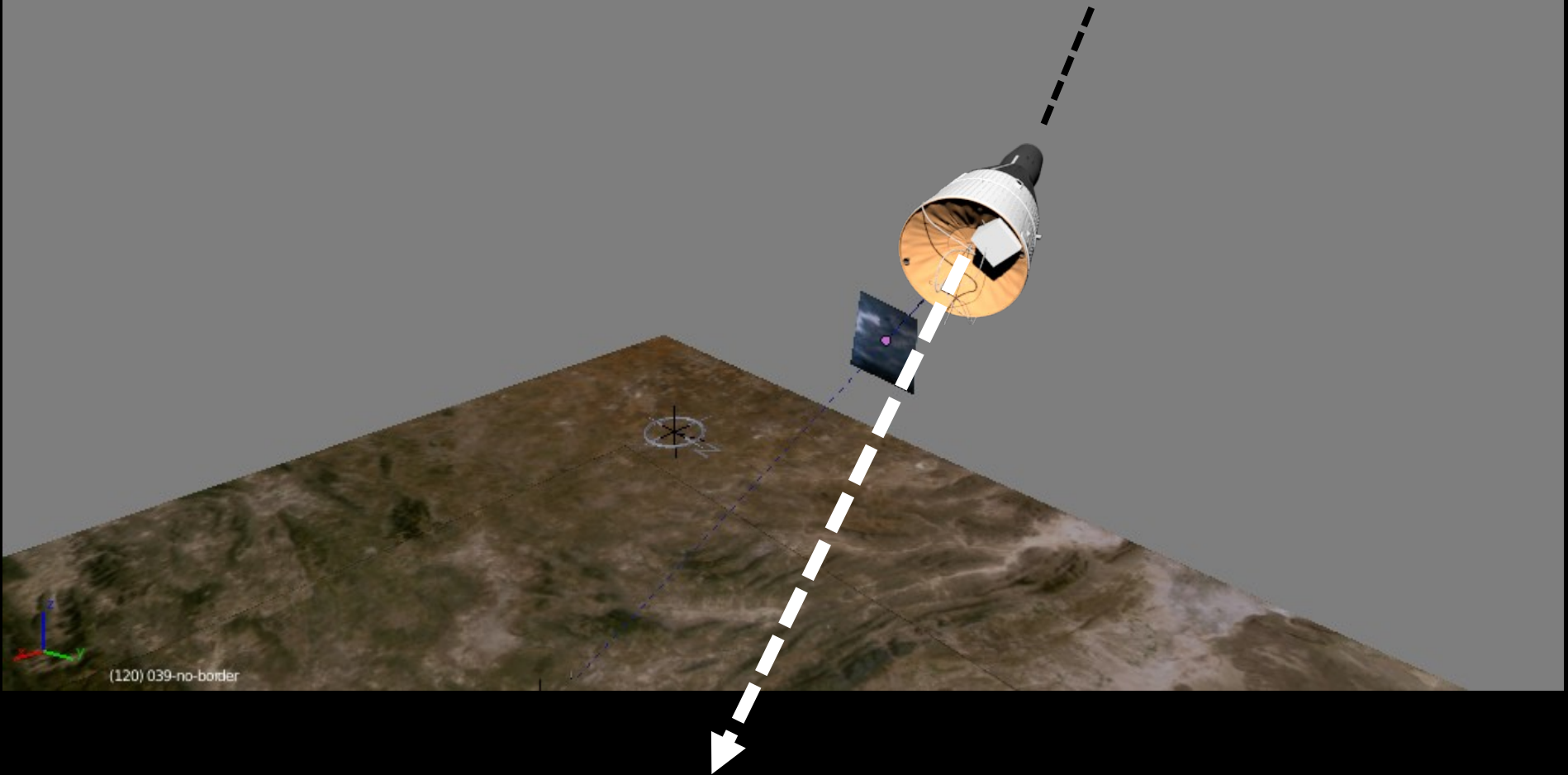
(120) 039-no-border

User Persp



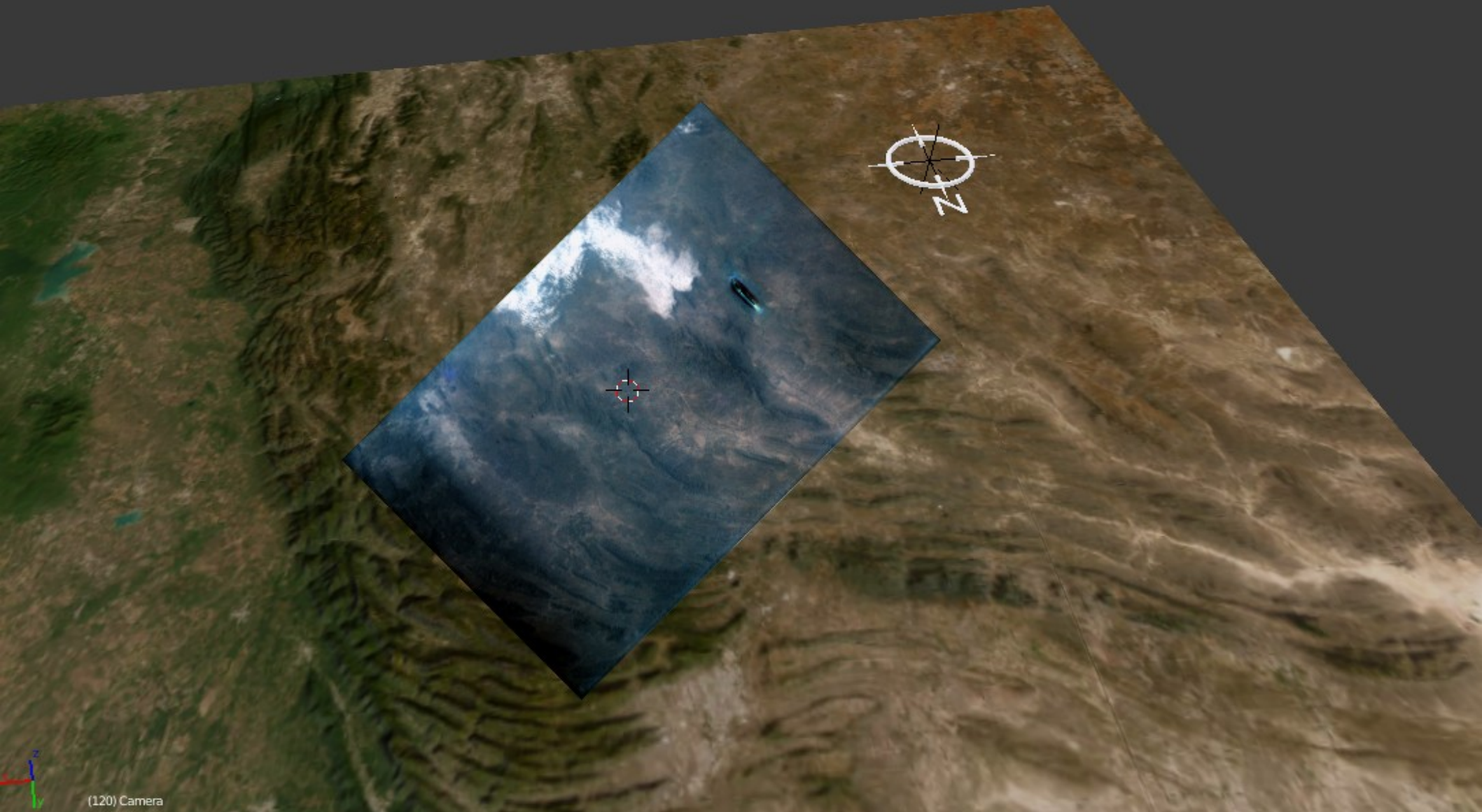
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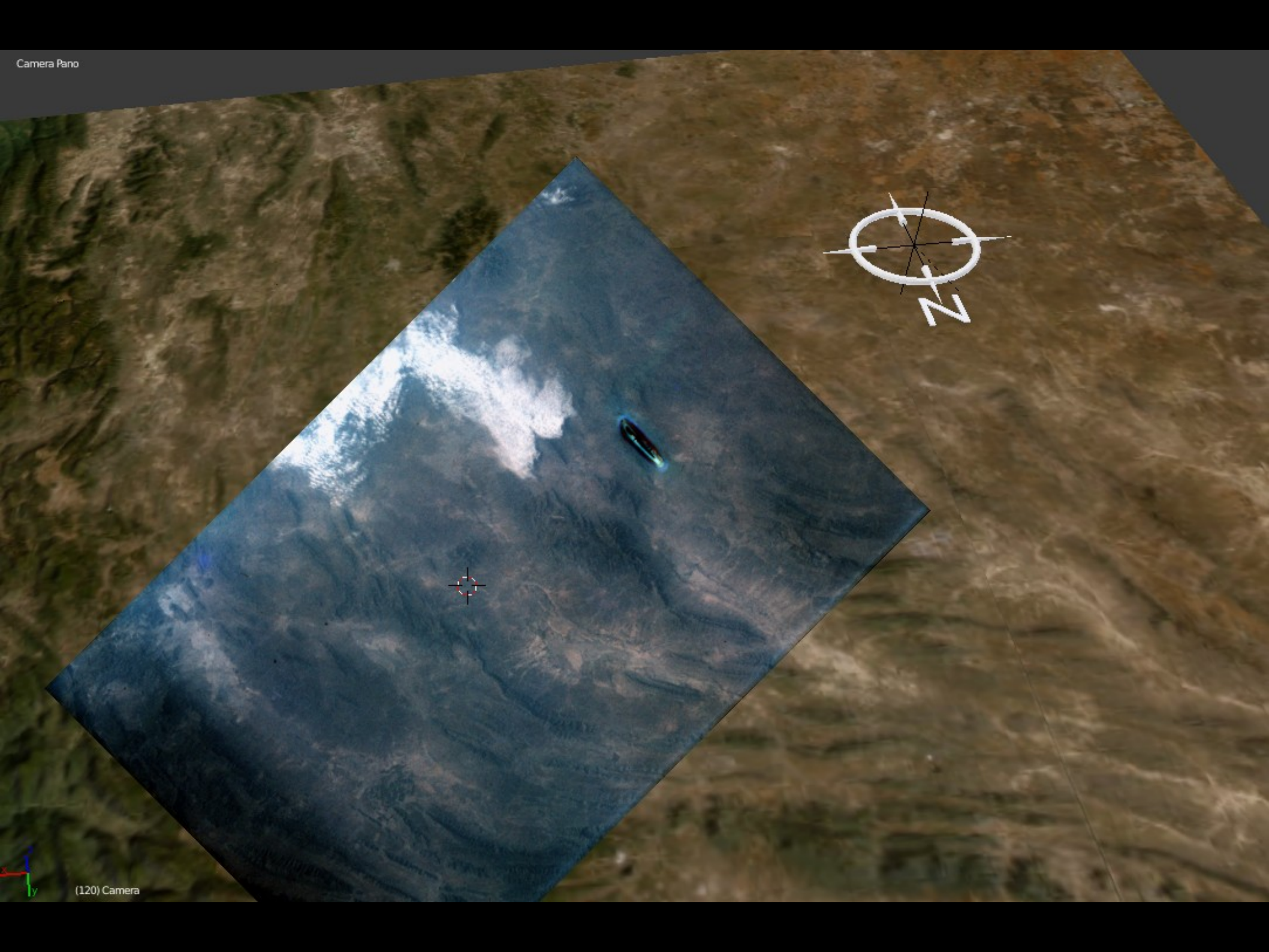
User Persp



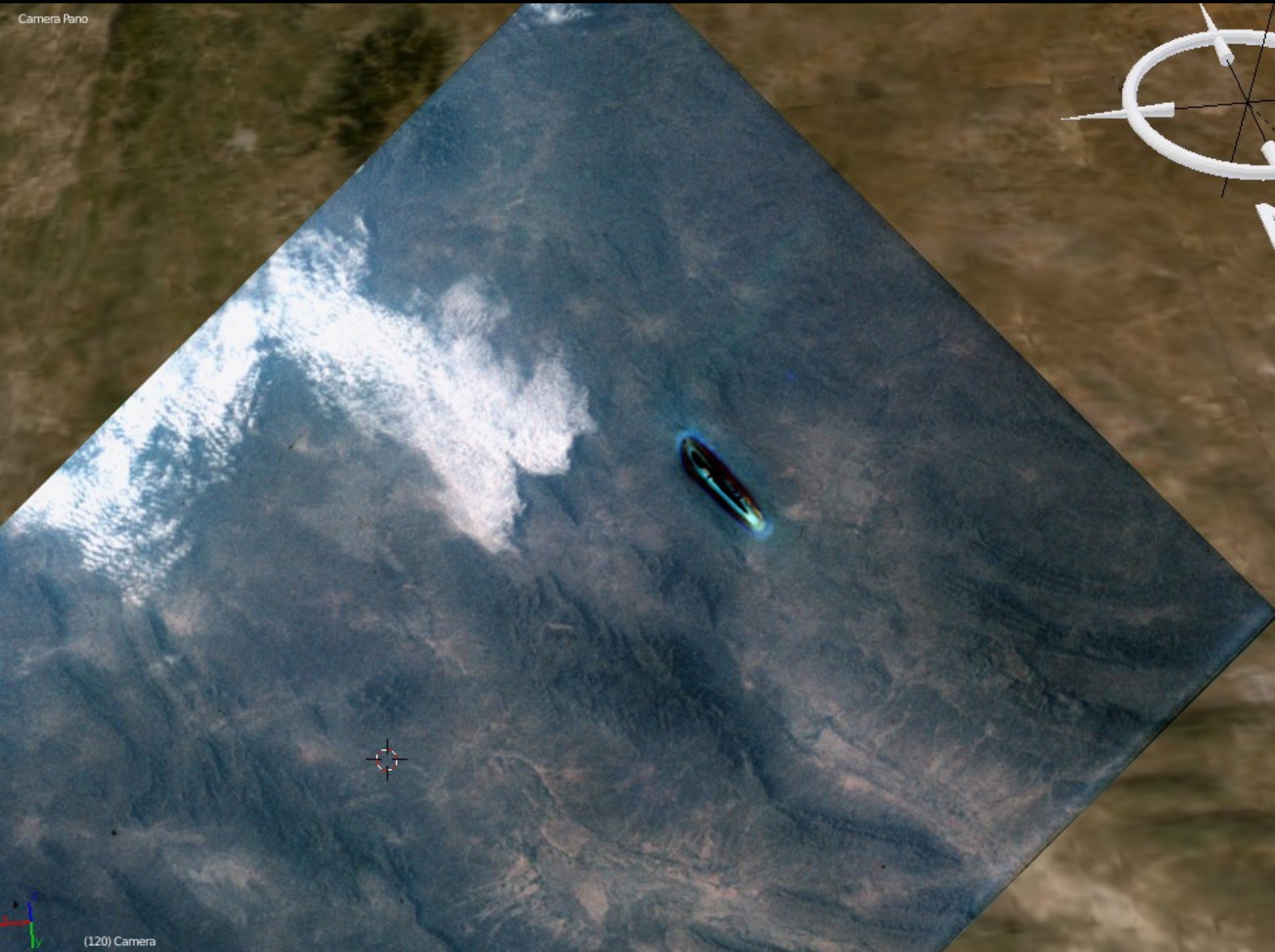
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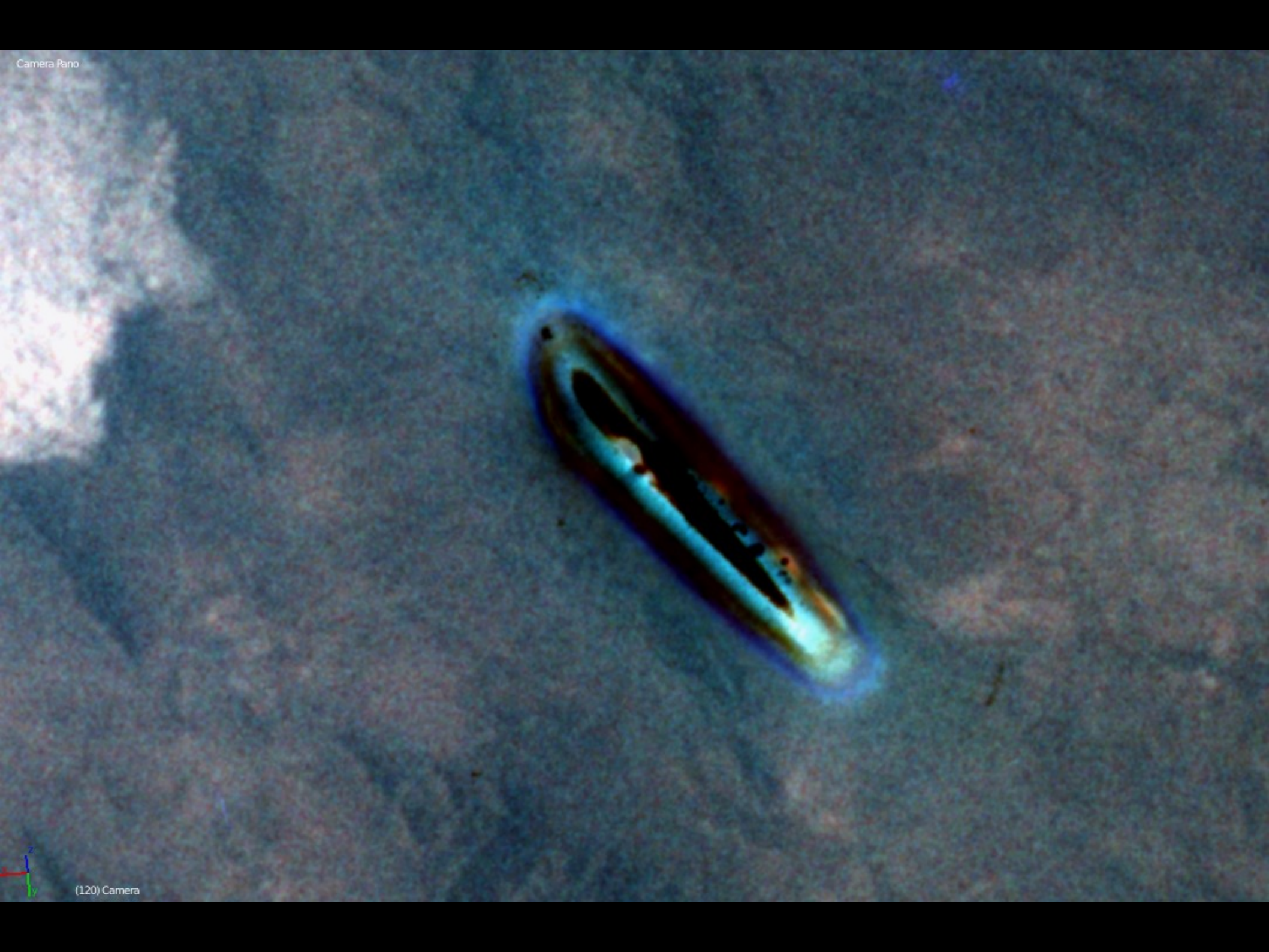




Camera Pano

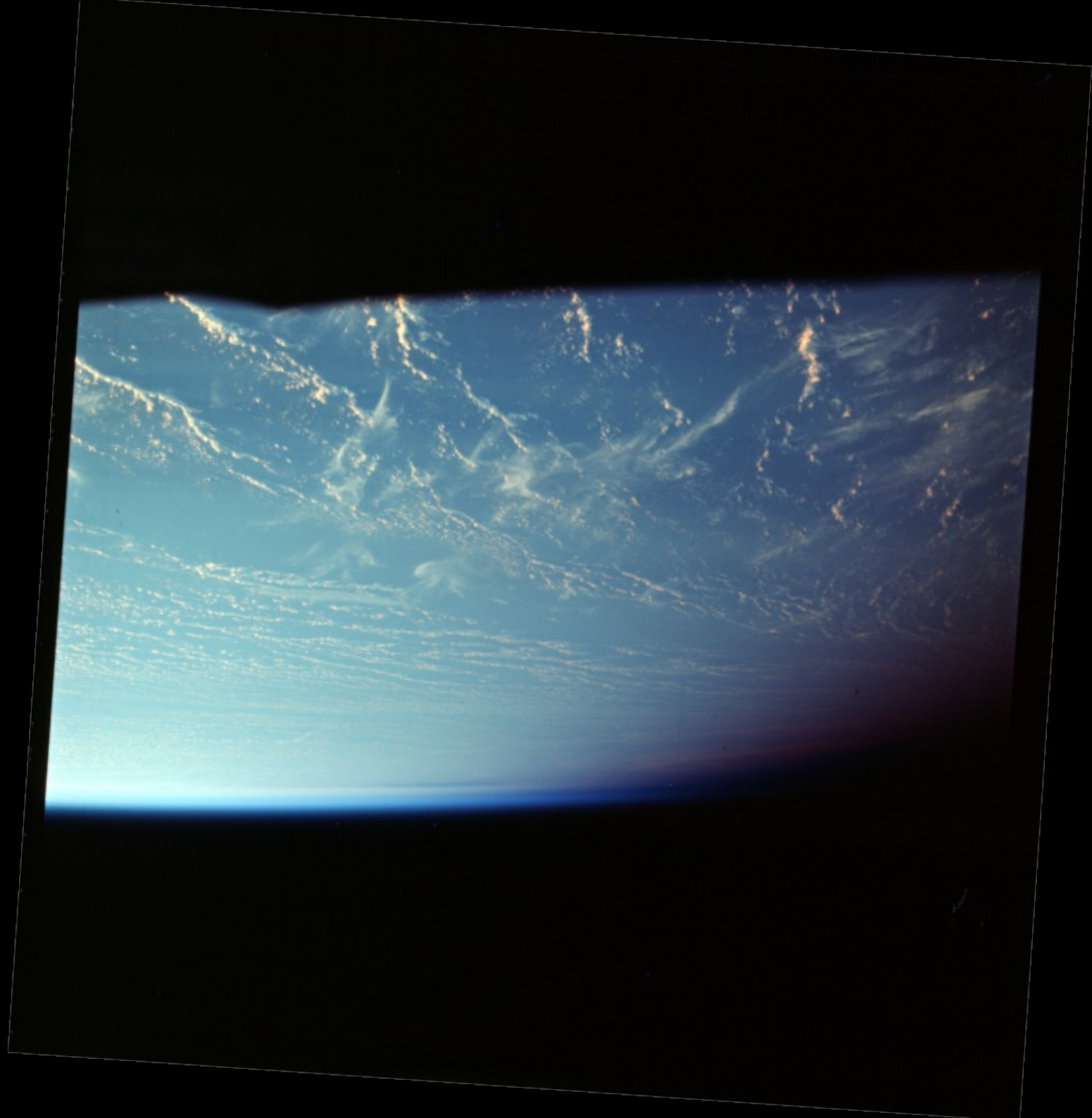


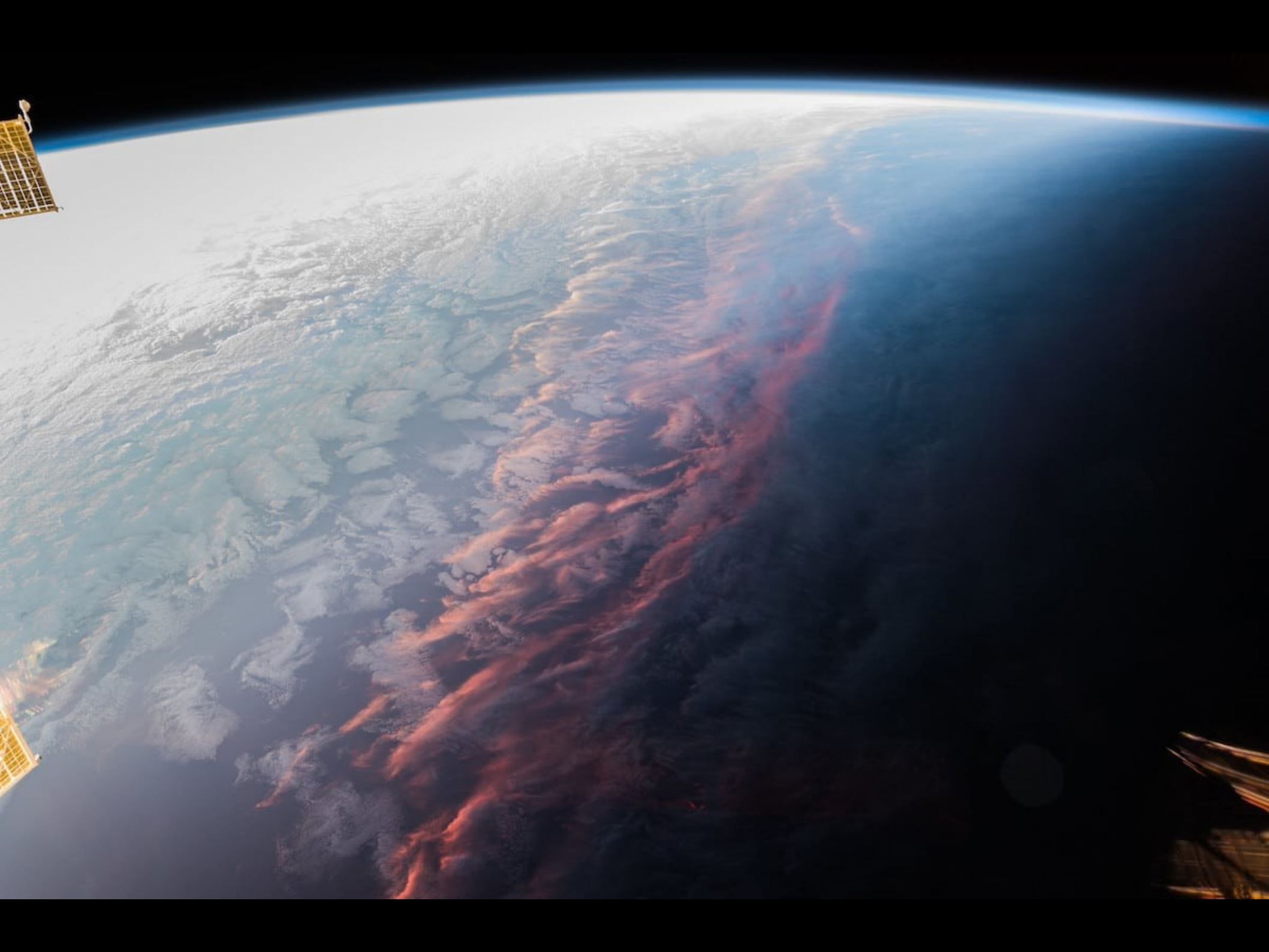
(120) Camera

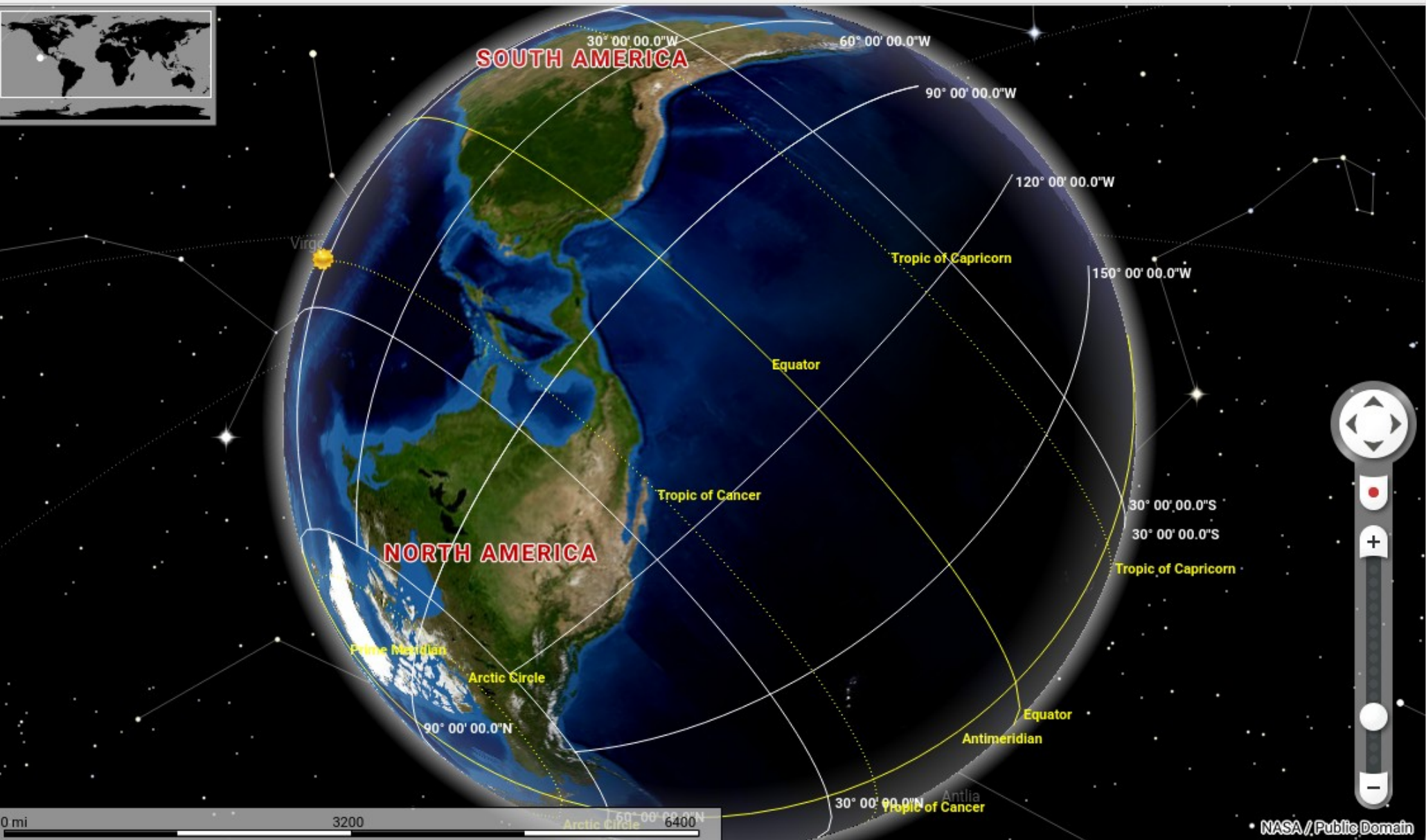
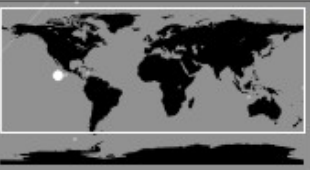


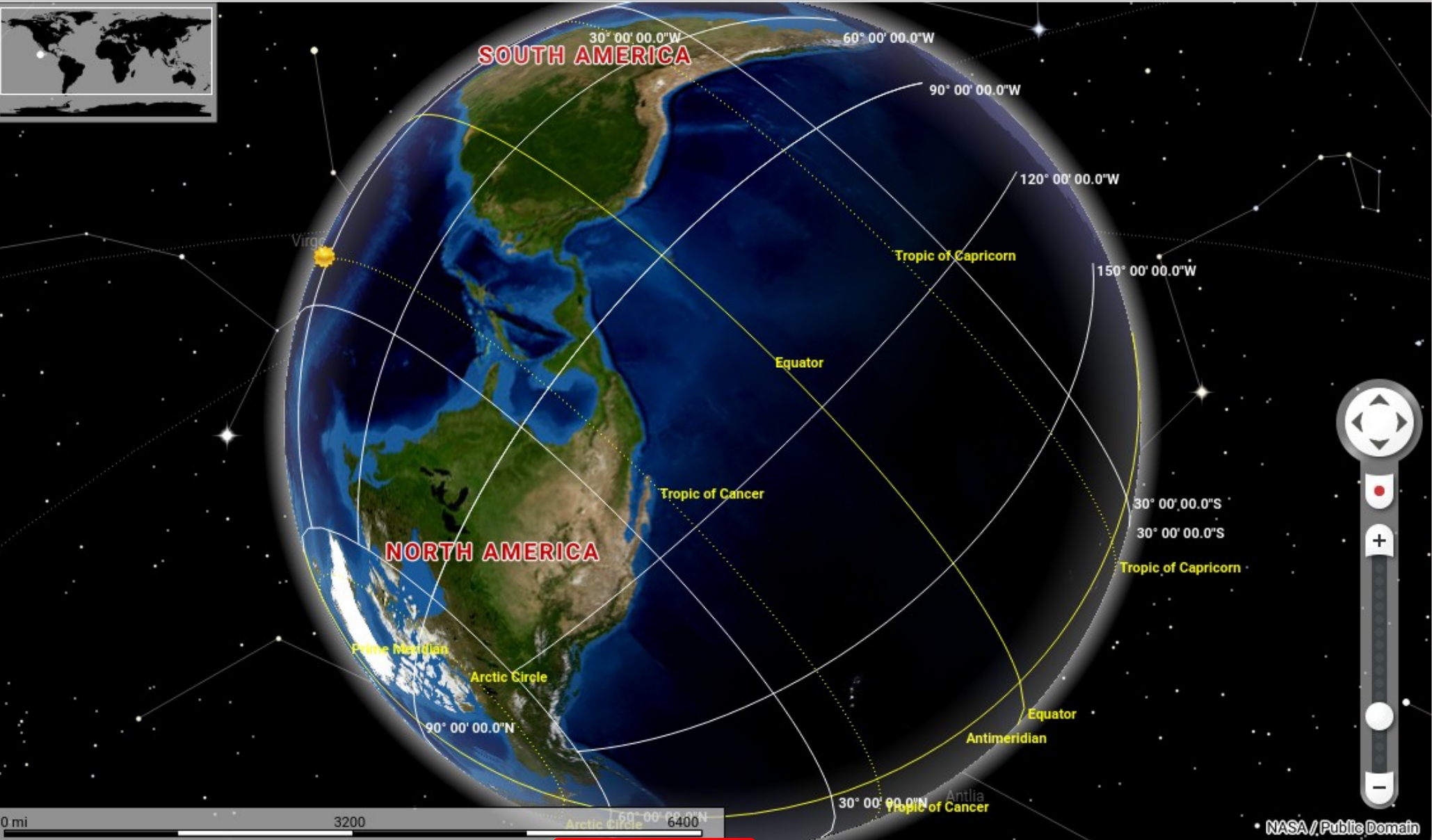












Arctic Circle

0° 00' 00.0"N

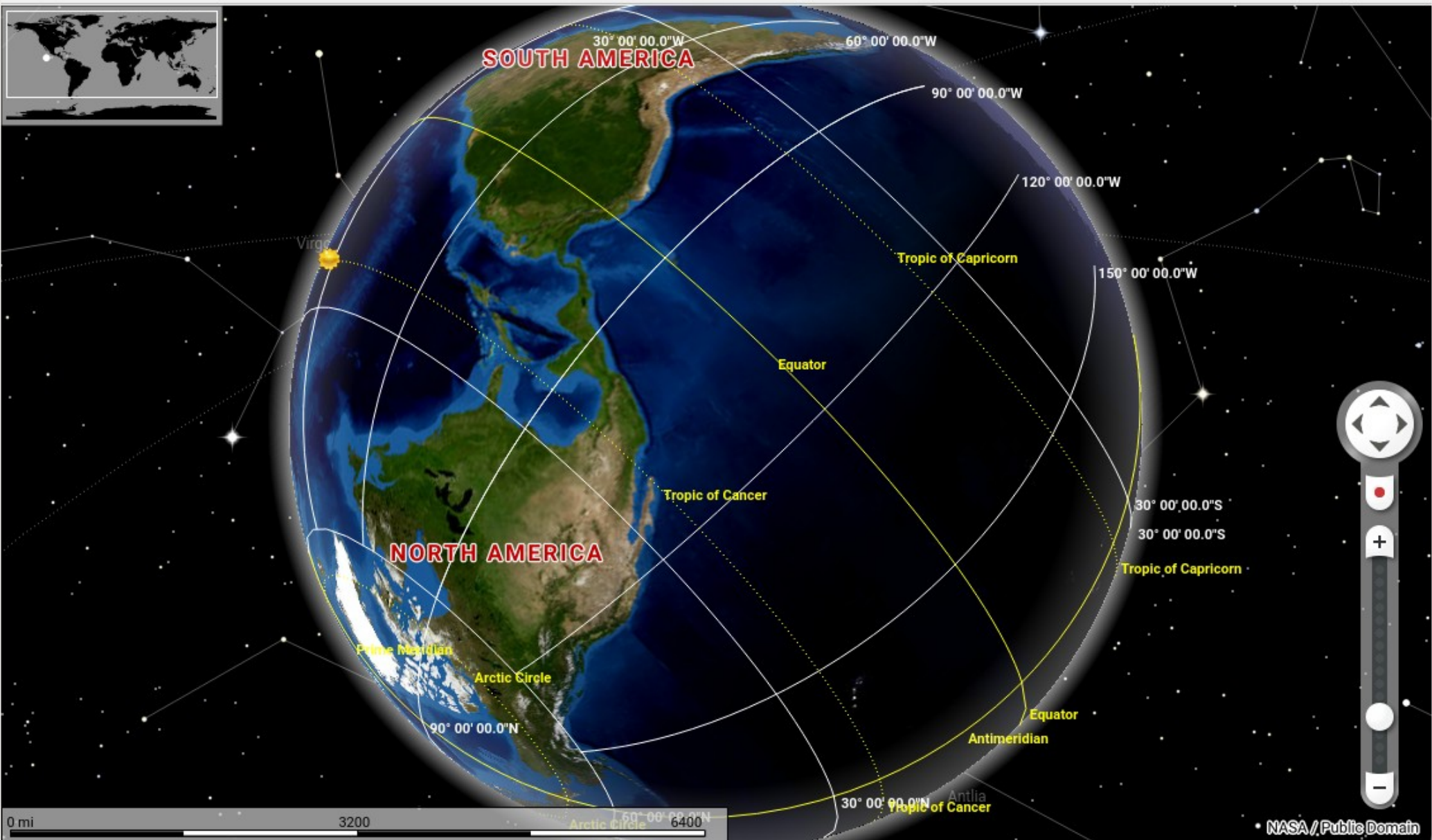
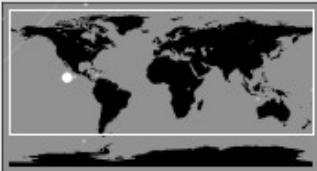
Arctic Circle

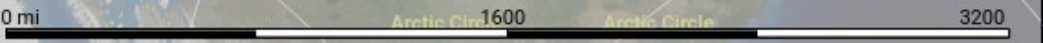
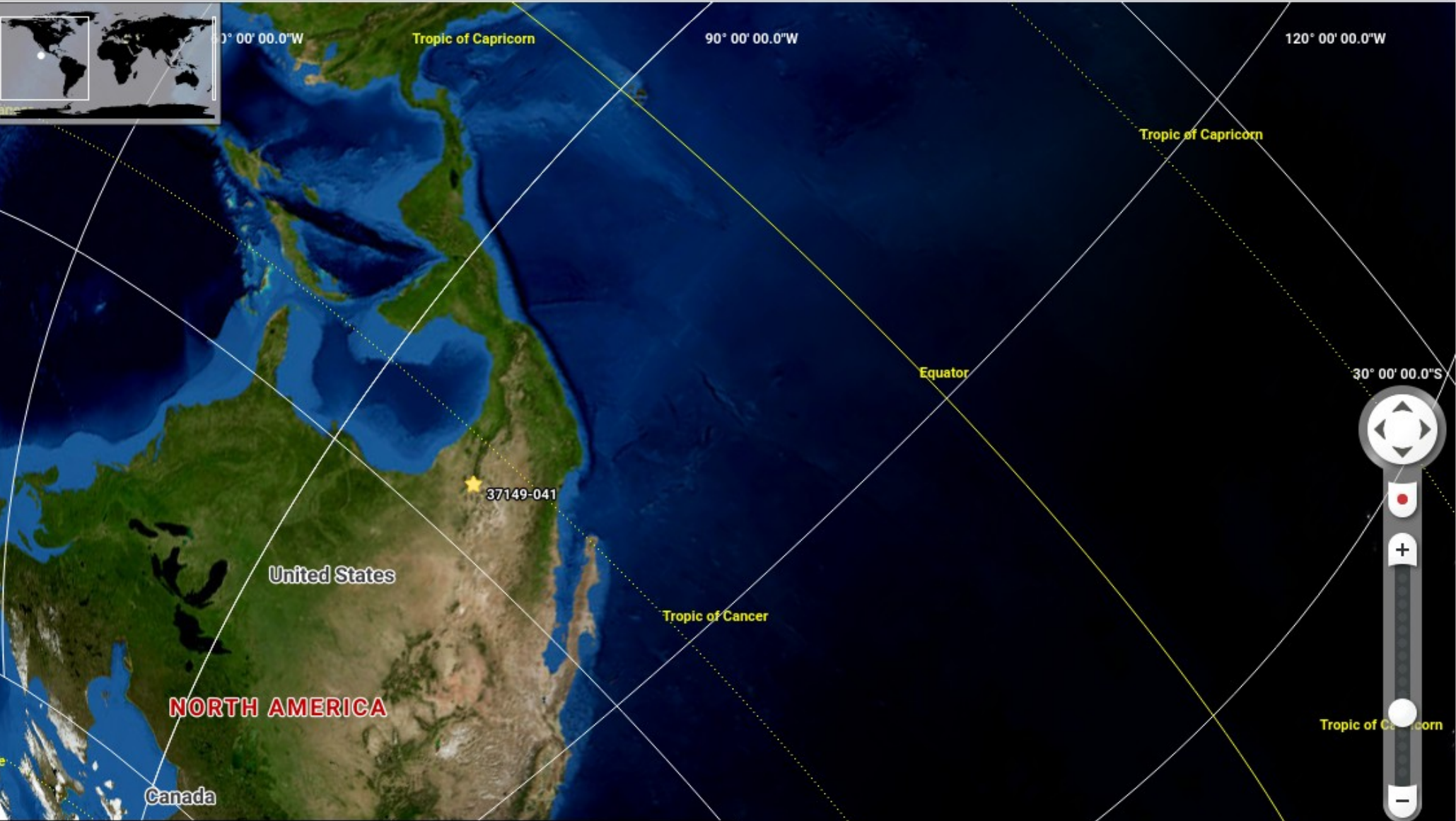
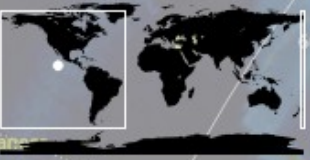
50° 00' 00.0"N

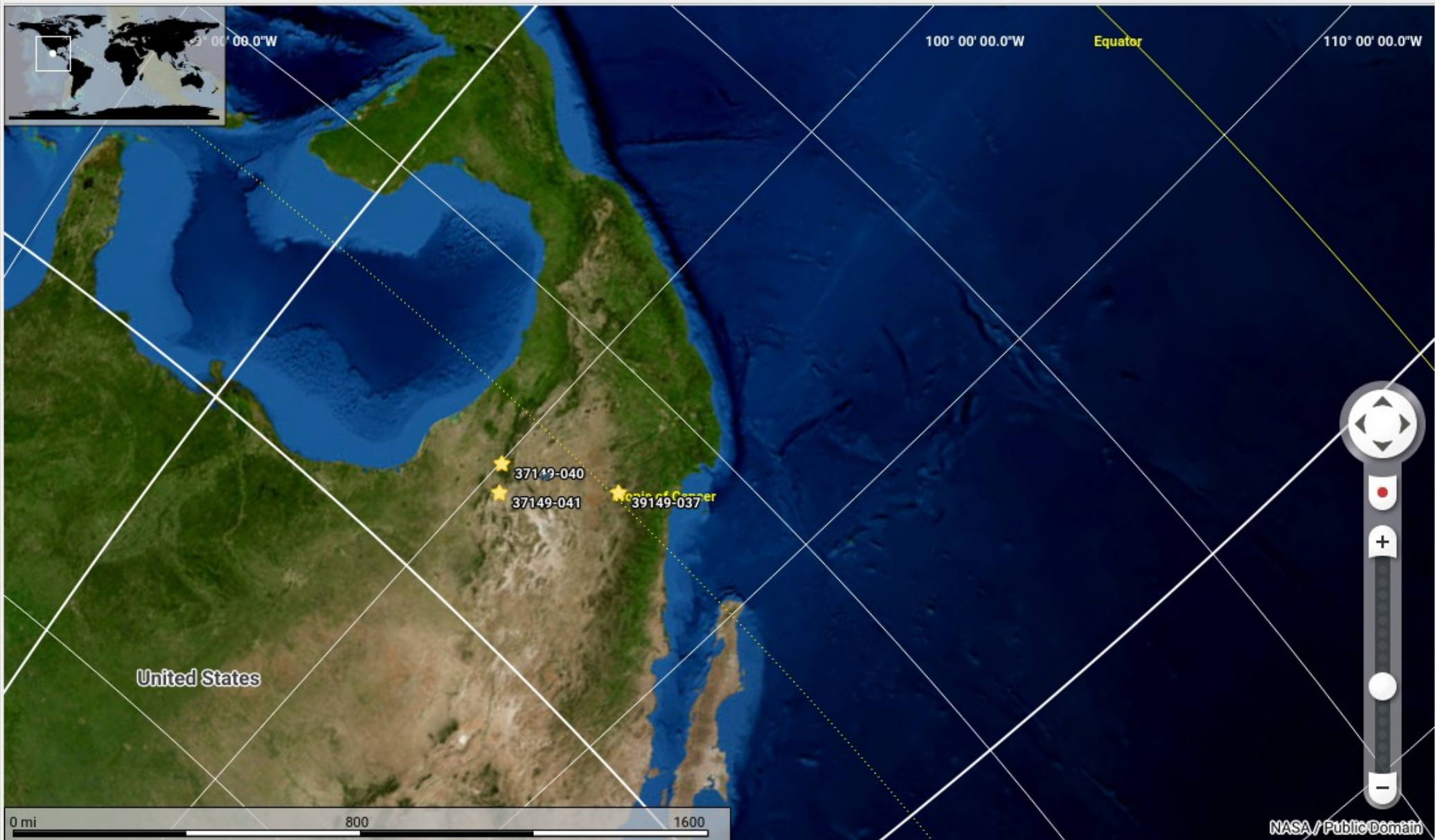
6400

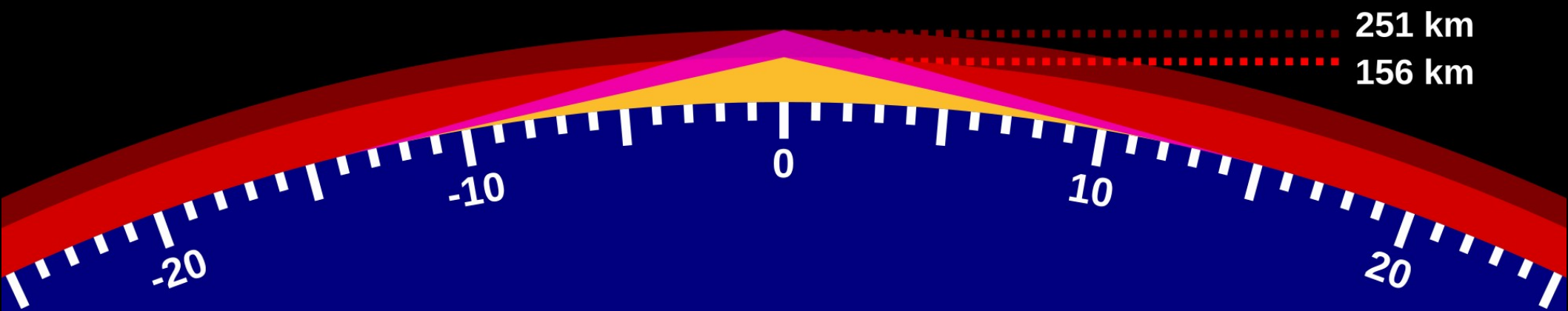
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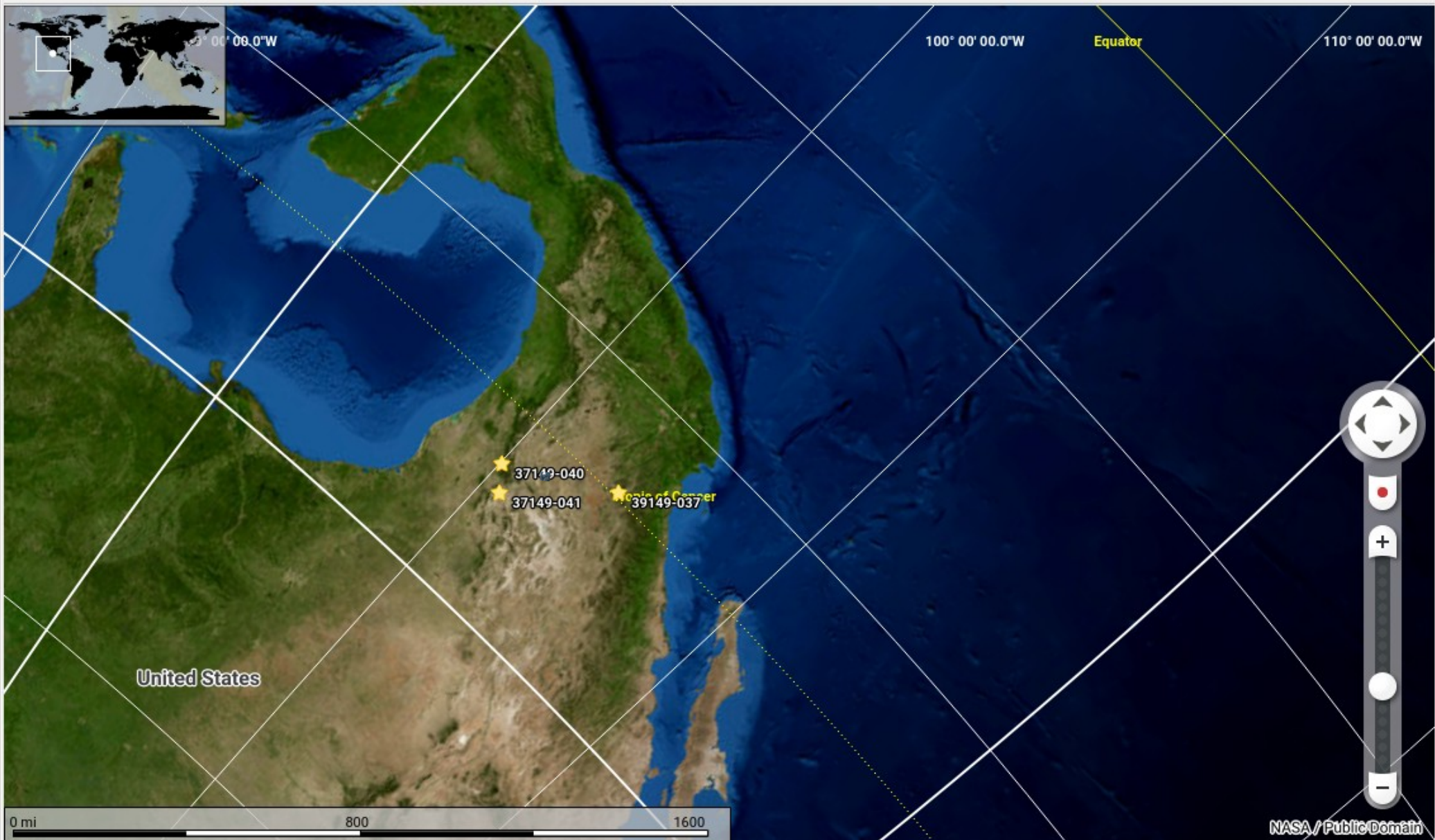
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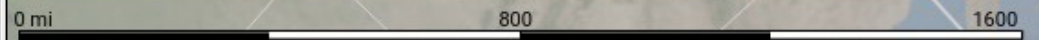
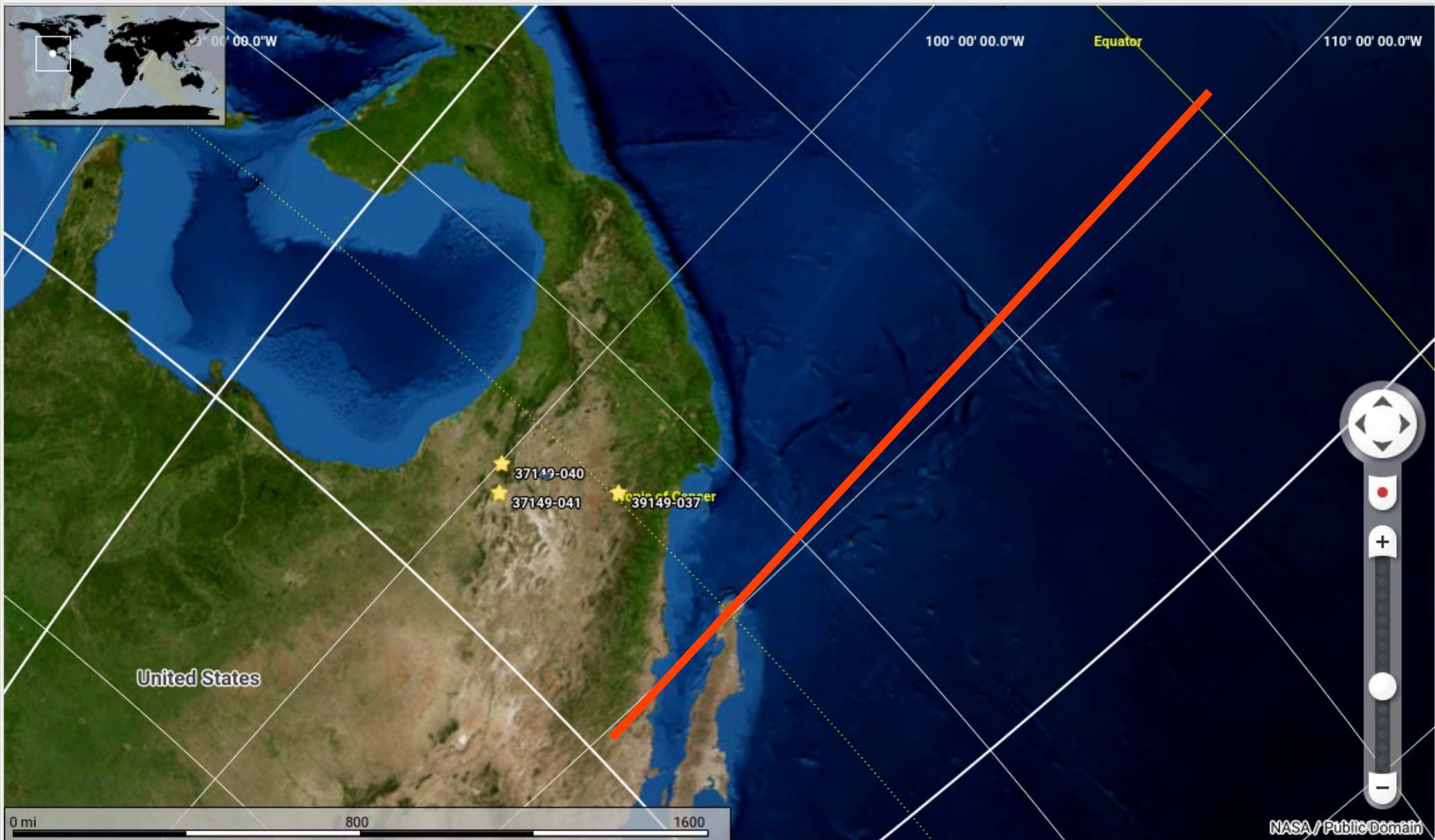


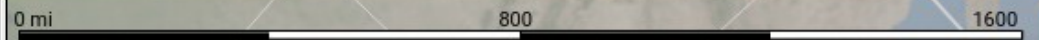
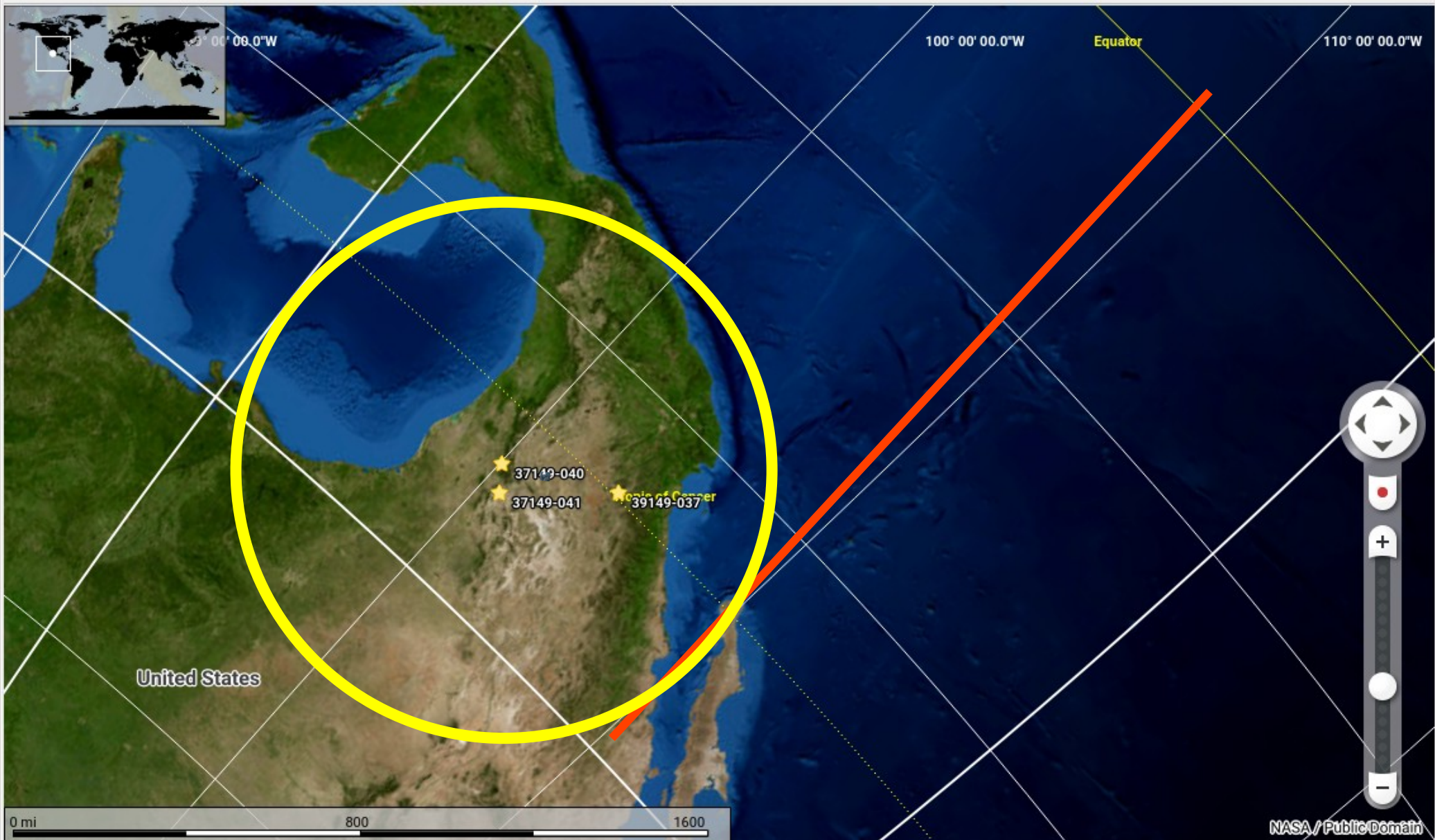


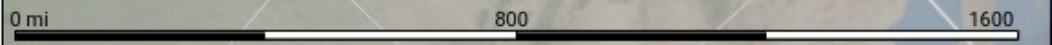
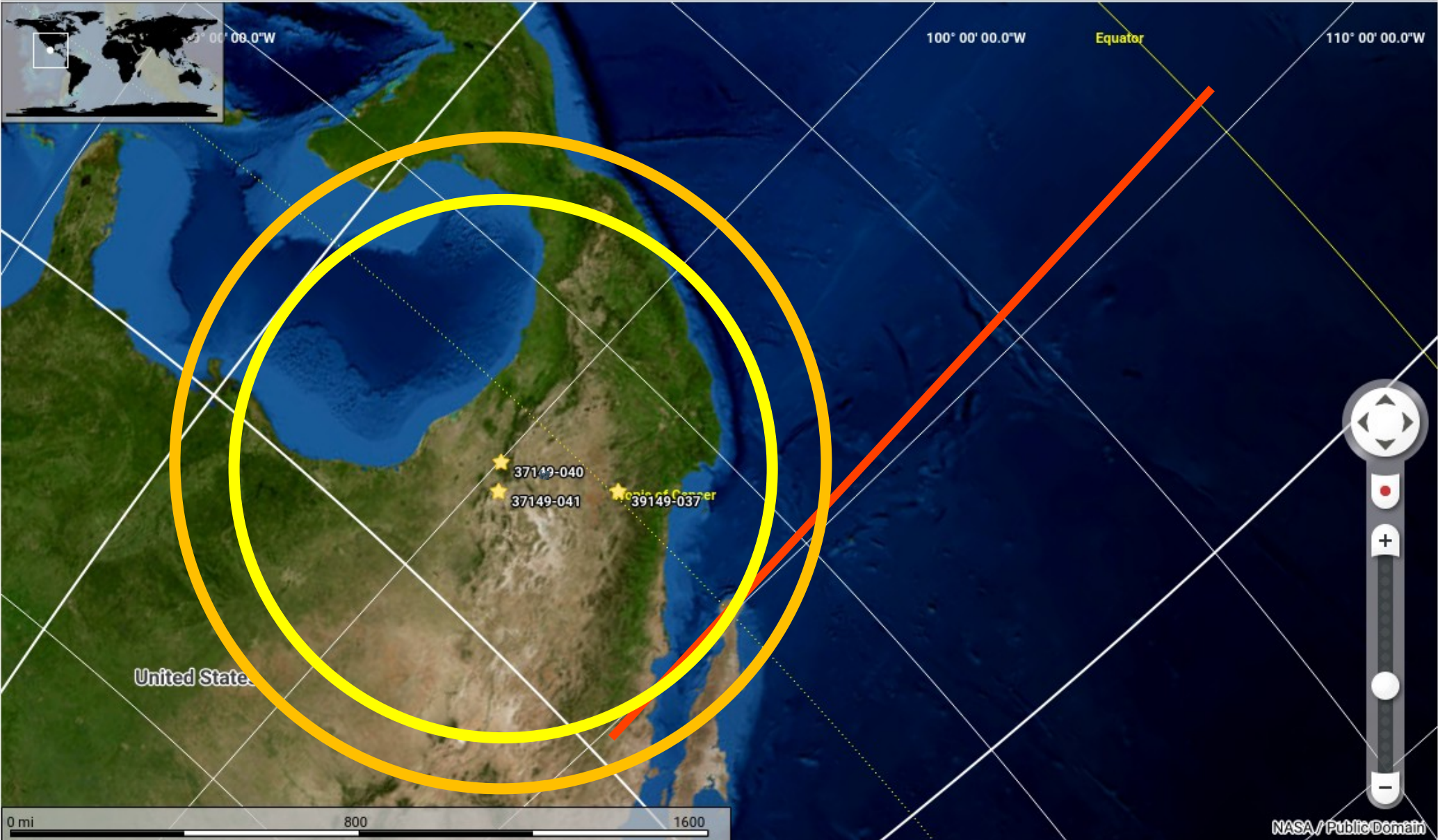


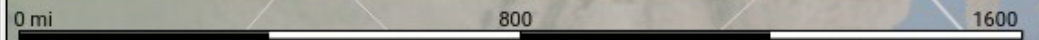
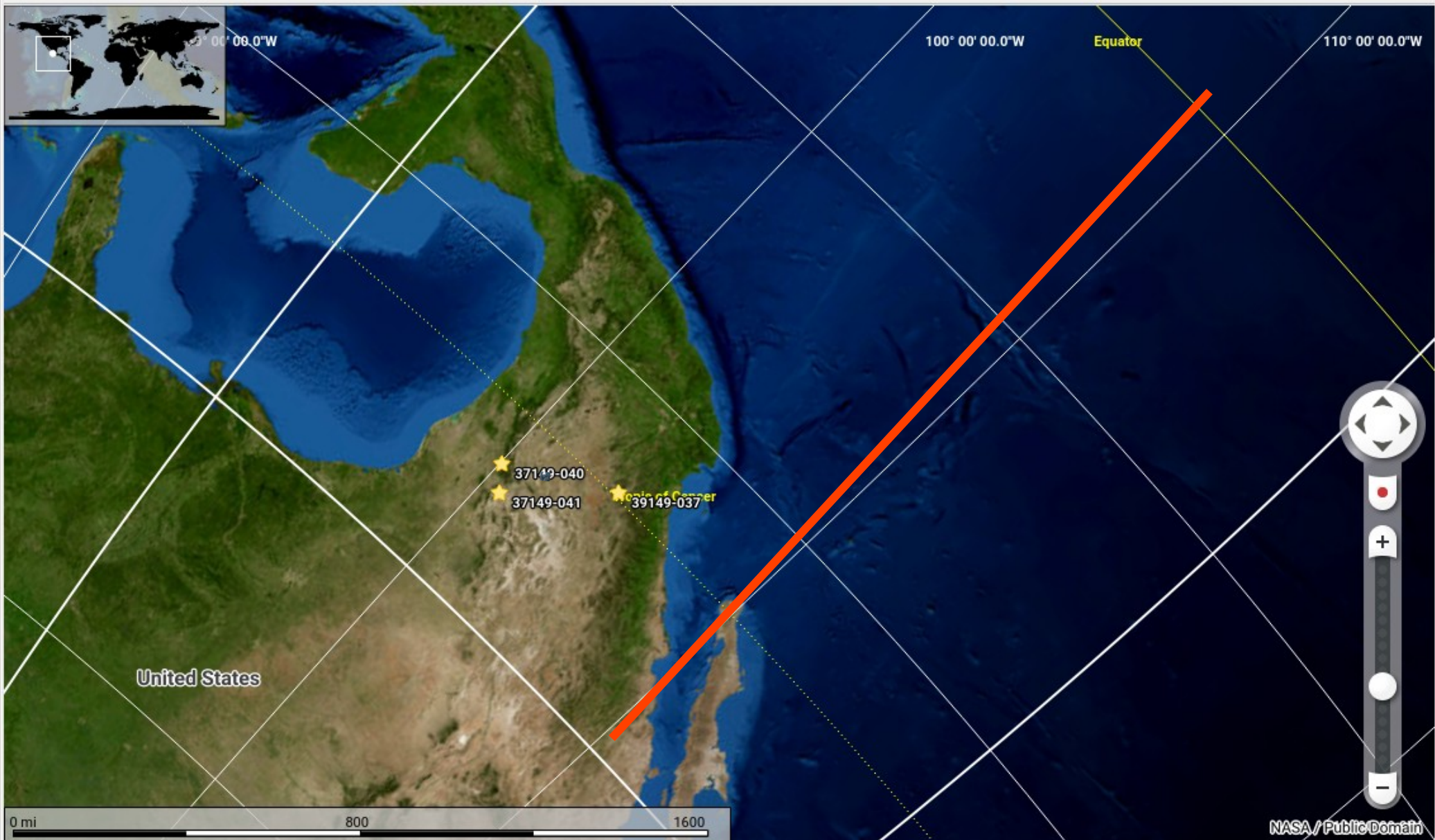
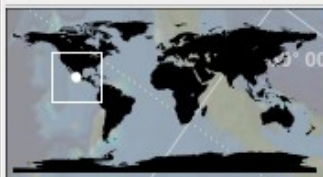












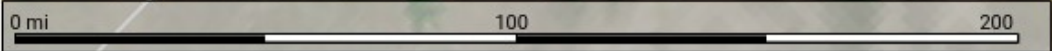


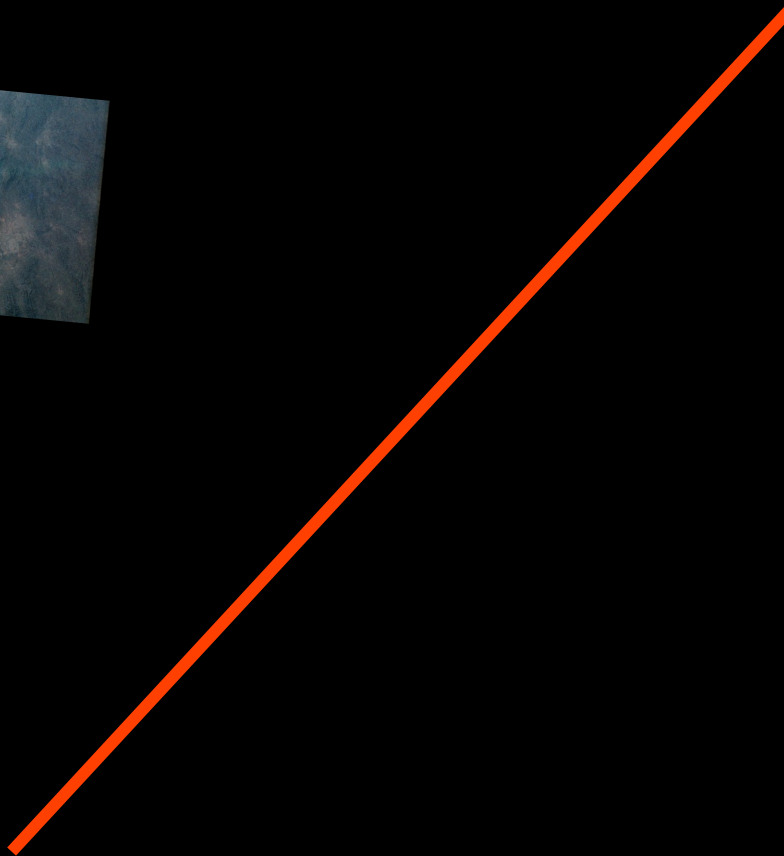
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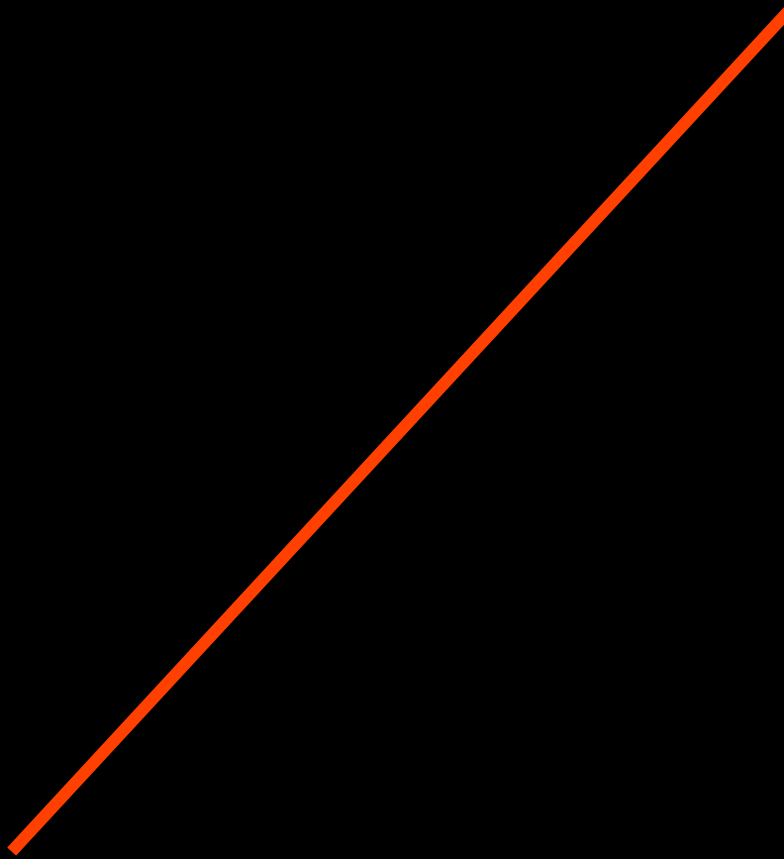
NASA / Public Domain

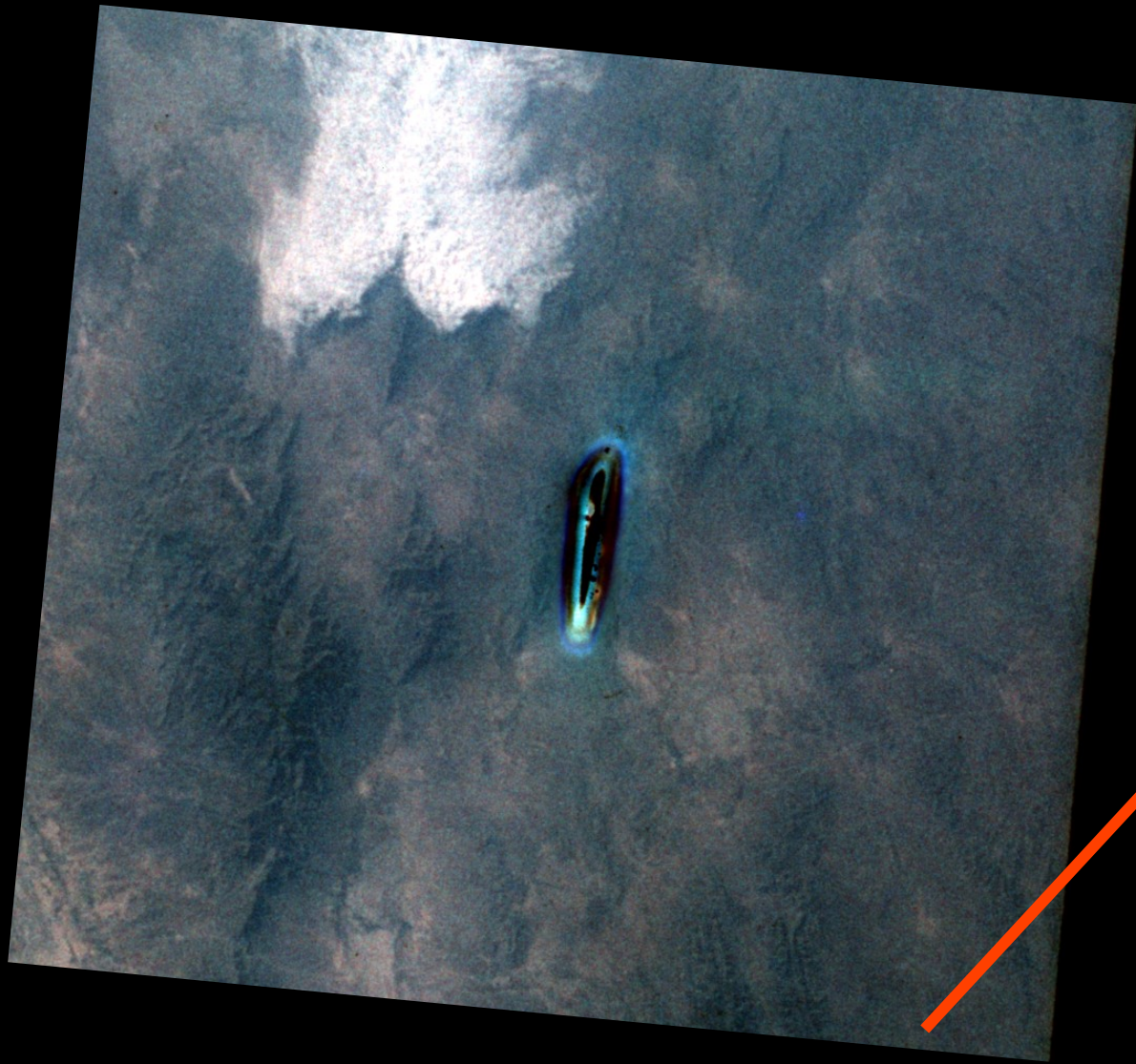


NASA / Public Domain

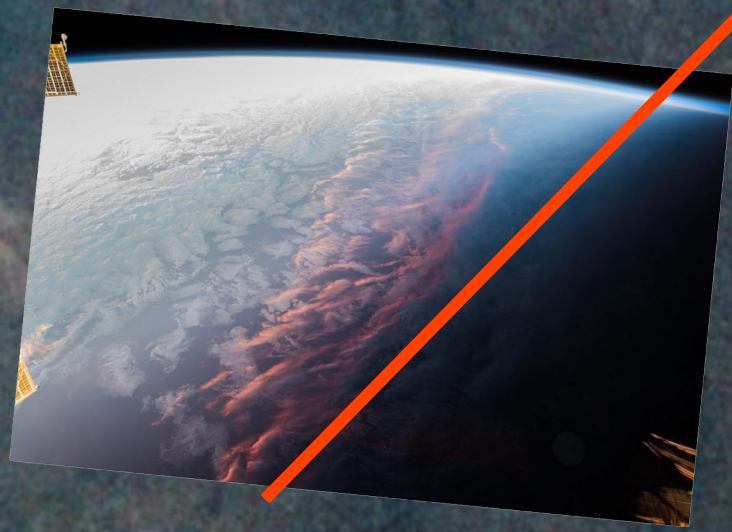
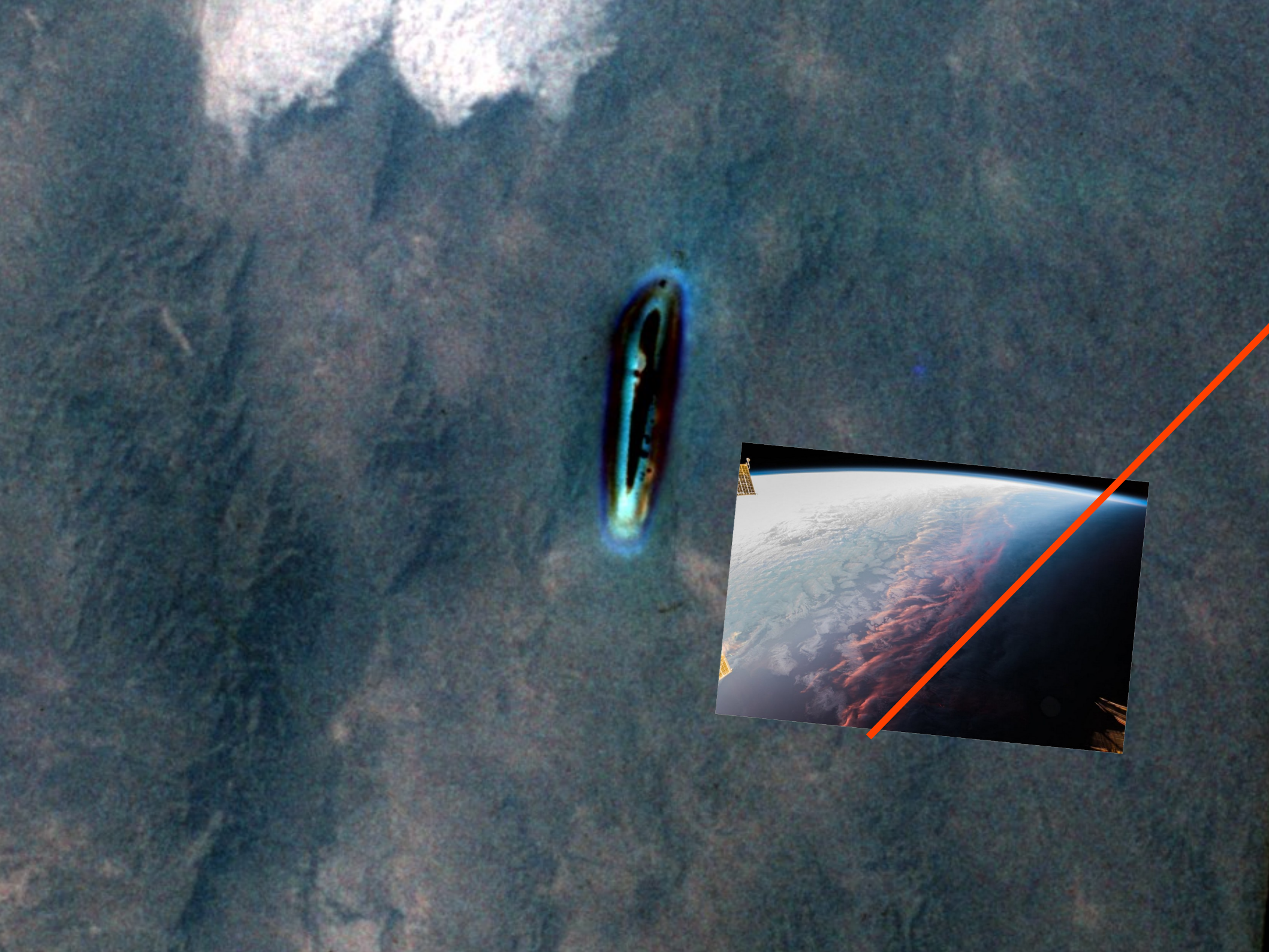


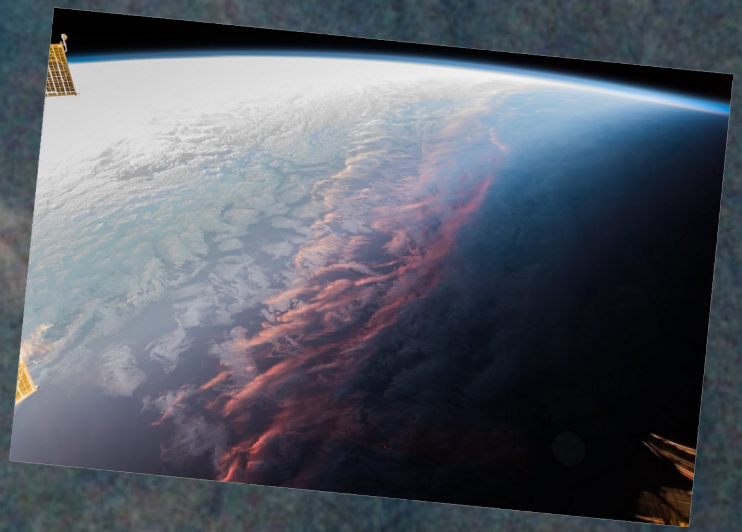
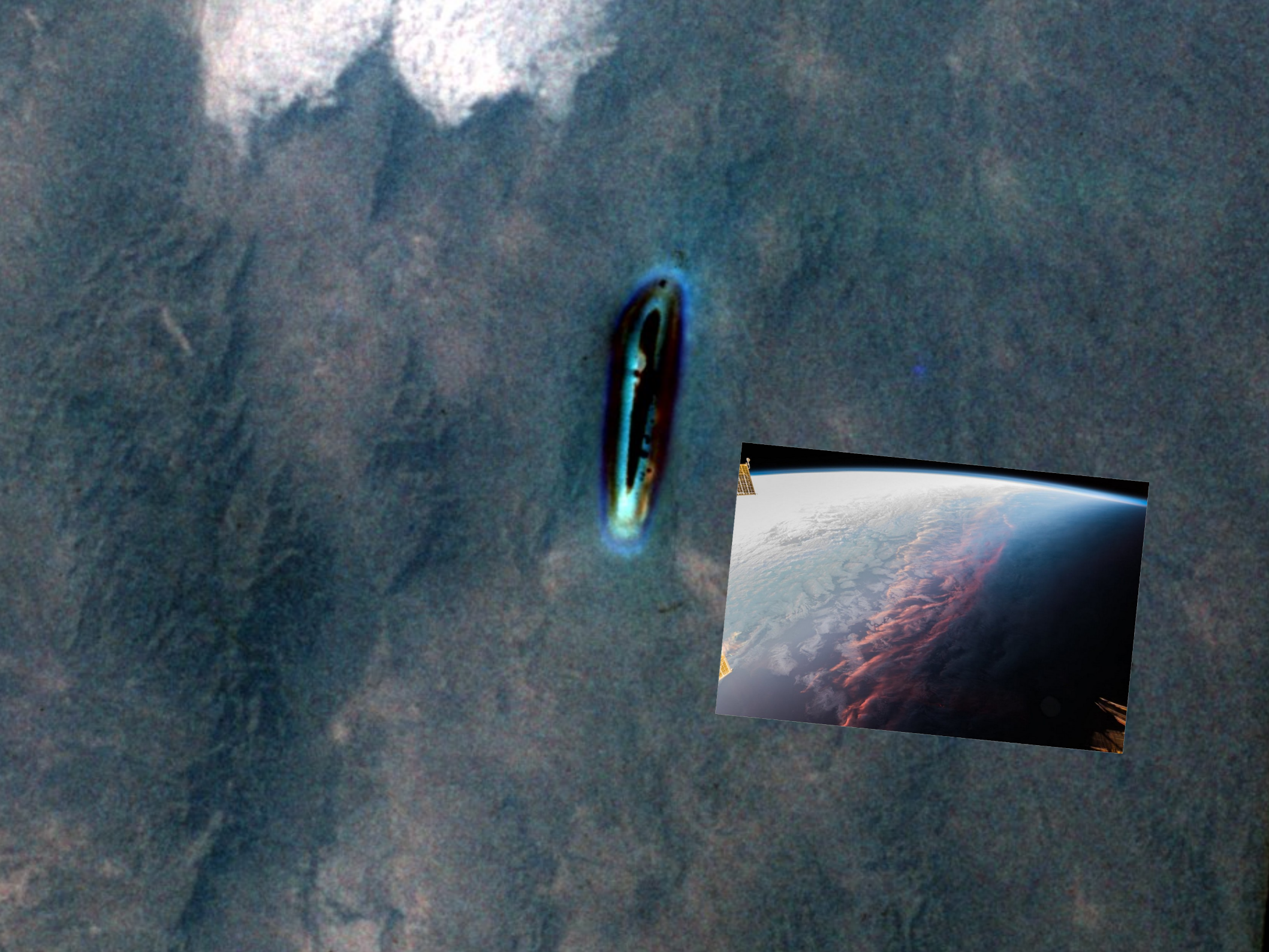


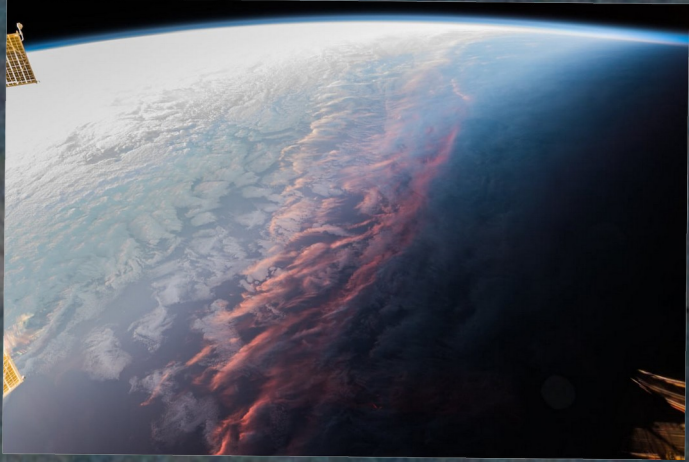


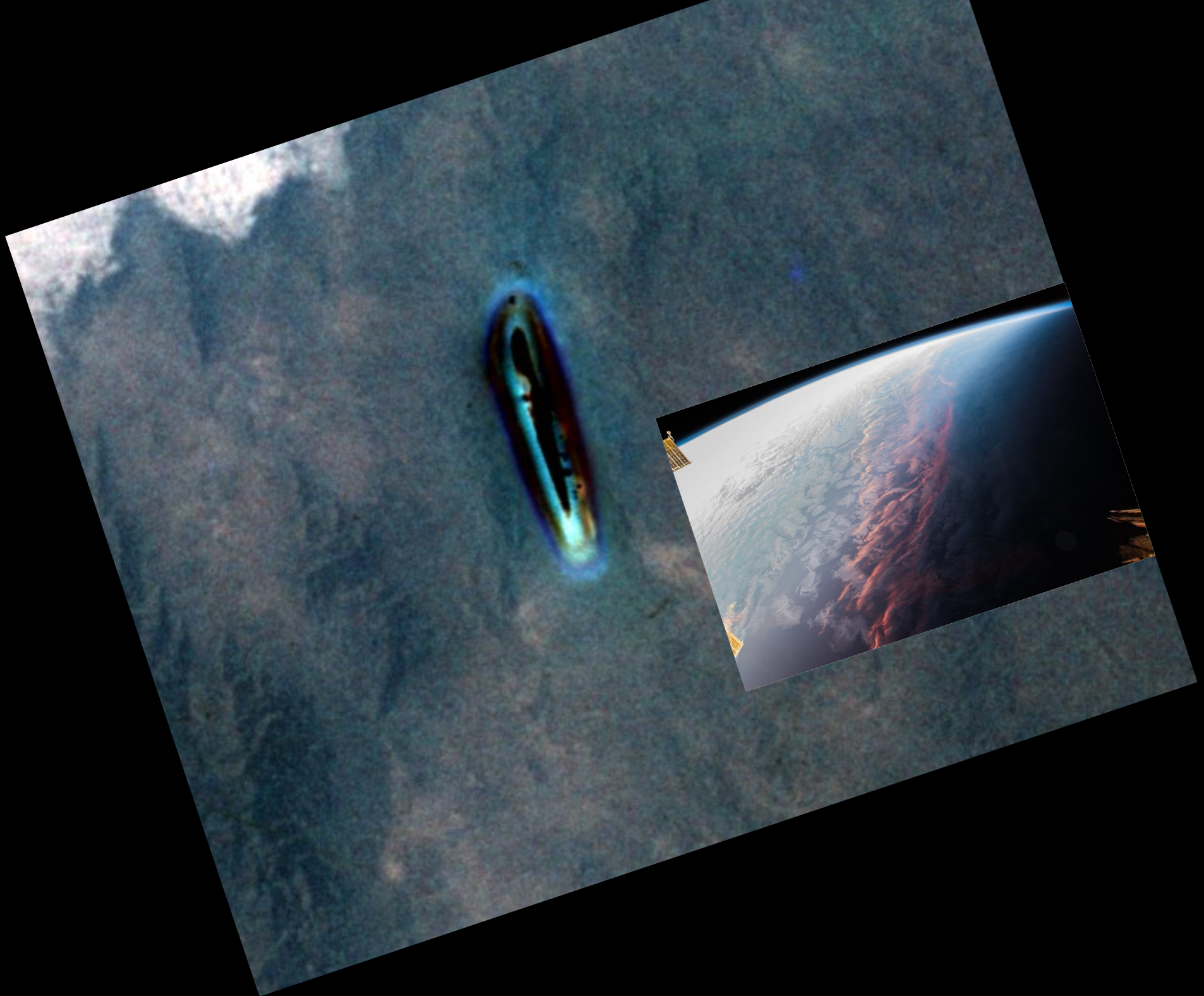


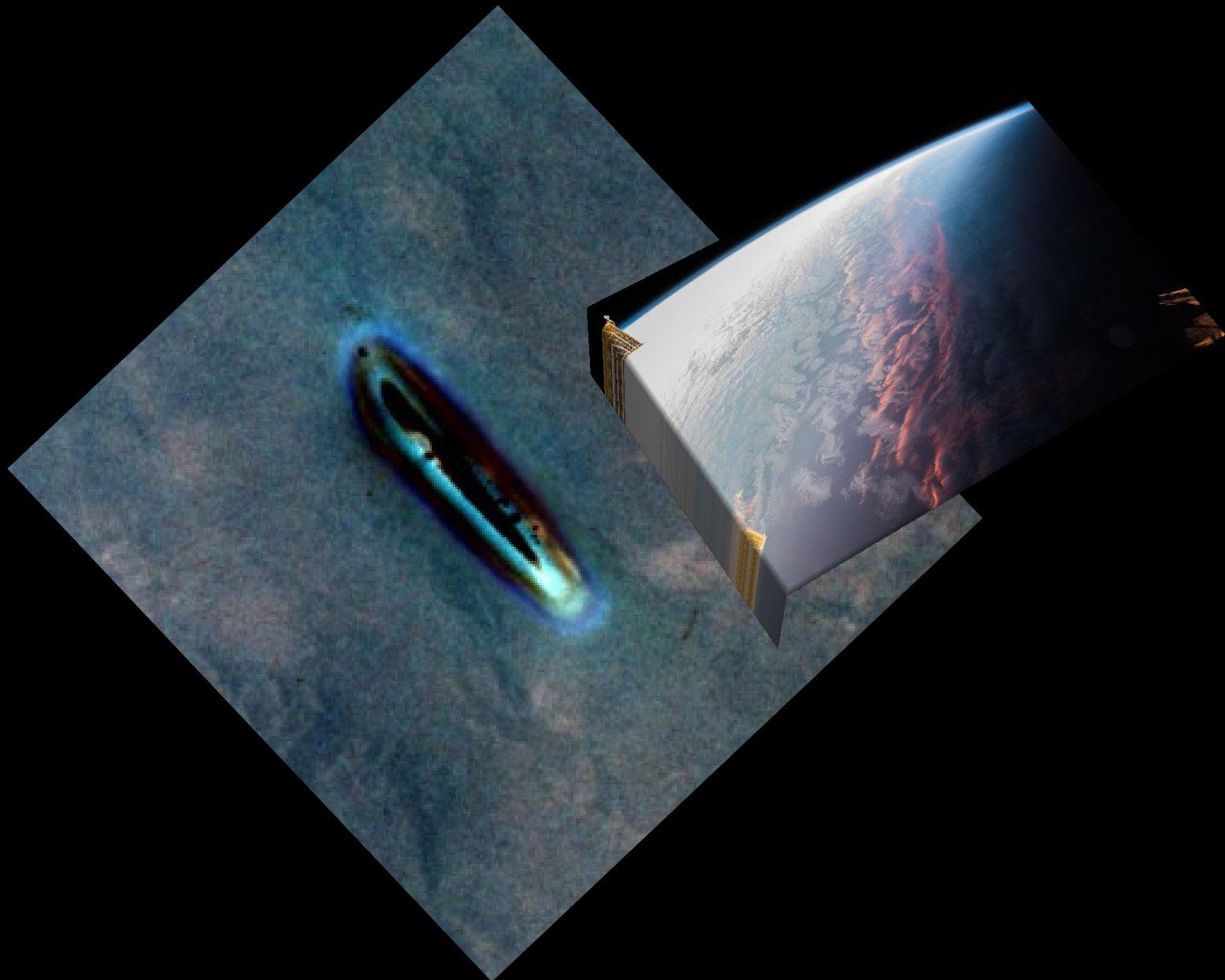














Tree Style Tab  Degrees Minutes Second  NOAA Solar Position Calc 

+





NOAA ESRL

Solar Position Calculator

Earth System
Research Lab

Please note that this web page is the old version of the NOAA Solar Calculator. Back when this calculator was first created, we decided to use a non-standard definition of longitude and time zone, to make coordinate entry less awkward. So on this page, both longitude and time zone are defined as positive to the west, instead of the international standard of positive to the east of the Prime Meridian.

We maintain this page as a courtesy to those people who, for whatever reason, prefer the old calculator. For the rest of you, we encourage you to instead [click here to try the updated version of NOAA's Solar Calculator](#)

| City: | | Deg: | Min: | Sec: | Time Zone | |
|---|----------------------------|-------------------|------------------|------|-------------------------------|--|
| Enter Lat/Long -->  | Lat: North=+ South=- | 23 | 13 | 52 | Offset to UTC (MST=+7): | Daylight Saving Time: |
| Click here for help finding your lat/long coordinates | Long: East=- West=+ | 103 | 58 | 25 | | |
| Note: To manually enter latitude/longitude, select Enter Lat/Long --> from the City pulldown box, and enter the values in the text boxes to the right. | | | | | | |
| Month: | Day: | Year (e.g. 2000): | Time: (hh:mm:ss) | | | |
| June  | 7 | 1965 | 13 | : 45 | : 00 | <input type="radio"/> AM <input type="radio"/> PM <input type="radio"/> 24hr |

Calculate Solar Position

| Equation of Time (minutes): | Solar Declination (degrees): | Solar Azimuth: | Solar Elevation: | cosine of solar zenith angle |
|-----------------------------|------------------------------|----------------|------------------|------------------------------|
| 1.25 | 22.76 | 72.92 | 19.76 | 0.338 |

Azimuth is measured in degrees clockwise from north.
 Elevation is measured in degrees up from the horizon.
 Az & El both report *dark* after [astronomical twilight](#).

| City: | | Deg: | Min: | Sec: | Time Zone | |
|--|--|----------------------------------|---------------------------------|---------------------------------|---|---|
| Enter Lat/Long --> <input type="text"/> | Lat: North=+ South=- | <input type="text" value="23"/> | <input type="text" value="13"/> | <input type="text" value="52"/> | Offset to UTC (MST=+7): | Daylight Saving Time: |
| Click here for help finding your lat/long coordinates | Long: East=- West=+ | <input type="text" value="103"/> | <input type="text" value="58"/> | <input type="text" value="25"/> | | |

Note: To manually enter latitude/longitude, select **Enter Lat/Long ->** from the City pulldown box, and enter the values in the text boxes to the right.

| Month: | Day: | Year (e.g. 2000): | Time: (hh:mm:ss) | | | |
|---------------------------|--------------------------------|-----------------------------------|---------------------------------|-----------------------------------|-----------------------------------|--|
| June <input type="text"/> | <input type="text" value="7"/> | <input type="text" value="1965"/> | <input type="text" value="13"/> | : <input type="text" value="45"/> | : <input type="text" value="00"/> | <input type="radio"/> AM <input type="radio"/> PM <input type="radio"/> 24hr |

Calculate Solar Position

| | | | | | | |
|---|-----------------------------------|----------------------------------|---------------------------------|---------------------------------|--------------------------------------|--------------------------------------|
| City: | | Deg: | Min: | Sec: | <u>Time Zone</u> | |
| Enter Lat/Long --> <input type="text"/> | <u>Lat:</u> North=+ South=- | <input type="text" value="23"/> | <input type="text" value="13"/> | <input type="text" value="52"/> | Offset to <u>UTC</u> (MST=+7): | <u>Daylight Saving Time:</u> |
| Click here for help finding your lat/long coordinates | <u>Long:</u> East=- West=+ | <input type="text" value="103"/> | <input type="text" value="58"/> | <input type="text" value="25"/> | | |

Note: To manually enter latitude/longitude, select **Enter Lat/Long ->** from the City pulldown box, and enter the values in the text boxes to the right.

| | | | | | | | | | | |
|---------------------------|--------------------------------|-----------------------------------|---------------------------------|---|---------------------------------|---|---------------------------------|--------------------------|--------------------------|----------------------------|
| Month: | Day: | Year (e.g. 2000): | Time: (hh:mm:ss) | | | | | | | |
| June <input type="text"/> | <input type="text" value="7"/> | <input type="text" value="1965"/> | <input type="text" value="13"/> | : | <input type="text" value="45"/> | : | <input type="text" value="00"/> | <input type="radio"/> AM | <input type="radio"/> PM | <input type="radio"/> 24hr |

Calculate Solar Position

| <u>Equation of Time</u> (minutes): | <u>Solar Declination</u> (degrees): | <u>Solar Azimuth:</u> | <u>Solar Elevation:</u> | cosine of solar <u>zenith angle</u> |
|---------------------------------------|--|------------------------------------|------------------------------------|-------------------------------------|
| <input type="text" value="1.25"/> | <input type="text" value="22.76"/> | <input type="text" value="72.92"/> | <input type="text" value="19.76"/> | <input type="text" value="0.338"/> |

Azimuth is measured in degrees clockwise from north.
 Elevation is measured in degrees up from the horizon.
 Az & El both report *dark* after [astronomical twilight](#).

| Solar <u>Azimuth:</u> | Solar <u>Elevation:</u> |
|--------------------------|----------------------------|
| 72.92 | 19.76 |

**Solar
Azimuth:**

**Solar
Elevation:**

72.92

19.76

Solar
Azimuth:

72.92

Solar
Elevation:

19.76

Solar
Azimuth:

72.92

Solar
Elevation:

19.76

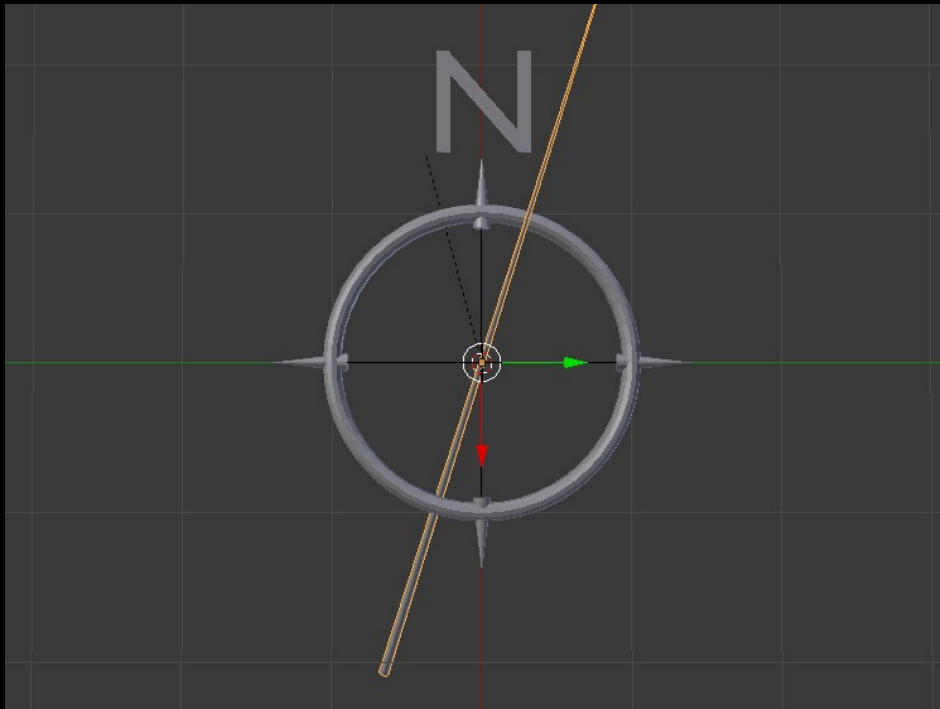


Solar
Azimuth:

72.92

Solar
Elevation:

19.76

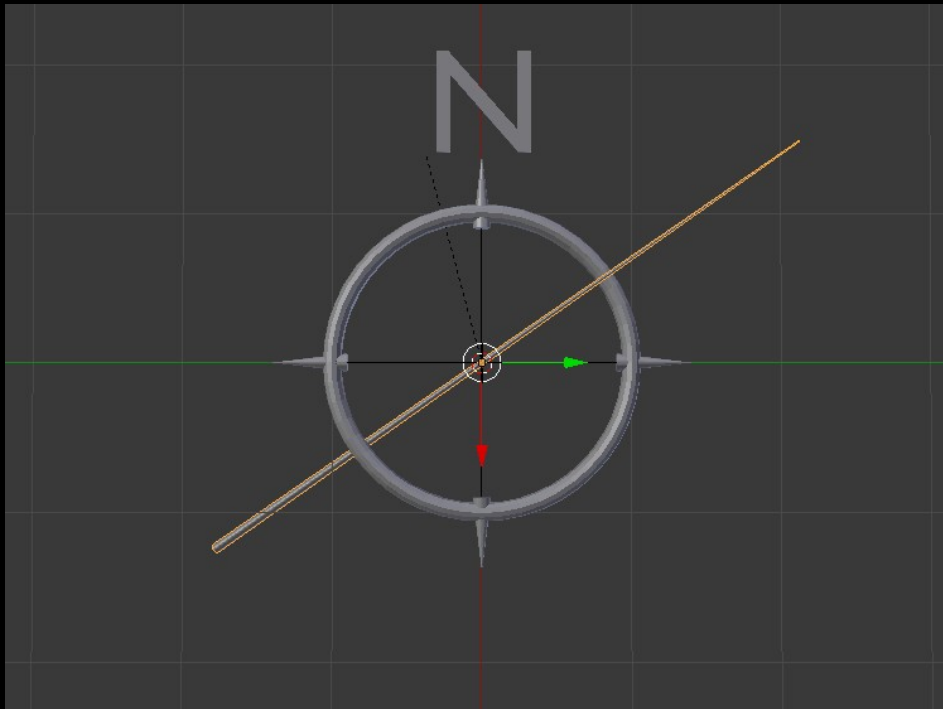


Solar
Azimuth:

72.92

Solar
Elevation:

19.76

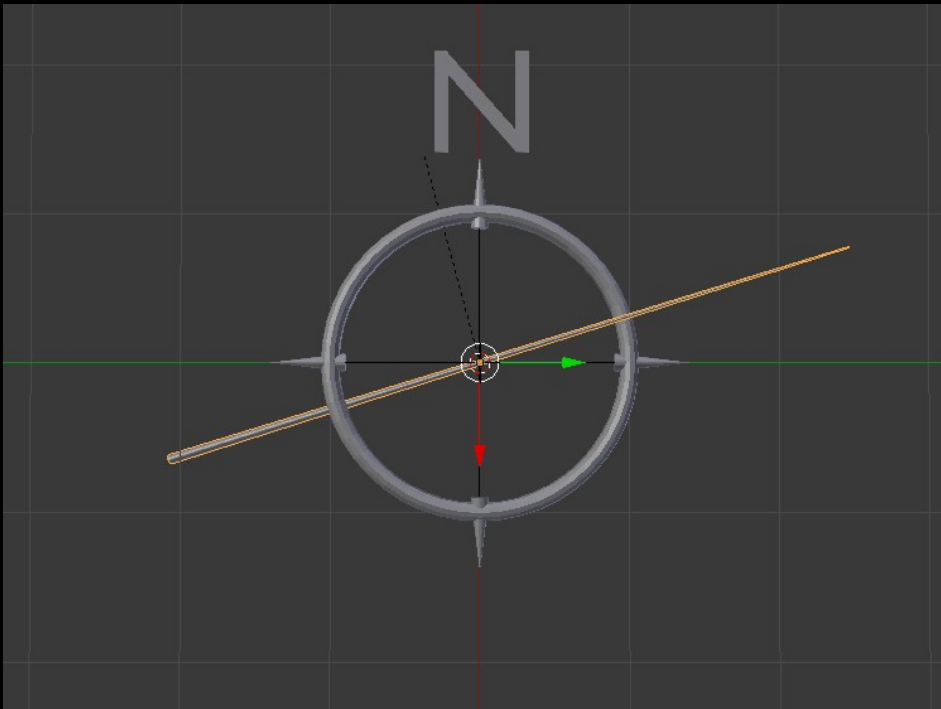


Solar
Azimuth:

72.92

Solar
Elevation:

19.76

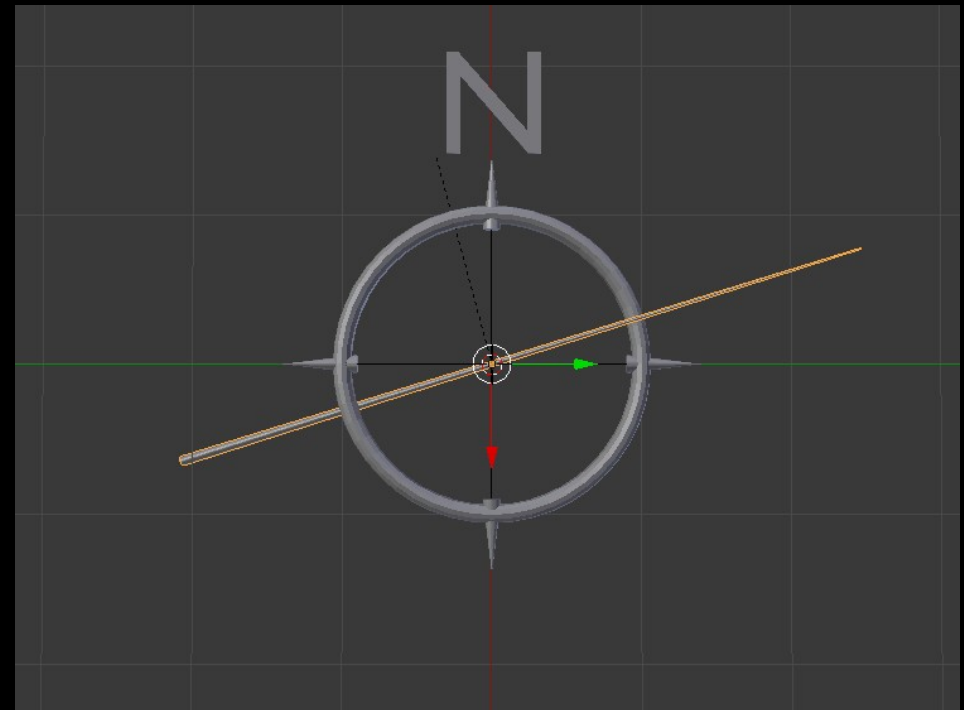


Solar
Azimuth:

72.92

Solar
Elevation:

19.76

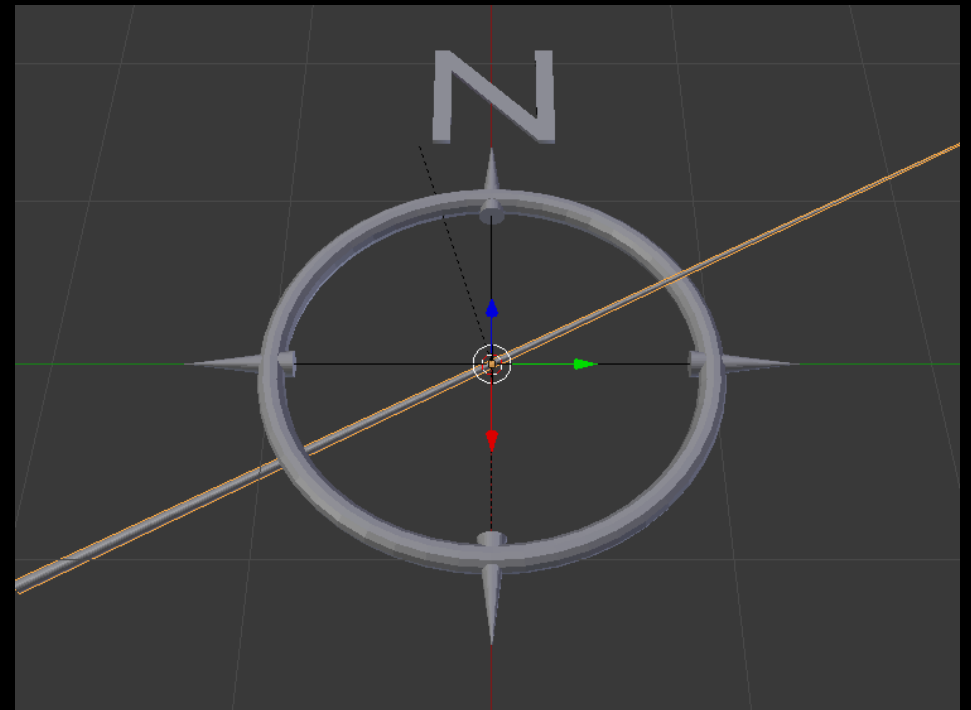


Solar
Azimuth:

72.92

Solar
Elevation:

19.76

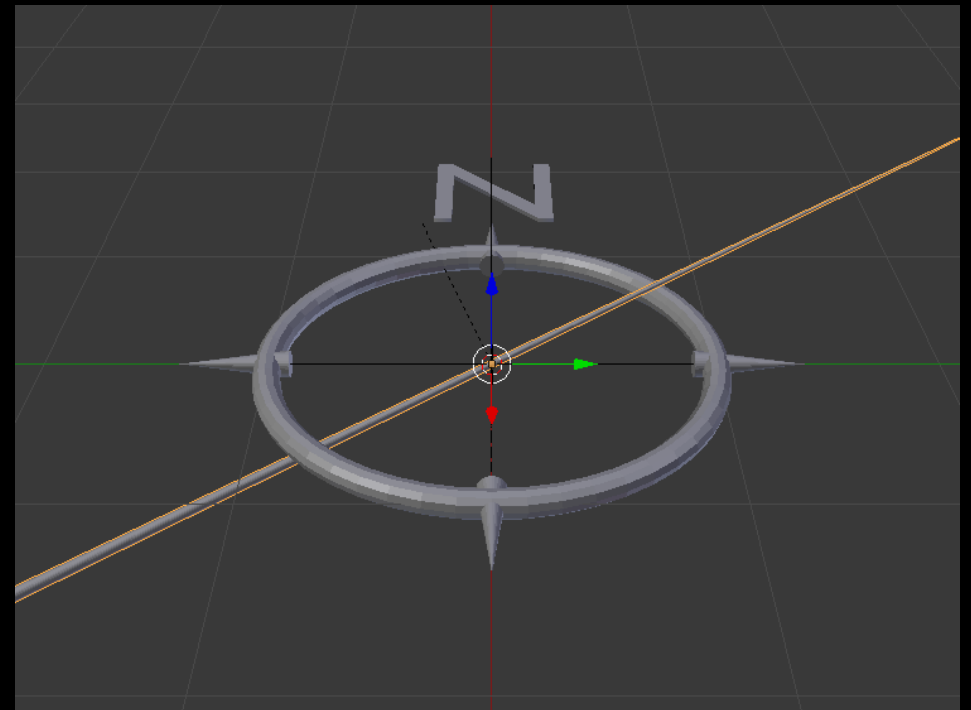


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Azimuth:

72.92

Solar
Elevation:

19.76

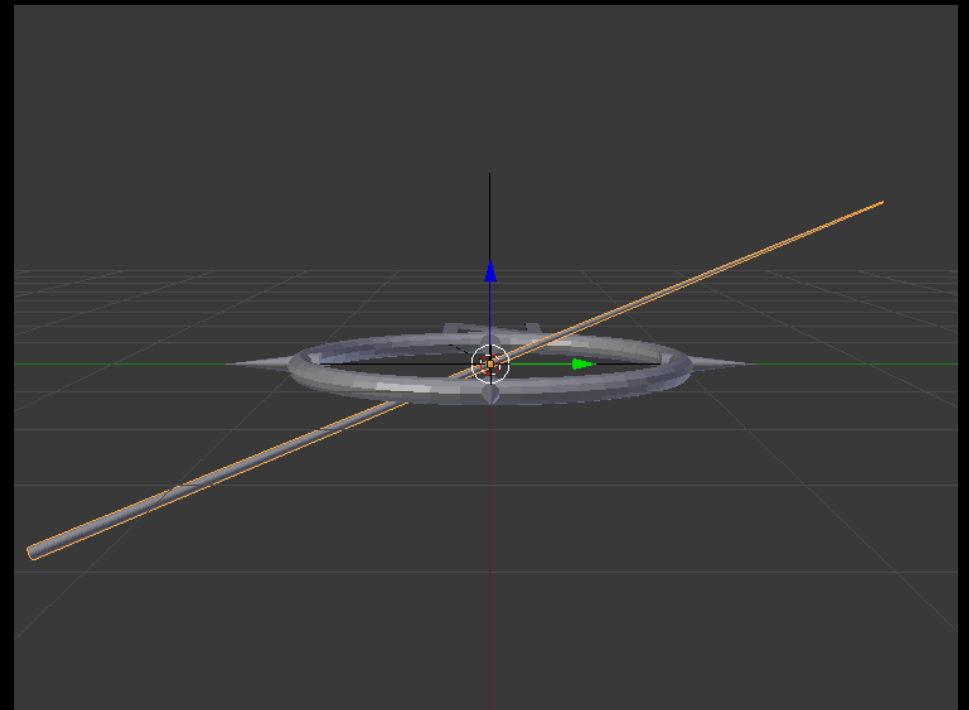


Solar
Azimuth:

72.92

Solar
Elevation:

19.76

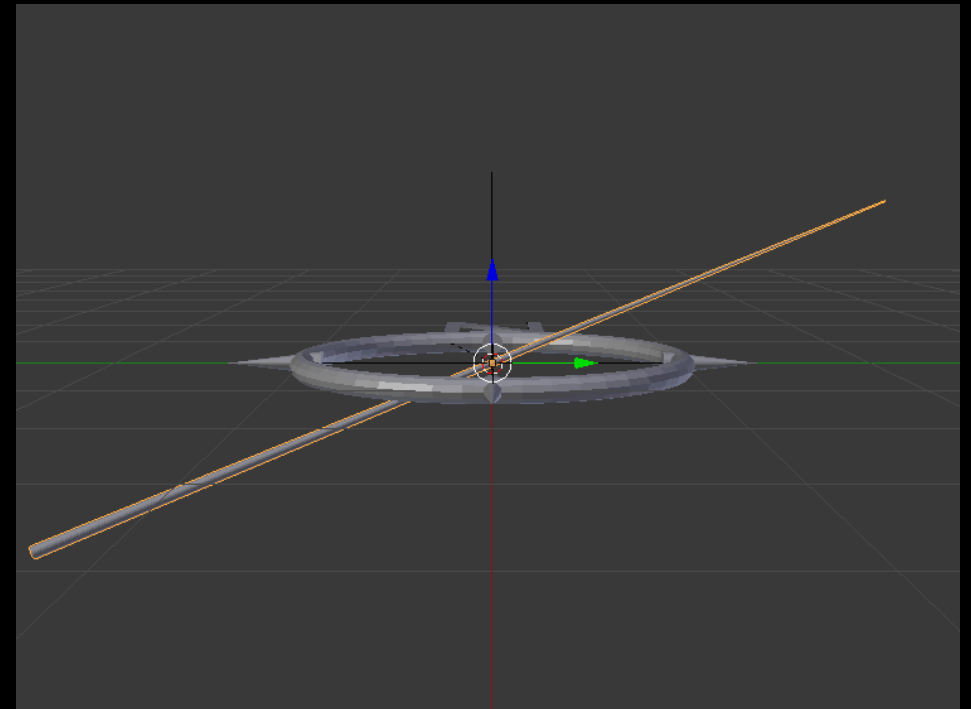
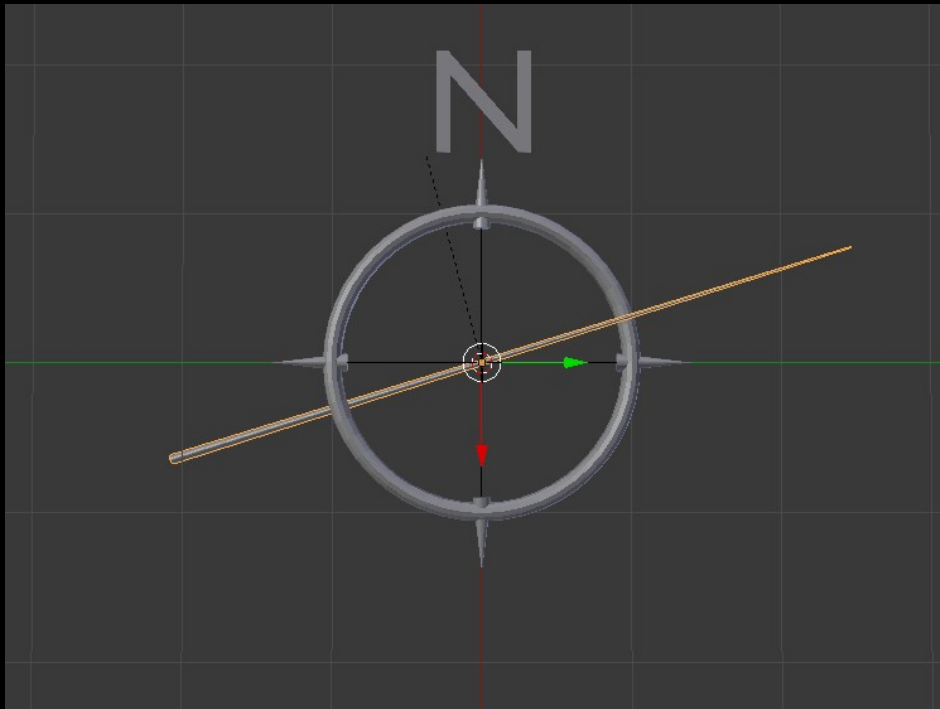


Solar
Azimuth:

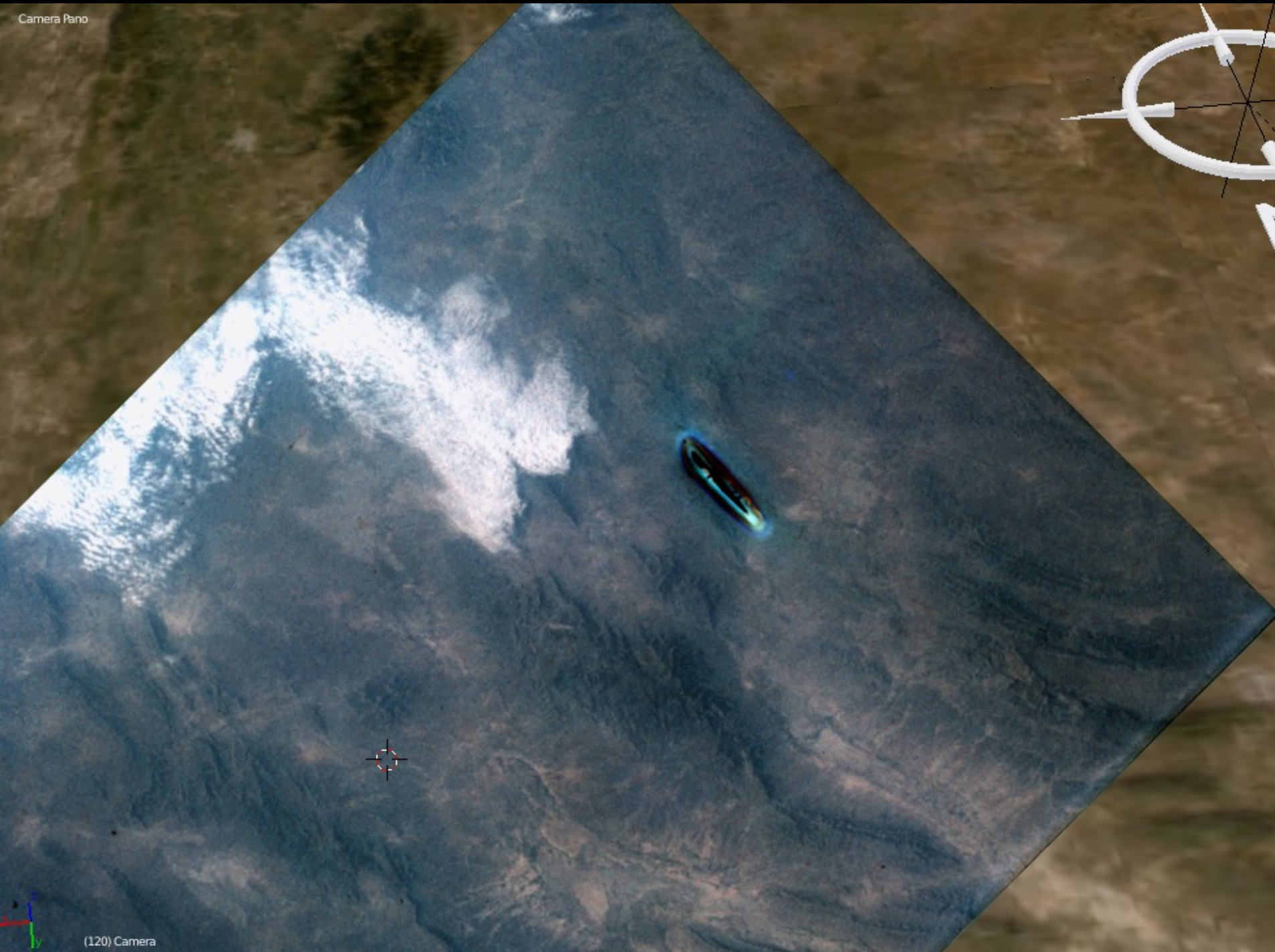
72.92

Solar
Elevation:

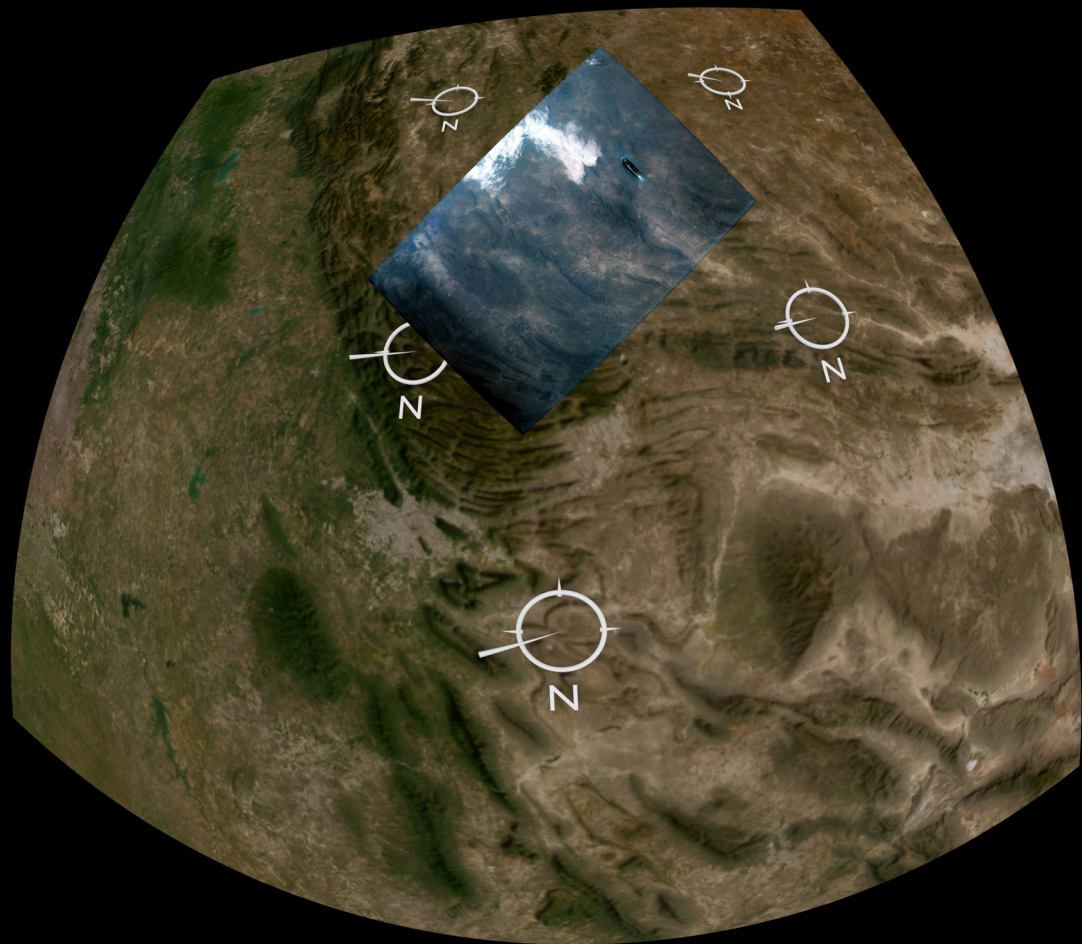
19.76

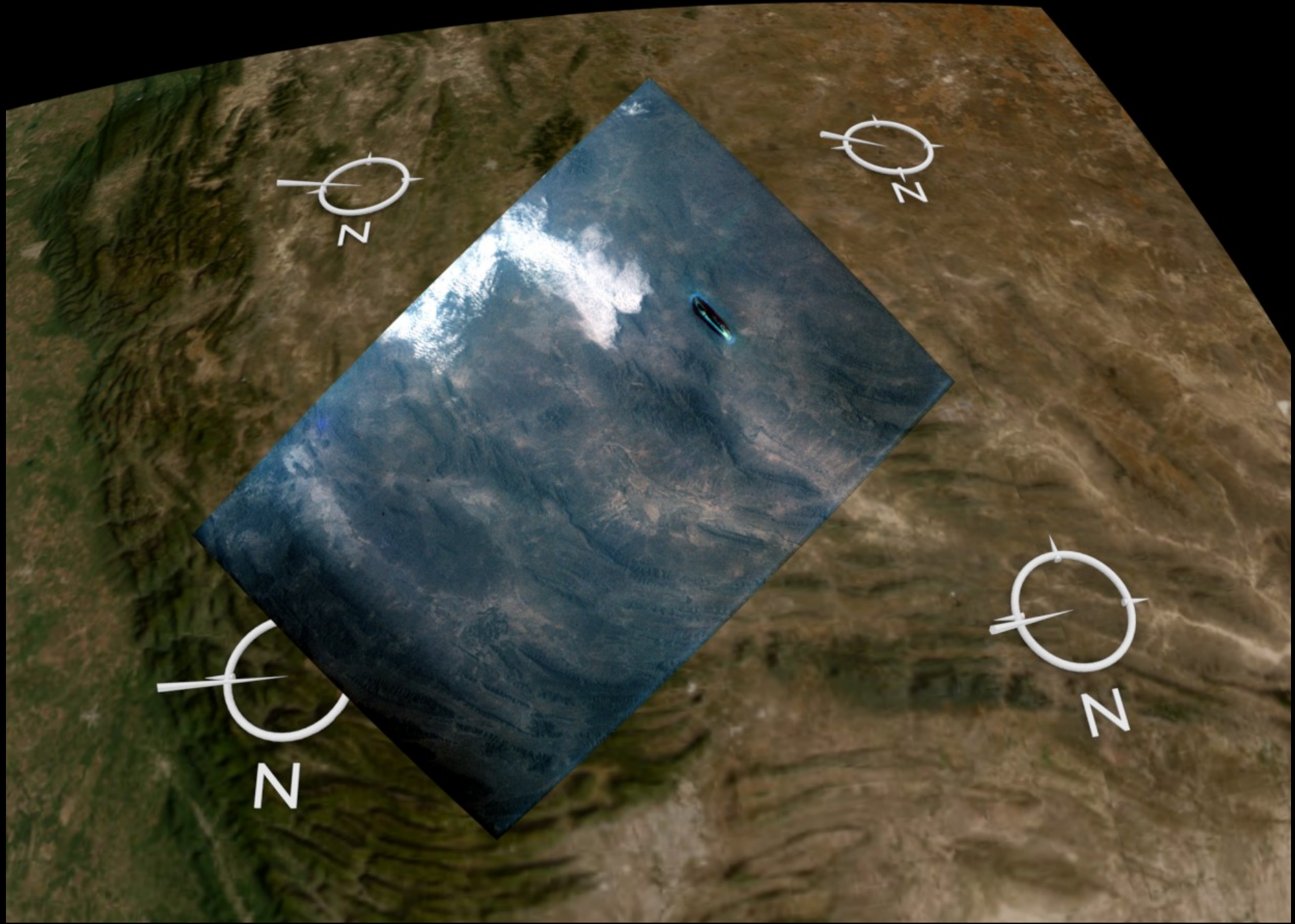


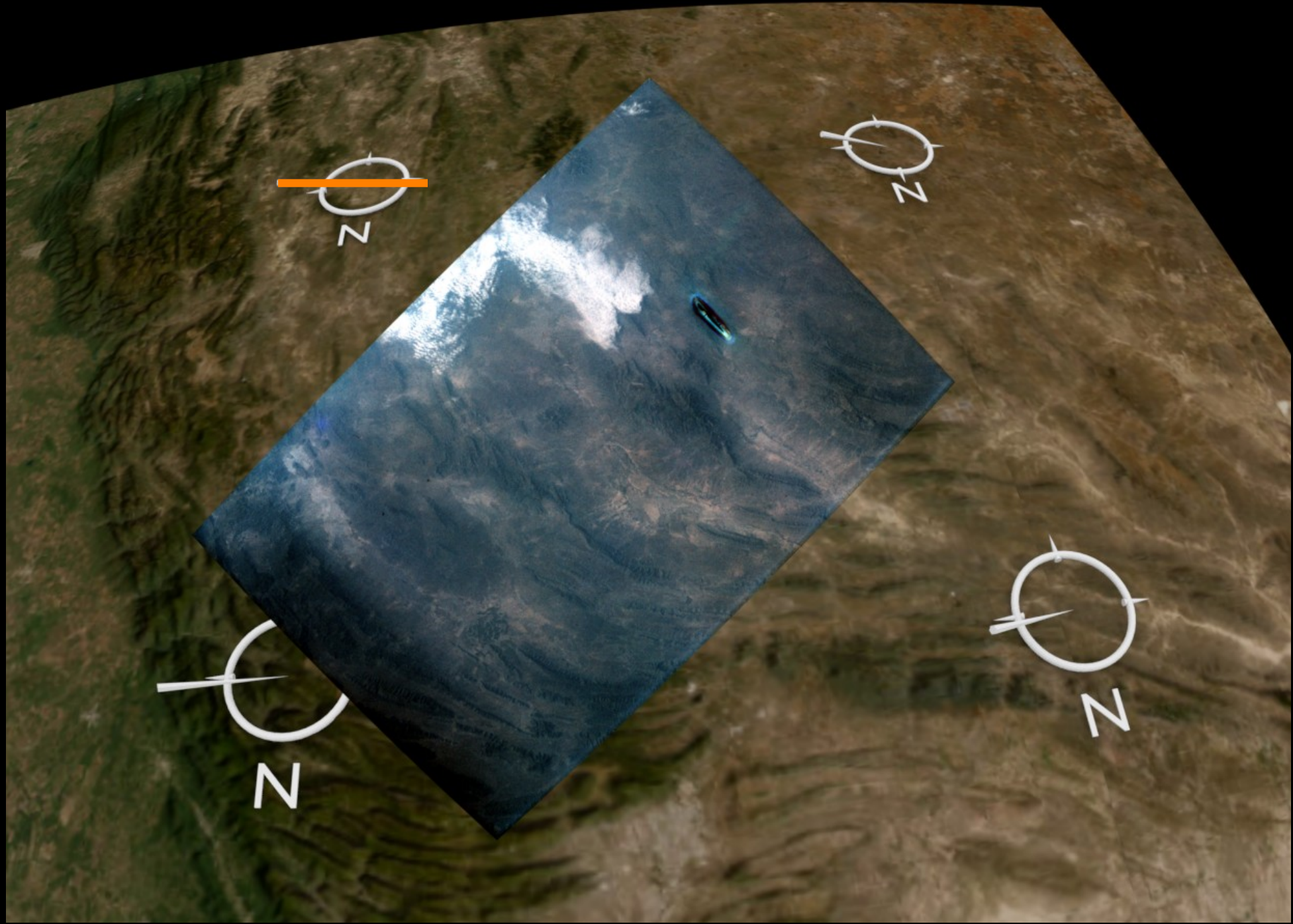
Camera Pano

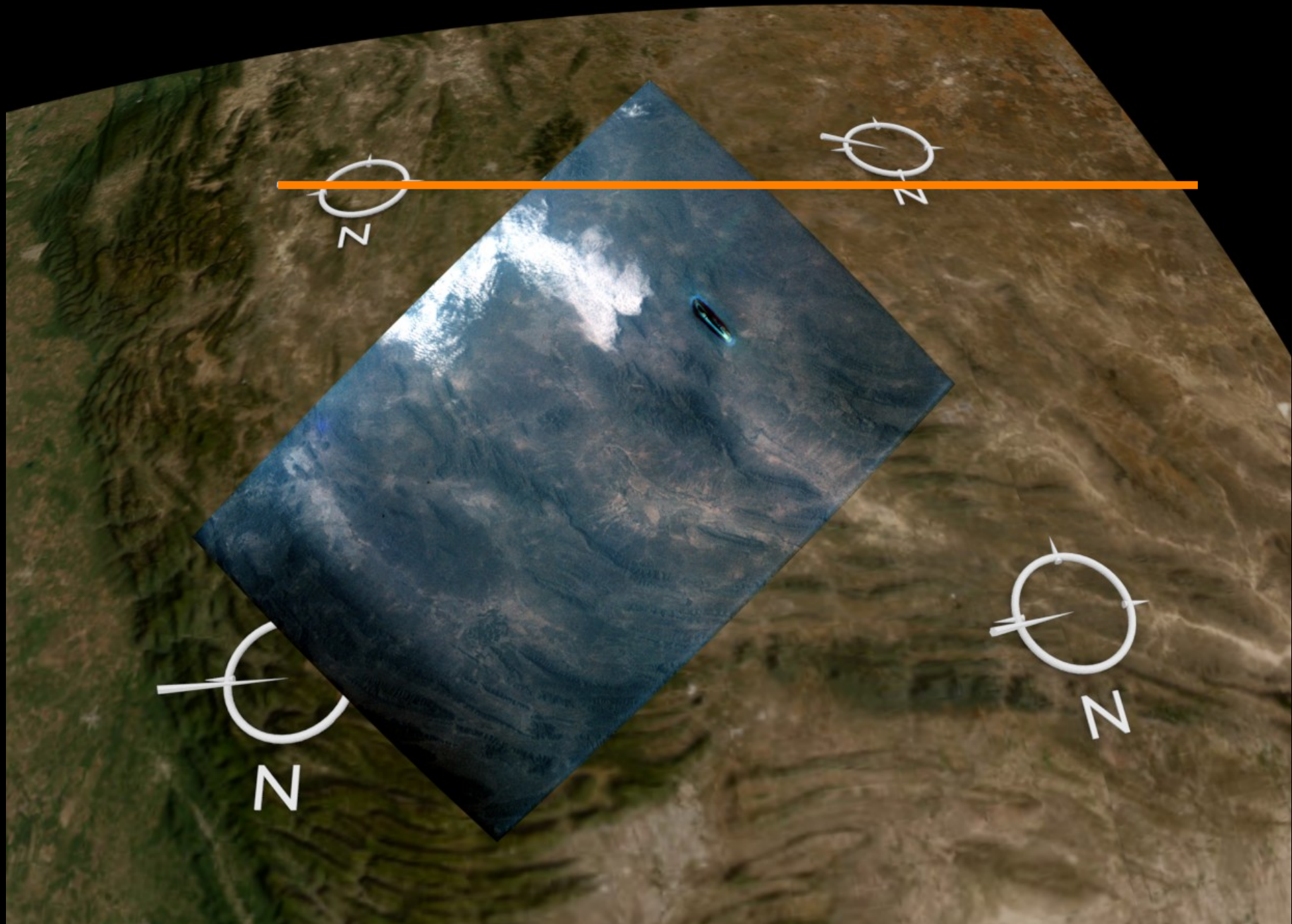


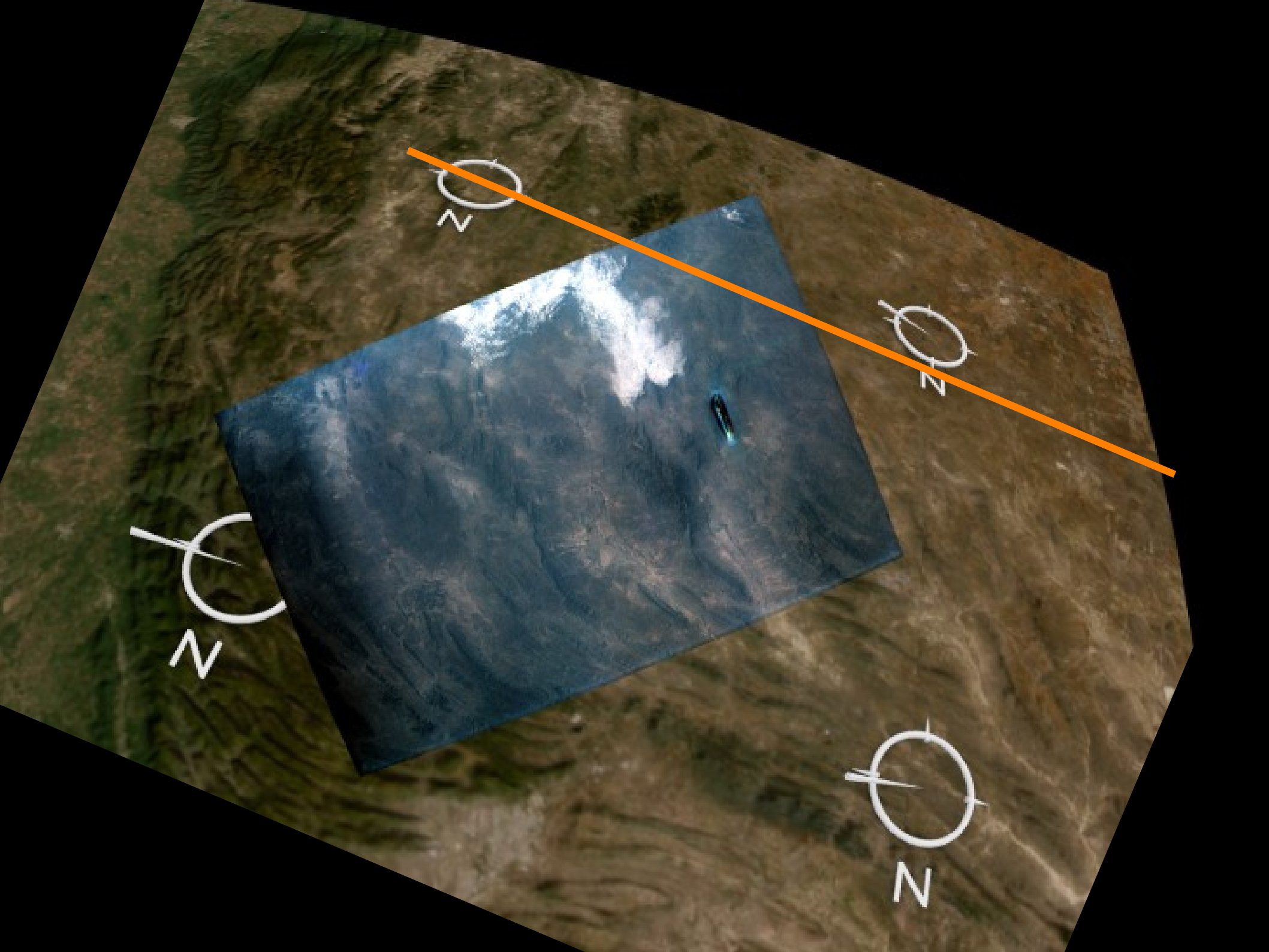
(120) Camera

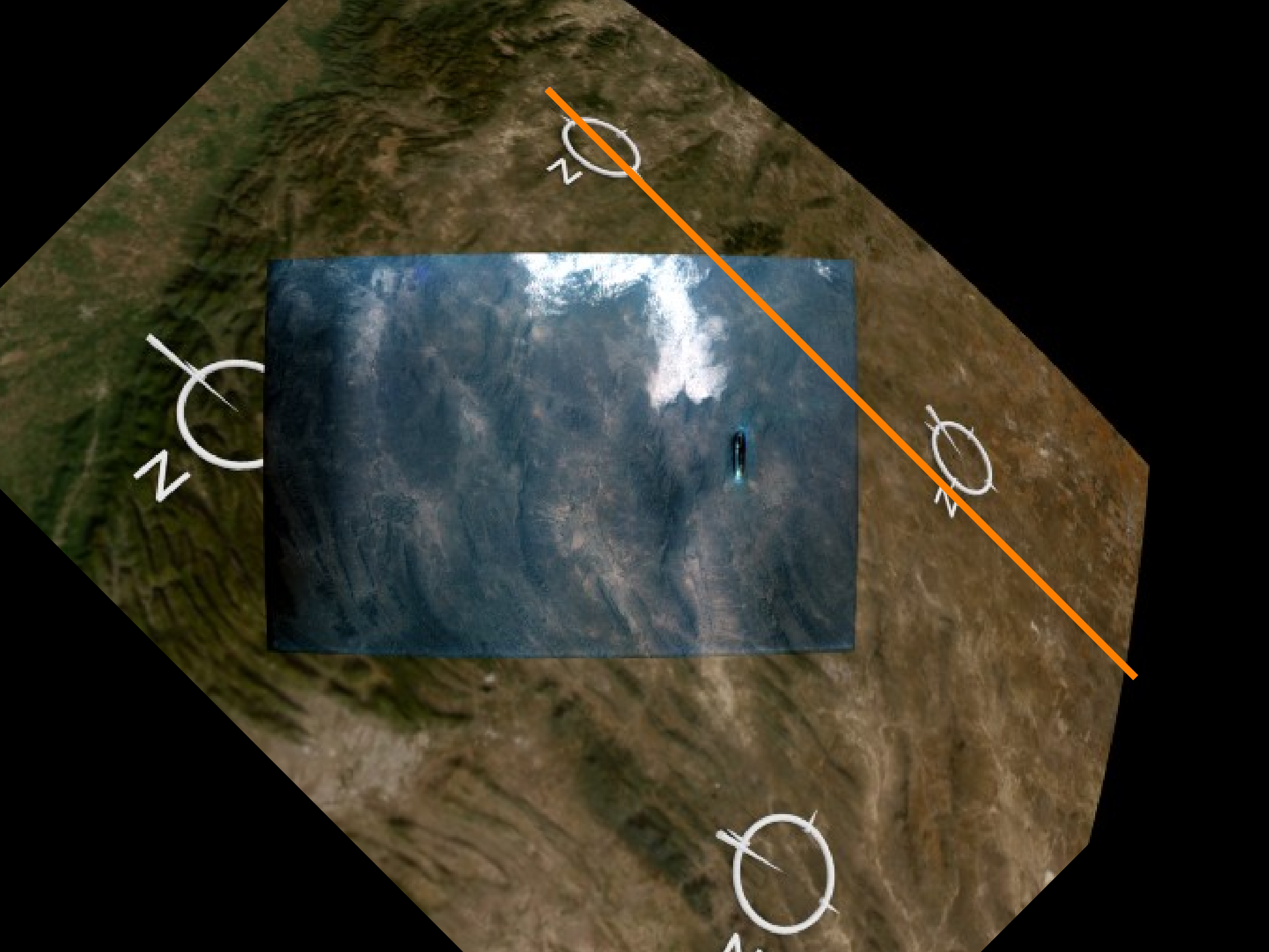








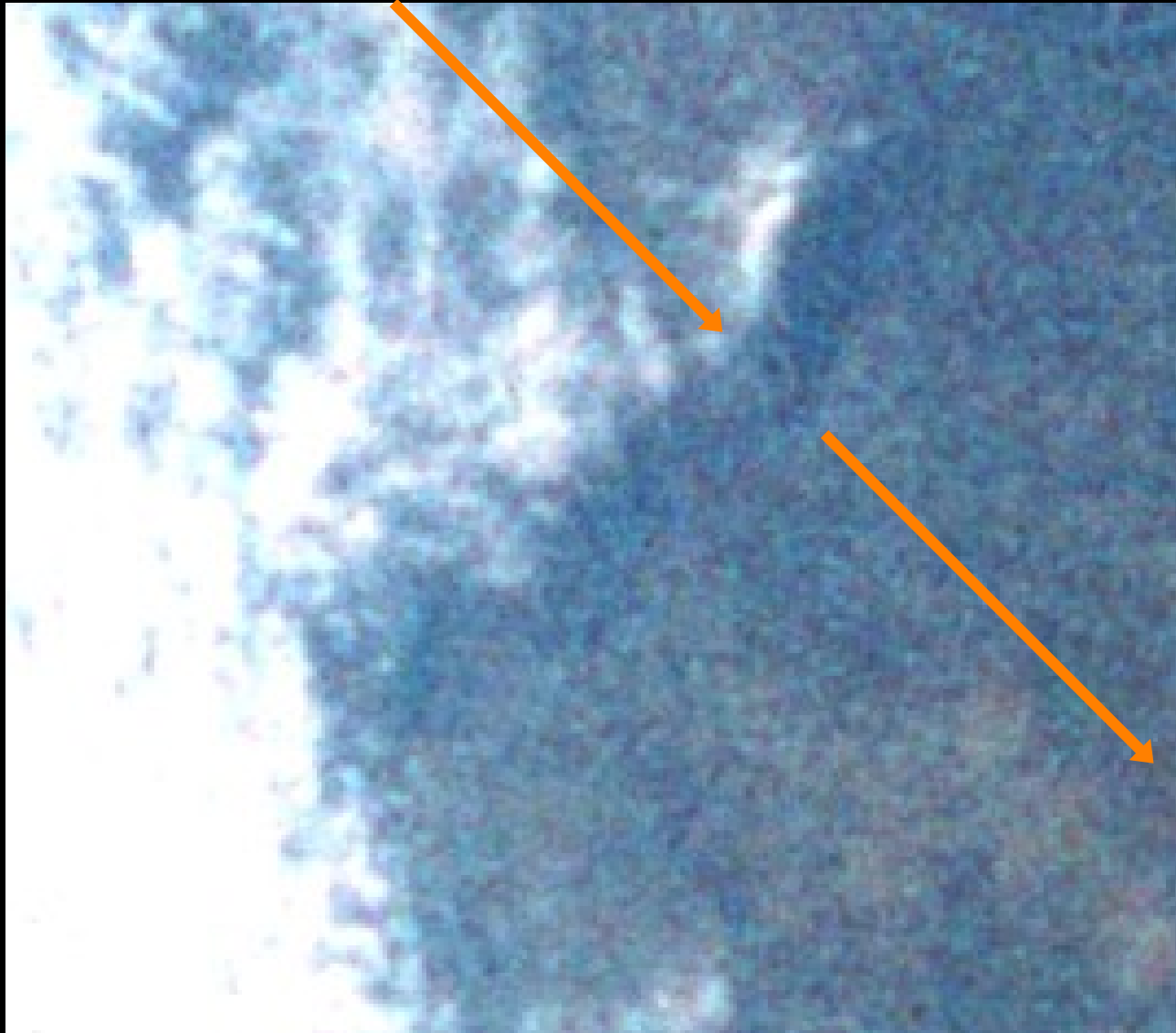




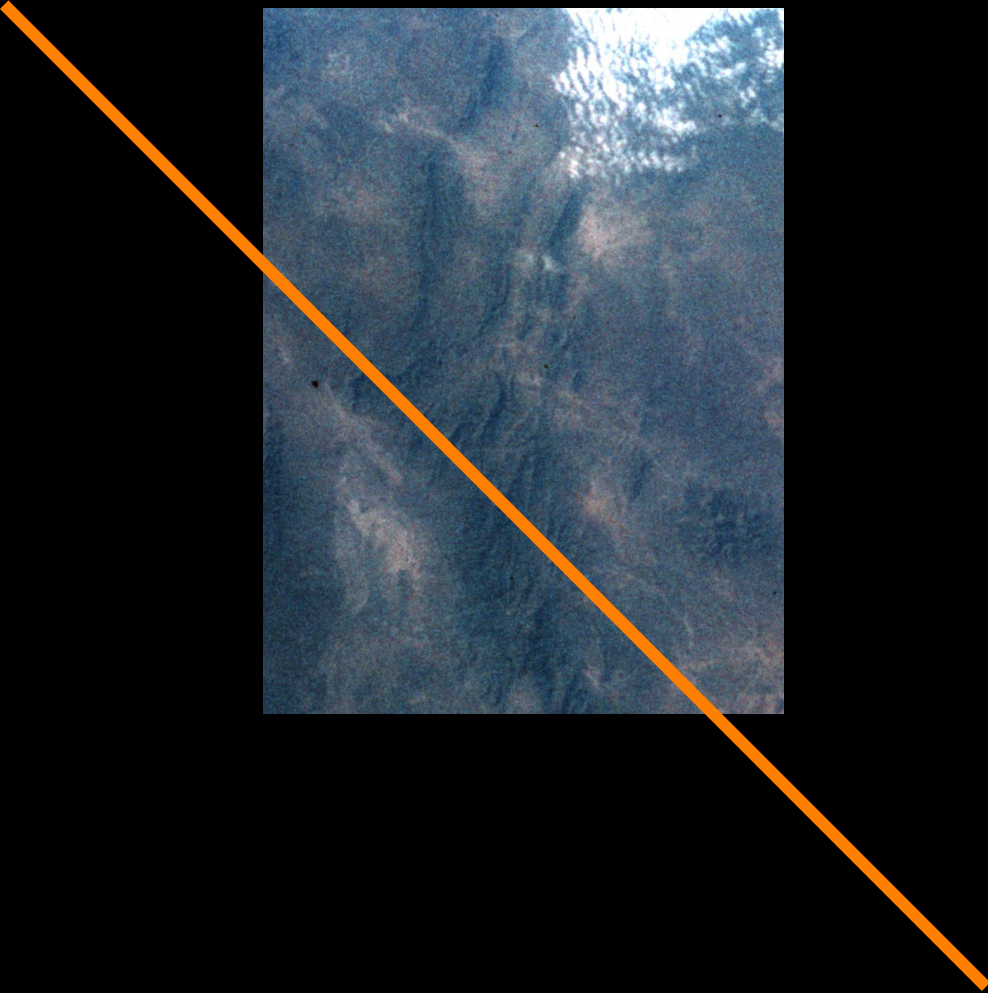


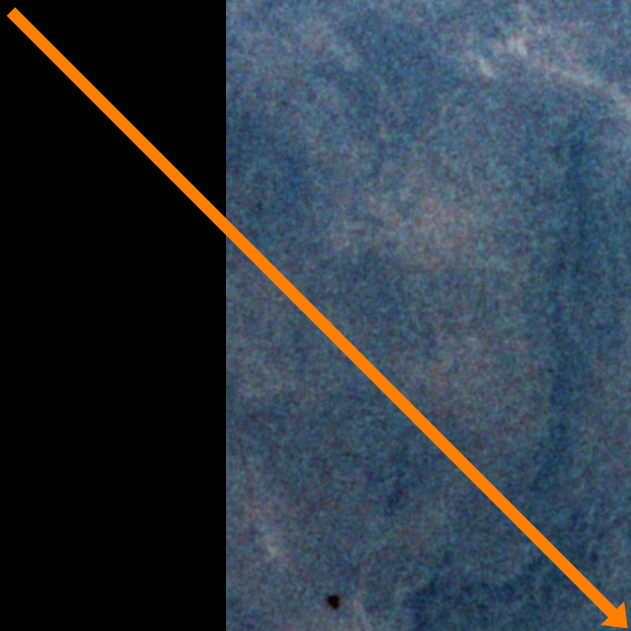


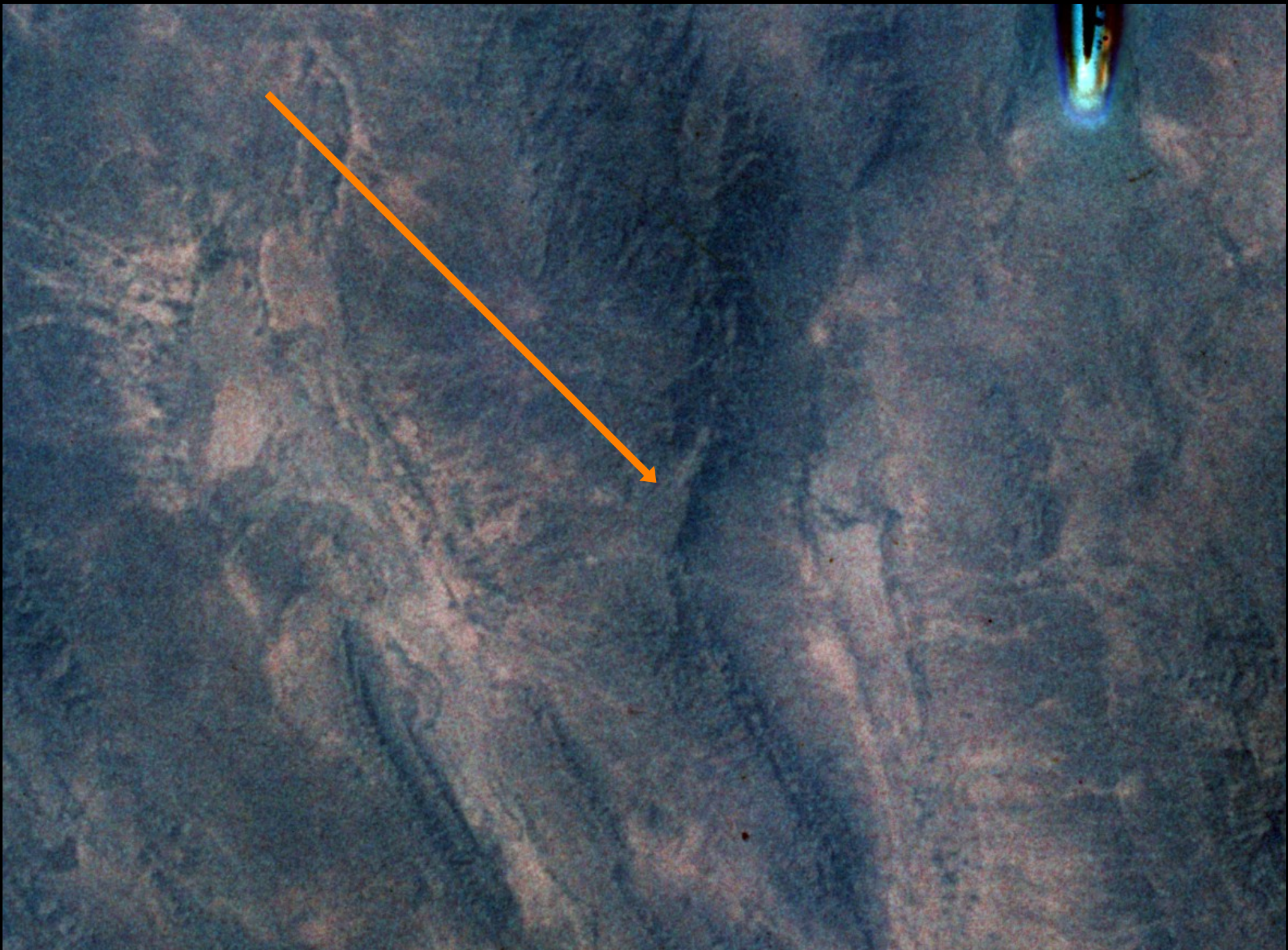






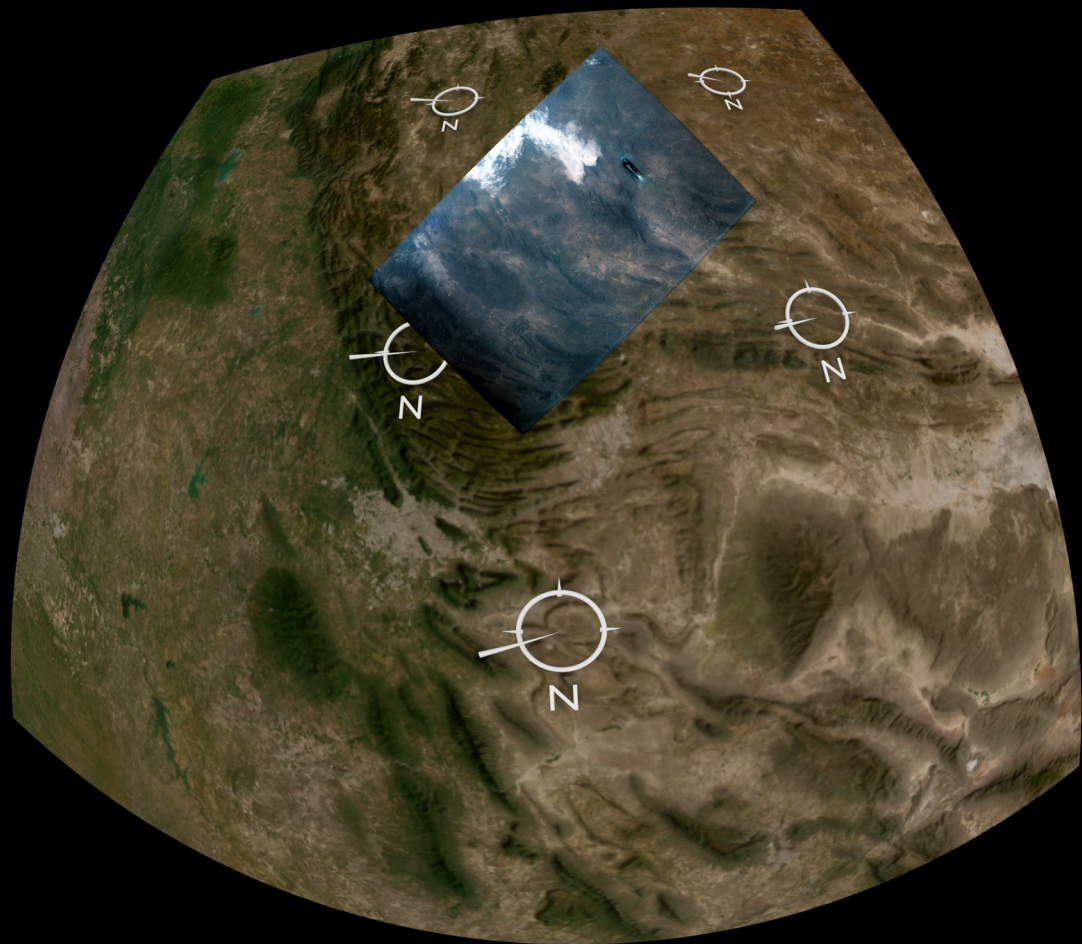


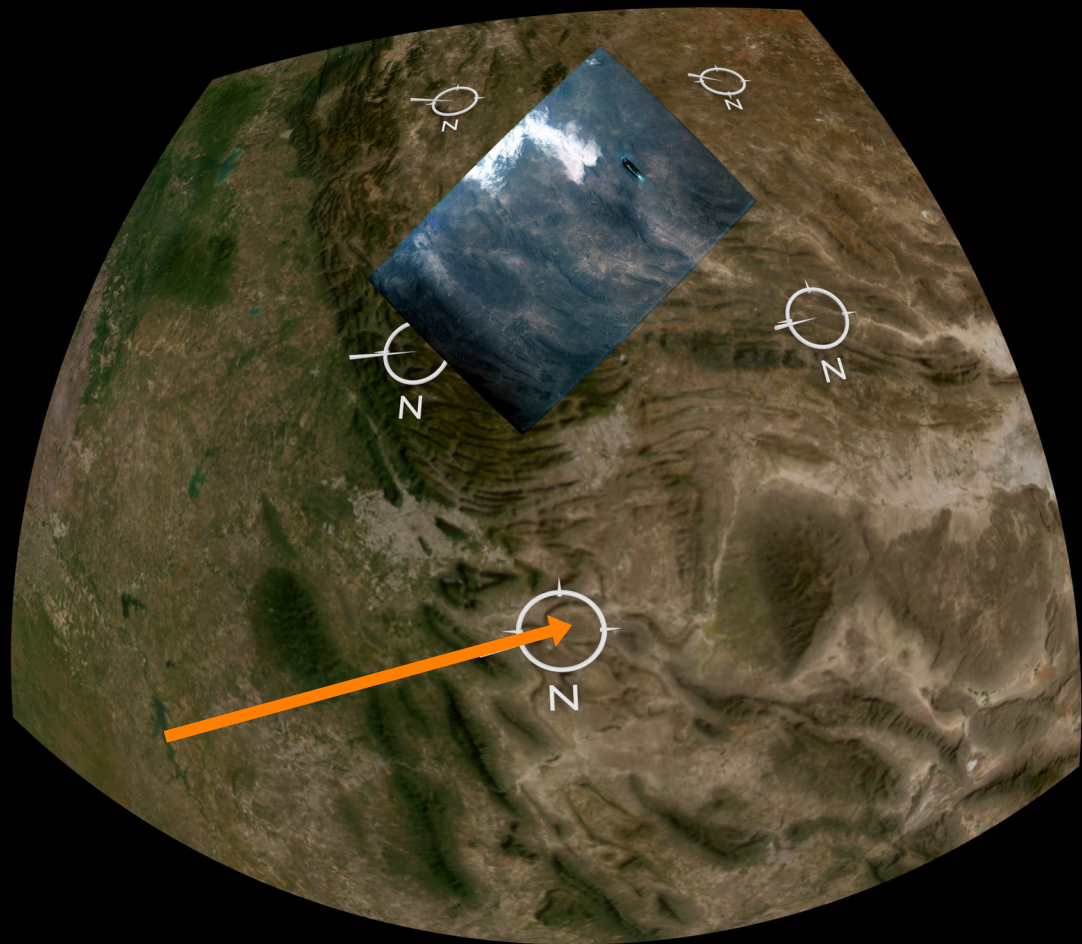


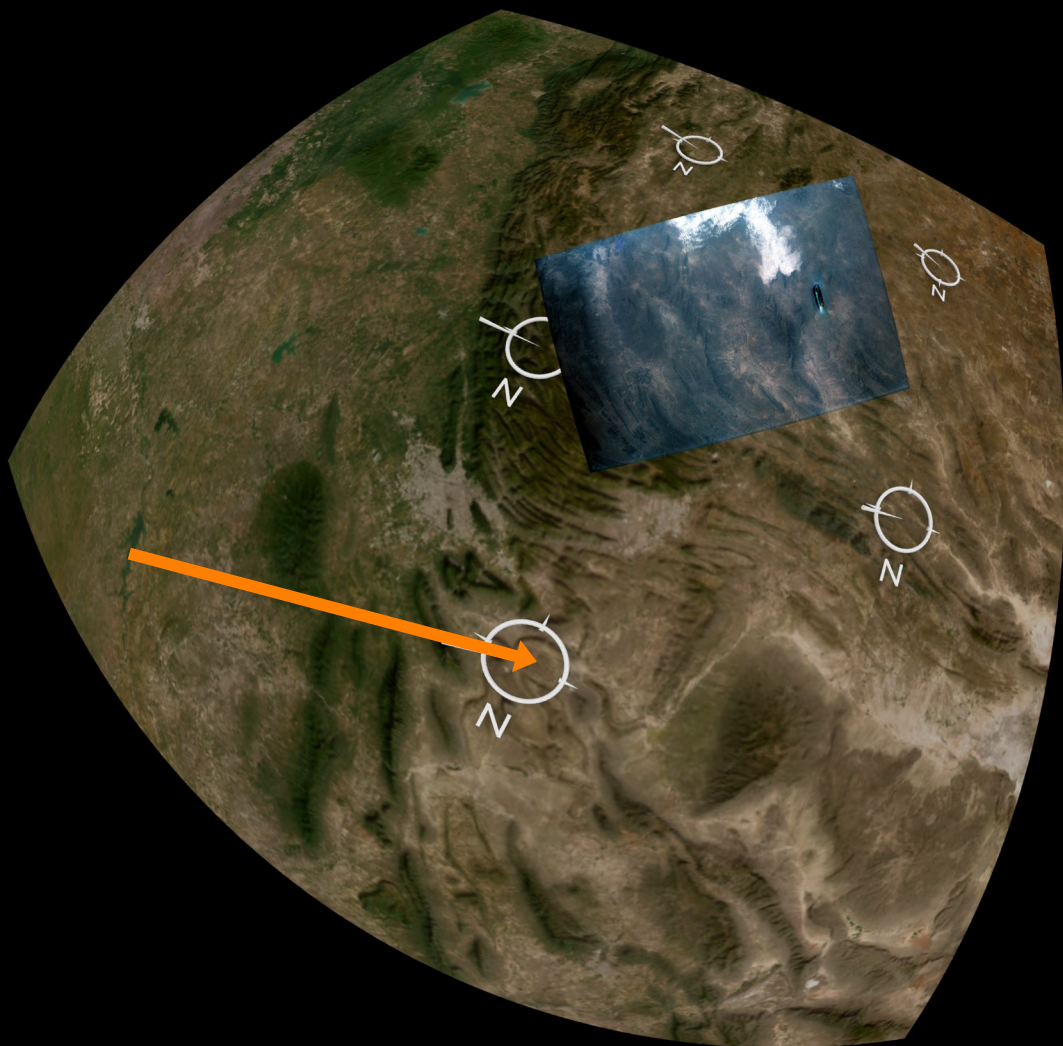


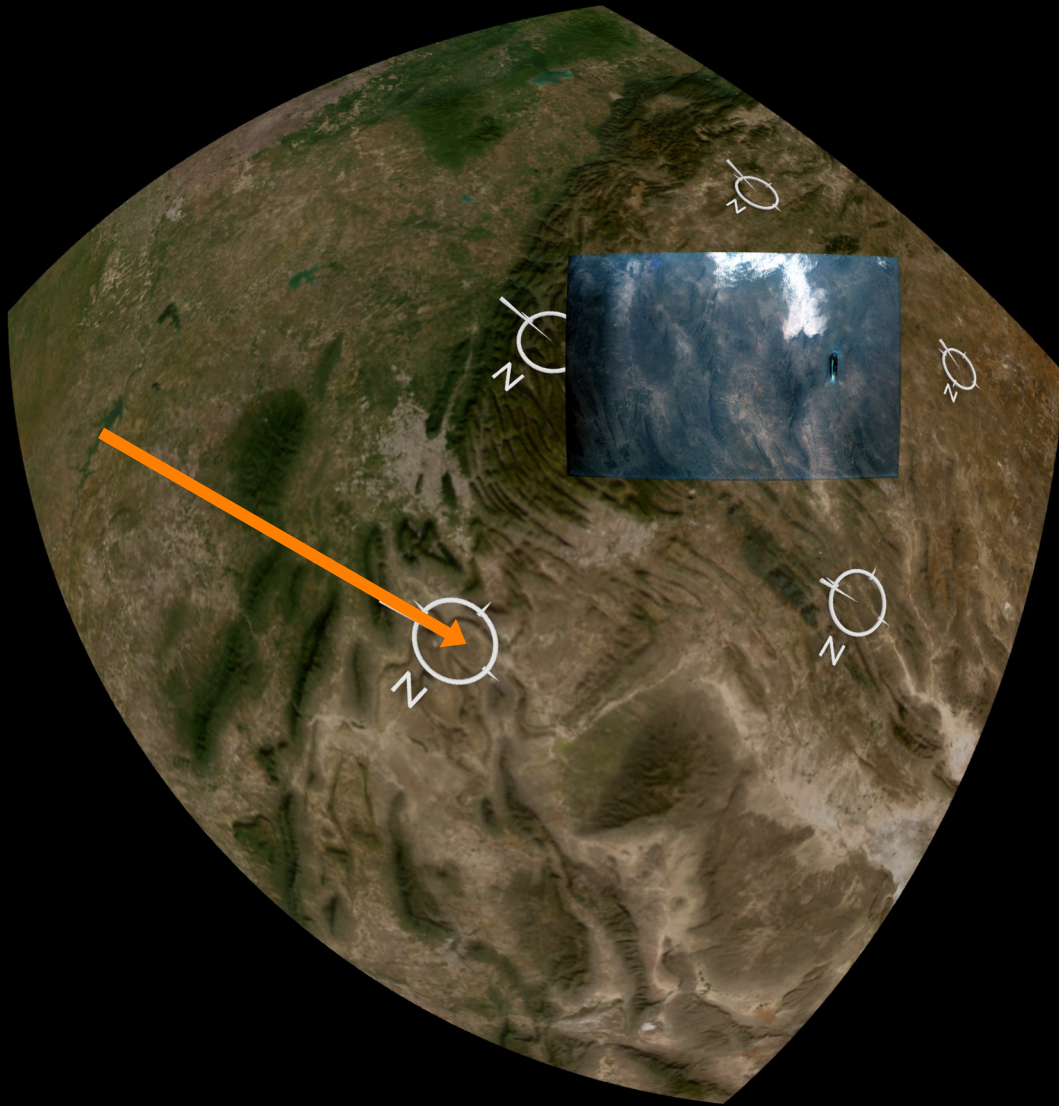


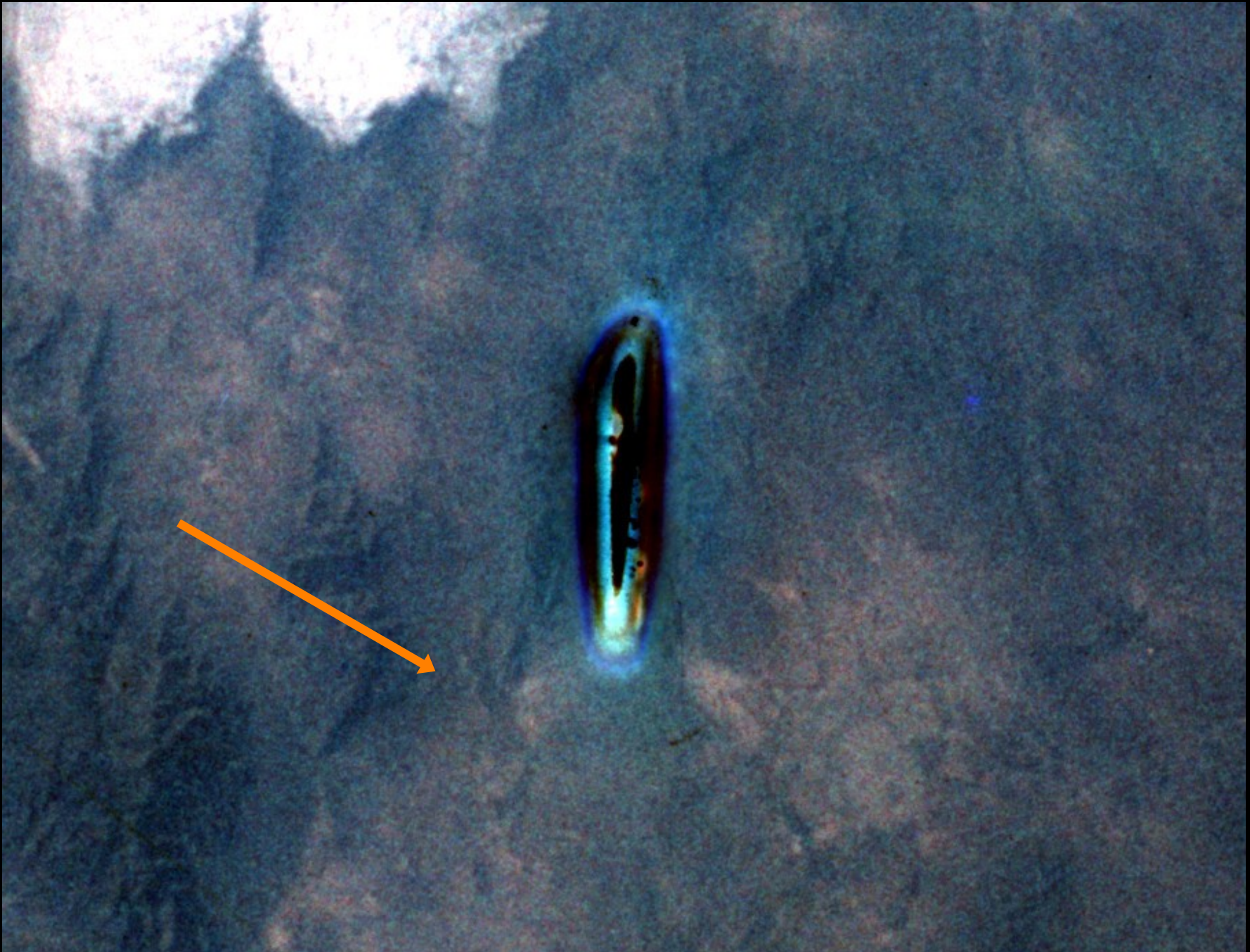


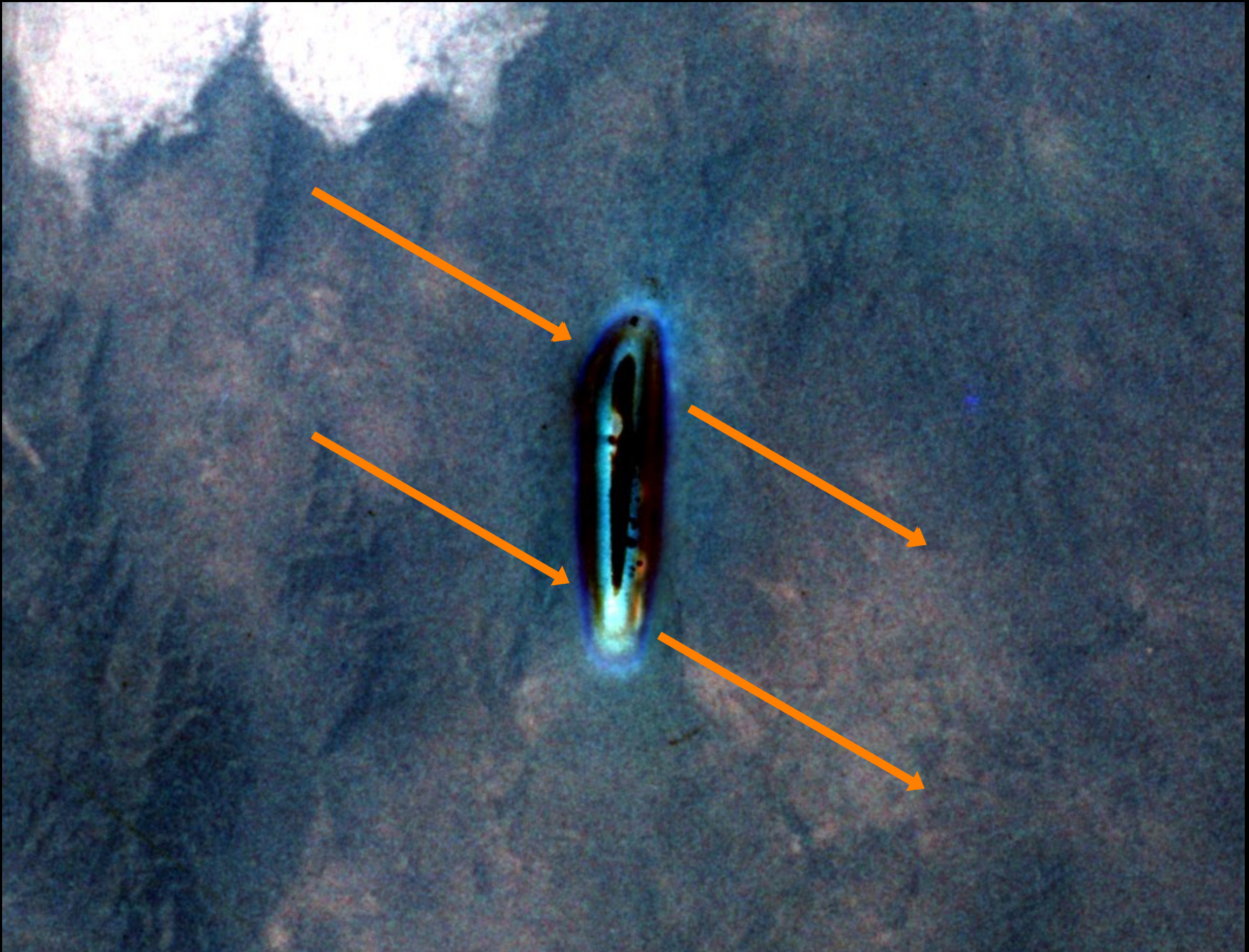


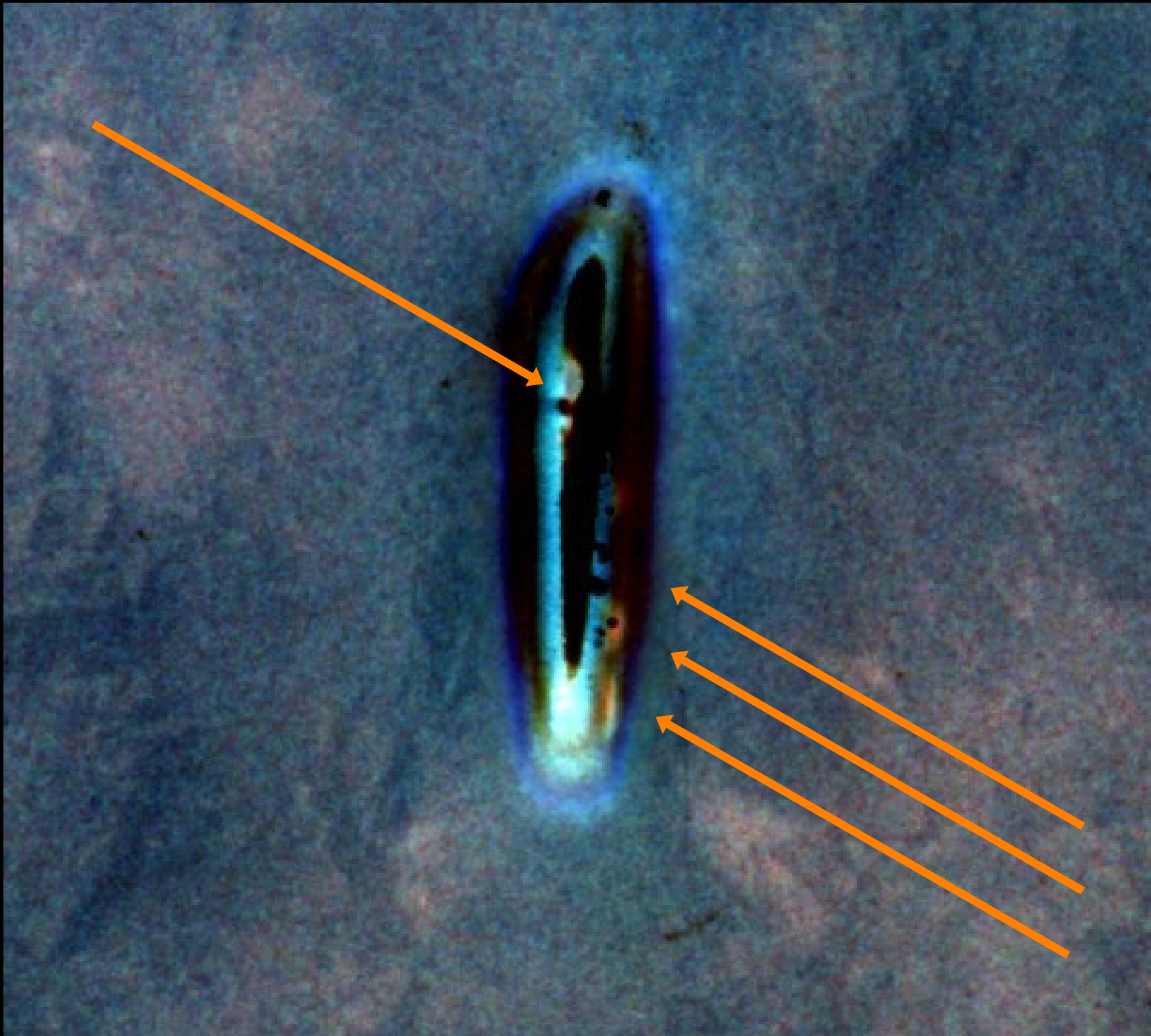






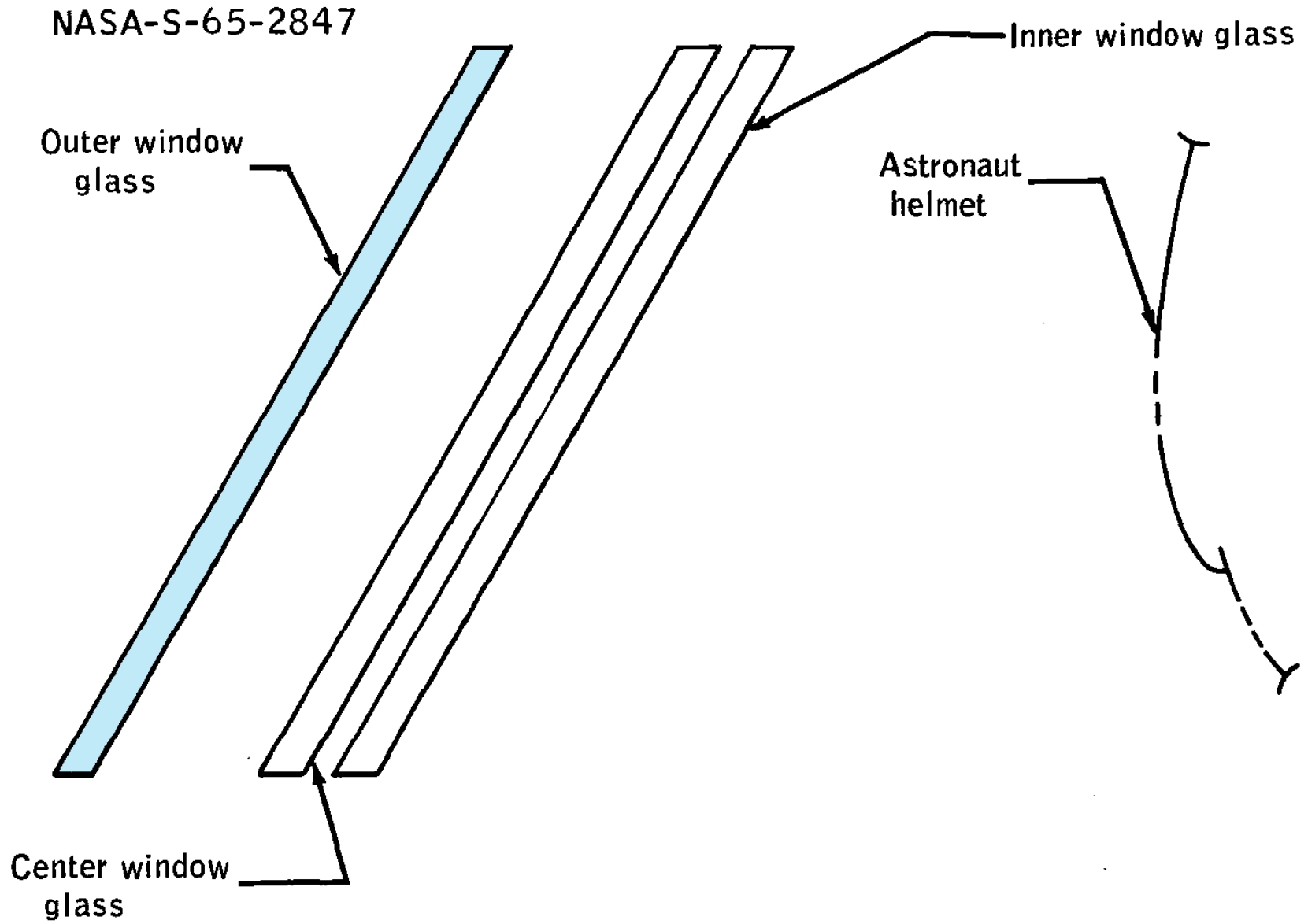


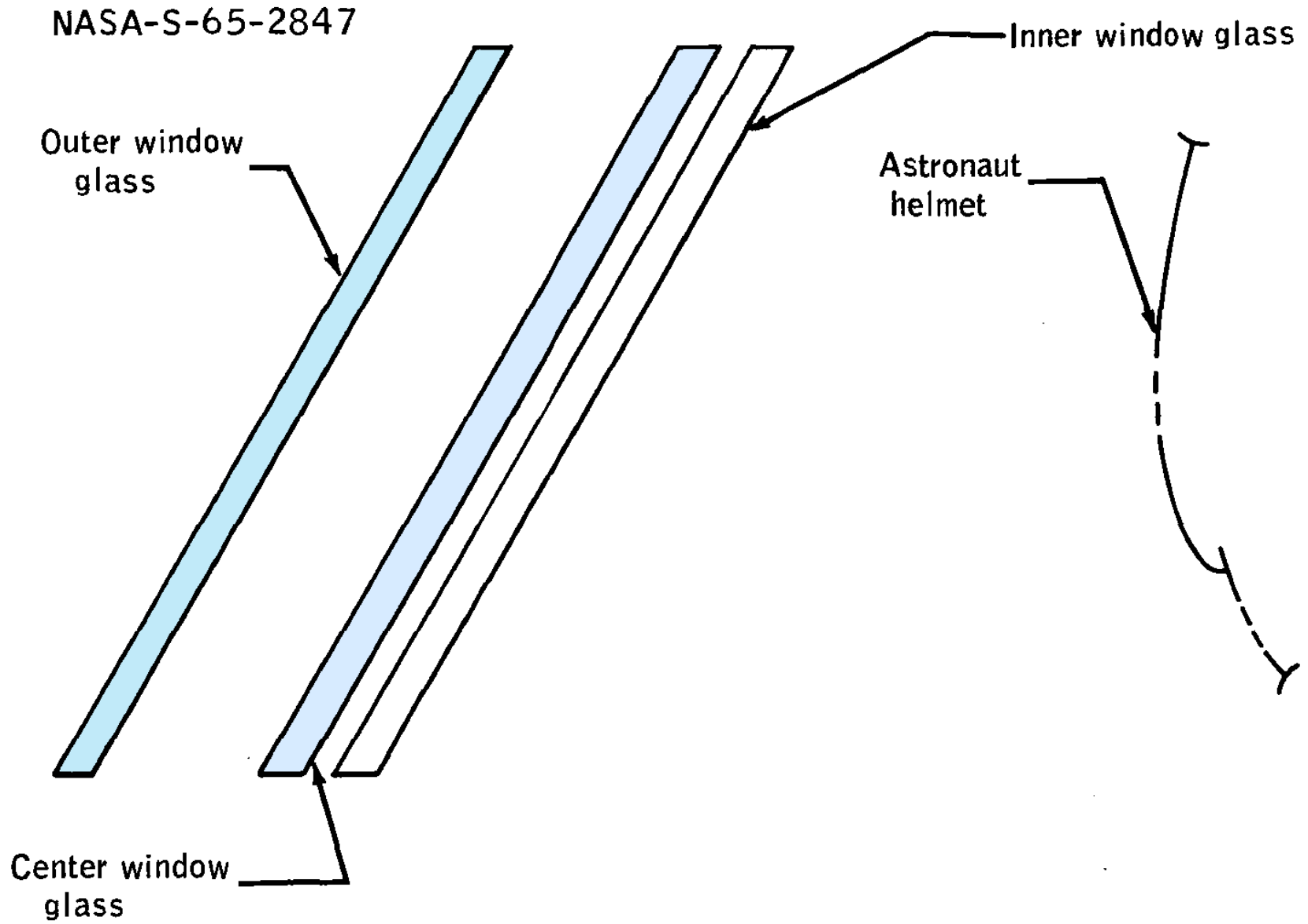


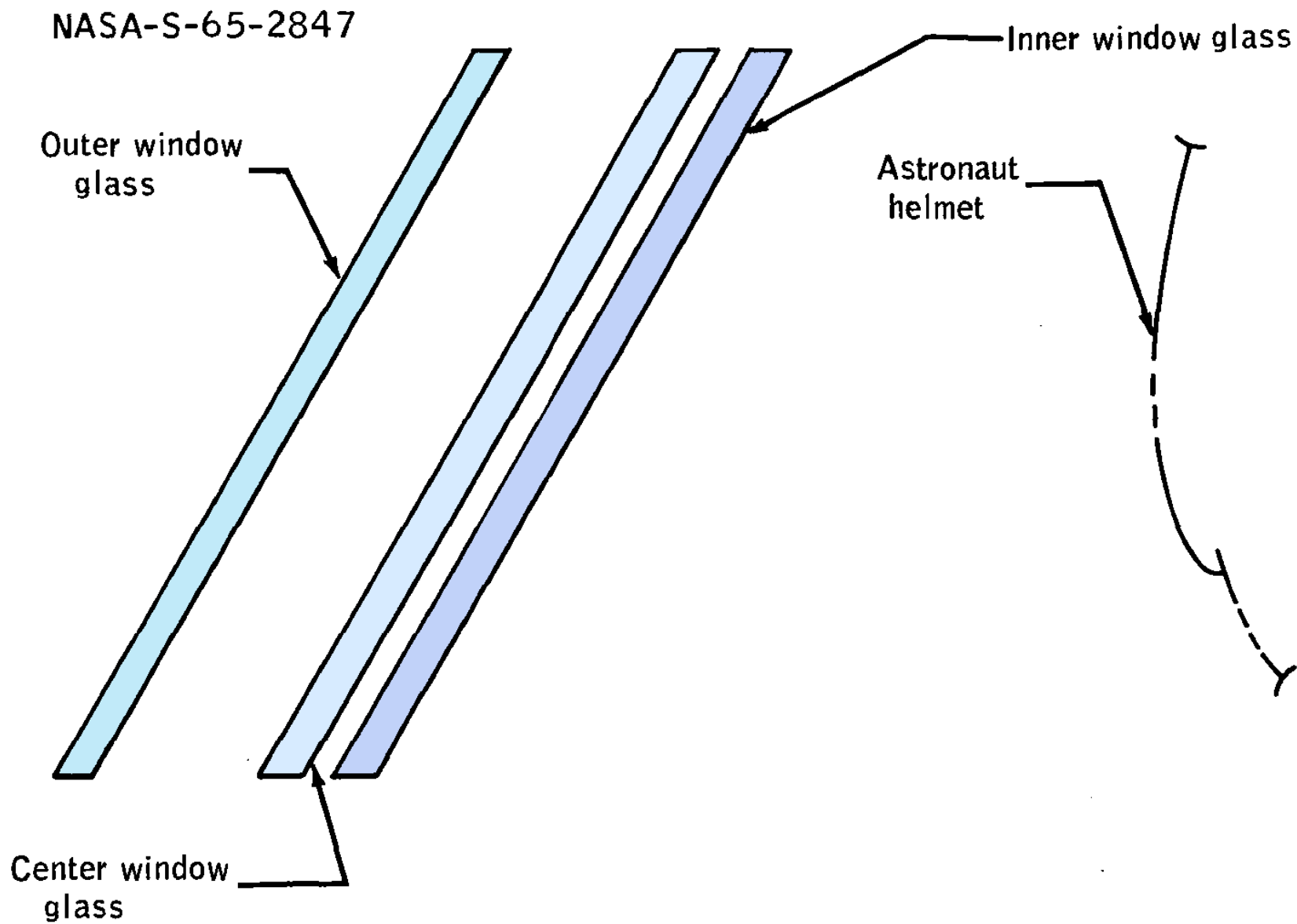


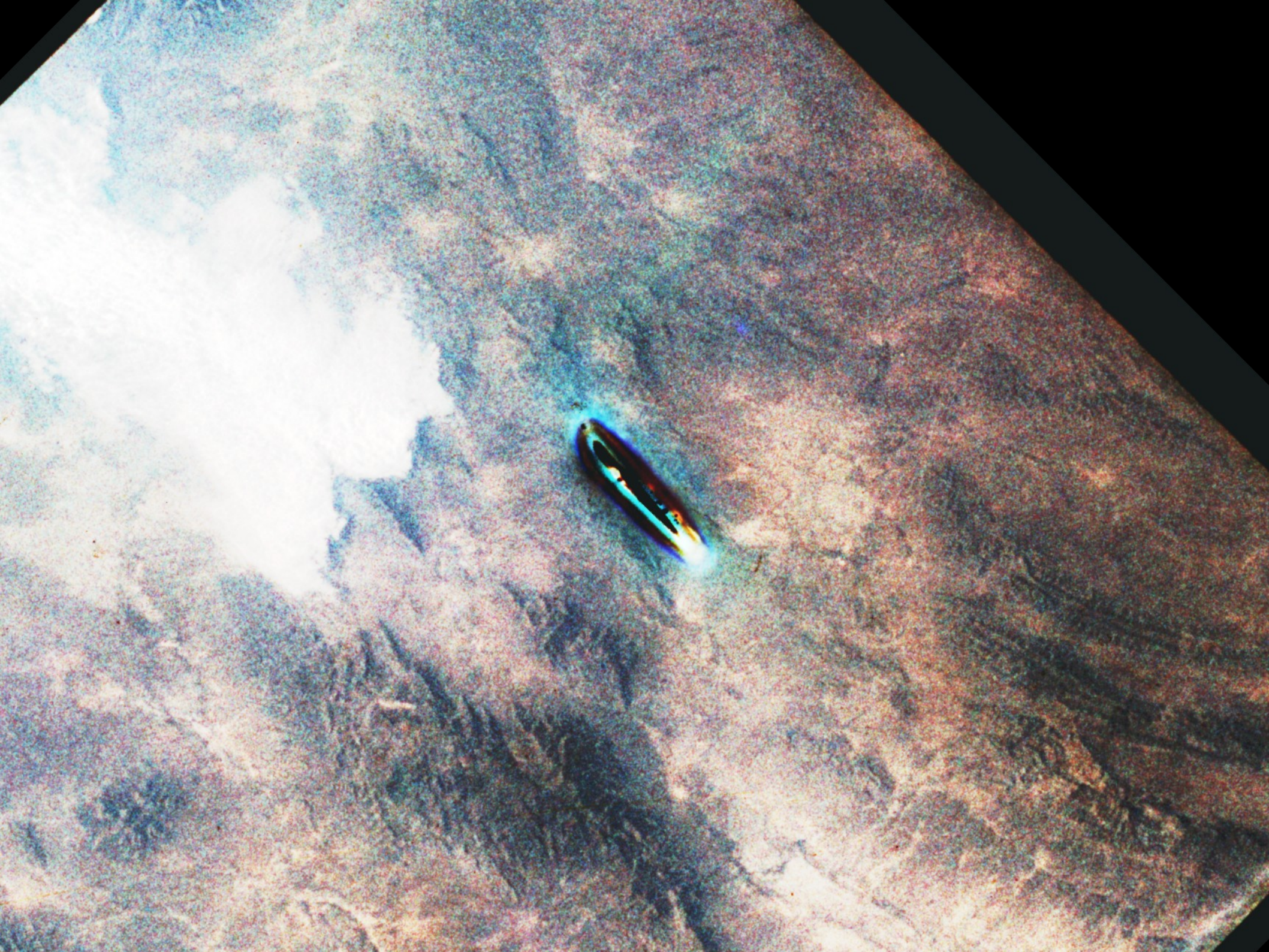


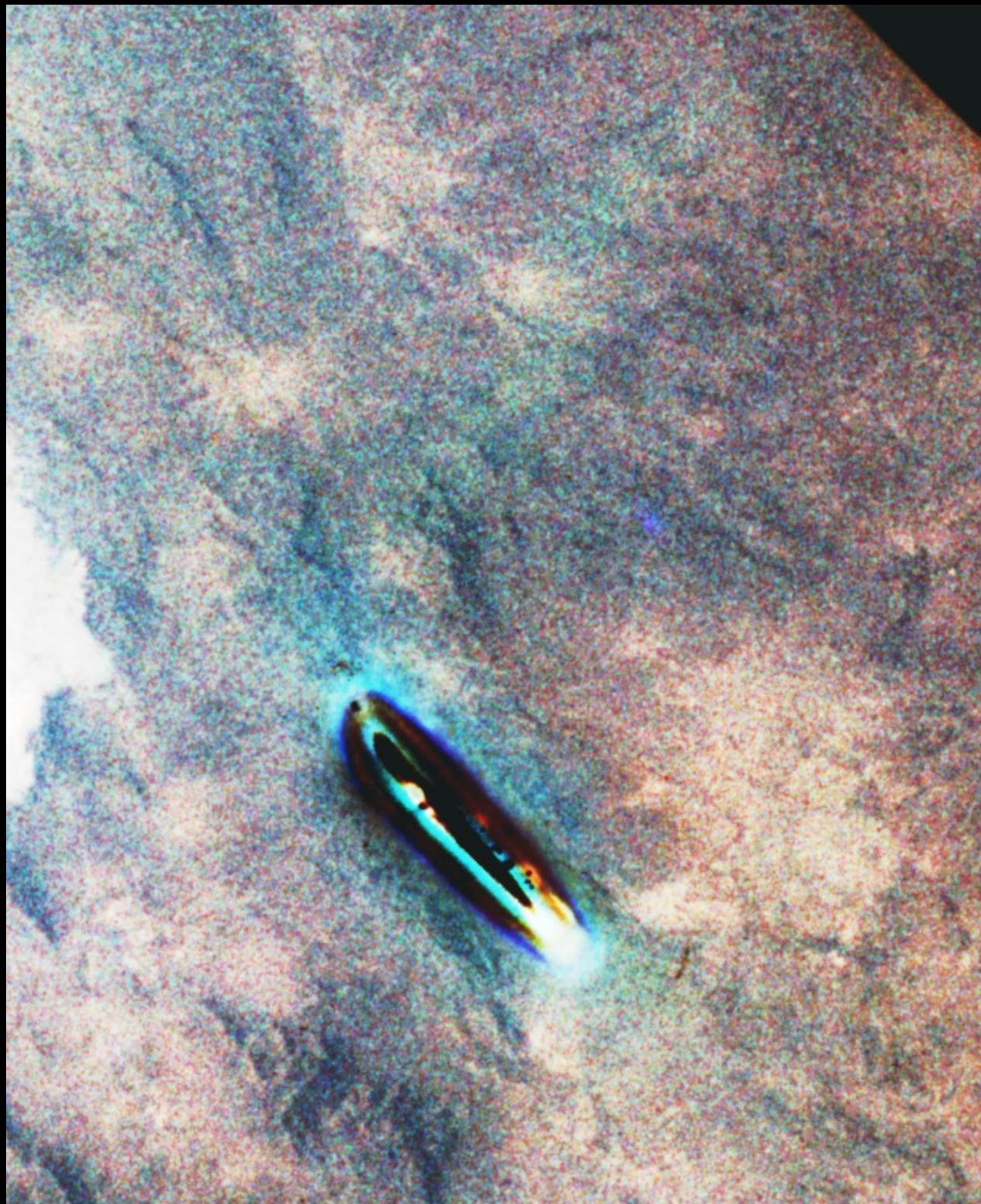


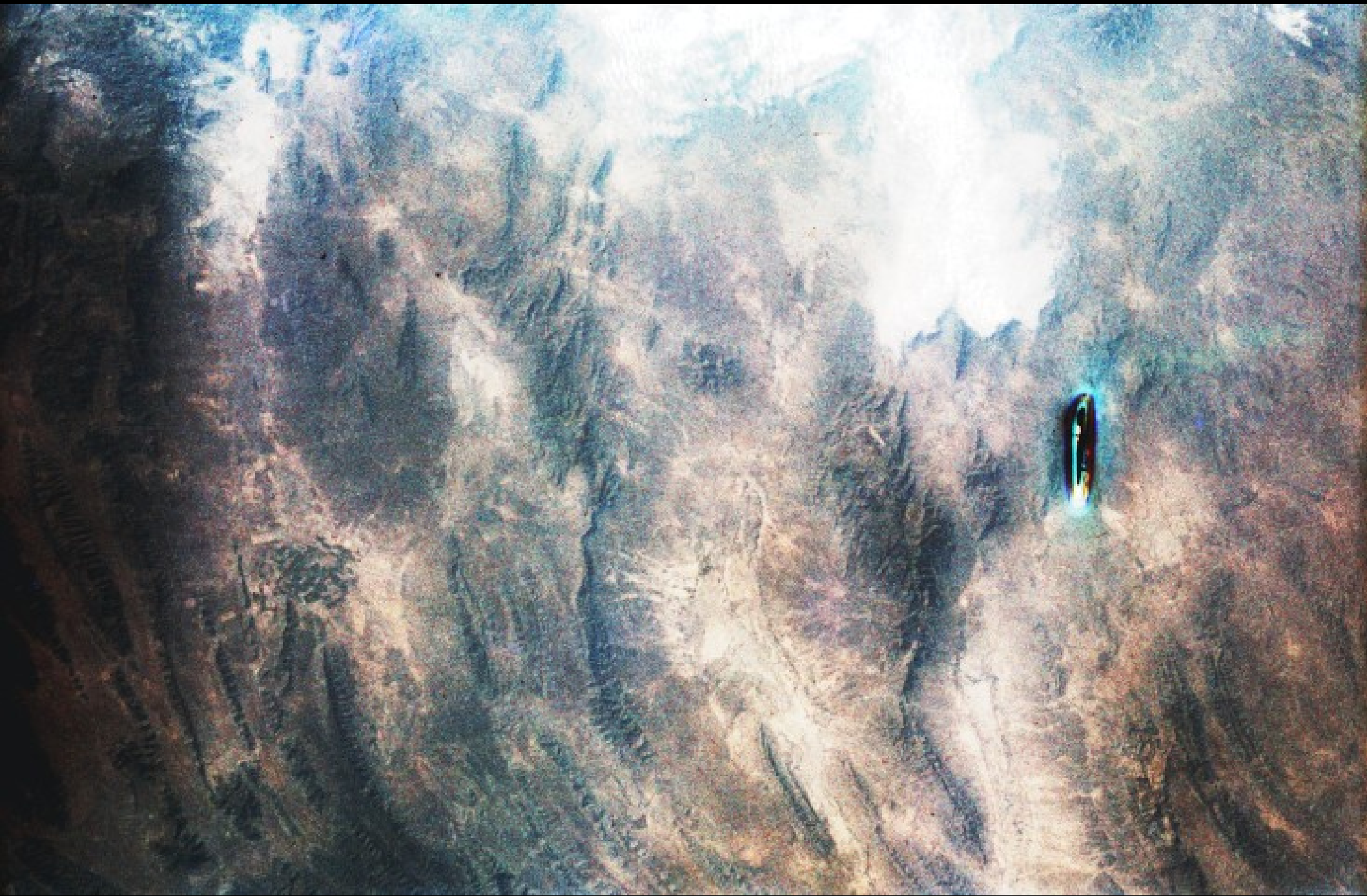




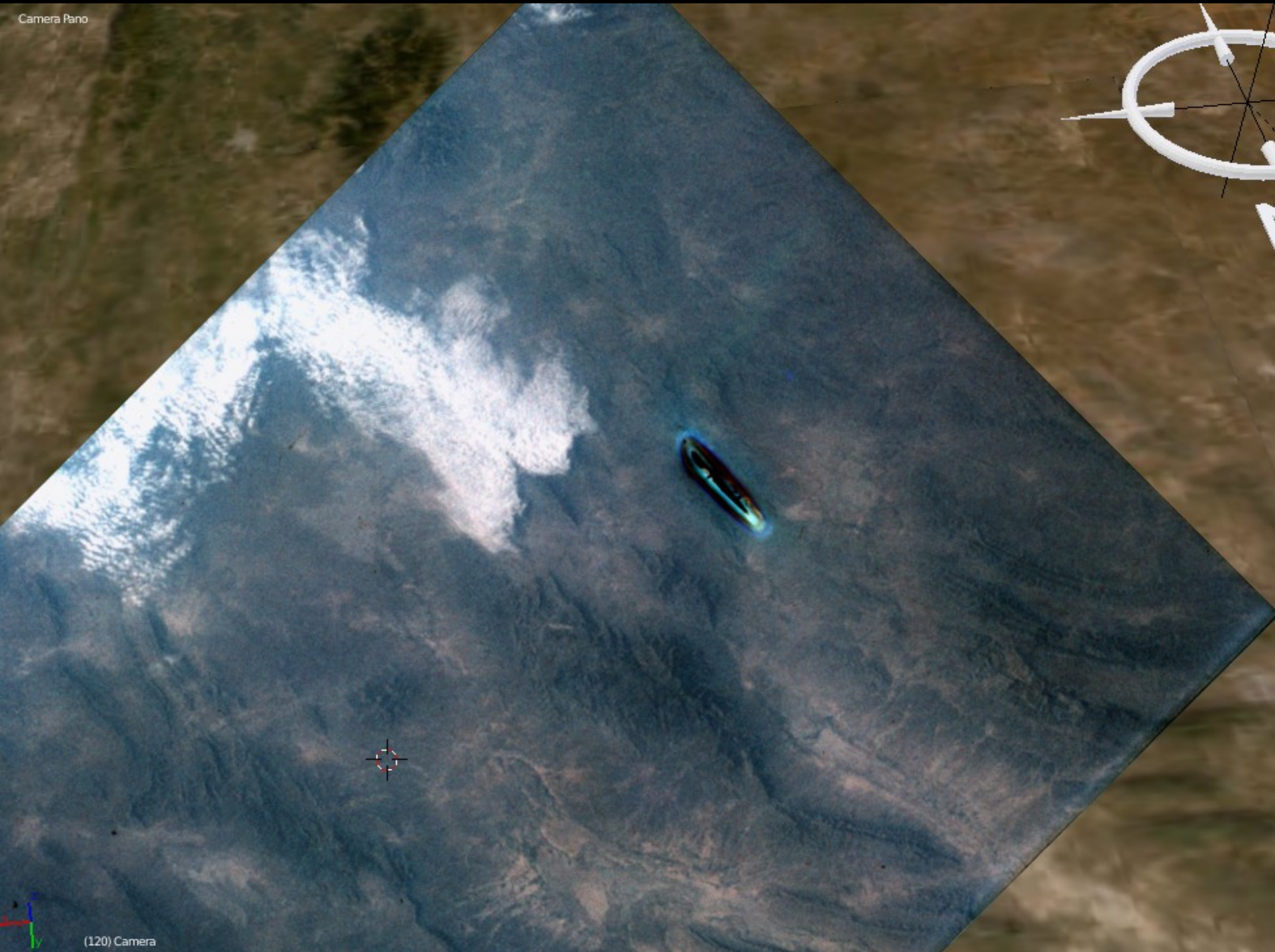




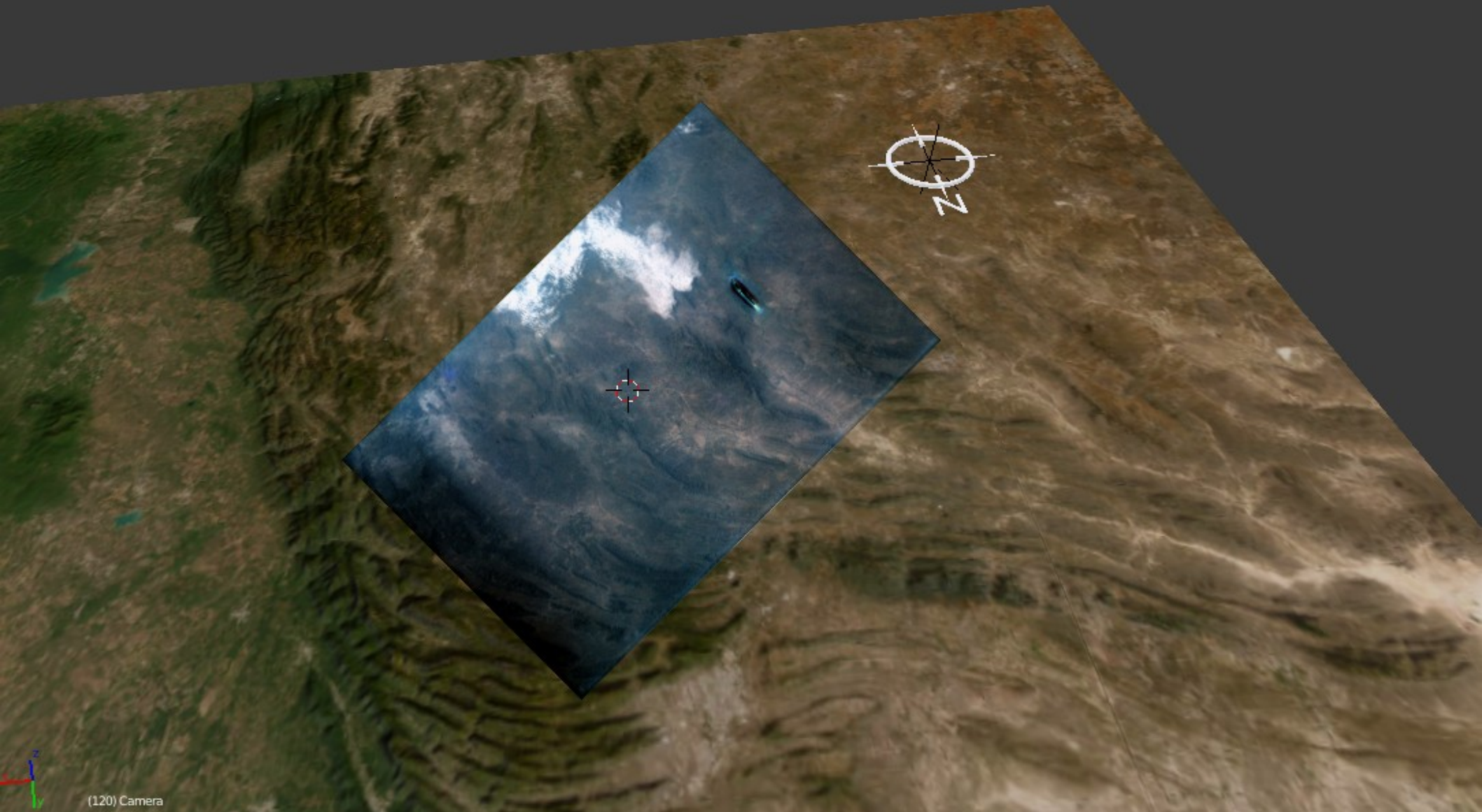


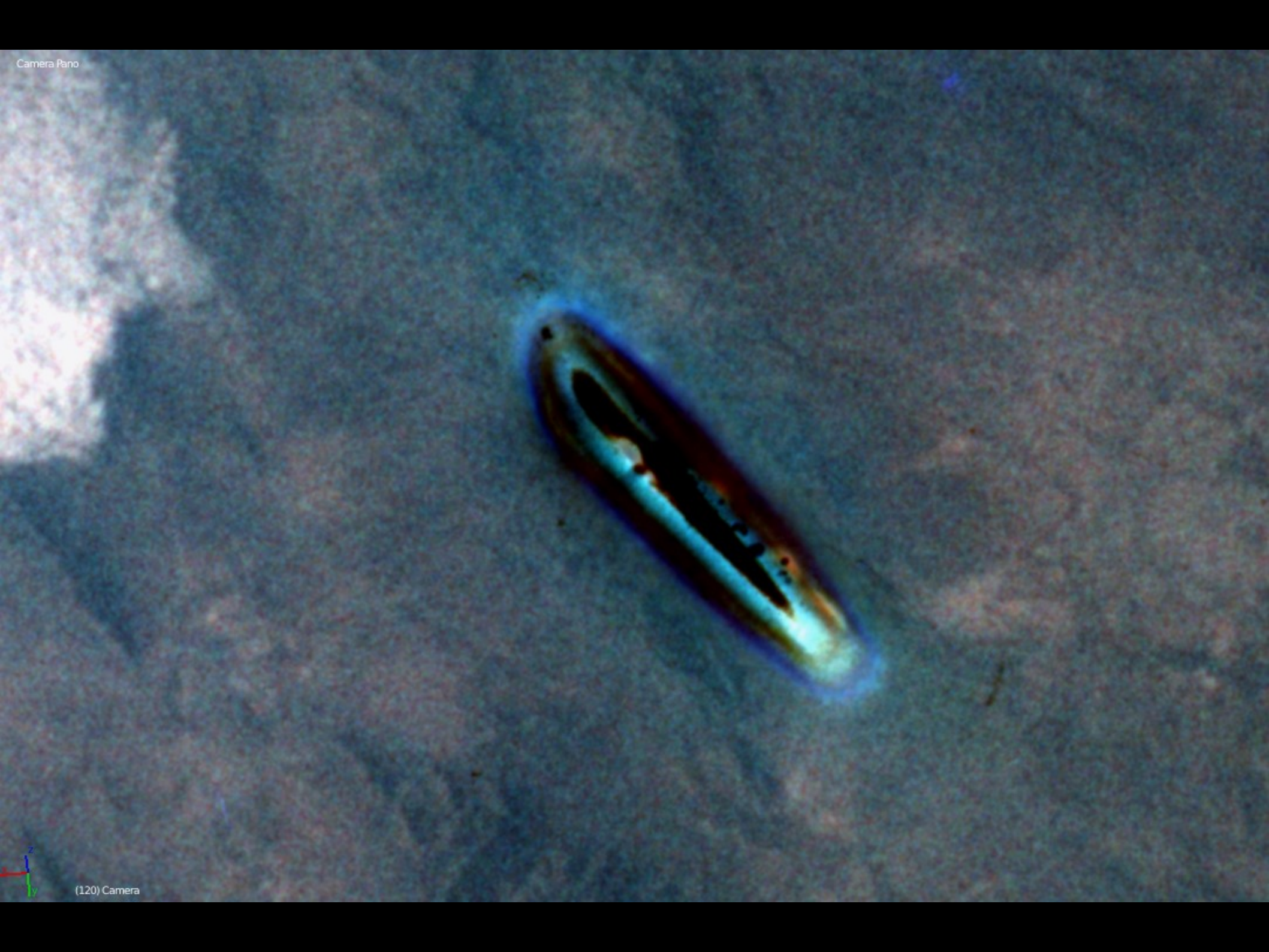


Camera Pano

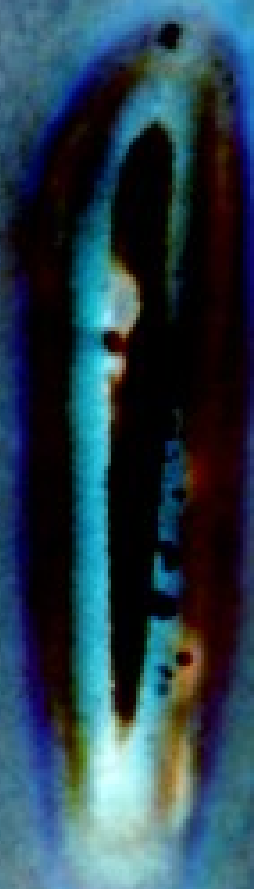


(120) Camera

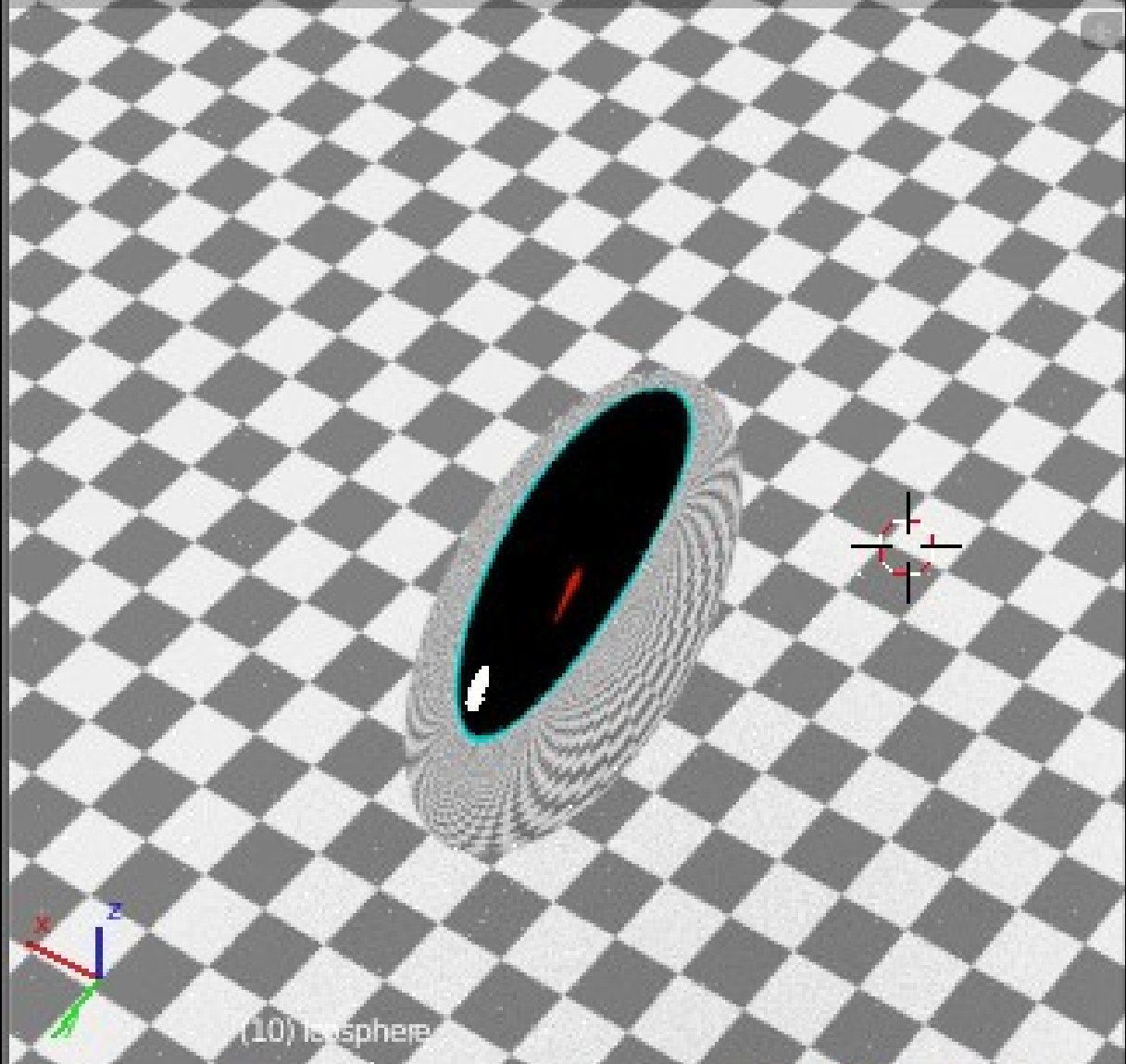




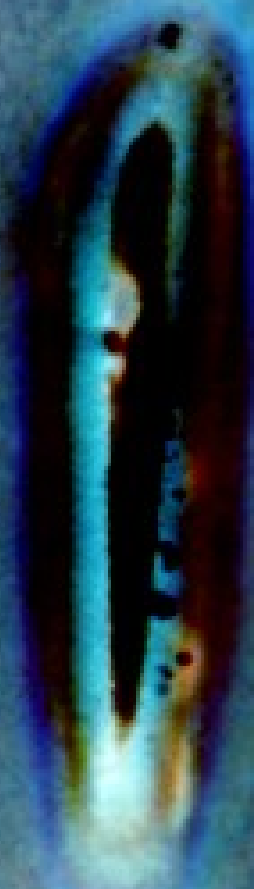


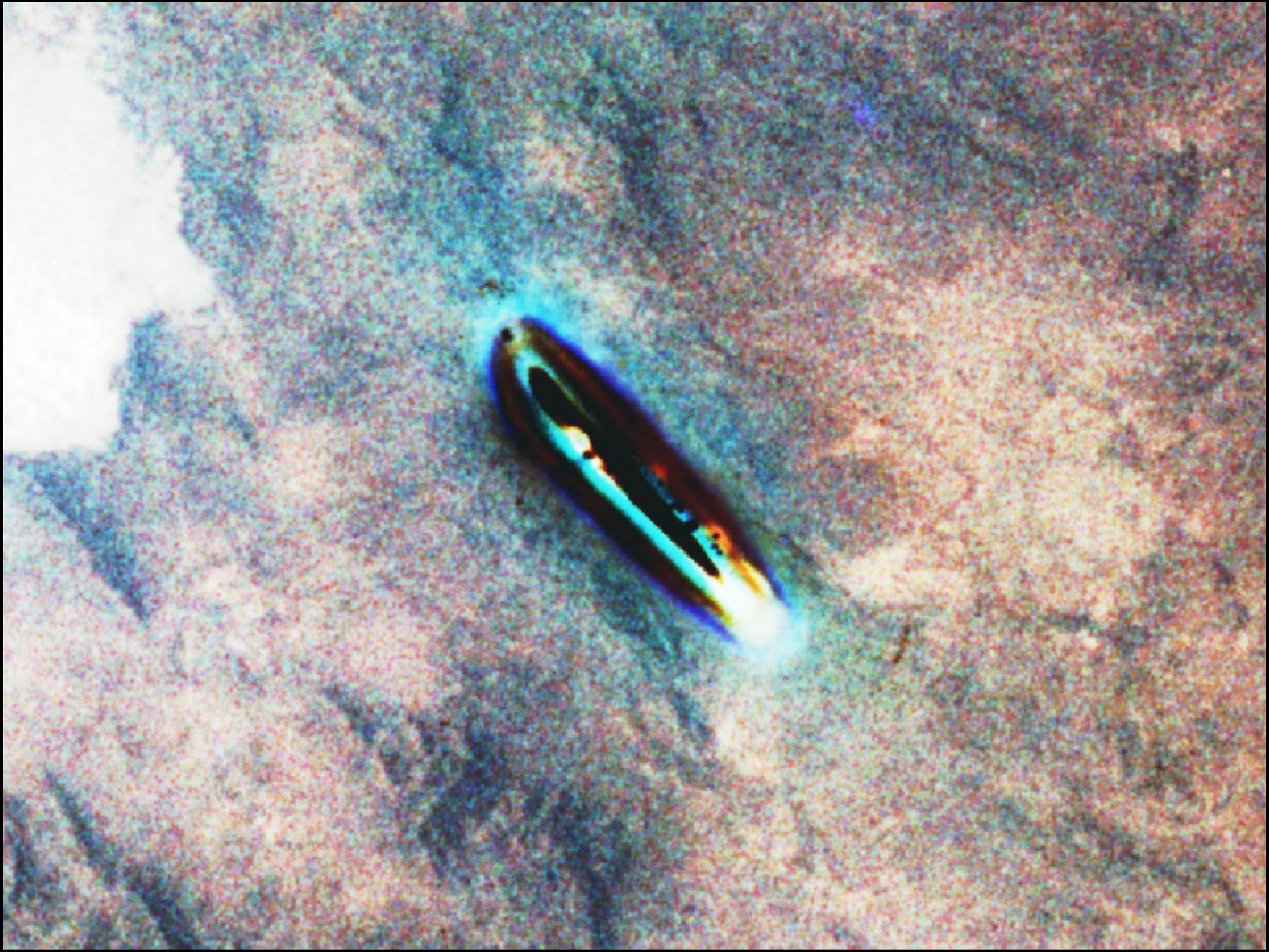


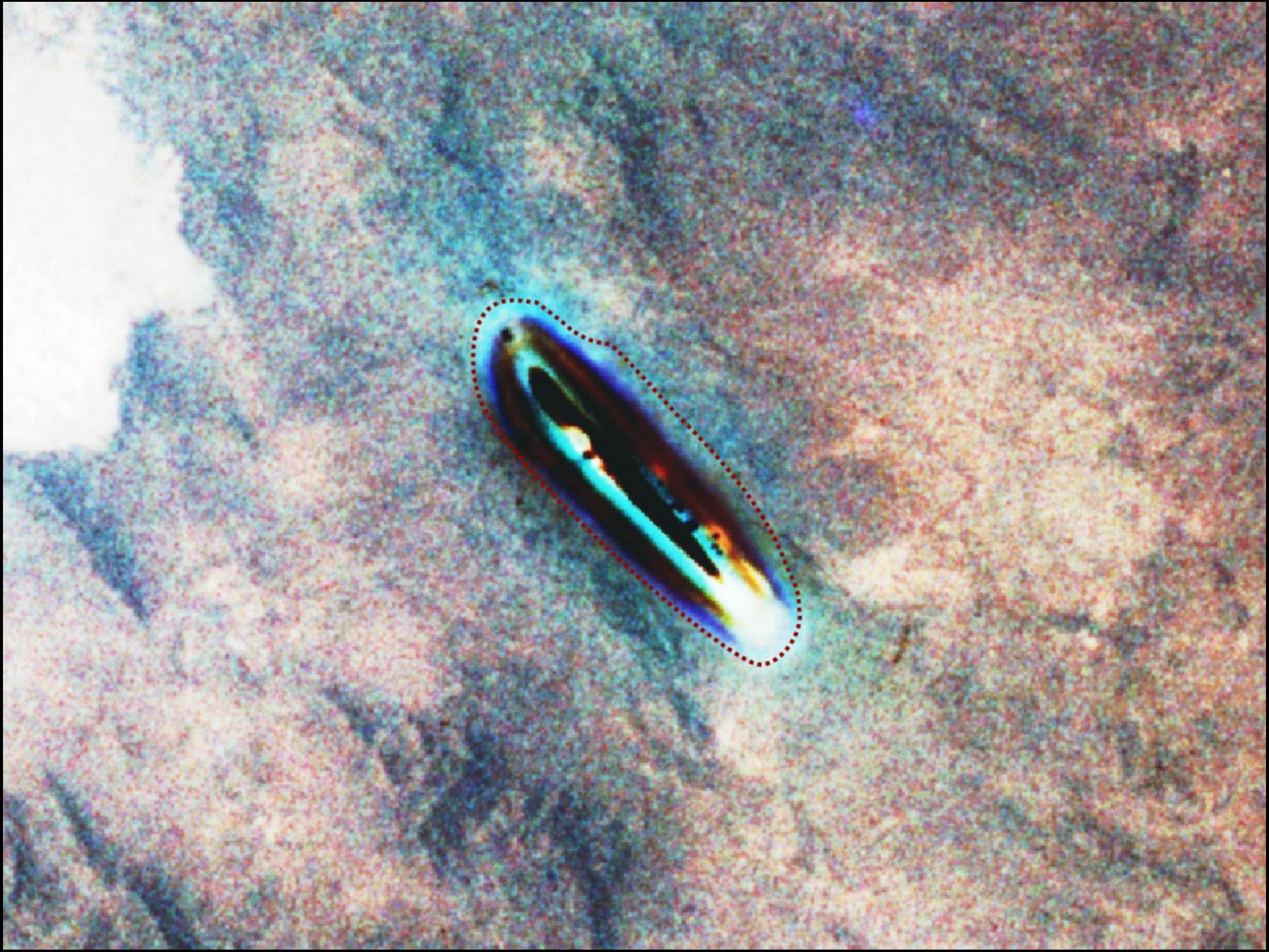
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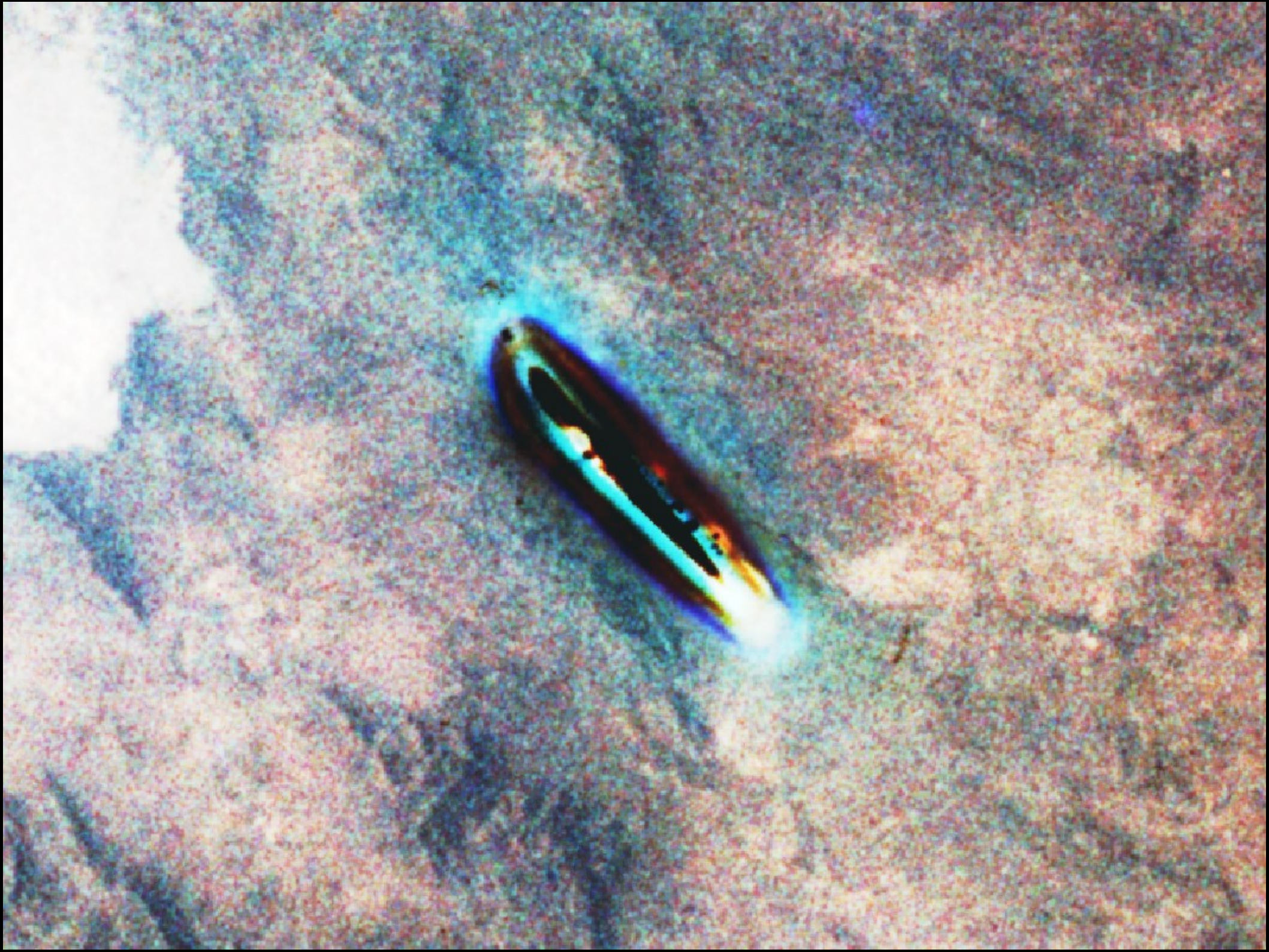


(10) lensphere

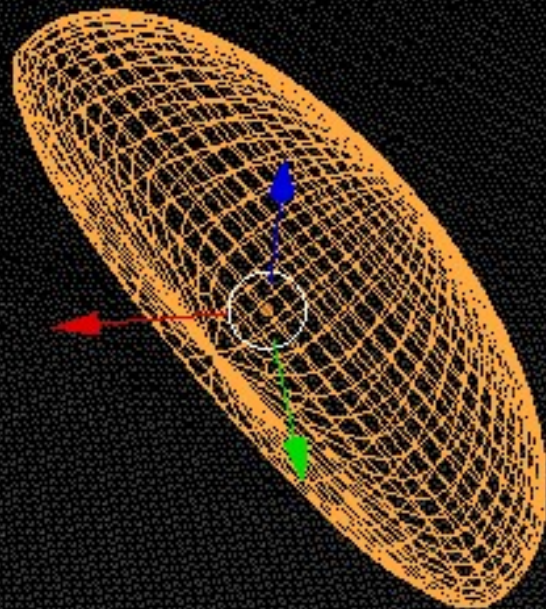




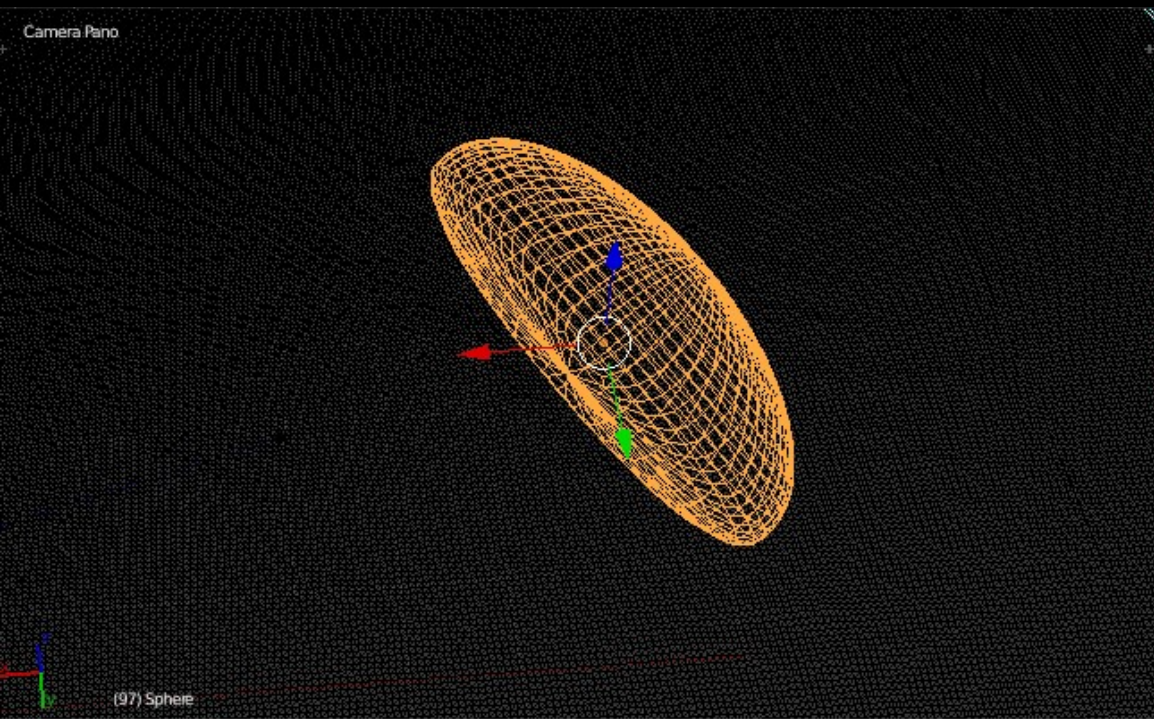




Camera Pano



(97) Sphere



▼ Transform

Translate

Rotate

Scale

Mirror

▼ Edit

Duplicate

Duplicate Linked

Delete

Join

Set Origin

▼ Translate

Vector

X: 0.000

Y: 0.000

Z: 24.121

Constraint Axis

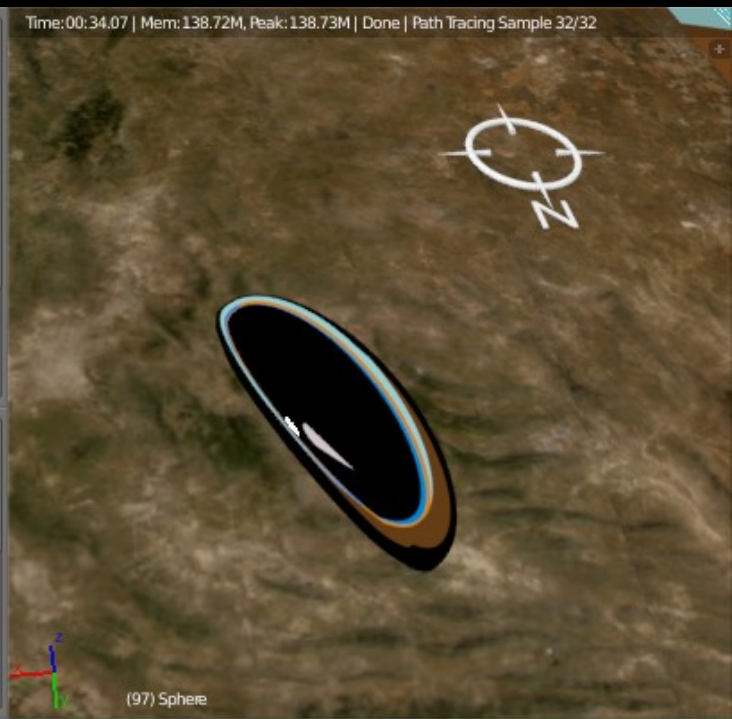
X

Y

Z

Orientation

Global



▼ Animation

Keyframes:

Insert Remove

Motion Paths:

Calculate

Action:

Bake Action

Constraint Axis

X

Y

Z

Orientation

Global

Proportional Editing

▼ Transform

Location:

X: -4.65267

Y: 6.83839

Z: 12.56232

Rotation:

X: 124°

Y: 189°

Z: 284°

XYZ Euler

Scale:

X: 0.100

Y: 0.100

Z: 0.050

Dimensions:

X: 0.19808

Y: 0.19808

Z: 0.06908

Grease Pencil Layer

Scene Object

New

▼ Animation

Keyframes:

Insert Remove

Motion Paths:

Calculate

Action:

Bake Action

Constraint Axis

X

Y

Z

Orientation

Global

Proportional Editing

▼ Transform

Location:

X: -4.65267

Y: 6.83839

Z: 12.56232

Rotation:

X: 124°

Y: 189°

Z: 284°

XYZ Euler

Scale:

X: 0.100

Y: 0.100

Z: 0.050

Dimensions:

X: 0.19808

Y: 0.19808

Z: 0.06908

Grease Pencil Layer

Scene Object

New

▼ Animation

Keyframes:

Insert Remove

Motion Paths:

Calculate

Action:

Bake Action

Constraint Axis

X

Y

Z

Orientation

Global

Proportional Editing

▼ Transform

Location:

X: -4.65267

Y: 6.83839

Z: 12.56232

Rotation:

X: 124°

Y: 189°

Z: 284°

XYZ Euler

Scale:

X: 0.100

Y: 0.100

Z: 0.050

Dimensions:

X: 0.19808

Y: 0.19808

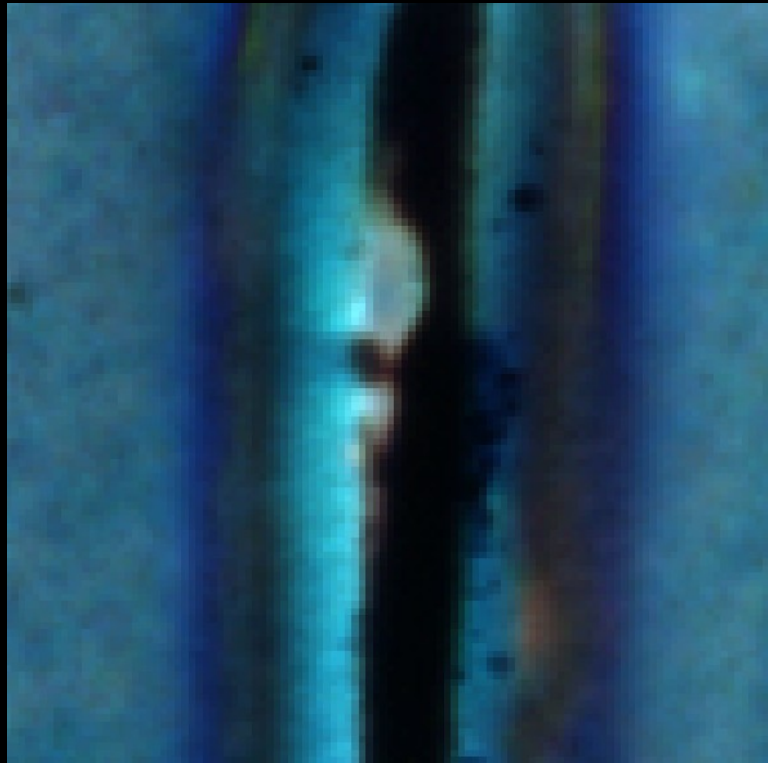
Z: 0.06908

Grease Pencil Layer

Scene Object

New








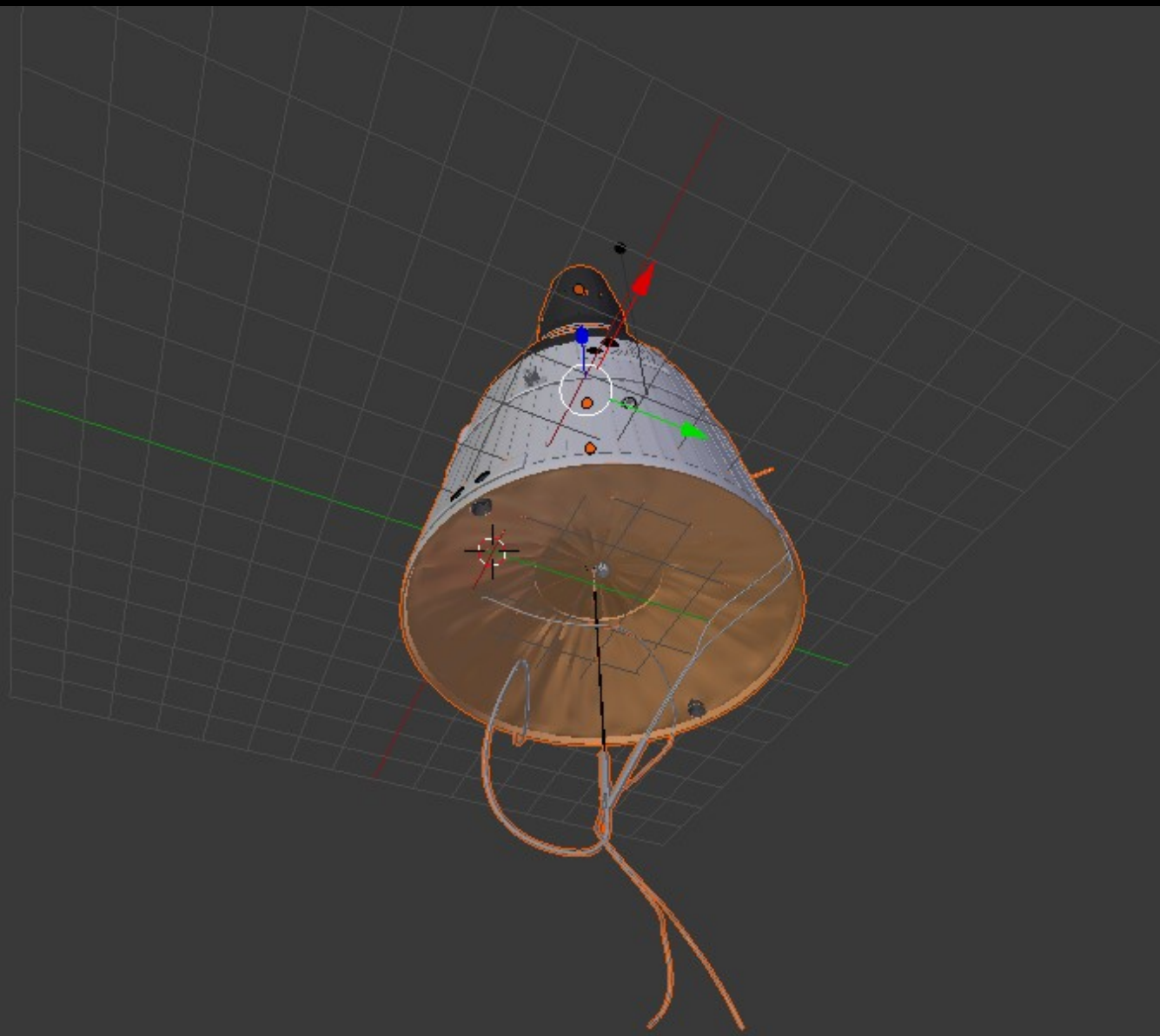


Gemini Capsule 3D model by jk_stuff

\$35  \$30

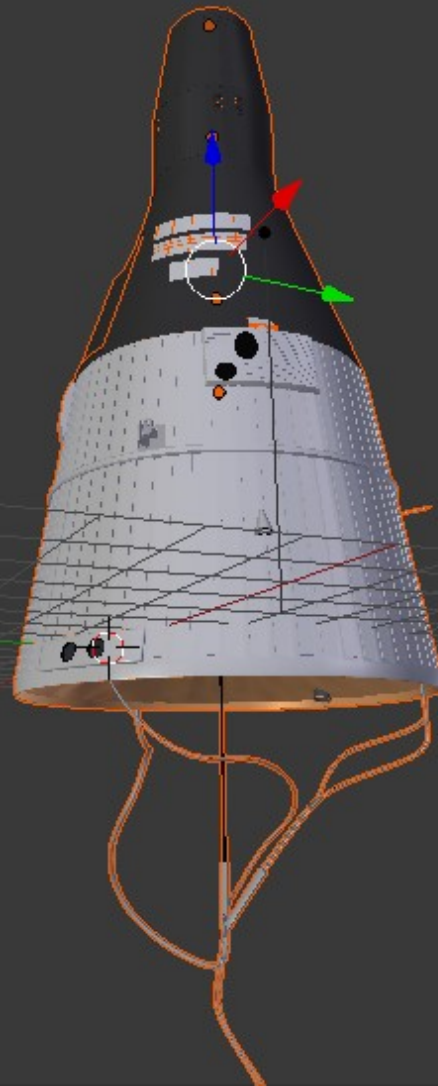
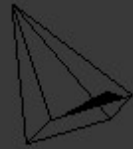
Add to Cart

User Persp



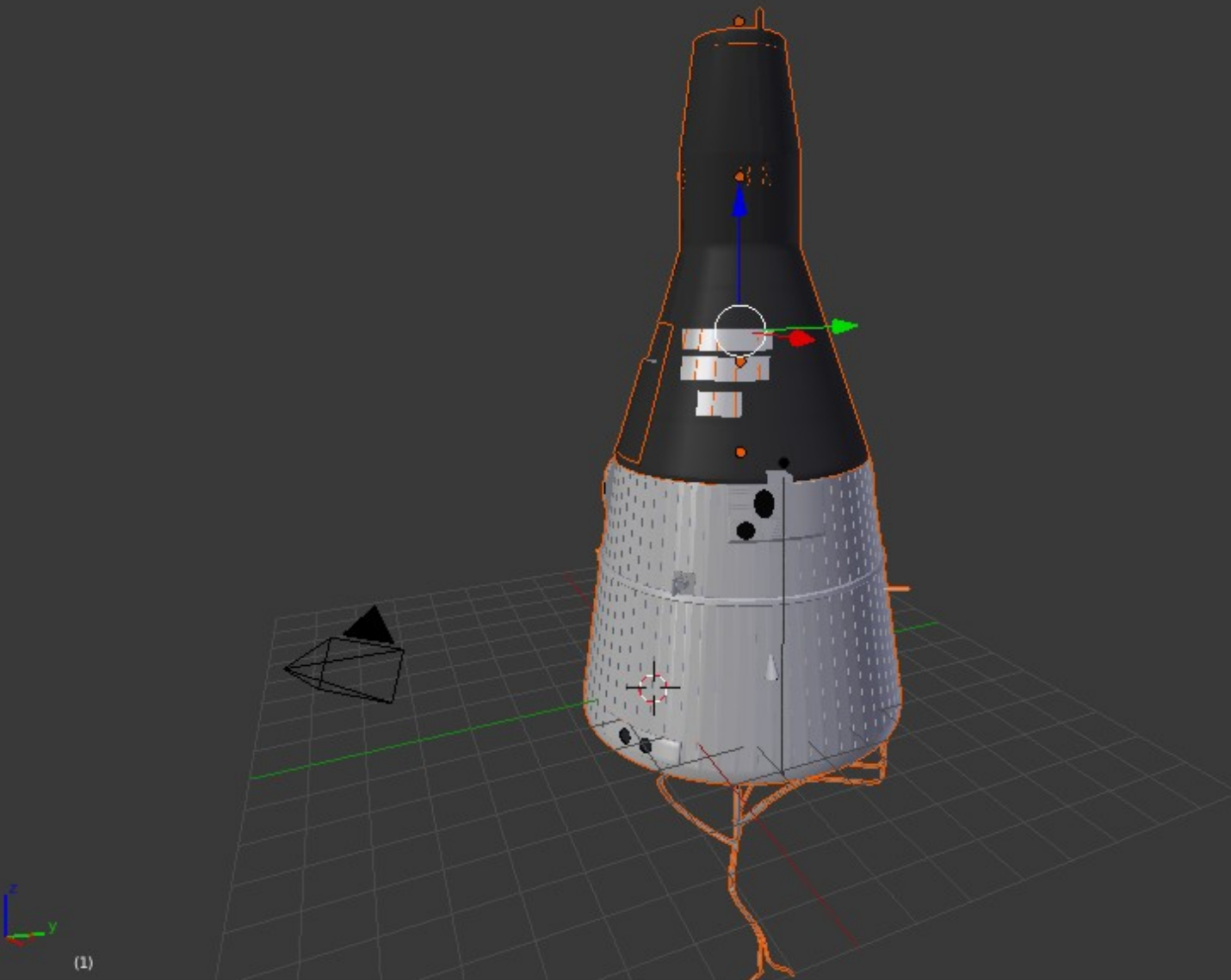
(1)

User Persp



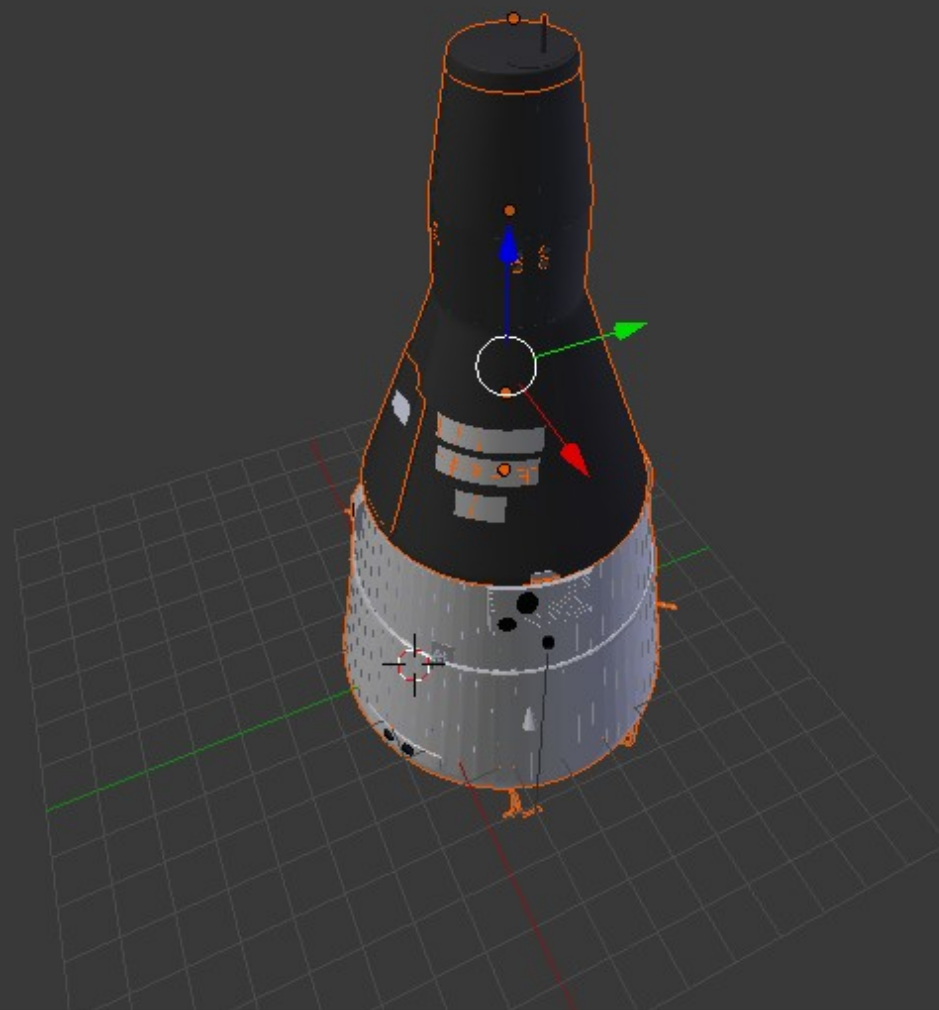
(1)

User Persp



(1)

User Persp



(1)

Terminal
File Edit View Search Terminal Tabs Help

Gemini 4 UFO
File Edit View Go Bookmarks Help

png - 6/14 - 505%

Save
Cancel



Blender* [/home/davisr/Documents/Gemini 4 UFO/light-proto-1/gemini-4-shadow-is-possible.blend]

Window Help Default Scene Blender Render v2.79 | Verts:43,431 | Faces:41,366 | Tris:86,218 | Objects:1/10 | Lamps:0/1 | Mem:10.61M, P

Frame:1 | Time:00:00.96 | Ve:64682 Fa:49713 La:1 |

Render Result
Render Result
Image: size 960 x 540, RGBA float

Slot 1 RenderLayer Combin

Game Properties
Animated Tiles
Start: 0 X:
End: 0 Y:
Speed: 0

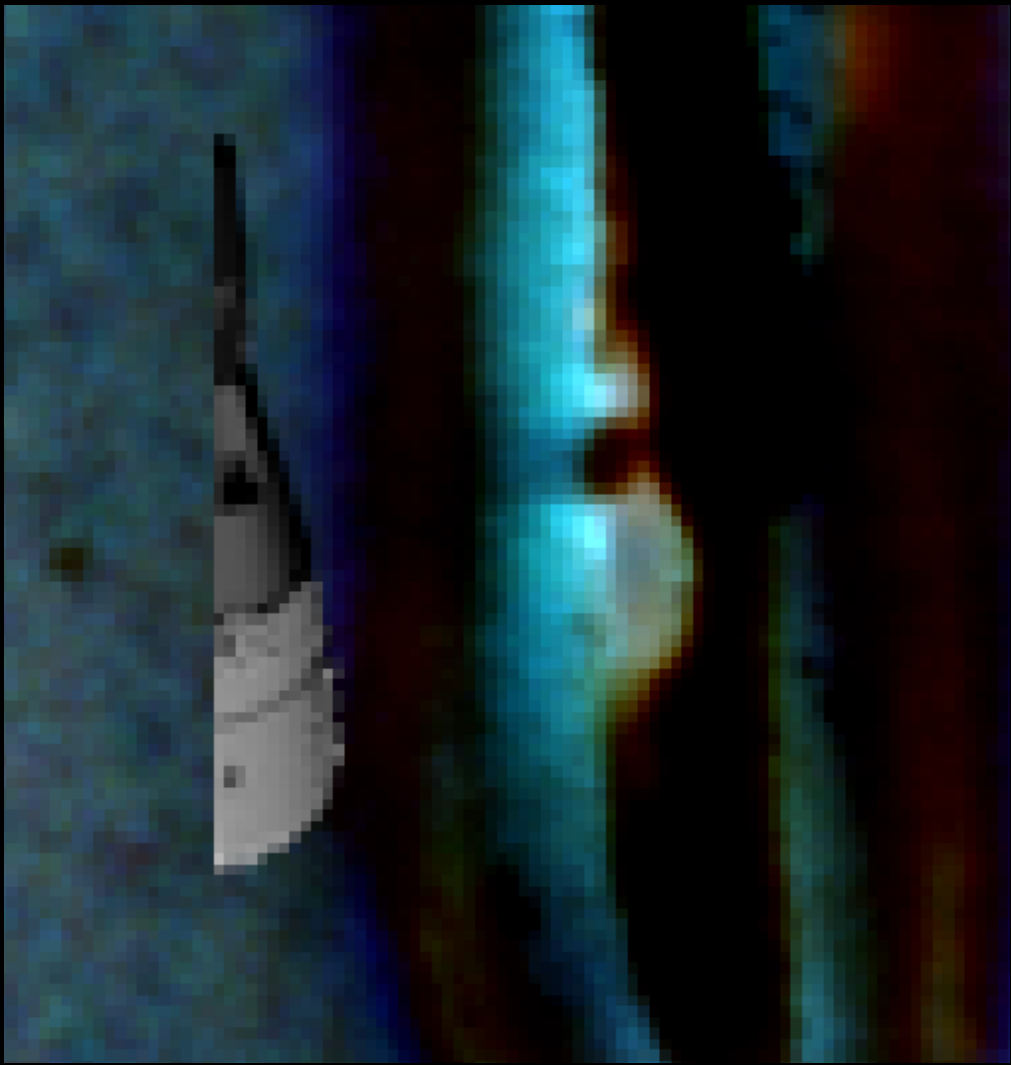
Clamp: Mapping:
X UV Coordinate
Y Reflection

Display
Aspect Ratio: Coordinates:
X: 1.00 Repeat
Y: 1.00

Slot Name:

Grease Pencil Layers
New
New Layer

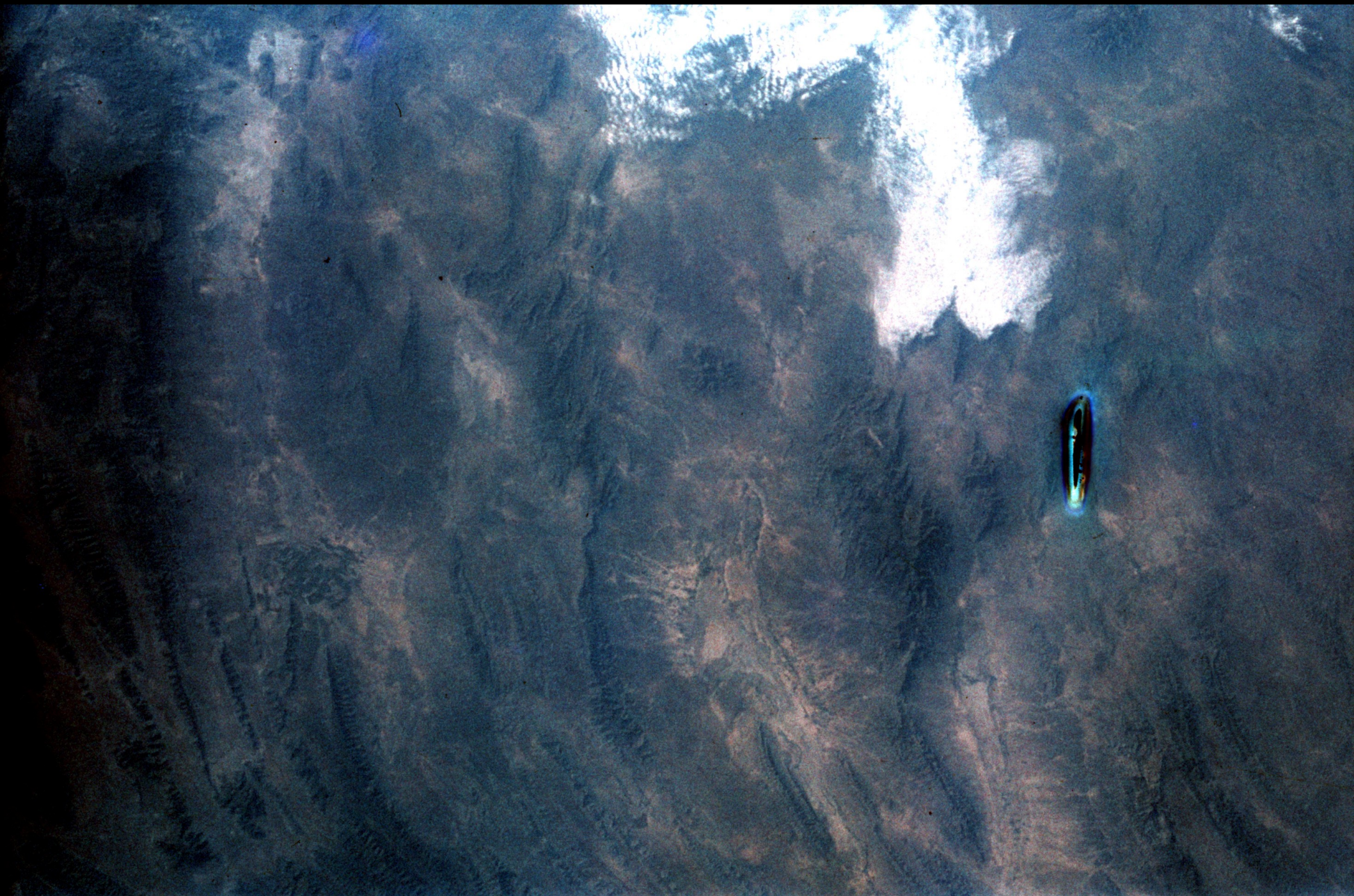
View Image Render Result F View Slot 1

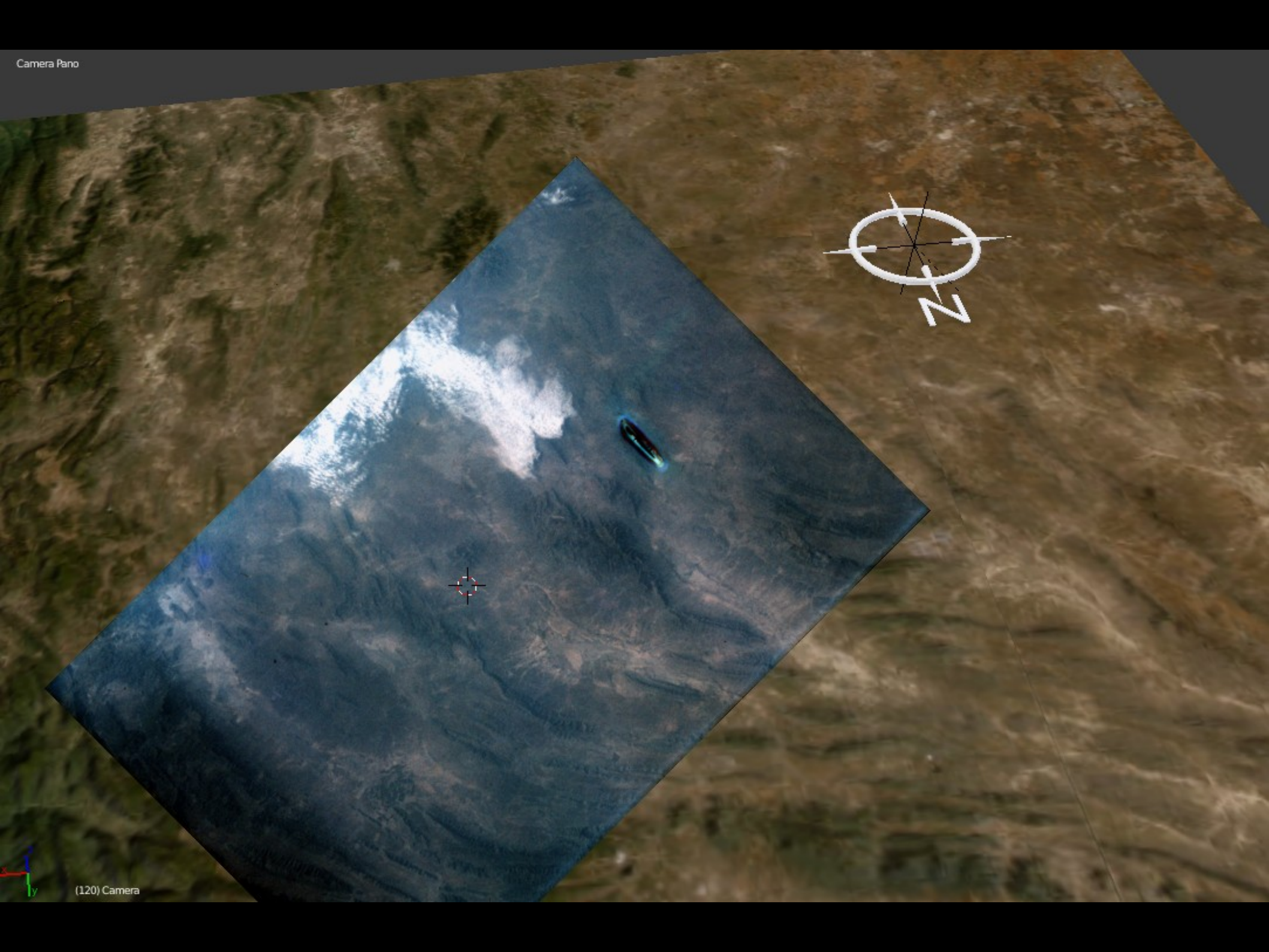


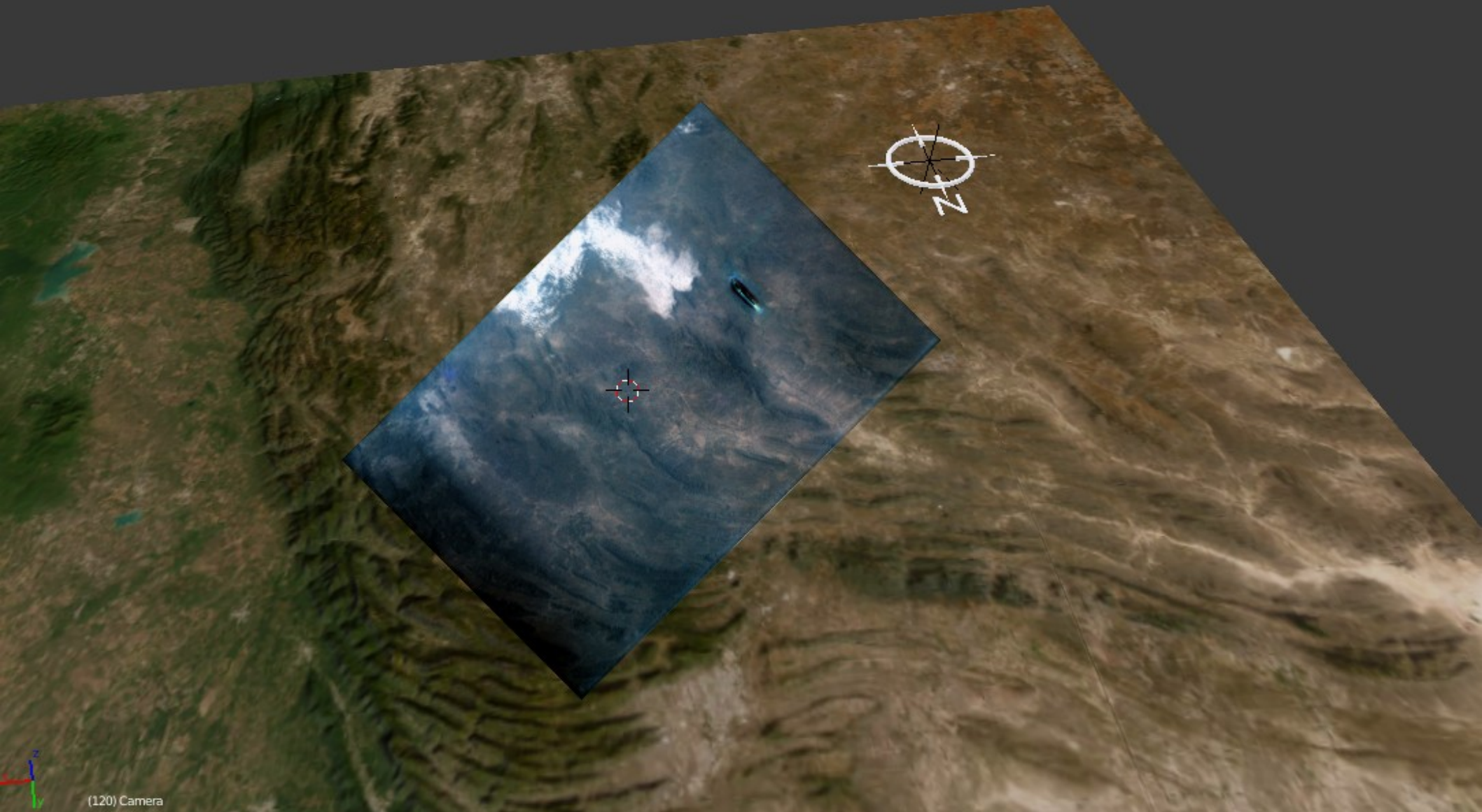












SATELLITE CATALOG

Show 10 entries

Search All Columns:

| NORAD CAT ID | SATNAME | INTLDES | TYPE | COUNTRY | LAUNCH | SITE | DECAY | PERIOD | INCL | APOGEE | PERIGEE | RCS | LATEST ELSET |
|-----------------|---------------|-----------|----------------|---------|------------|-------|------------|--------|-------|--------|---------|-------|-----------------|
| 1 | SL-1 R/B | 1957-001A | ROCKET BODY | CIS | 1957-10-04 | TTMTR | 1957-12-01 | 96.19 | 65.10 | 938 | 214 | LARGE | TLE OMM |
| 2 | SPUTNIK 1 | 1957-001B | PAYLOAD | CIS | 1957-10-04 | TTMTR | 1958-01-03 | 96.10 | 65.00 | 1080 | 64 | | TLE OMM |
| 3 | SPUTNIK 2 | 1957-002A | PAYLOAD | CIS | 1957-11-03 | TTMTR | 1958-04-14 | 103.74 | 65.33 | 1659 | 211 | SMALL | TLE OMM |
| 4 | EXPLORER 1 | 1958-001A | PAYLOAD | US | 1958-02-01 | AFETR | 1970-03-31 | 88.48 | 33.15 | 215 | 183 | | TLE OMM |
| 5 | VANGUARD 1 | 1958-002B | PAYLOAD | US | 1958-03-17 | AFETR | | 132.71 | 34.25 | 3831 | 650 | SMALL | TLE OMM |
| 6 | EXPLORER 3 | 1958-003A | PAYLOAD | US | 1958-03-26 | AFETR | 1958-06-28 | 103.60 | 33.50 | 1739 | 117 | | TLE OMM |
| 7 | SL-1 R/B | 1958-004A | ROCKET BODY | CIS | 1958-05-15 | TTMTR | 1958-12-03 | 102.74 | 65.14 | 1571 | 206 | | TLE OMM |
| 8 | SPUTNIK 3 | 1958-004B | PAYLOAD | CIS | 1958-05-15 | TTMTR | 1960-04-06 | 88.43 | 65.06 | 255 | 139 | LARGE | TLE OMM |
| 9 | EXPLORER 4 | 1958-005A | PAYLOAD | US | 1958-07-26 | AFETR | 1959-10-23 | 92.81 | 50.25 | 585 | 239 | | TLE OMM |
| 10 | SCORE | 1958-006A | PAYLOAD | US | 1958-12-18 | AFETR | 1959-01-21 | 98.21 | 32.29 | 1187 | 159 | | TLE OMM |

Showing 1 to 10 of 55,679 entries



CELESTRAK™

SINCE 1985

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| Special Data Request (GP) | Documentation | Special Data Request (SupGP) |
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| Publications | | |
| Software Repository | | |
| Computers & Satellites Columns | | |
| "Frequently Asked Questions: Two-Line Element Set Format" | | |
| "More Frequently Asked Questions" | | |

| | | | | | | | | | | | |
|-----------|-------|-------------------------|-----|------------|-------|------------|---------|------|--------|-----|------------|
| 1957-001A | 00001 | D SL-1 R/B | CIS | 1957-10-04 | TYMSC | 1957-12-01 | 96.2 | 65.1 | 938 | 214 | 20.4200 |
| 1957-001B | 00002 | *D SPUTNIK 1 | CIS | 1957-10-04 | TYMSC | 1958-01-03 | 96.1 | 65.0 | 1080 | 64 | N/A |
| 1957-002A | 00003 | *D SPUTNIK 2 | CIS | 1957-11-03 | TYMSC | 1958-04-14 | 103.7 | 65.3 | 1659 | 211 | 0.0800 |
| 1958-001A | 00004 | *D EXPLORER 1 | US | 1958-02-01 | AFETR | 1970-03-31 | 88.5 | 33.2 | 215 | 183 | N/A |
| 1958-002B | 00005 | * VANGUARD 1 | US | 1958-03-17 | AFETR | | 132.7 | 34.3 | 3831 | 650 | 0.1220 |
| 1958-003A | 00006 | *D EXPLORER 3 | US | 1958-03-26 | AFETR | 1958-06-28 | 103.6 | 33.5 | 1739 | 117 | N/A |
| 1958-004A | 00007 | D SL-1 R/B | CIS | 1958-05-15 | TYMSC | 1958-12-03 | 102.7 | 65.1 | 1571 | 206 | N/A |
| 1958-004B | 00008 | *D SPUTNIK 3 | CIS | 1958-05-15 | TYMSC | 1960-04-06 | 88.4 | 65.1 | 255 | 139 | 11.8400 |
| 1958-005A | 00009 | *D EXPLORER 4 | US | 1958-07-26 | AFETR | 1959-10-23 | 92.8 | 50.3 | 585 | 239 | N/A |
| 1958-006A | 00010 | *D SCORE | US | 1958-12-18 | AFETR | 1959-01-21 | 98.2 | 32.3 | 1187 | 159 | N/A |
| 1959-001A | 00011 | * VANGUARD 2 | US | 1959-02-17 | AFETR | | 121.4 | 32.9 | 2928 | 554 | 0.3931 |
| 1959-001B | 00012 | VANGUARD R/B | US | 1959-02-17 | AFETR | | 125.8 | 32.9 | 3317 | 555 | 0.5266 |
| 1959-002A | 00013 | *D DISCOVERER 1 | US | 1959-02-28 | AFWTR | 1959-03-03 | 92.7 | 90.0 | 697 | 114 | N/A |
| 1959-003A | 00014 | *D DISCOVERER 2 | US | 1959-04-13 | AFWTR | 1959-04-26 | 90.4 | 89.9 | 346 | 239 | N/A |
| 1959-004A | 00015 | *D EXPLORER 6 | US | 1959-08-07 | AFETR | 1961-06-30 | 762.3 | 47.0 | 42276 | 251 | N/A |
| 1958-002A | 00016 | VANGUARD R/B | US | 1958-03-17 | AFETR | | 137.3 | 34.3 | 4224 | 651 | 0.2282 |
| 1959-004B | 00017 | D THOR ABLE R/B | US | 1959-08-07 | AFETR | 1961-06-30 | 719.0 | 47.1 | 40215 | 198 | 0.0200 |
| 1959-005A | 00018 | *D DISCOVERER 5 | US | 1959-08-13 | AFWTR | 1959-09-28 | 89.1 | 80.0 | 323 | 137 | N/A |
| 1959-006A | 00019 | *D DISCOVERER 6 | US | 1959-08-19 | AFWTR | 1959-10-20 | 90.9 | 84.0 | 469 | 171 | N/A |
| 1959-007A | 00020 | * VANGUARD 3 | US | 1959-09-18 | AFETR | | 124.5 | 33.3 | 3249 | 510 | 0.6412 |
| 1959-008A | 00021 | *D LUNA 3 | CIS | 1959-10-04 | TYMSC | 1960-04-20 | 21563.2 | 55.0 | 499998 | 500 | N/A |
| 1959-009A | 00022 | * EXPLORER 7 | US | 1959-10-13 | AFETR | | 96.0 | 50.3 | 658 | 479 | 0.5003 |
| 1959-009B | 00023 | D JUNO II R/B | US | 1959-10-13 | AFETR | 1989-07-16 | 89.2 | 50.3 | 249 | 225 | 0.5778 |
| 1959-010A | 00024 | *D DISCOVERER 7 | US | 1959-11-07 | AFWTR | 1959-11-26 | 91.5 | 81.6 | 539 | 161 | N/A |
| 1959-011A | 00025 | *D DISCOVERER 8 | US | 1959-11-20 | AFWTR | 1960-03-08 | 88.0 | 80.7 | 239 | 115 | N/A |
| 1959-005B | 00026 | *D DISCOVERER 5 CAPSULE | US | 1959-08-13 | AFWTR | 1961-02-11 | 88.7 | 78.9 | 280 | 143 | N/A |
| 1960-001A | 00027 | * PIONEER 5 | US | 1960-03-11 | AFETR | | | | | | 0.0008 NEA |
| 1960-002A | 00028 | D THOR ABLE R/B | US | 1960-04-01 | AFETR | 1991-07-03 | 87.8 | 48.3 | 168 | 163 | 1.6017 |
| 1960-002B | 00029 | *- TIROS 1 | US | 1960-04-01 | AFETR | | 97.6 | 48.4 | 662 | 628 | 0.8030 |
| 1960-003A | 00030 | D THOR ABLESTAR R/B | US | 1960-04-13 | AFETR | 1961-08-18 | 88.4 | 51.3 | 194 | 194 | N/A |
| 1960-003B | 00031 | *D TRANSIT 1B | US | 1960-04-13 | AFETR | 1967-10-05 | 88.7 | 51.2 | 220 | 201 | N/A |
| 1960-004A | 00032 | *D DISCOVERER 11 | US | 1960-04-15 | AFWTR | 1960-04-26 | 89.7 | 80.1 | 377 | 142 | N/A |
| 1960-003C | 00033 | D THOR ABLESTAR DEB | US | 1960-04-13 | AFETR | 1960-07-17 | 93.6 | 51.3 | 615 | 285 | N/A |
| 1960-005A | 00034 | *D SPUTNIK 4 | CIS | 1960-05-15 | TYMSC | 1962-09-05 | 87.8 | 65.0 | 167 | 167 | N/A |
| 1960-005B | 00035 | D SL-3 R/B | CIS | 1960-05-15 | TYMSC | 1960-07-17 | 88.5 | 64.9 | 199 | 199 | N/A |
| 1960-005C | 00036 | *D SPUTNIK 4 CABIN | CIS | 1960-05-15 | TYMSC | 1965-10-15 | 88.3 | 65.0 | 206 | 171 | N/A |
| 1960-005D | 00037 | D SPUTNIK 4 DEB | CIS | 1960-05-15 | TYMSC | 1961-06-30 | 92.9 | 64.9 | 552 | 282 | N/A |
| 1960-005E | 00038 | D SPUTNIK 4 DEB | CIS | 1960-05-15 | TYMSC | 1960-08-20 | 90.6 | 64.9 | 328 | 282 | N/A |
| 1960-005F | 00039 | D SPUTNIK 4 DEB | CIS | 1960-05-15 | TYMSC | 1960-09-24 | 91.0 | 64.9 | 364 | 283 | N/A |
| 1960-005G | 00040 | D SPUTNIK 4 DEB | CIS | 1960-05-15 | TYMSC | 1960-09-24 | 92.1 | 64.9 | 475 | 282 | N/A |
| 1960-005H | 00041 | D SPUTNIK 4 DEB | CIS | 1960-05-15 | TYMSC | 1960-09-30 | 90.7 | 64.9 | 339 | 283 | N/A |
| 1960-005J | 00042 | D SPUTNIK 4 DEB | CIS | 1960-05-15 | TYMSC | 1960-10-01 | 91.3 | 64.9 | 420 | 251 | N/A |
| 1960-006A | 00043 | *D MIDAS 2 | US | 1960-05-24 | AFETR | 1974-02-07 | 87.8 | 33.1 | 168 | 165 | N/A |
| 1960-006B | 00044 | D MIDAS 2 DEB | US | 1960-05-24 | AFETR | 1960-12-05 | 89.1 | 33.0 | 228 | 228 | N/A |
| 1960-007A | 00045 | * TRANSIT 2A | US | 1960-06-22 | AFETR | | 100.4 | 66.7 | 964 | 592 | 0.4299 |
| 1960-007B | 00046 | * SOLRAD 1 (GREB) | US | 1960-06-22 | AFETR | | 99.3 | 66.7 | 867 | 582 | 0.3501 |
| 1960-007C | 00047 | THOR ABLESTAR R/B | US | 1960-06-22 | AFETR | | 88.8 | 66.7 | 816 | 582 | 0.3501 |

SATCAT



Query

History

1 SELECT * FROM satcat

Grid view

Form view









 Total rows loaded: 55680

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|----|---------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | SL-1 R/B | 1957-001A | R/B | 1957-10-04 | 1957-12-01 | 96.19 | 65.1 | 938 | 214 | EA |
| 2 | SPUTNIK 1 | 1957-001B | PAY | 1957-10-04 | 1958-01-03 | 96.1 | 65 | 1080 | 64 | EA |
| 3 | SPUTNIK 2 | 1957-002A | PAY | 1957-11-03 | 1958-04-14 | 103.74 | 65.33 | 1659 | 211 | EA |
| 4 | EXPLORER 1 | 1958-001A | PAY | 1958-02-01 | 1970-03-31 | 88.48 | 33.15 | 215 | 183 | EA |
| 5 | VANGUARD 1 | 1958-002B | PAY | 1958-03-17 | | 132.71 | 34.25 | 3831 | 650 | EA |
| 6 | EXPLORER 3 | 1958-003A | PAY | 1958-03-26 | 1958-06-28 | 103.6 | 33.5 | 1739 | 117 | EA |
| 7 | SL-1 R/B | 1958-004A | R/B | 1958-05-15 | 1958-12-03 | 102.74 | 65.14 | 1571 | 206 | EA |
| 8 | SPUTNIK 3 | 1958-004B | PAY | 1958-05-15 | 1960-04-06 | 88.43 | 65.06 | 255 | 139 | EA |
| 9 | EXPLORER 4 | 1958-005A | PAY | 1958-07-26 | 1959-10-23 | 92.81 | 50.25 | 585 | 239 | EA |
| 10 | SCORE | 1958-006A | PAY | 1958-12-18 | 1959-01-21 | 98.21 | 32.29 | 1187 | 159 | EA |
| 11 | VANGUARD 2 | 1959-001A | PAY | 1959-02-17 | | 121.35 | 32.87 | 2928 | 554 | EA |
| 12 | VANGUARD R/B | 1959-001B | R/B | 1959-02-17 | | 125.75 | 32.91 | 3317 | 555 | EA |
| 13 | DISCOVERER 1 | 1959-002A | PAY | 1959-02-28 | 1959-03-03 | 92.7 | 90 | 697 | 114 | EA |
| 14 | DISCOVERER 2 | 1959-003A | PAY | 1959-04-13 | 1959-04-26 | 90.4 | 89.9 | 346 | 239 | EA |
| 15 | EXPLORER 6 | 1959-004A | PAY | 1959-08-07 | 1961-06-30 | 762.25 | 46.95 | 42276 | 251 | EA |
| 16 | VANGUARD R/B | 1958-002A | R/B | 1958-03-17 | | 137.3 | 34.26 | 4224 | 651 | EA |
| 17 | THOR ABLE R/B | 1959-004B | R/B | 1959-08-07 | 1961-06-30 | 718.96 | 47.1 | 40215 | 198 | EA |
| 18 | DISCOVERER 5 | 1959-005A | PAY | 1959-08-13 | 1959-09-28 | 89.1 | 79.99 | 323 | 137 | EA |

SATCAT



Query History

```
1 SELECT * FROM satcat
2 WHERE object_id LIKE '1965-043%'
```

Grid view Form view

Navigation icons: refresh, check, close, left, right, 1, right, right. Total rows loaded: 2

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|---|-------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | GEMINI 4 | 1965-043A | PAY | 1965-06-03 | 1965-06-07 | 88.56 | 32.55 | 251 | 156 | EA |
| 2 | TITAN 2 R/B | 1965-043B | R/B | 1965-06-03 | 1965-06-05 | 87.38 | 32.55 | 159 | 130 | EA |

SATCAT



Query History

```
1 SELECT * FROM satcat
2 WHERE object_id LIKE '1965-043%'
```

Grid view Form view

Navigation icons: refresh, check, close, left, right, 1, right, right. Total rows loaded: 2

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|---|-------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | GEMINI 4 | 1965-043A | PAY | 1965-06-03 | 1965-06-07 | 88.56 | 32.55 | 251 | 156 | EA |
| 2 | TITAN 2 R/B | 1965-043B | R/B | 1965-06-03 | 1965-06-05 | 87.38 | 32.55 | 159 | 130 | EA |

SATCAT



Query History

```
1 SELECT * FROM satcat
2 WHERE object_id LIKE '1965-043%'
```

Grid view Form view

Total rows loaded: 2

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|---|-------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | GEMINI 4 | 1965-043A | PAY | 1965-06-03 | 1965-06-07 | 88.56 | 32.55 | 251 | 156 | EA |
| 2 | TITAN 2 R/B | 1965-043B | R/B | 1965-06-03 | 1965-06-05 | 87.38 | 32.55 | 159 | 130 | EA |

SATCAT



Query History

```
1 SELECT * FROM satcat
2 WHERE object_id LIKE '1965-043%'
```

Grid view Form view

Refresh, Check, Close, Home, Left, 1, Right, End Total rows loaded: 2

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|---|-------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | GEMINI 4 | 1965-043A | PAY | 1965-06-03 | 1965-06-07 | 88.56 | 32.55 | 251 | 156 | EA |
| 2 | TITAN 2 R/B | 1965-043B | R/B | 1965-06-03 | 1965-06-05 | 87.38 | 32.55 | 159 | 130 | EA |

SATCAT



Query History

```
1 SELECT * FROM satcat
2 WHERE object_id LIKE '1965-043%'
```

Grid view Form view

Navigation icons: refresh, check, close, left, right, 1, right, right. Total rows loaded: 2

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|---|-------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | GEMINI 4 | 1965-043A | PAY | 1965-06-03 | 1965-06-07 | 88.56 | 32.55 | 251 | 156 | EA |
| 2 | TITAN 2 R/B | 1965-043B | R/B | 1965-06-03 | 1965-06-05 | 87.38 | 32.55 | 159 | 130 | EA |

SATCAT



Query History

```
1 SELECT * FROM satcat
2 WHERE object_id LIKE '1965-043%'
```

Grid view Form view

Navigation icons | Total rows loaded: 2

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|---|-------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | GEMINI 4 | 1965-043A | PAY | 1965-06-03 | 1965-06-07 | 88.56 | 32.55 | 251 | 156 | EA |
| 2 | TITAN 2 R/B | 1965-043B | R/B | 1965-06-03 | 1965-06-05 | 87.38 | 32.55 | 159 | 130 | EA |

SATCAT



Query History

```
1 SELECT * FROM satcat
2 WHERE object_id LIKE '1965-043%'
```

Grid view Form view

Navigation icons: refresh, check, close, left, right, 1, right, right. Total rows loaded: 2

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|---|-------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | GEMINI 4 | 1965-043A | PAY | 1965-06-03 | 1965-06-07 | 88.56 | 32.55 | 251 | 156 | EA |
| 2 | TITAN 2 R/B | 1965-043B | R/B | 1965-06-03 | 1965-06-05 | 87.38 | 32.55 | 159 | 130 | EA |

SATCAT



Query History

```
1 SELECT * FROM satcat  
2 WHERE object_id LIKE '1965-043%'
```

Grid view Form view

Total rows loaded: 2

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|---|-------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | GEMINI 4 | 1965-043A | PAY | 1965-06-03 | 1965-06-07 | 88.56 | 32.55 | 251 | 156 | EA |
| 2 | TITAN 2 R/B | 1965-043B | R/B | 1965-06-03 | 1965-06-05 | 87.38 | 32.55 | 159 | 130 | EA |

SATCAT



Query History

```
1 SELECT * FROM satcat
2 WHERE object_id LIKE '1965-043%'
```

Grid view Form view

Navigation icons: refresh, check, close, left, right, 1, right, right. Total rows loaded: 2

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|---|-------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | GEMINI 4 | 1965-043A | PAY | 1965-06-03 | 1965-06-07 | 88.56 | 32.55 | 251 | 156 | EA |
| 2 | TITAN 2 R/B | 1965-043B | R/B | 1965-06-03 | 1965-06-05 | 87.38 | 32.55 | 159 | 130 | EA |

SATCAT



Query

History

1 SELECT * FROM satcat

Grid view

Form view

Total rows loaded: 55680

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|----|---------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | SL-1 R/B | 1957-001A | R/B | 1957-10-04 | 1957-12-01 | 96.19 | 65.1 | 938 | 214 | EA |
| 2 | SPUTNIK 1 | 1957-001B | PAY | 1957-10-04 | 1958-01-03 | 96.1 | 65 | 1080 | 64 | EA |
| 3 | SPUTNIK 2 | 1957-002A | PAY | 1957-11-03 | 1958-04-14 | 103.74 | 65.33 | 1659 | 211 | EA |
| 4 | EXPLORER 1 | 1958-001A | PAY | 1958-02-01 | 1970-03-31 | 88.48 | 33.15 | 215 | 183 | EA |
| 5 | VANGUARD 1 | 1958-002B | PAY | 1958-03-17 | | 132.71 | 34.25 | 3831 | 650 | EA |
| 6 | EXPLORER 3 | 1958-003A | PAY | 1958-03-26 | 1958-06-28 | 103.6 | 33.5 | 1739 | 117 | EA |
| 7 | SL-1 R/B | 1958-004A | R/B | 1958-05-15 | 1958-12-03 | 102.74 | 65.14 | 1571 | 206 | EA |
| 8 | SPUTNIK 3 | 1958-004B | PAY | 1958-05-15 | 1960-04-06 | 88.43 | 65.06 | 255 | 139 | EA |
| 9 | EXPLORER 4 | 1958-005A | PAY | 1958-07-26 | 1959-10-23 | 92.81 | 50.25 | 585 | 239 | EA |
| 10 | SCORE | 1958-006A | PAY | 1958-12-18 | 1959-01-21 | 98.21 | 32.29 | 1187 | 159 | EA |
| 11 | VANGUARD 2 | 1959-001A | PAY | 1959-02-17 | | 121.35 | 32.87 | 2928 | 554 | EA |
| 12 | VANGUARD R/B | 1959-001B | R/B | 1959-02-17 | | 125.75 | 32.91 | 3317 | 555 | EA |
| 13 | DISCOVERER 1 | 1959-002A | PAY | 1959-02-28 | 1959-03-03 | 92.7 | 90 | 697 | 114 | EA |
| 14 | DISCOVERER 2 | 1959-003A | PAY | 1959-04-13 | 1959-04-26 | 90.4 | 89.9 | 346 | 239 | EA |
| 15 | EXPLORER 6 | 1959-004A | PAY | 1959-08-07 | 1961-06-30 | 762.25 | 46.95 | 42276 | 251 | EA |
| 16 | VANGUARD R/B | 1958-002A | R/B | 1958-03-17 | | 137.3 | 34.26 | 4224 | 651 | EA |
| 17 | THOR ABLE R/B | 1959-004B | R/B | 1959-08-07 | 1961-06-30 | 718.96 | 47.1 | 40215 | 198 | EA |
| 18 | DISCOVERER 5 | 1959-005A | PAY | 1959-08-13 | 1959-09-28 | 89.1 | 79.99 | 323 | 137 | EA |

SATCAT



Query

History

```

1 SELECT * FROM satcat
2 WHERE launch_date <= '1965-06-07'

```

Grid view

Form view









 Total rows loaded: 2078

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|----|---------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | SL-1 R/B | 1957-001A | R/B | 1957-10-04 | 1957-12-01 | 96.19 | 65.1 | 938 | 214 | EA |
| 2 | SPUTNIK 1 | 1957-001B | PAY | 1957-10-04 | 1958-01-03 | 96.1 | 65 | 1080 | 64 | EA |
| 3 | SPUTNIK 2 | 1957-002A | PAY | 1957-11-03 | 1958-04-14 | 103.74 | 65.33 | 1659 | 211 | EA |
| 4 | EXPLORER 1 | 1958-001A | PAY | 1958-02-01 | 1970-03-31 | 88.48 | 33.15 | 215 | 183 | EA |
| 5 | VANGUARD 1 | 1958-002B | PAY | 1958-03-17 | | 132.71 | 34.25 | 3831 | 650 | EA |
| 6 | EXPLORER 3 | 1958-003A | PAY | 1958-03-26 | 1958-06-28 | 103.6 | 33.5 | 1739 | 117 | EA |
| 7 | SL-1 R/B | 1958-004A | R/B | 1958-05-15 | 1958-12-03 | 102.74 | 65.14 | 1571 | 206 | EA |
| 8 | SPUTNIK 3 | 1958-004B | PAY | 1958-05-15 | 1960-04-06 | 88.43 | 65.06 | 255 | 139 | EA |
| 9 | EXPLORER 4 | 1958-005A | PAY | 1958-07-26 | 1959-10-23 | 92.81 | 50.25 | 585 | 239 | EA |
| 10 | SCORE | 1958-006A | PAY | 1958-12-18 | 1959-01-21 | 98.21 | 32.29 | 1187 | 159 | EA |
| 11 | VANGUARD 2 | 1959-001A | PAY | 1959-02-17 | | 121.35 | 32.87 | 2928 | 554 | EA |
| 12 | VANGUARD R/B | 1959-001B | R/B | 1959-02-17 | | 125.75 | 32.91 | 3317 | 555 | EA |
| 13 | DISCOVERER 1 | 1959-002A | PAY | 1959-02-28 | 1959-03-03 | 92.7 | 90 | 697 | 114 | EA |
| 14 | DISCOVERER 2 | 1959-003A | PAY | 1959-04-13 | 1959-04-26 | 90.4 | 89.9 | 346 | 239 | EA |
| 15 | EXPLORER 6 | 1959-004A | PAY | 1959-08-07 | 1961-06-30 | 762.25 | 46.95 | 42276 | 251 | EA |
| 16 | VANGUARD R/B | 1958-002A | R/B | 1958-03-17 | | 137.3 | 34.26 | 4224 | 651 | EA |
| 17 | THOR ABLE R/B | 1959-004B | R/B | 1959-08-07 | 1961-06-30 | 718.96 | 47.1 | 40215 | 198 | EA |
| 18 | DISCOVERER 5 | 1959-005A | PAY | 1959-08-13 | 1959-09-28 | 89.1 | 79.99 | 323 | 137 | EA |



Query

History

```

1 SELECT * FROM satcat
2   WHERE launch_date <= '1965-06-07'
3   AND   decay_date >= '1965-06-07'

```

Grid view

Form view

Total rows loaded: 642

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|----|--------------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | EXPLORER 1 | 1958-001A | PAY | 1958-02-01 | 1970-03-31 | 88.48 | 33.15 | 215 | 183 | EA |
| 2 | JUNO II R/B | 1959-009B | R/B | 1959-10-13 | 1989-07-16 | 89.24 | 50.27 | 249 | 225 | EA |
| 3 | THOR ABLE R/B | 1960-002A | R/B | 1960-04-01 | 1991-07-03 | 87.8 | 48.34 | 168 | 163 | EA |
| 4 | TRANSIT 1B | 1960-003B | PAY | 1960-04-13 | 1967-10-05 | 88.7 | 51.2 | 220 | 201 | EA |
| 5 | SPUTNIK 4 CABIN | 1960-005C | PAY | 1960-05-15 | 1965-10-15 | 88.26 | 64.96 | 206 | 171 | EA |
| 6 | MIDAS 2 | 1960-006A | PAY | 1960-05-24 | 1974-02-07 | 87.82 | 33.05 | 168 | 165 | EA |
| 7 | ECHO 1 | 1960-009A | PAY | 1960-08-12 | 1968-05-24 | 92.7 | 47.19 | 419 | 394 | EA |
| 8 | EXPLORER 8 | 1960-014A | PAY | 1960-11-03 | 2012-03-28 | 87.84 | 49.88 | 177 | 158 | EA |
| 9 | JUNO II R/B | 1960-014B | R/B | 1960-11-03 | 1985-10-27 | 87.74 | 49.89 | 166 | 160 | EA |
| 10 | TIROS 2 | 1960-016A | PAY | 1960-11-23 | 2014-05-18 | 87.72 | 48.44 | 163 | 160 | EA |
| 11 | DELTA 1 R/B | 1960-016B | R/B | 1960-11-23 | 1981-09-24 | 88.54 | 48.47 | 208 | 196 | EA |
| 12 | JUNO II DEB | 1960-014C | DEB | 1960-11-03 | 1970-02-16 | 90.28 | 49.27 | 310 | 266 | EA |
| 13 | SAMOS 2 | 1961-001A | PAY | 1961-01-31 | 1973-10-21 | 88.09 | 97.22 | 185 | 175 | EA |
| 14 | DELTA 1 DEB | 1960-016C | DEB | 1960-11-23 | 1989-05-10 | 89.38 | 48.54 | 250 | 238 | EA |
| 15 | DELTA 1 DEB | 1960-016D | DEB | 1960-11-23 | 1990-01-25 | 88.84 | 48.5 | 225 | 209 | EA |
| 16 | ATLAS AGENA A R/B | 1961-001B | R/B | 1961-01-31 | 1970-10-09 | 87.27 | 97.35 | 161 | 118 | EA |
| 17 | THOR ABLESTAR DEB | 1960-003D | DEB | 1960-04-13 | 1979-07-15 | 88.98 | 51.26 | 227 | 221 | EA |
| 18 | THOR ABLE DEB [VO] | 1960-002C | DEB | 1960-04-01 | 1983-04-17 | 88.03 | 48.47 | 177 | 177 | EA |



Query

History

```

1 SELECT * FROM satcat
2   WHERE launch_date <= '1965-06-07'
3   AND   decay_date >= '1965-06-07'
4   AND   perigee <= 251

```

Grid view

Form view

Total rows loaded: 330

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|----|--------------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | EXPLORER 1 | 1958-001A | PAY | 1958-02-01 | 1970-03-31 | 88.48 | 33.15 | 215 | 183 | EA |
| 2 | JUNO II R/B | 1959-009B | R/B | 1959-10-13 | 1989-07-16 | 89.24 | 50.27 | 249 | 225 | EA |
| 3 | THOR ABLE R/B | 1960-002A | R/B | 1960-04-01 | 1991-07-03 | 87.8 | 48.34 | 168 | 163 | EA |
| 4 | TRANSIT 1B | 1960-003B | PAY | 1960-04-13 | 1967-10-05 | 88.7 | 51.2 | 220 | 201 | EA |
| 5 | SPUTNIK 4 CABIN | 1960-005C | PAY | 1960-05-15 | 1965-10-15 | 88.26 | 64.96 | 206 | 171 | EA |
| 6 | MIDAS 2 | 1960-006A | PAY | 1960-05-24 | 1974-02-07 | 87.82 | 33.05 | 168 | 165 | EA |
| 7 | EXPLORER 8 | 1960-014A | PAY | 1960-11-03 | 2012-03-28 | 87.84 | 49.88 | 177 | 158 | EA |
| 8 | JUNO II R/B | 1960-014B | R/B | 1960-11-03 | 1985-10-27 | 87.74 | 49.89 | 166 | 160 | EA |
| 9 | TIROS 2 | 1960-016A | PAY | 1960-11-23 | 2014-05-18 | 87.72 | 48.44 | 163 | 160 | EA |
| 10 | DELTA 1 R/B | 1960-016B | R/B | 1960-11-23 | 1981-09-24 | 88.54 | 48.47 | 208 | 196 | EA |
| 11 | SAMOS 2 | 1961-001A | PAY | 1961-01-31 | 1973-10-21 | 88.09 | 97.22 | 185 | 175 | EA |
| 12 | DELTA 1 DEB | 1960-016C | DEB | 1960-11-23 | 1989-05-10 | 89.38 | 48.54 | 250 | 238 | EA |
| 13 | DELTA 1 DEB | 1960-016D | DEB | 1960-11-23 | 1990-01-25 | 88.84 | 48.5 | 225 | 209 | EA |
| 14 | ATLAS AGENA A R/B | 1961-001B | R/B | 1961-01-31 | 1970-10-09 | 87.27 | 97.35 | 161 | 118 | EA |
| 15 | THOR ABLESTAR DEB | 1960-003D | DEB | 1960-04-13 | 1979-07-15 | 88.98 | 51.26 | 227 | 221 | EA |
| 16 | THOR ABLE DEB [YO] | 1960-002C | DEB | 1960-04-01 | 1983-04-17 | 88.03 | 48.47 | 177 | 177 | EA |
| 17 | THOR ABLESTAR DEB | 1961-015P | DEB | 1961-06-29 | 1981-08-31 | 88.48 | 66.54 | 215 | 183 | EA |
| 18 | THOR ABLESTAR DEB | 1961-015V | DEB | 1961-06-29 | 2002-04-17 | 89.31 | 66.68 | 253 | 227 | EA |



Query

History

```

1 SELECT * FROM satcat
2   WHERE launch_date <= '1965-06-07'
3   AND   decay_date >= '1965-06-07'
4   AND   perigee <= 251
5   AND   inclination >= 30.55

```

Grid view

Form view

Total rows loaded: 321

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|----|--------------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | EXPLORER 1 | 1958-001A | PAY | 1958-02-01 | 1970-03-31 | 88.48 | 33.15 | 215 | 183 | EA |
| 2 | JUNO II R/B | 1959-009B | R/B | 1959-10-13 | 1989-07-16 | 89.24 | 50.27 | 249 | 225 | EA |
| 3 | THOR ABLE R/B | 1960-002A | R/B | 1960-04-01 | 1991-07-03 | 87.8 | 48.34 | 168 | 163 | EA |
| 4 | TRANSIT 1B | 1960-003B | PAY | 1960-04-13 | 1967-10-05 | 88.7 | 51.2 | 220 | 201 | EA |
| 5 | SPUTNIK 4 CABIN | 1960-005C | PAY | 1960-05-15 | 1965-10-15 | 88.26 | 64.96 | 206 | 171 | EA |
| 6 | MIDAS 2 | 1960-006A | PAY | 1960-05-24 | 1974-02-07 | 87.82 | 33.05 | 168 | 165 | EA |
| 7 | EXPLORER 8 | 1960-014A | PAY | 1960-11-03 | 2012-03-28 | 87.84 | 49.88 | 177 | 158 | EA |
| 8 | JUNO II R/B | 1960-014B | R/B | 1960-11-03 | 1985-10-27 | 87.74 | 49.89 | 166 | 160 | EA |
| 9 | TIROS 2 | 1960-016A | PAY | 1960-11-23 | 2014-05-18 | 87.72 | 48.44 | 163 | 160 | EA |
| 10 | DELTA 1 R/B | 1960-016B | R/B | 1960-11-23 | 1981-09-24 | 88.54 | 48.47 | 208 | 196 | EA |
| 11 | SAMOS 2 | 1961-001A | PAY | 1961-01-31 | 1973-10-21 | 88.09 | 97.22 | 185 | 175 | EA |
| 12 | DELTA 1 DEB | 1960-016C | DEB | 1960-11-23 | 1989-05-10 | 89.38 | 48.54 | 250 | 238 | EA |
| 13 | DELTA 1 DEB | 1960-016D | DEB | 1960-11-23 | 1990-01-25 | 88.84 | 48.5 | 225 | 209 | EA |
| 14 | ATLAS AGENA A R/B | 1961-001B | R/B | 1961-01-31 | 1970-10-09 | 87.27 | 97.35 | 161 | 118 | EA |
| 15 | THOR ABLESTAR DEB | 1960-003D | DEB | 1960-04-13 | 1979-07-15 | 88.98 | 51.26 | 227 | 221 | EA |
| 16 | THOR ABLE DEB [YO] | 1960-002C | DEB | 1960-04-01 | 1983-04-17 | 88.03 | 48.47 | 177 | 177 | EA |
| 17 | THOR ABLESTAR DEB | 1961-015P | DEB | 1961-06-29 | 1981-08-31 | 88.48 | 66.54 | 215 | 183 | EA |
| 18 | THOR ABLESTAR DEB | 1961-015V | DEB | 1961-06-29 | 2002-04-17 | 89.31 | 66.68 | 253 | 227 | EA |



Query

History

```

1 SELECT * FROM satcat
2   WHERE launch_date <= '1965-06-07'
3   AND   decay_date >= '1965-06-07'
4   AND   perigee <= 251
5   AND   inclination >= 30.55
6   AND   inclination <= 34.55

```

Grid view

Form view

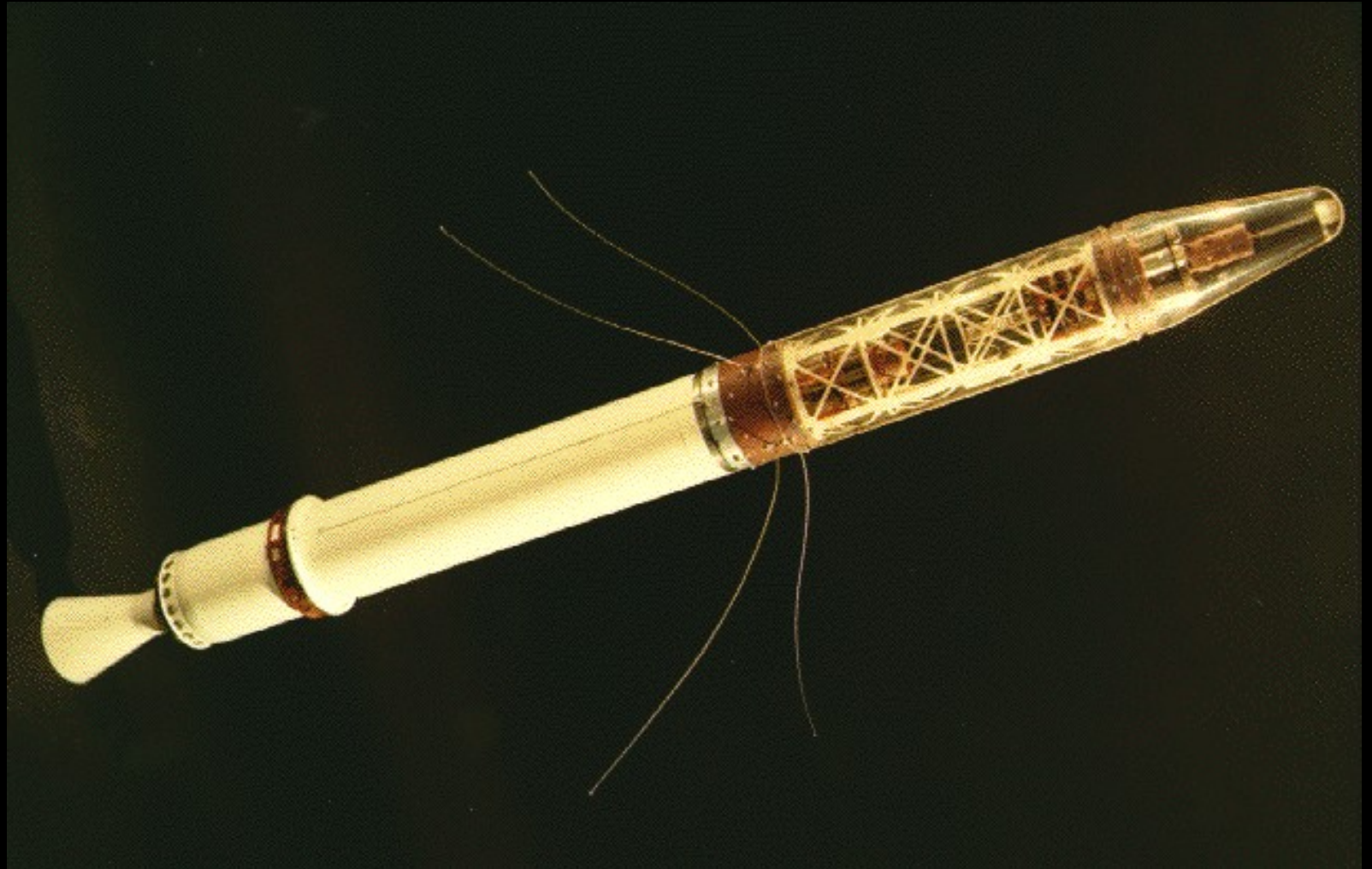
Total rows loaded: 14

| | object_name | object_id | object_type | launch_date | decay_date | period | inclination | apogee | perigee | orbit_center |
|----|------------------------|-----------|-------------|-------------|------------|--------|-------------|--------|---------|--------------|
| 1 | EXPLORER 1 | 1958-001A | PAY | 1958-02-01 | 1970-03-31 | 88.48 | 33.15 | 215 | 183 | EA |
| 2 | MIDAS 2 | 1960-006A | PAY | 1960-05-24 | 1974-02-07 | 87.82 | 33.05 | 168 | 165 | EA |
| 3 | OSO 1 | 1962-006A | PAY | 1962-03-07 | 1981-10-08 | 87.42 | 32.81 | 147 | 147 | EA |
| 4 | DELTA 1 R/B | 1962-006B | R/B | 1962-03-07 | 1970-05-03 | 89.24 | 32.81 | 237 | 237 | EA |
| 5 | DELTA 1 R/B | 1963-004B | R/B | 1963-02-14 | 1981-11-02 | 100.76 | 32.55 | 1430 | 160 | EA |
| 6 | DELTA 1 R/B | 1963-031B | R/B | 1963-07-26 | 1989-07-09 | 87.59 | 32.51 | 176 | 135 | EA |
| 7 | SATURN 1 (SATURN SA-5) | 1964-005A | PAY | 1964-01-29 | 1966-04-30 | 88.08 | 31.42 | 184 | 174 | EA |
| 8 | OSO 2 | 1965-007A | PAY | 1965-02-03 | 1989-08-09 | 87.43 | 32.82 | 148 | 146 | EA |
| 9 | DELTA 1 R/B | 1965-007B | R/B | 1965-02-03 | 1977-09-11 | 88.47 | 32.86 | 203 | 195 | EA |
| 10 | PEGASUS 1 | 1965-009A | PAY | 1965-02-16 | 1978-09-17 | 87.68 | 31.72 | 176 | 143 | EA |
| 11 | APOLLO MODEL 3 | 1965-009B | PAY | 1965-02-16 | 1985-07-10 | 87.67 | 31.72 | 161 | 157 | EA |
| 12 | PEGASUS 2 | 1965-039A | PAY | 1965-05-25 | 1979-11-03 | 88.2 | 31.75 | 187 | 183 | EA |
| 13 | APOLLO MODEL 4 | 1965-039B | PAY | 1965-05-25 | 1989-07-08 | 87.3 | 31.73 | 141 | 141 | EA |
| 14 | GEMINI 4 | 1965-043A | PAY | 1965-06-03 | 1965-06-07 | 88.56 | 32.55 | 251 | 156 | EA |

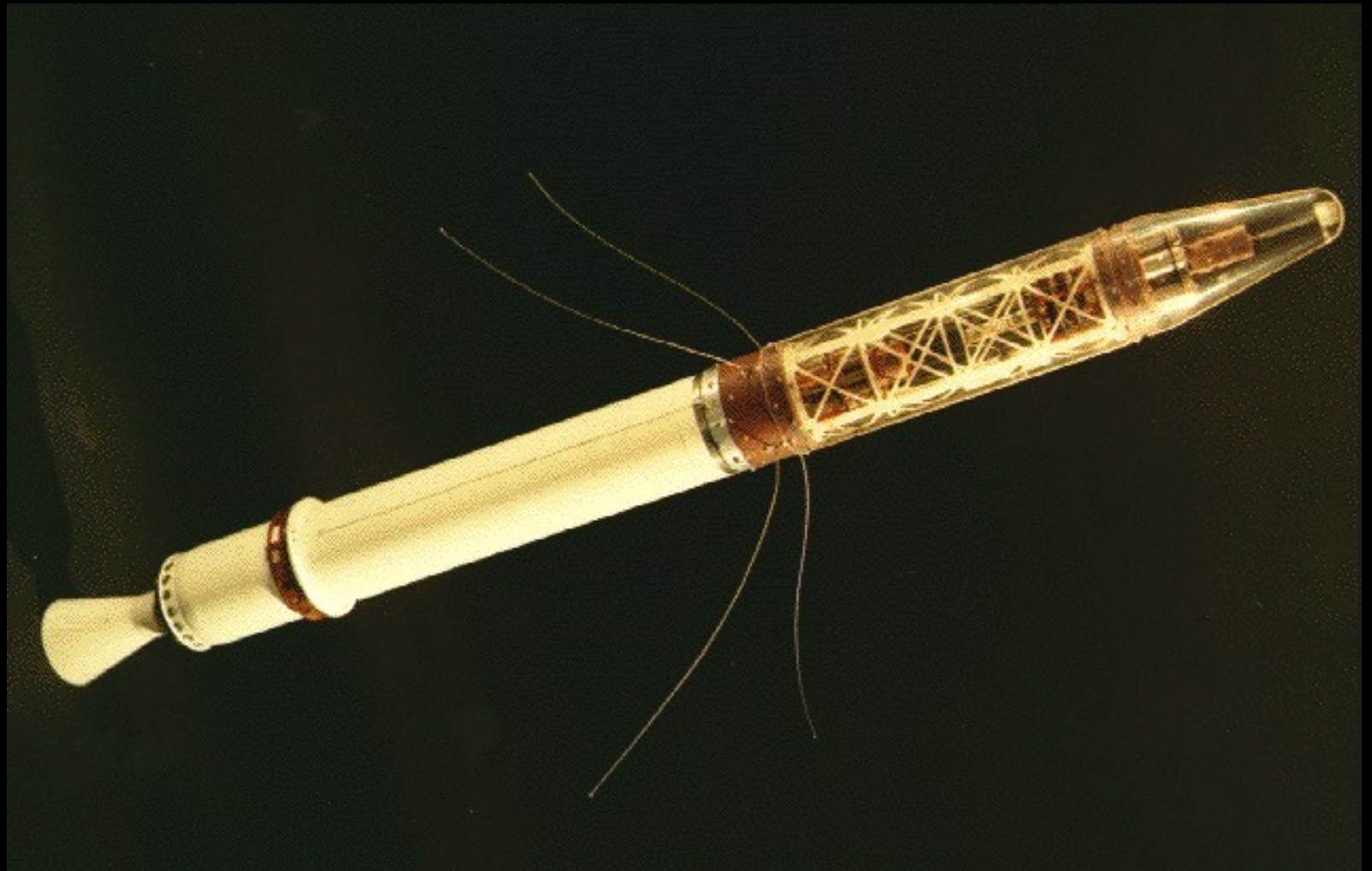
| |
|------------------------|
| EXPLORER 1 |
| MIDAS 2 |
| OSO 1 |
| DELTA 1 R/B |
| DELTA 1 R/B |
| DELTA 1 R/B |
| SATURN 1 (SATURN SA-5) |
| OSO 2 |
| DELTA 1 R/B |
| PEGASUS 1 |
| APOLLO MODEL 3 |
| PEGASUS 2 |
| APOLLO MODEL 4 |
| GEMINI 4 |

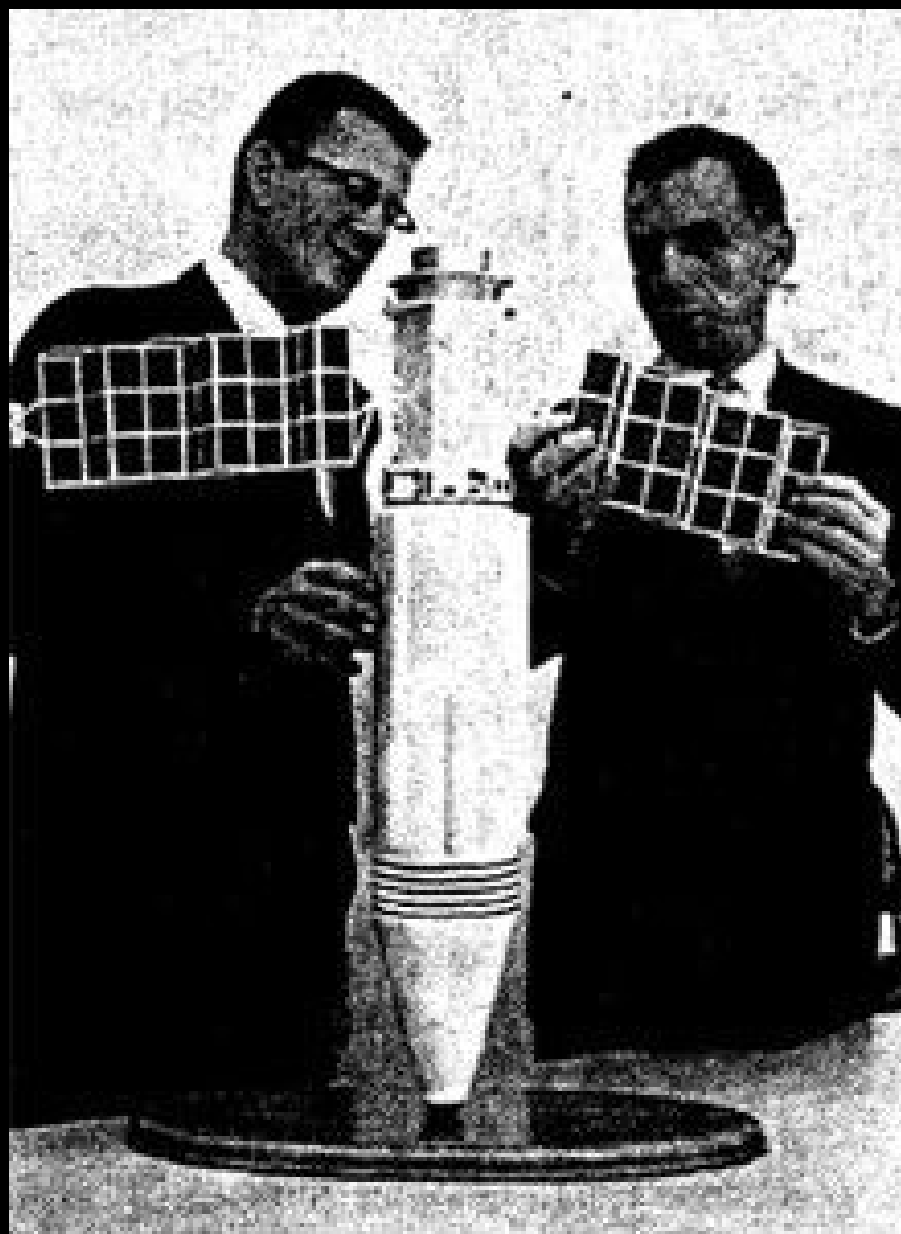
| |
|------------------------|
| EXPLORER 1 |
| MIDAS 2 |
| OSO 1 |
| DELTA 1 R/B |
| DELTA 1 R/B |
| DELTA 1 R/B |
| SATURN 1 (SATURN SA-5) |
| OSO 2 |
| DELTA 1 R/B |
| PEGASUS 1 |
| APOLLO MODEL 3 |
| PEGASUS 2 |
| APOLLO MODEL 4 |
| GEMINI 4 |

| |
|------------------------|
| EXPLORER 1 |
| MIDAS 2 |
| OSO 1 |
| DELTA 1 R/B |
| DELTA 1 R/B |
| DELTA 1 R/B |
| SATURN 1 (SATURN SA-5) |
| OSO 2 |
| DELTA 1 R/B |
| PEGASUS 1 |
| APOLLO MODEL 3 |
| PEGASUS 2 |
| APOLLO MODEL 4 |
| GEMINI 4 |



| |
|------------------------|
| EXPLORER 1 |
| MIDAS 2 |
| OSO 1 |
| DELTA 1 R/B |
| DELTA 1 R/B |
| DELTA 1 R/B |
| SATURN 1 (SATURN SA-5) |
| OSO 2 |
| DELTA 1 R/B |
| PEGASUS 1 |
| APOLLO MODEL 3 |
| PEGASUS 2 |
| APOLLO MODEL 4 |
| GEMINI 4 |





~~EXPLORER 1~~

MIDAS 2

OSO 1

DELTA 1 R/B

DELTA 1 R/B

DELTA 1 R/B

SATURN 1 (SATURN SA-5)

OSO 2

DELTA 1 R/B

PEGASUS 1

APOLLO MODEL 3

PEGASUS 2

APOLLO MODEL 4

GEMINI 4



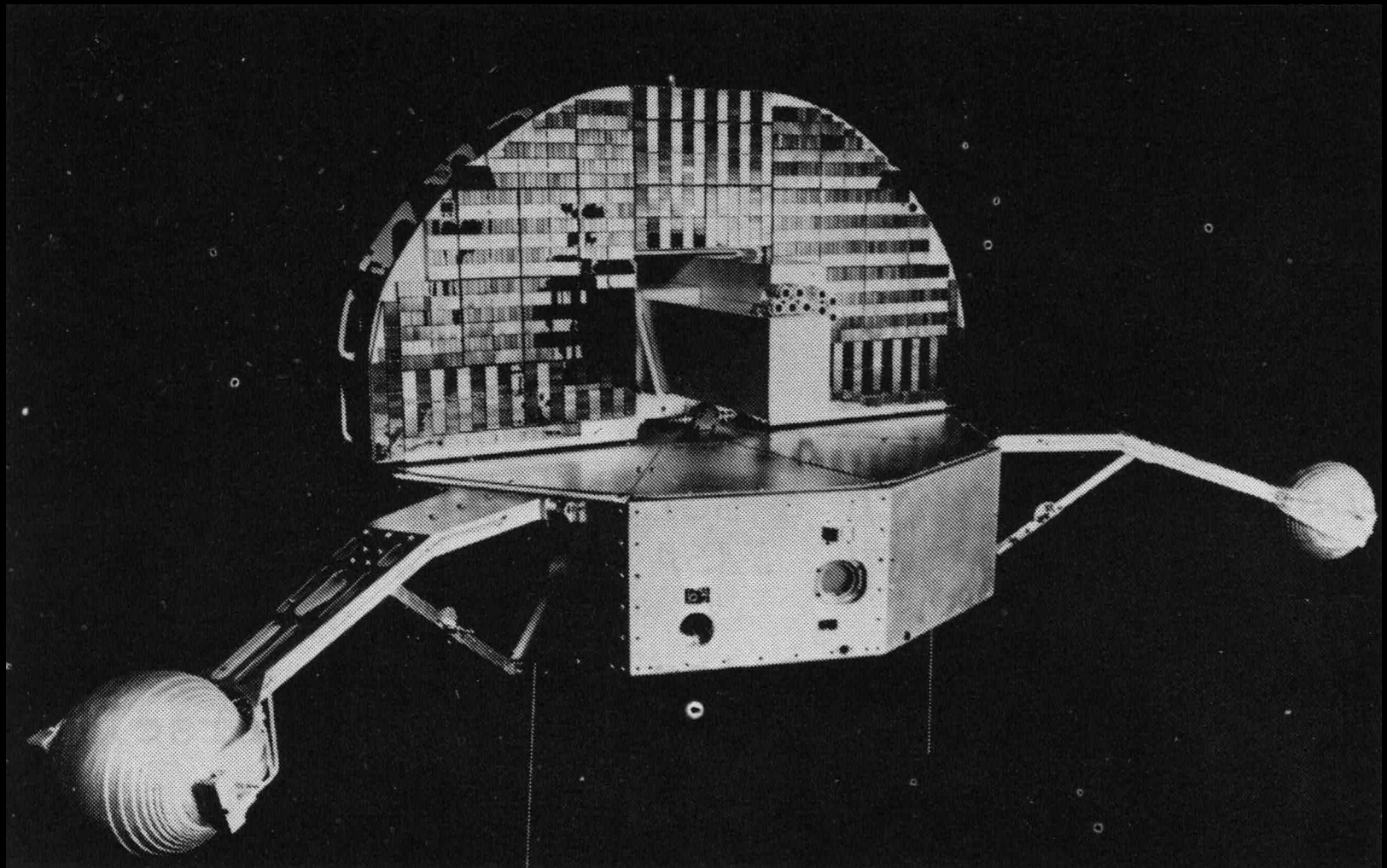
- ~~EXPLORER 1~~
- MIDAS 2
- OSO 1
- DELTA 1 R/B
- DELTA 1 R/B
- DELTA 1 R/B
- SATURN 1 (SATURN SA-5)
- OSO 2
- DELTA 1 R/B
- PEGASUS 1
- APOLLO MODEL 3
- PEGASUS 2
- APOLLO MODEL 4
- GEMINI 4



- ~~EXPLORER 1~~
- MIDAS 2
- OSO 1
- DELTA 1 R/B
- DELTA 1 R/B
- DELTA 1 R/B
- SATURN 1 (SATURN SA-5)
- OSO 2
- DELTA 1 R/B
- PEGASUS 1
- APOLLO MODEL 3
- PEGASUS 2
- APOLLO MODEL 4
- GEMINI 4



- ~~EXPLORER 1~~
- ~~MIDAS 2~~
- OSO 1
- DELTA 1 R/B
- DELTA 1 R/B
- DELTA 1 R/B
- SATURN 1 (SATURN SA-5)
- OSO 2
- DELTA 1 R/B
- PEGASUS 1
- APOLLO MODEL 3
- PEGASUS 2
- APOLLO MODEL 4
- GEMINI 4



~~EXPLORER 1~~

~~MIDAS 2~~

OSO 1

DELTA 1 R/B

DELTA 1 R/B

DELTA 1 R/B

SATURN 1 (SATURN SA-5)

OSO 2

DELTA 1 R/B

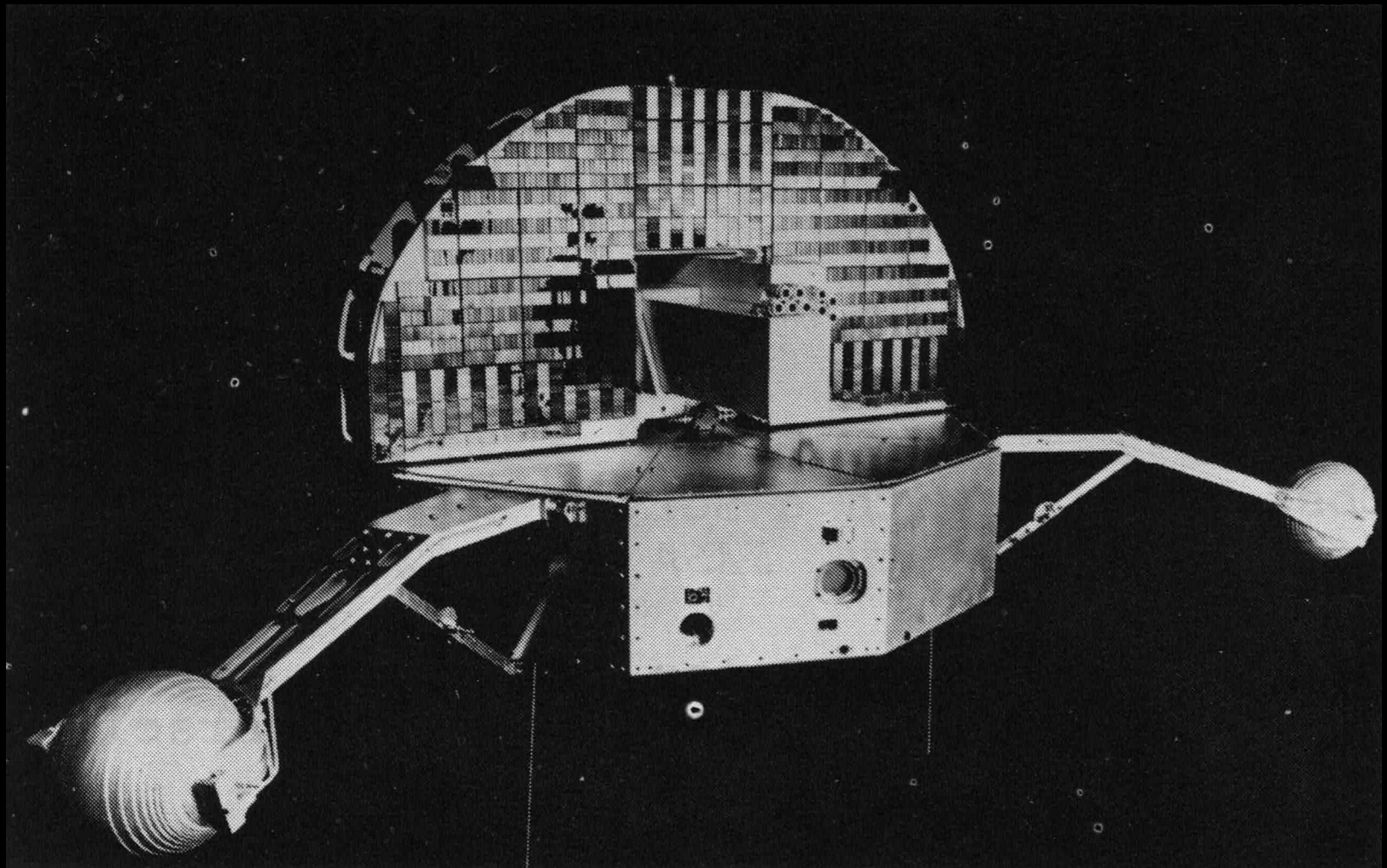
PEGASUS 1

APOLLO MODEL 3

PEGASUS 2

APOLLO MODEL 4

GEMINI 4



~~EXPLORER 1~~

~~MIDAS 2~~

~~OSO 1~~

DELTA 1 R/B

DELTA 1 R/B

DELTA 1 R/B

SATURN 1 (SATURN SA-5)

OSO 2

DELTA 1 R/B

PEGASUS 1

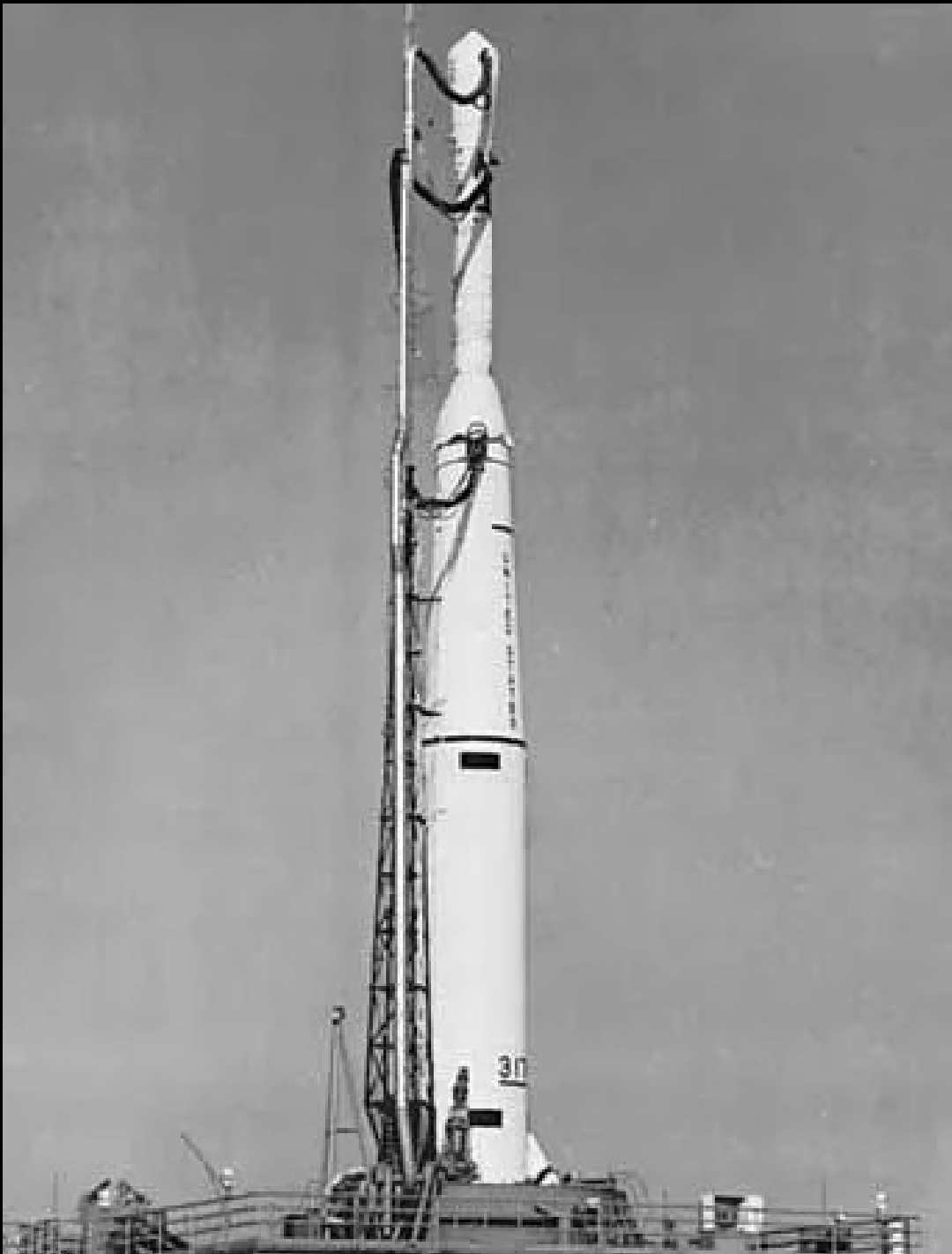
APOLLO MODEL 3

PEGASUS 2

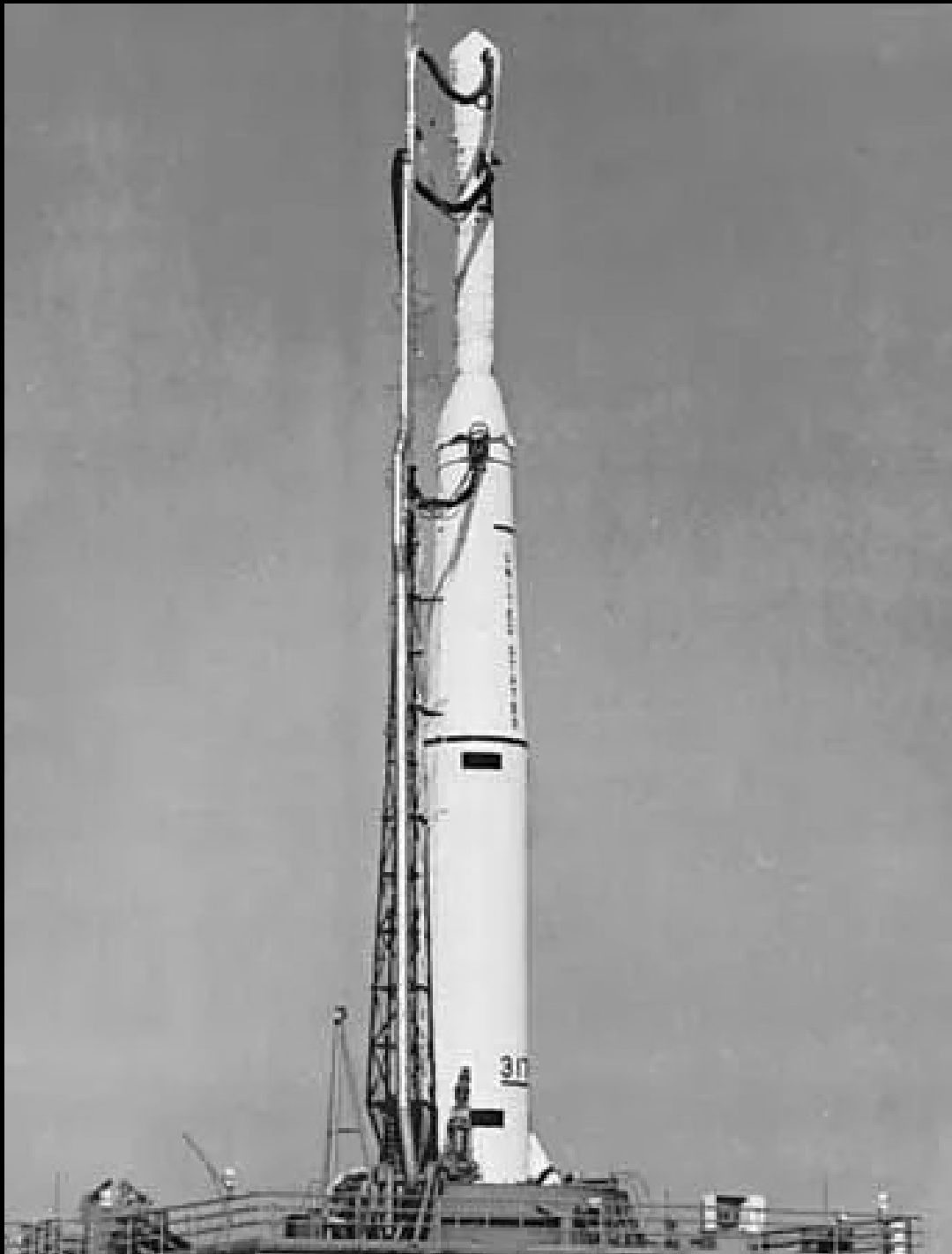
APOLLO MODEL 4

GEMINI 4

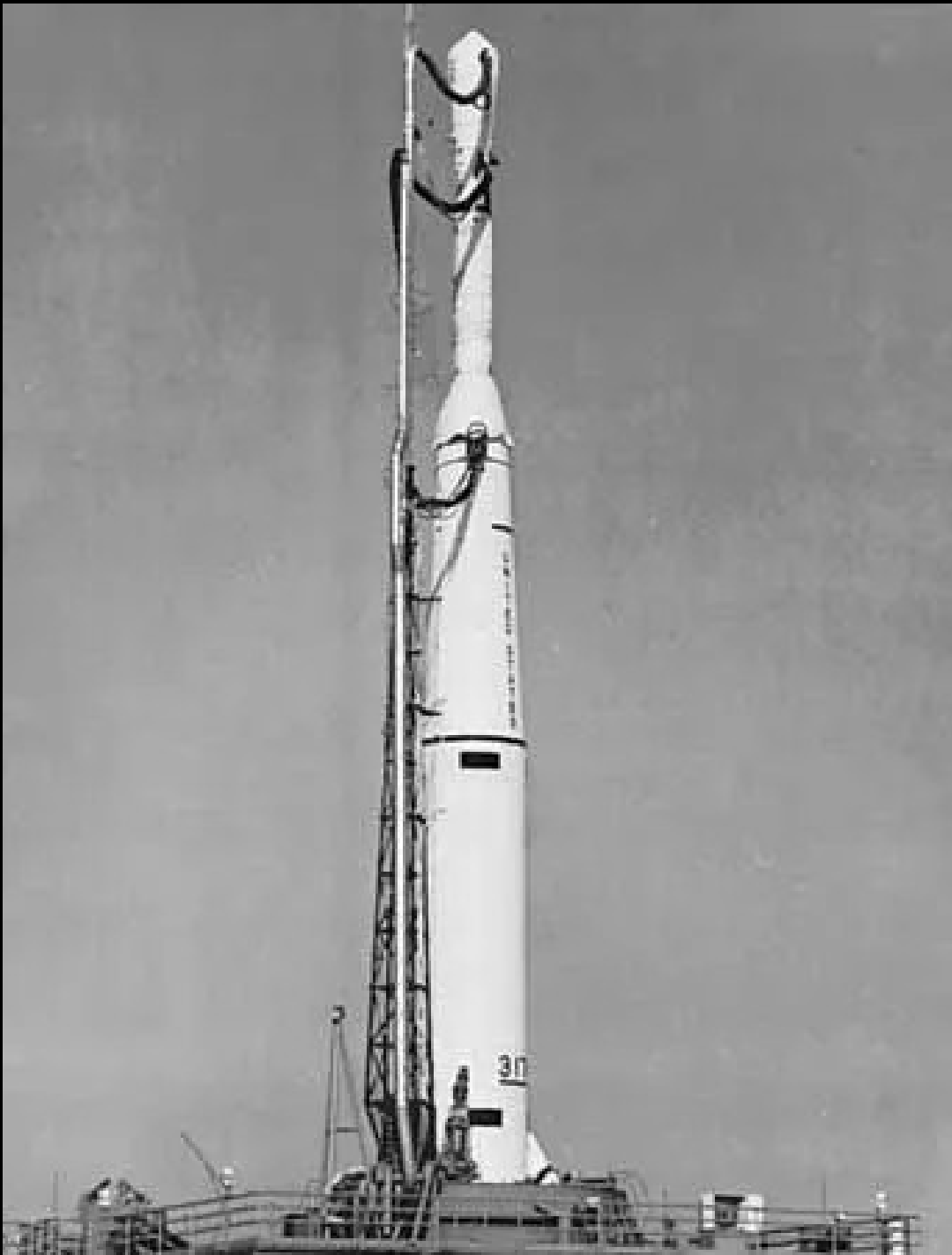
| |
|------------------------|
| EXPLORER 1 |
| MIDAS 2 |
| OSO 1 |
| DELTA 1 R/B |
| DELTA 1 R/B |
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| GEMINI 4 |



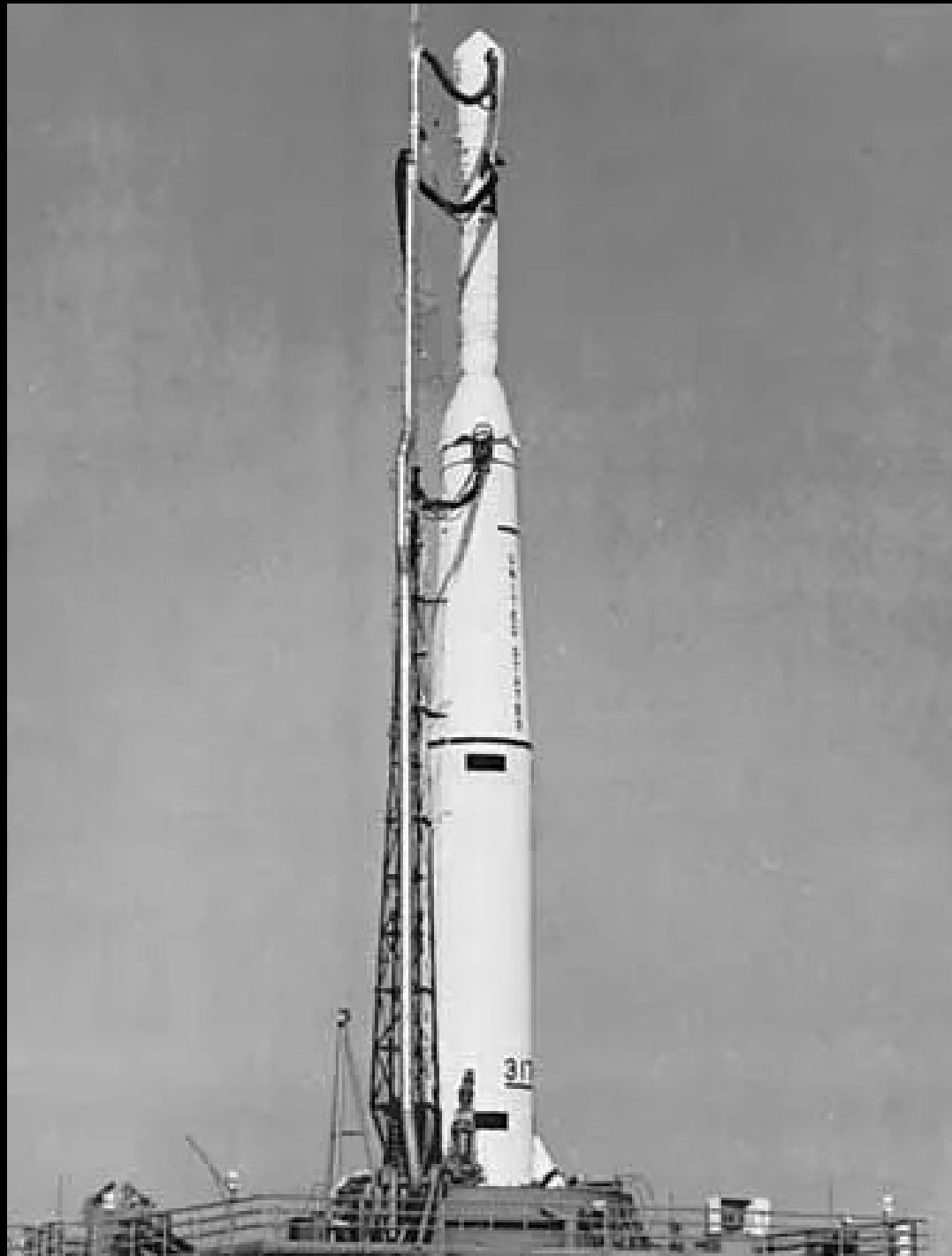
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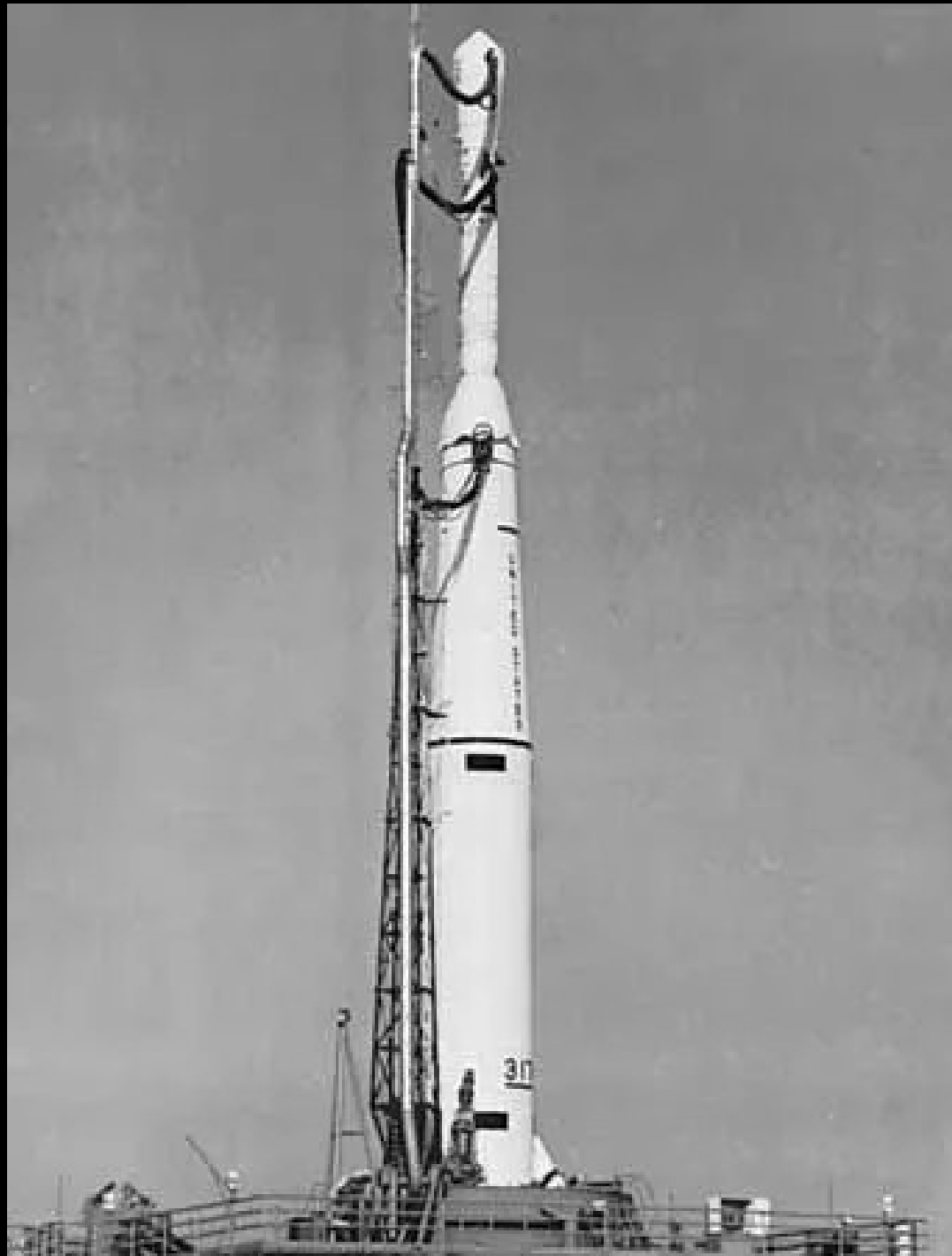
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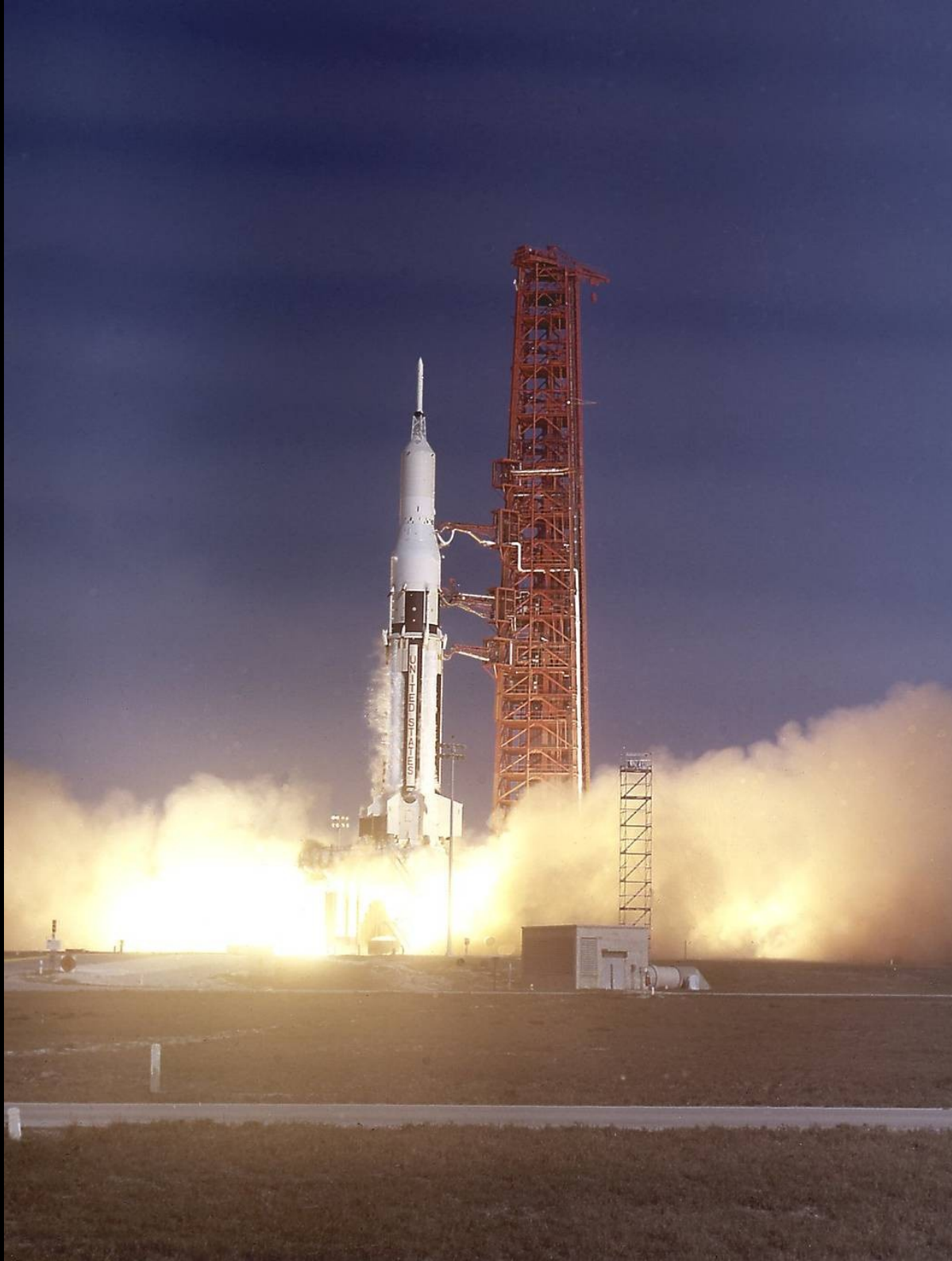
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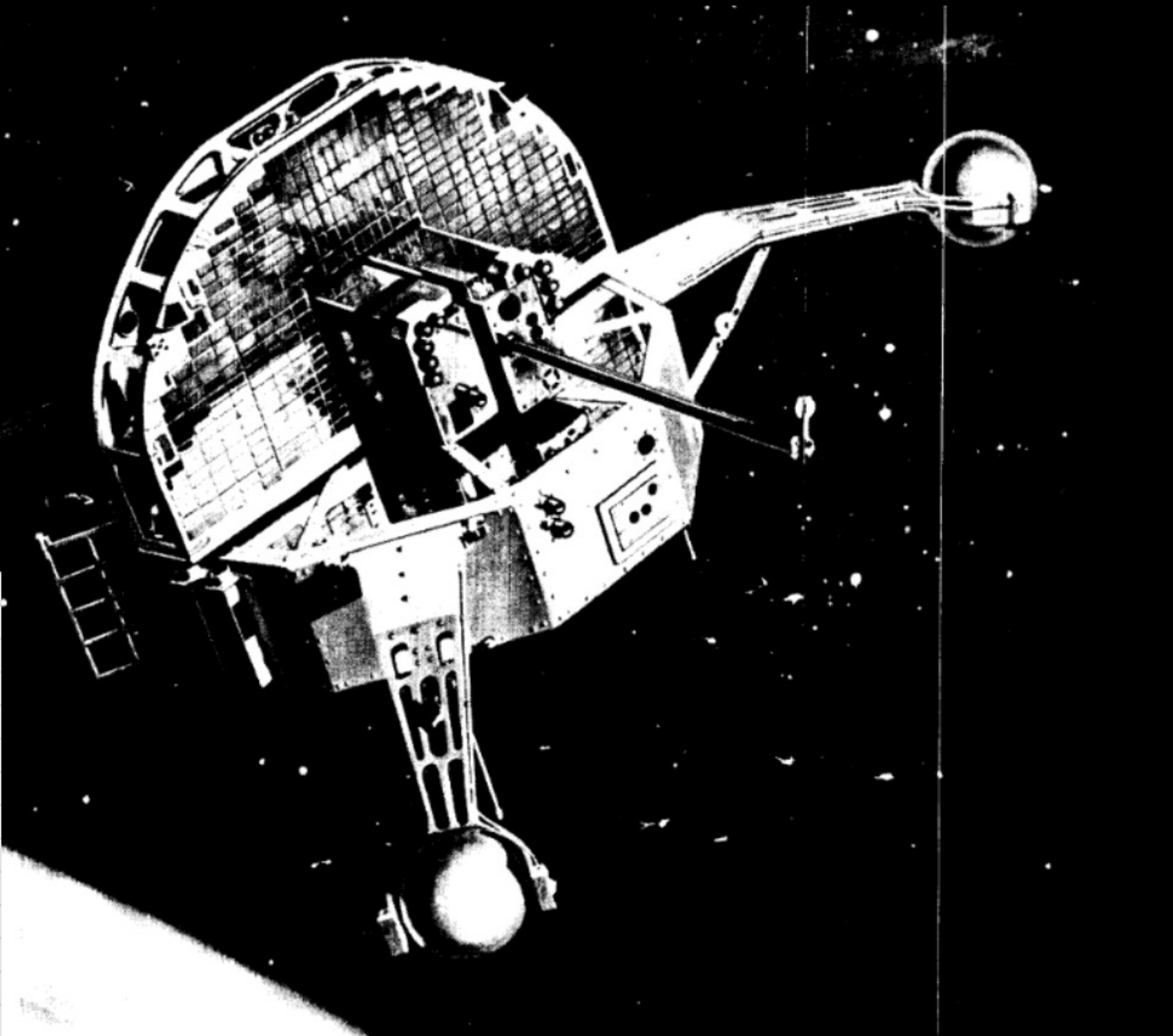
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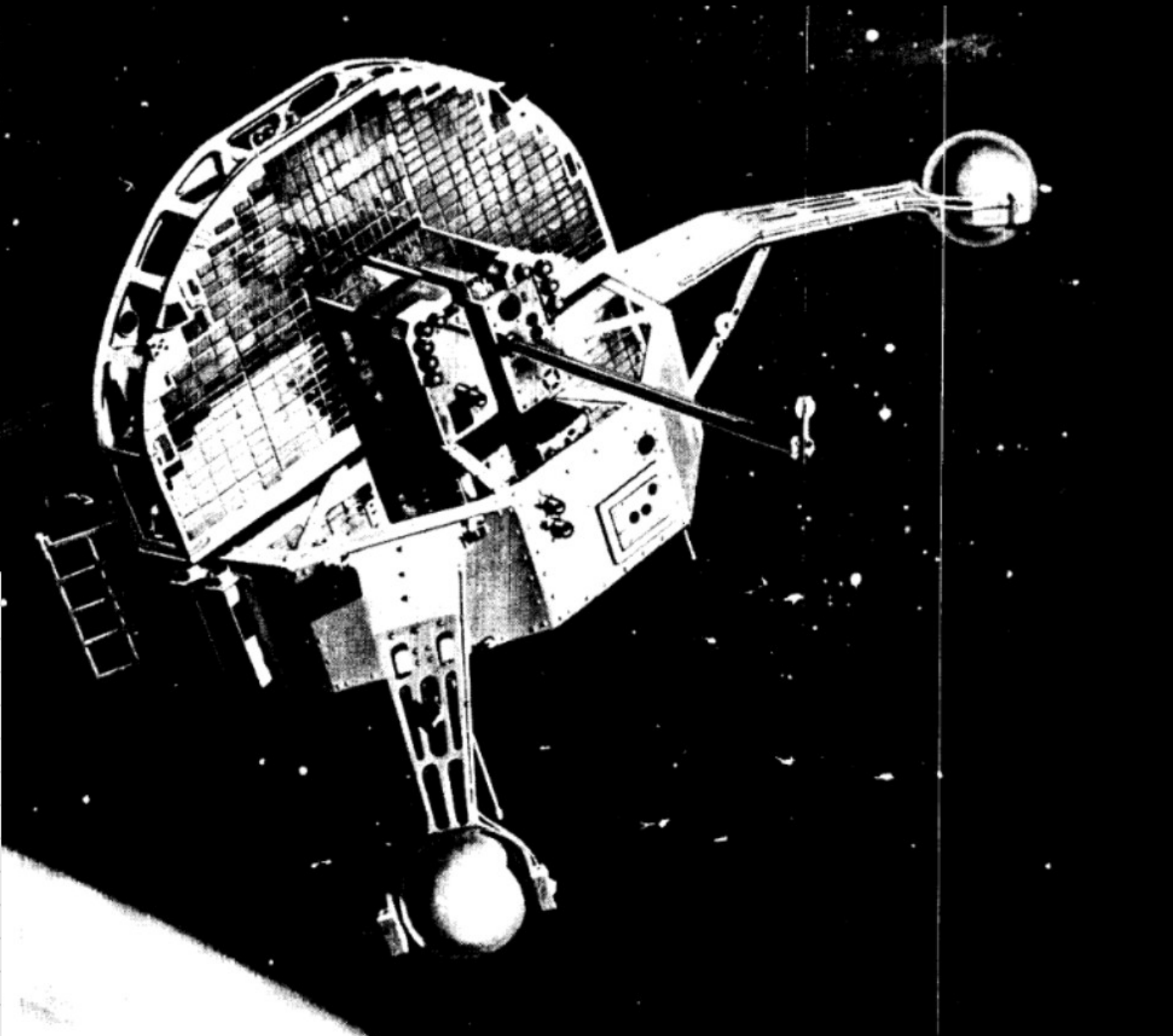
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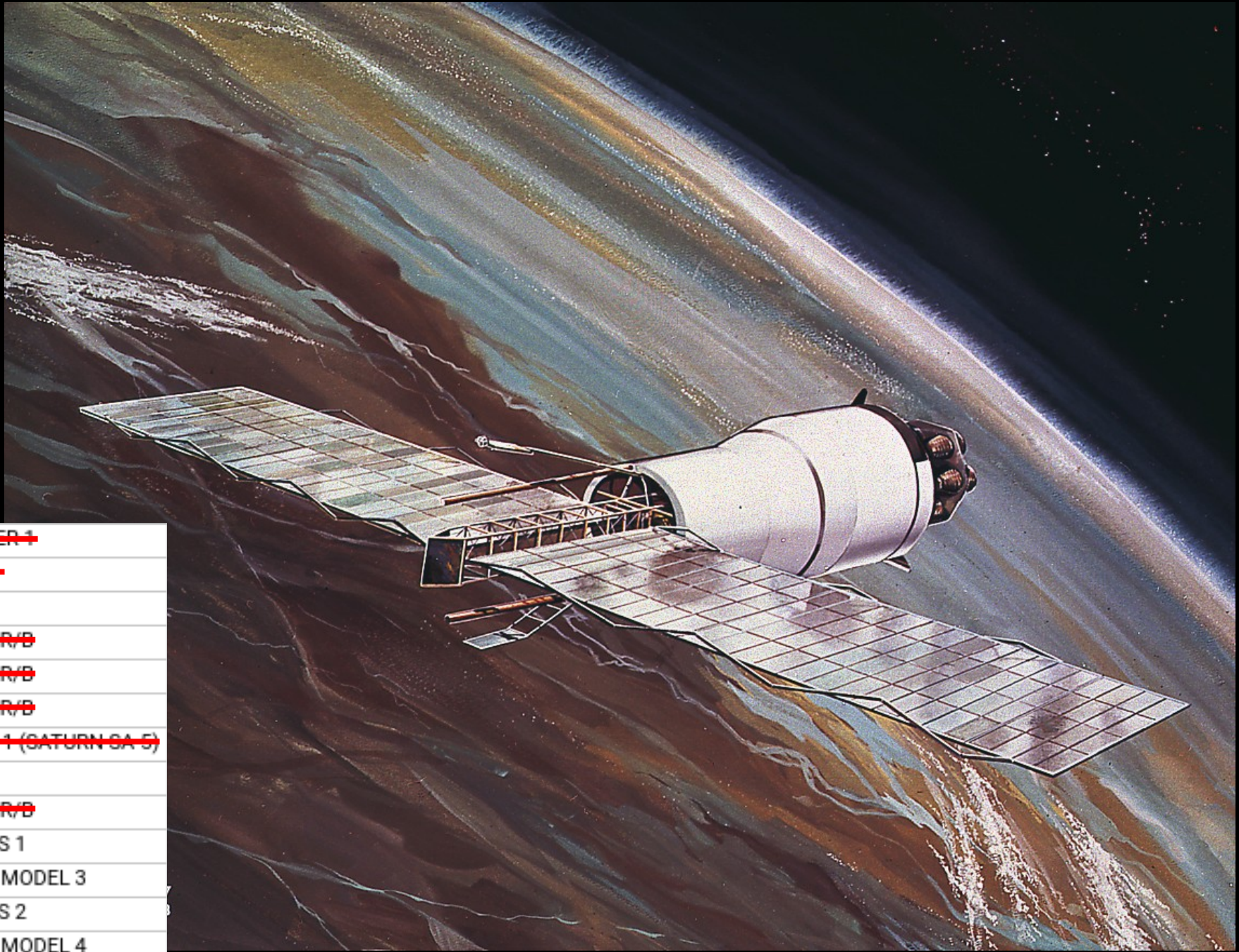


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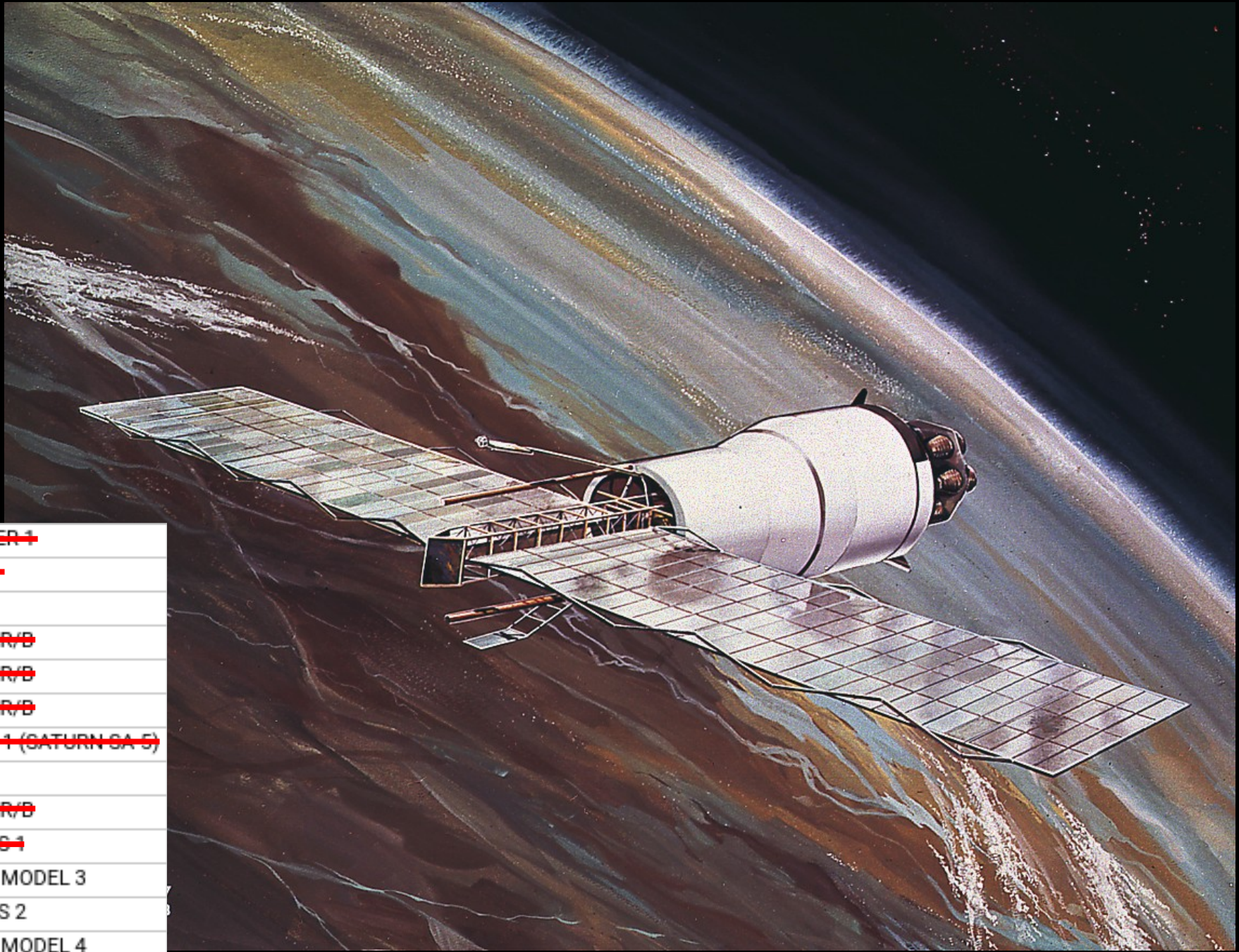


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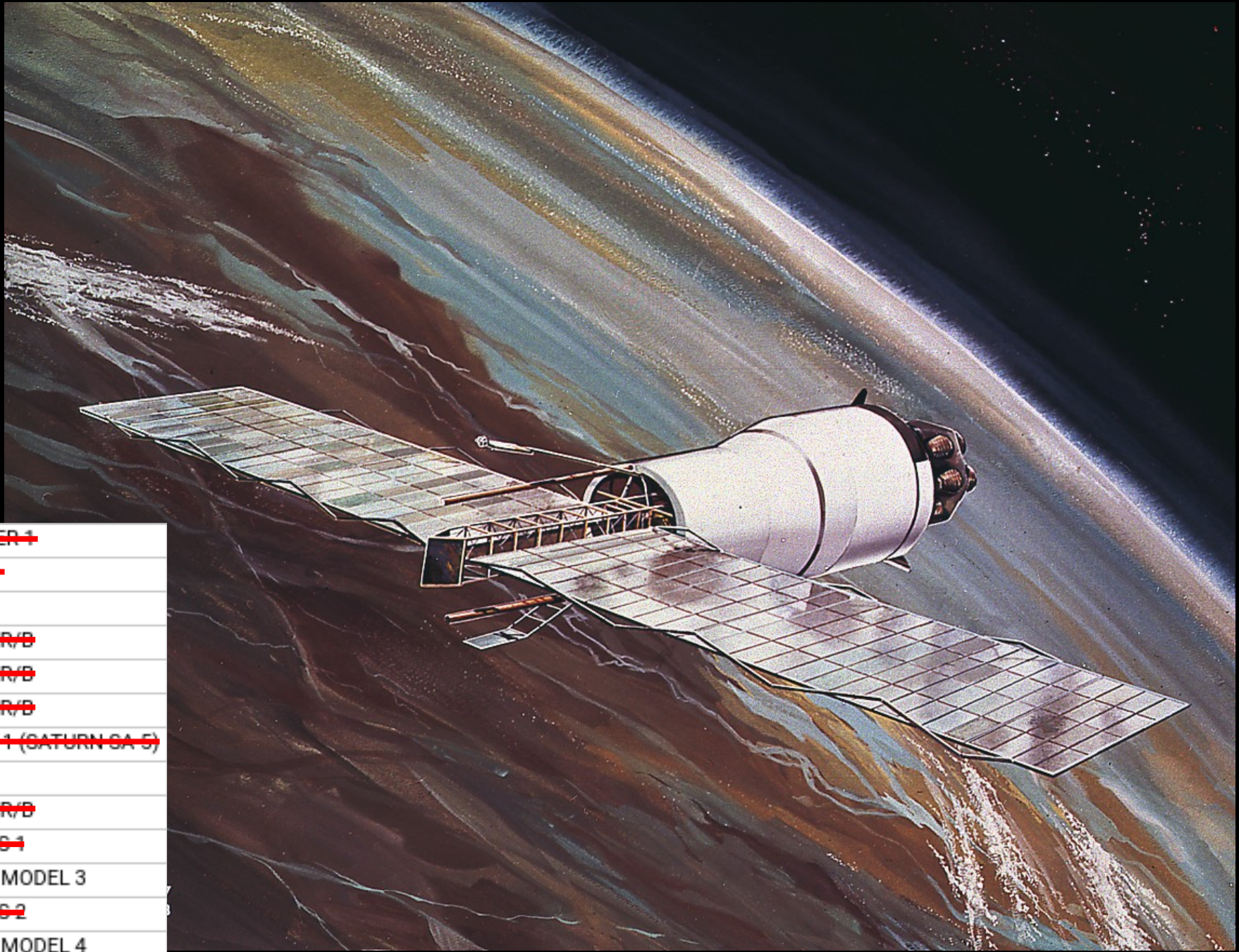




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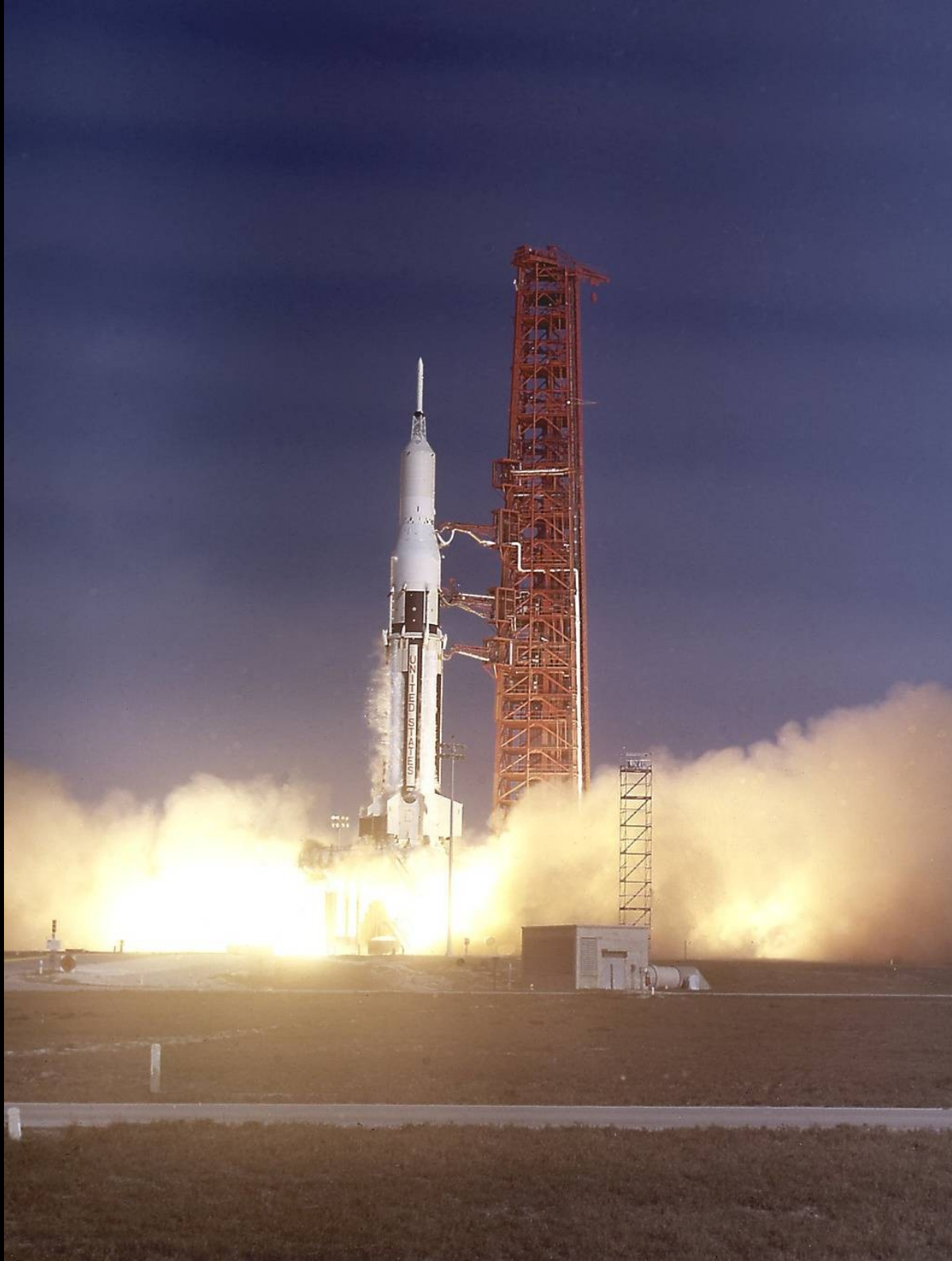


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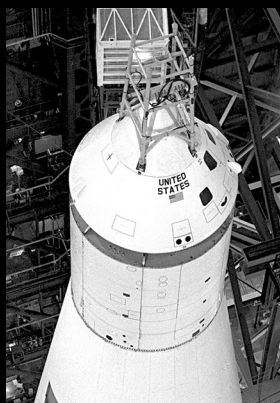
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APOLLO MODEL 3

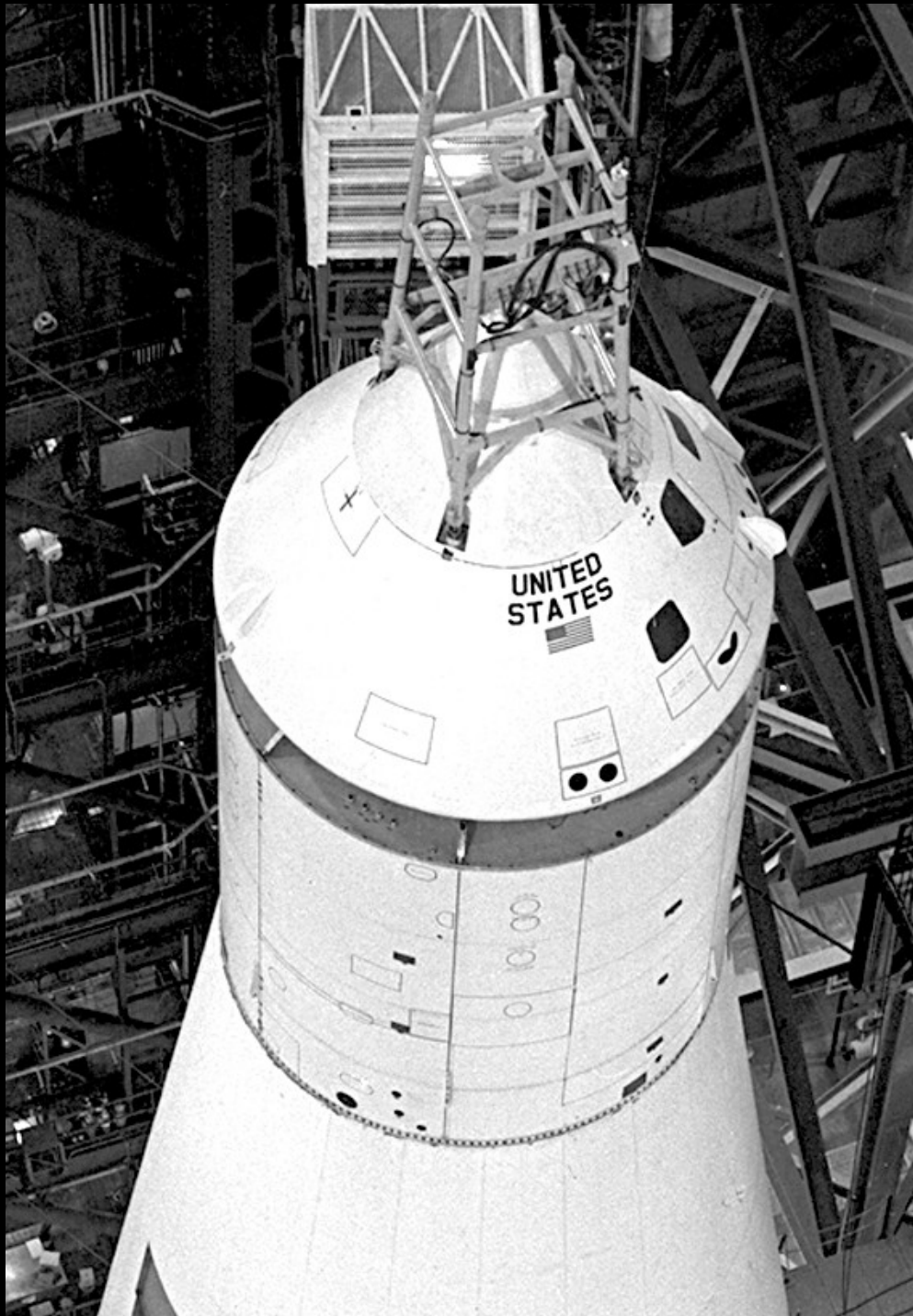
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APOLLO MODEL 4

GEMINI 4



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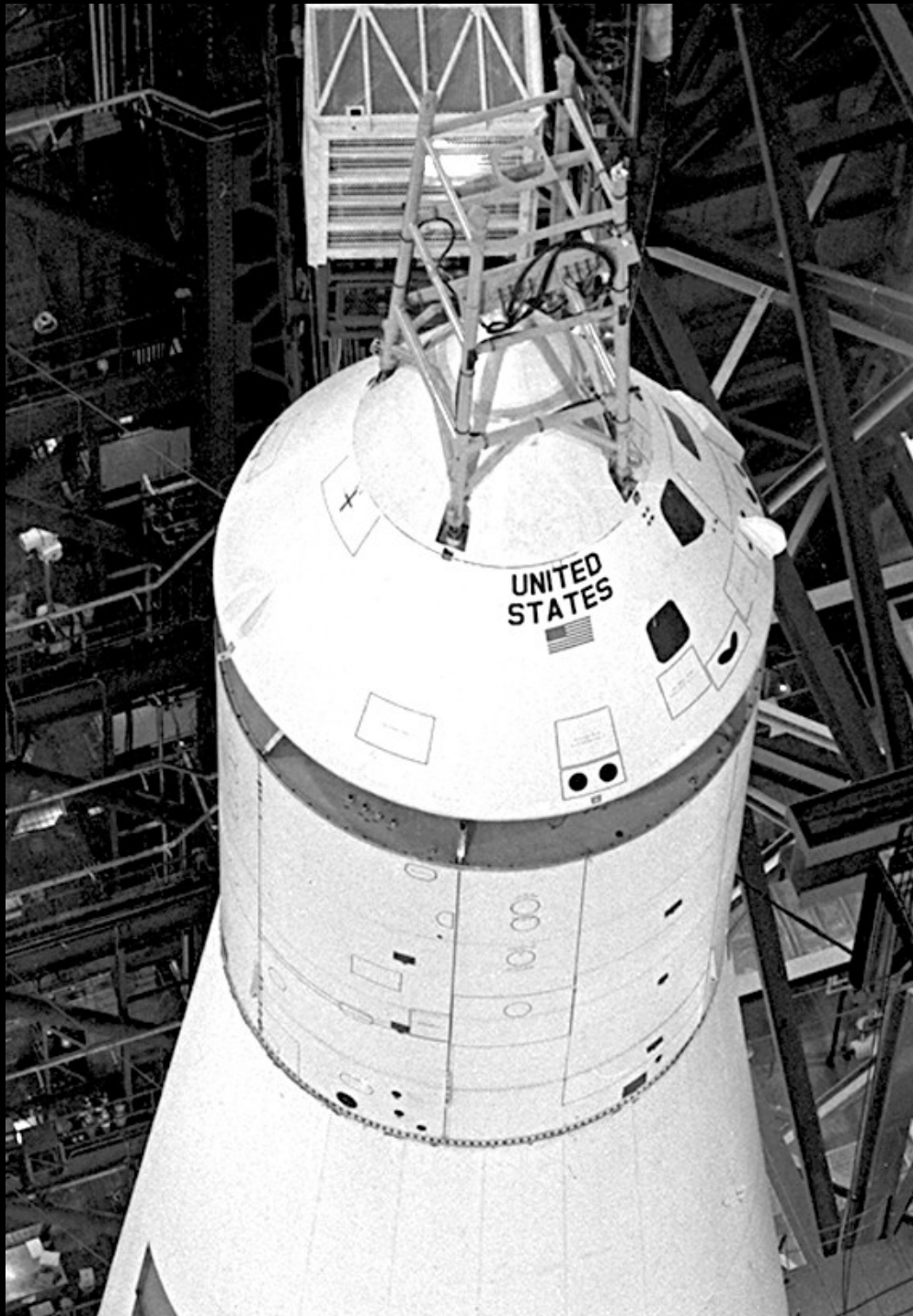
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APOLLO MODEL 3

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APOLLO MODEL 4

GEMINI 4



~~EXPLORER 1~~

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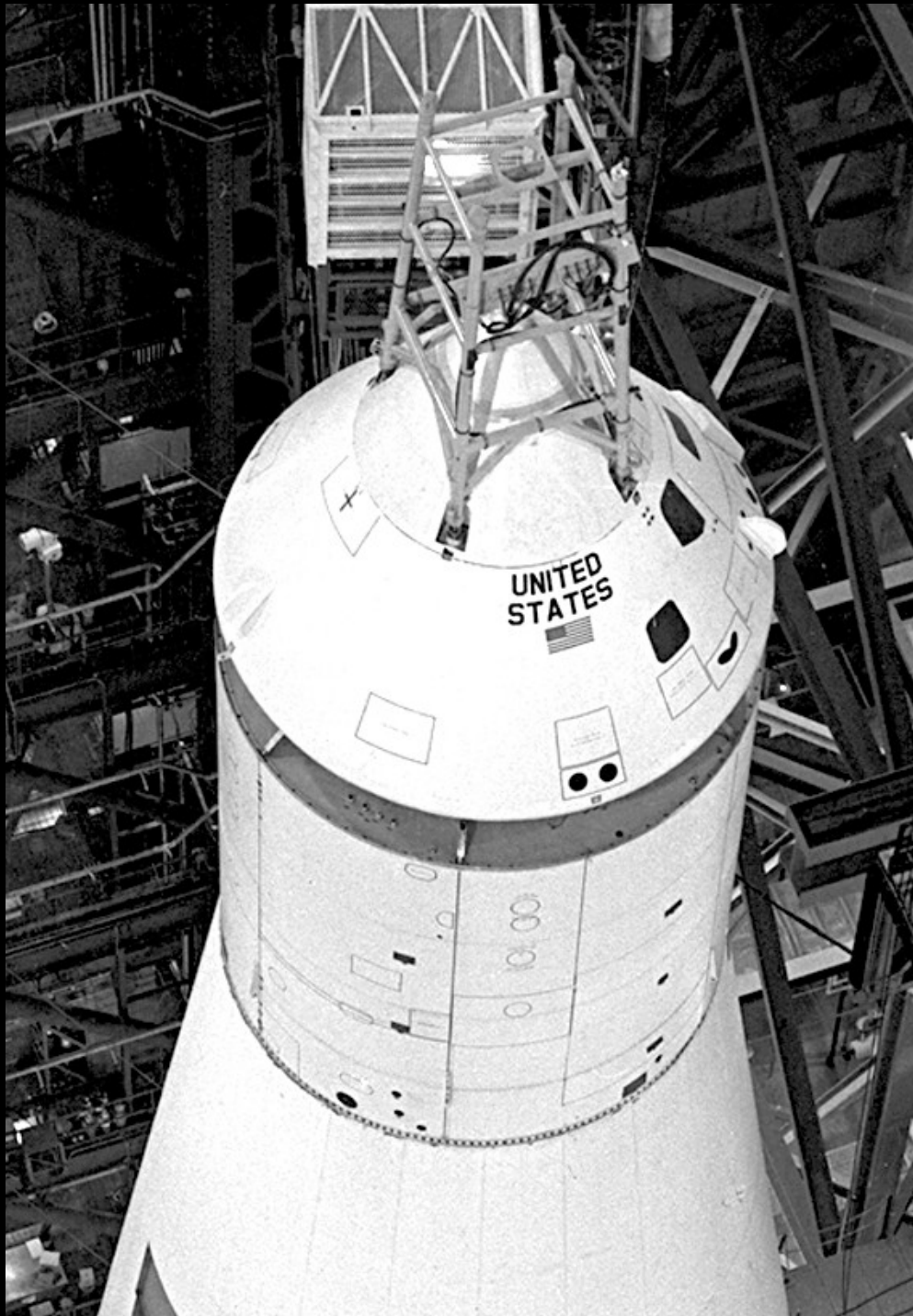
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APOLLO MODEL 4

GEMINI 4



~~EXPLORER 1~~

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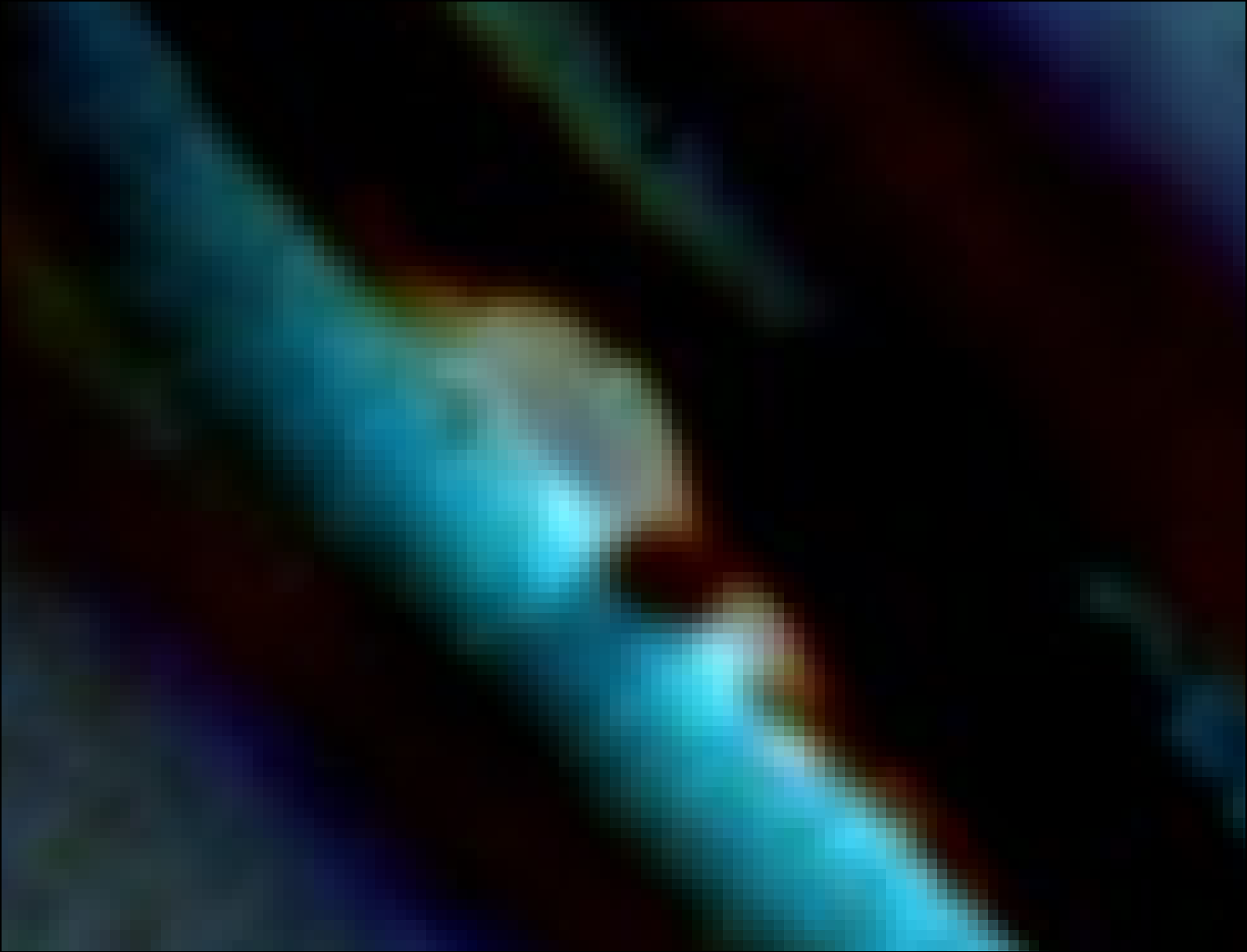
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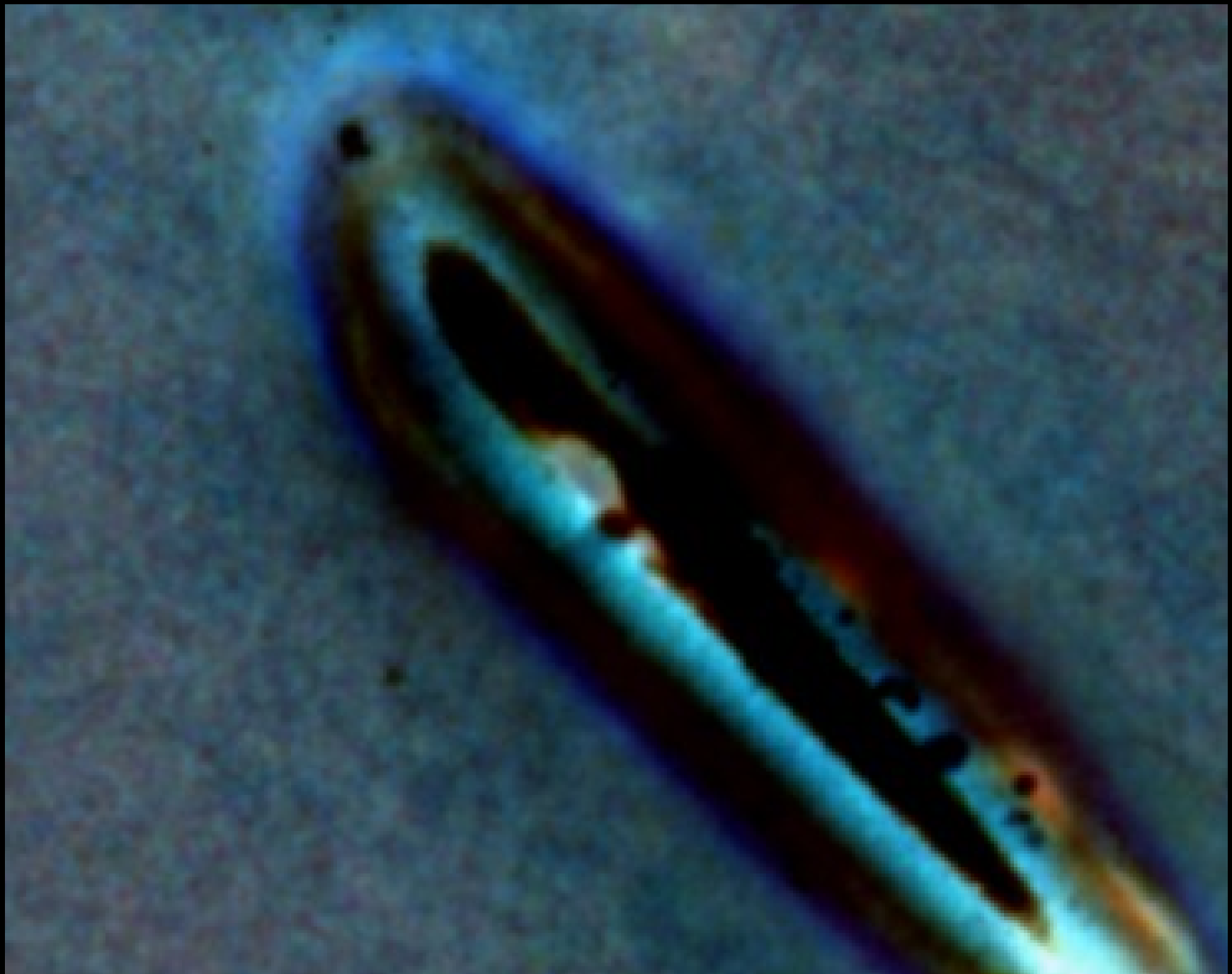
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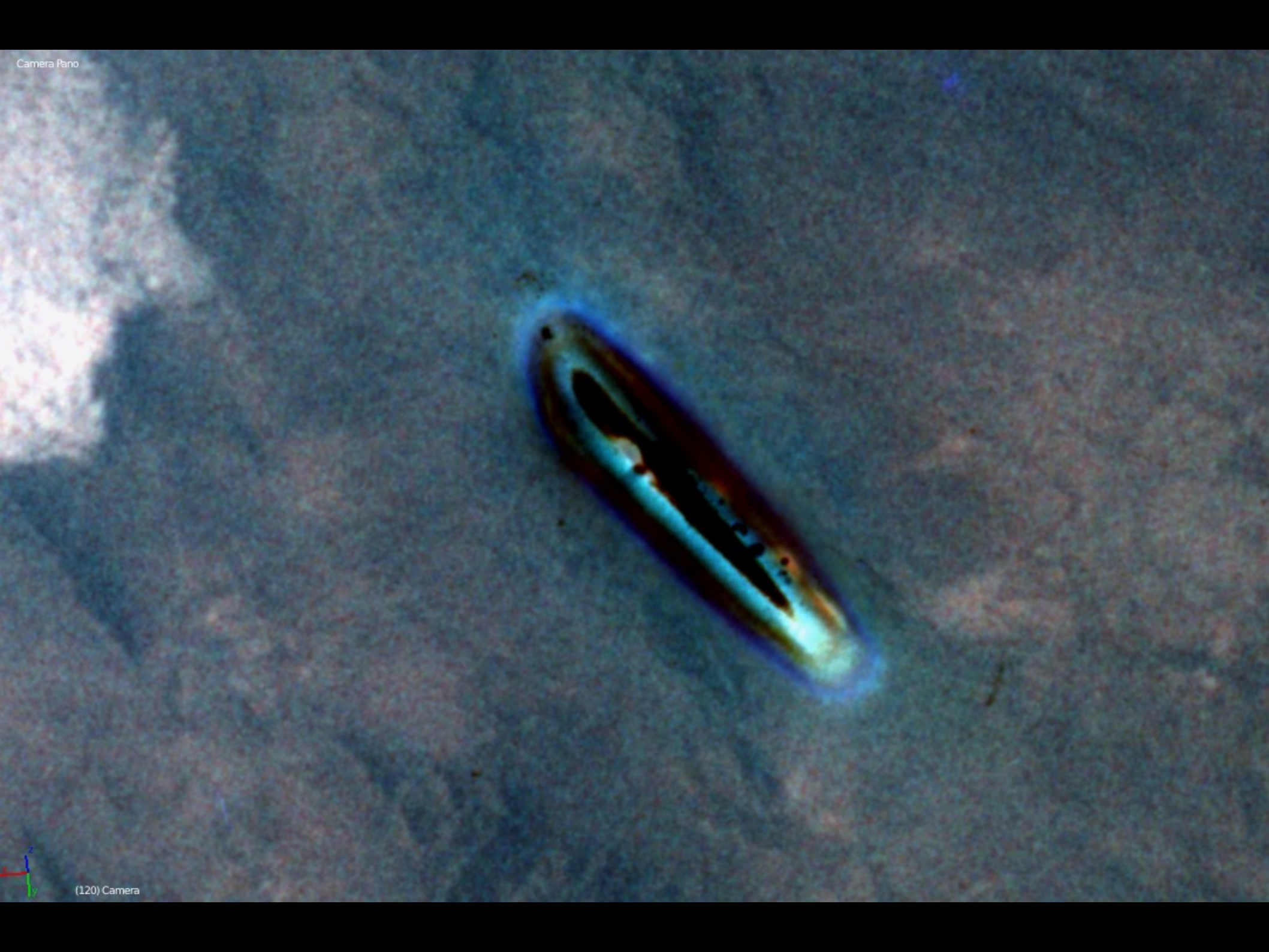
~~PEGASUS 2~~

~~APOLLO MODEL 4~~

GEMINI 4









Helmet, GH-4-C, White, Gemini 4

Home / Helmet, GH 4 C, White, Gemini 4



3 Images



Usage Conditions May Apply

This helmet was worn by astronaut Ed White, Pilot of the Gemini 4 mission in June 1965. This was the first manned Gemini mission in which an astronaut "walked in space".

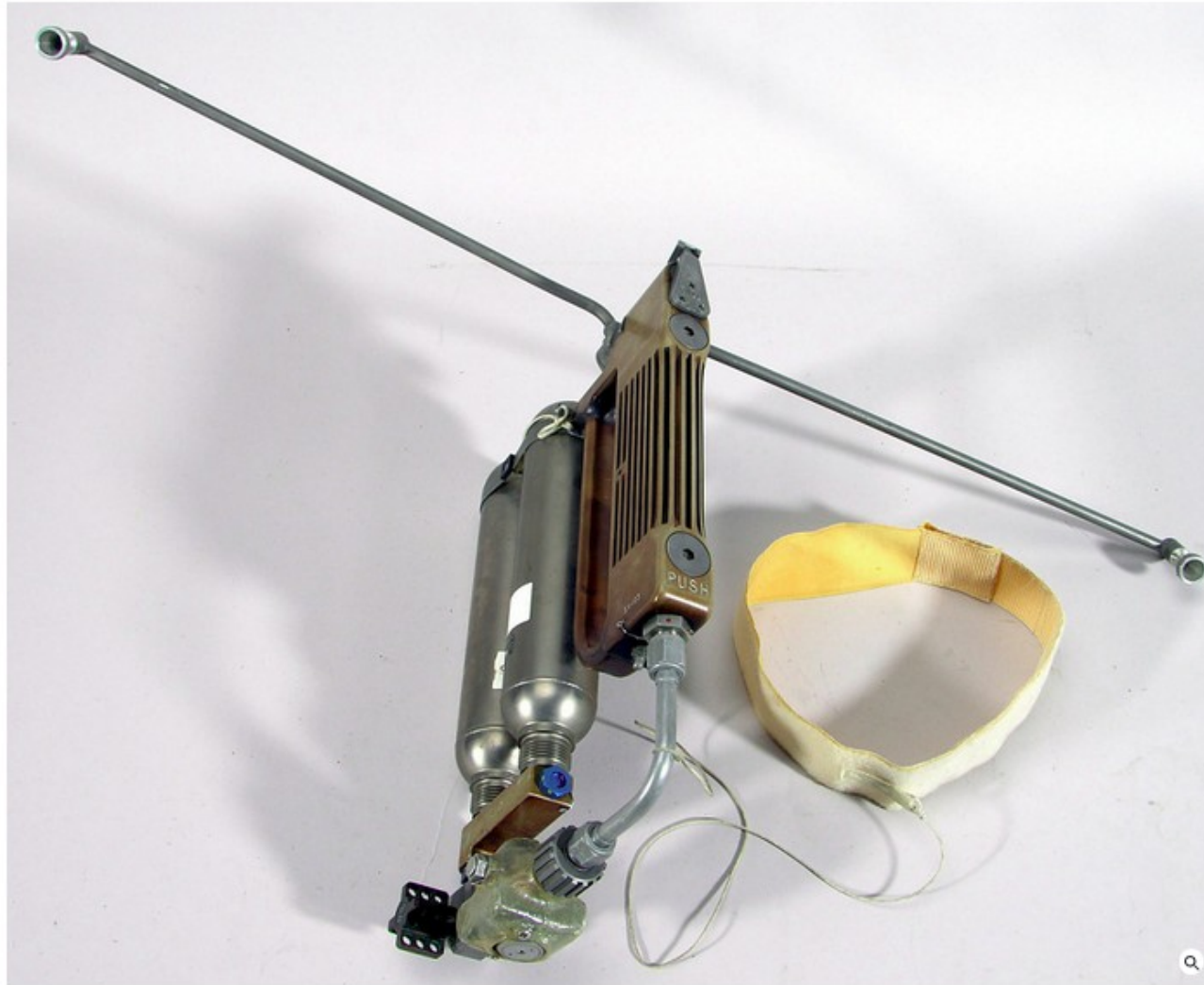
The helmet was constructed of fiberglass and epoxy resin and was molded to fit directly into the neck bearing. A plexiglas visor, capable of

Display Status

This object is on display in the Destination Moon at the National Air and Space Museum in Washington, DC

Maneuvering Unit, Hand-Held, White, Gemini 4

Home / Maneuvering Unit, Hand Held, White, Gemini 4



Usage Conditions May Apply

This Hand-Held Maneuvering Unit was used by Edward White III on his historic "walk in space" on June 3, 1965.

Glove, Left, Gemini 4, White, Flown

Home / Glove, Left, Gemini 4, White, Flown



5 Images



Usage Conditions May Apply

This full pressure glove is part of the pair worn by astronaut Ed White during the Gemini 4 mission in June 1965. The gloves were designed and constructed by the B.F. Goodrich Company. The David Clark Company modified them for use in the Gemini program.

The glove is constructed of two layers - an internal rubber/Neoprene pressure bladder, and a nylon upper cover-layer, with a neoprene-impregnated nylon palm which was designed to prevent objects from slipping out of the astronaut's hands during weightlessness.

The NASA - Manned Spacecraft Center transferred the gloves to the Museum in 1967.

Display Status

This object is not on display at the National Air and Space Museum. It is either on loan or in storage.

Object Details

Country of Origin

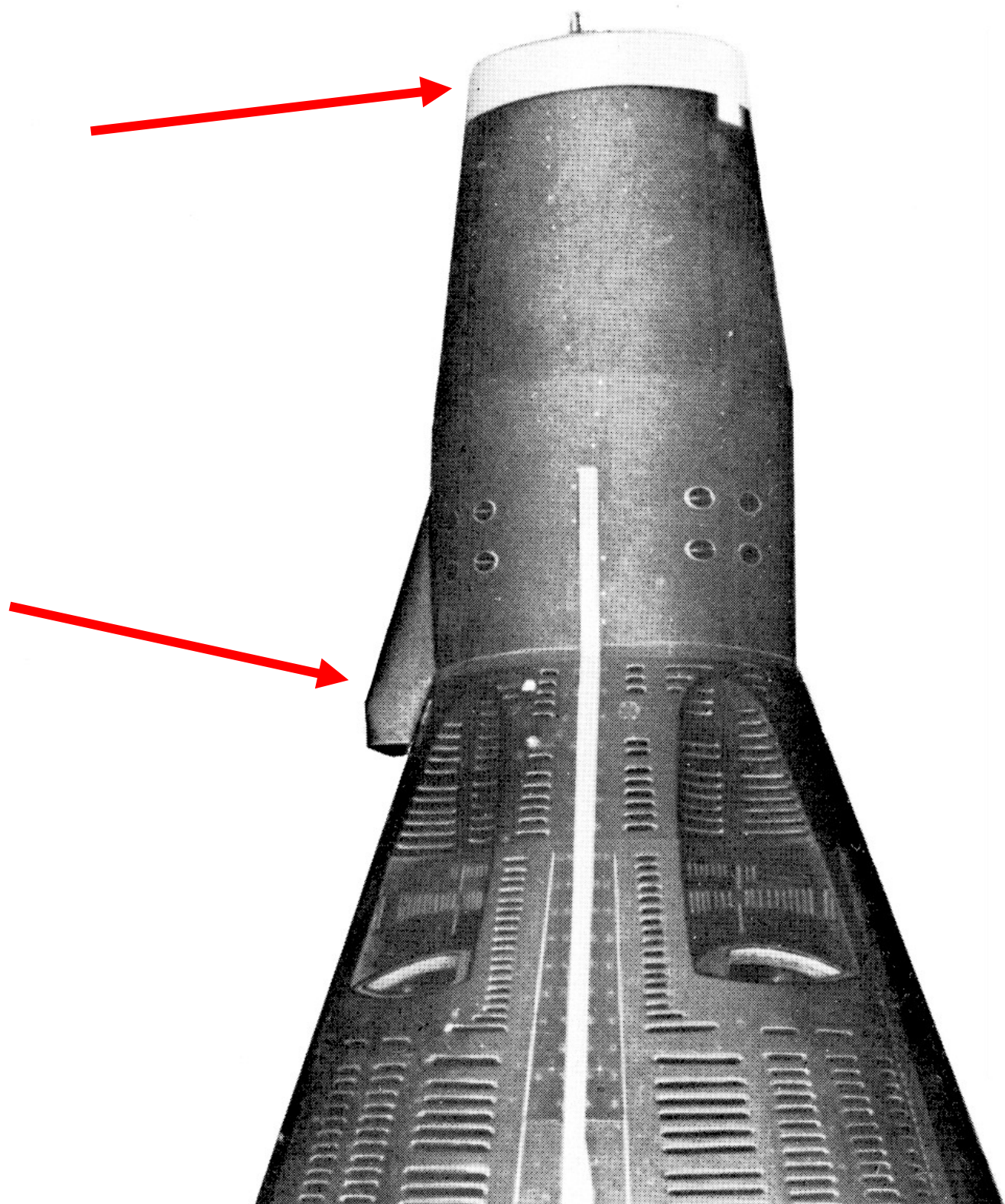
United States of America

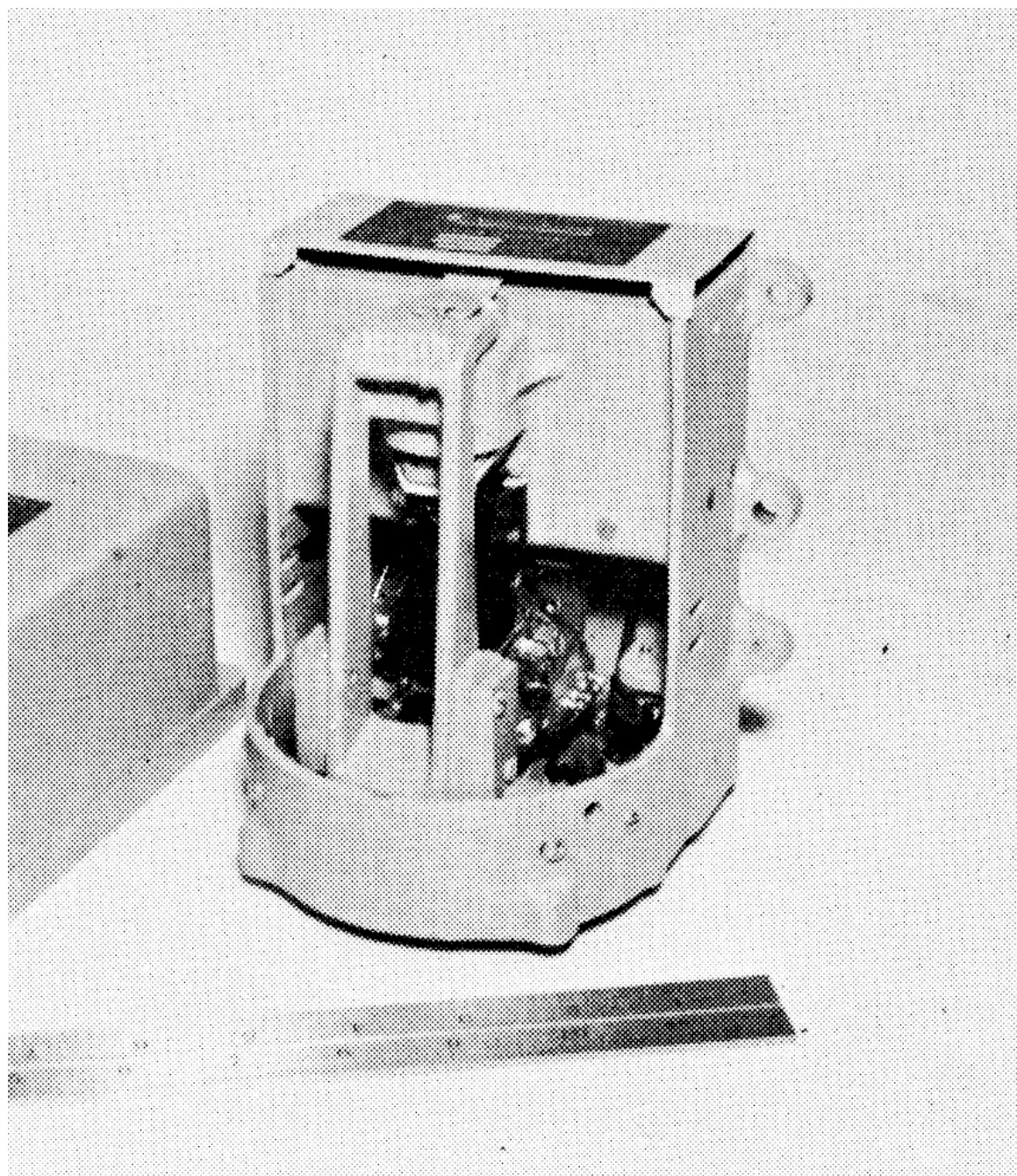
Dimensions

3-D: 27.9 x 10.8 x 8.9cm (11 x 4 1/4 x 3 1/2 in.)

Inventory Number

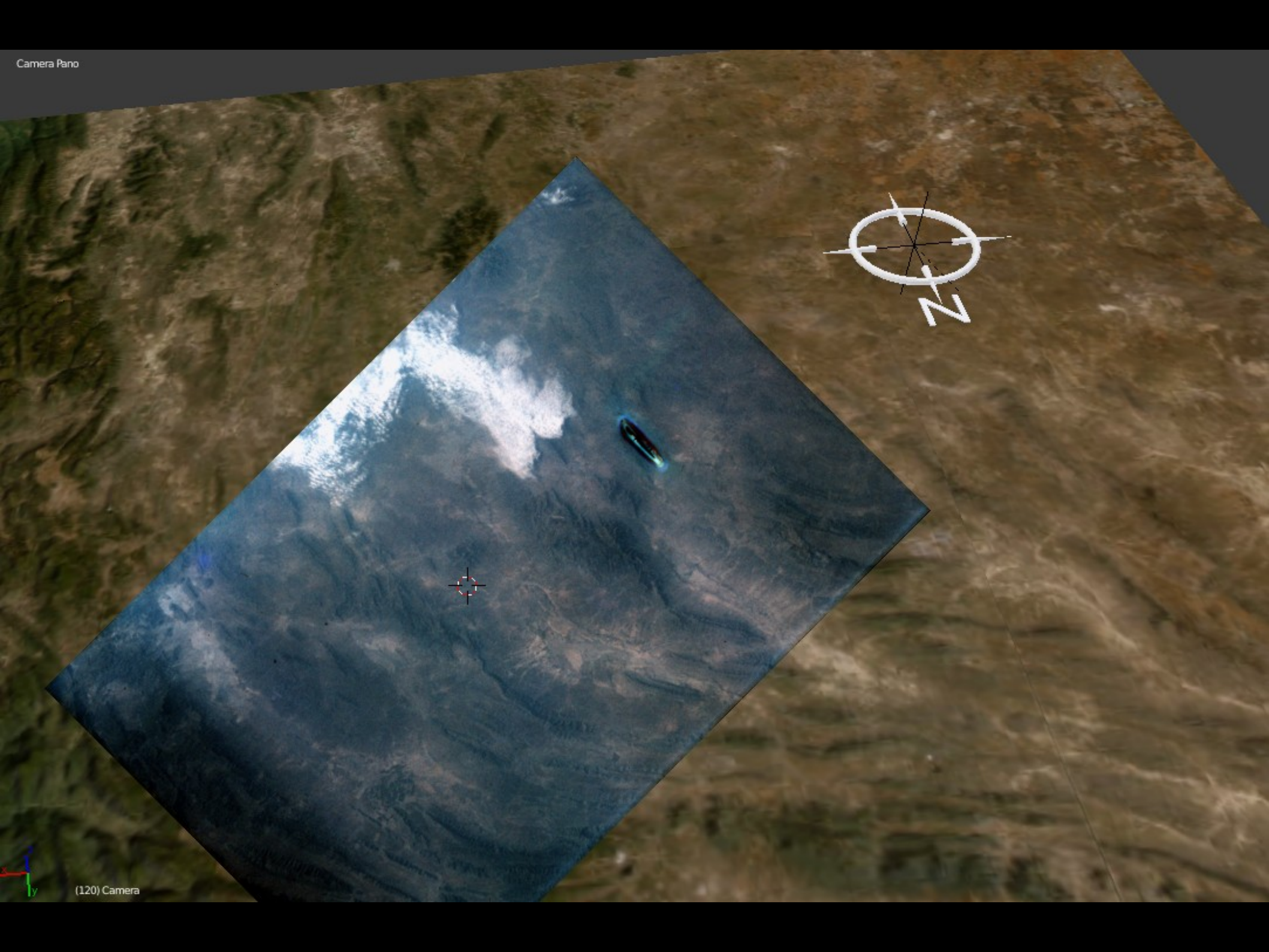
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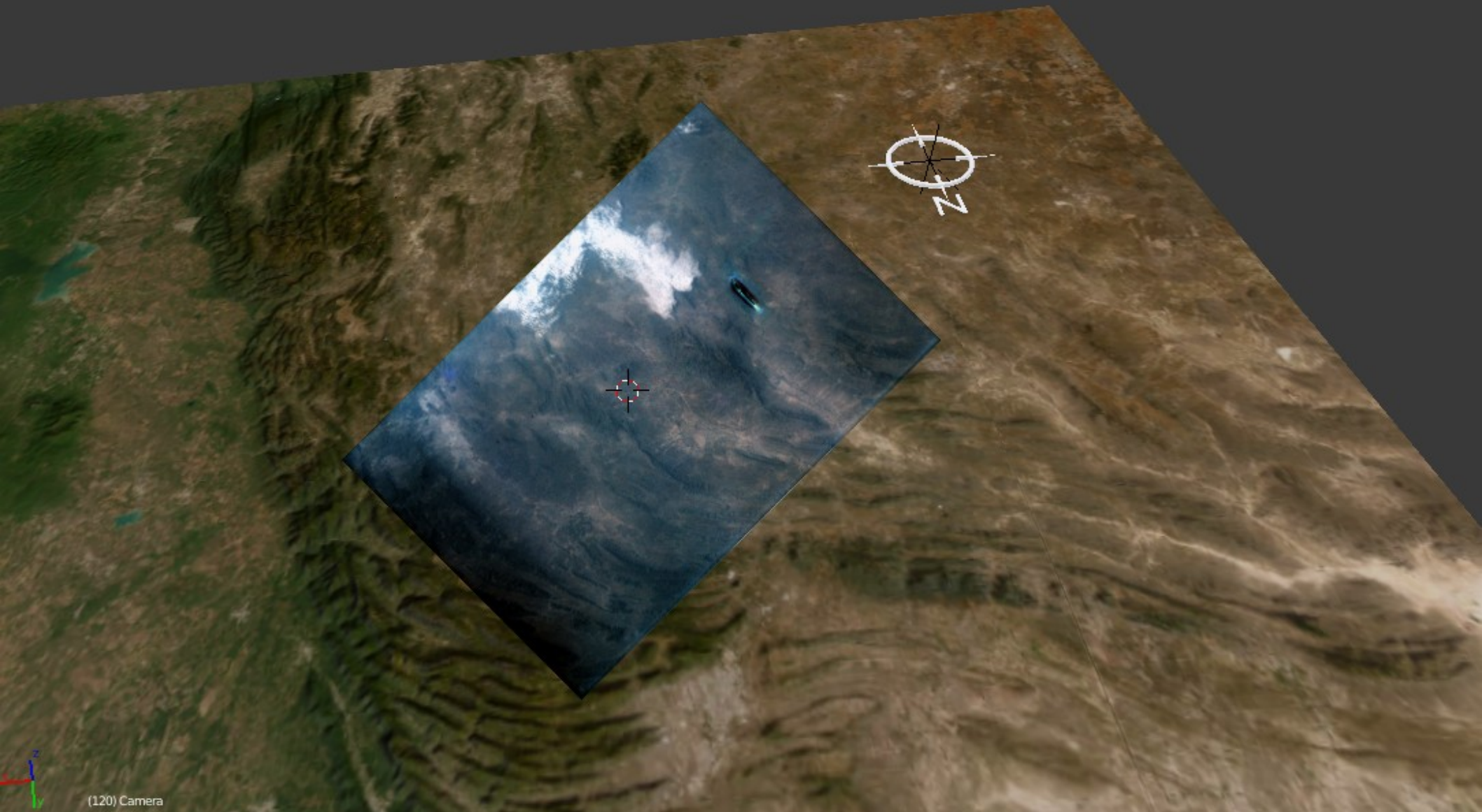




12.6.1.2 Environmental control system.- The external appearance of the environmental control system (ECS) bay was good, and no water was noted in the cavity. The crew reported the urine dump system inoperative after 92 hours. This item is being analyzed according to STR 4022, and preliminary results indicate a malfunction of the solenoid dump valve.







97 23 50

97 23 50

C Got some brilliant fireflies out there. Boy, there is one of them that is really pretty.

97 23 50

C Got some brilliant fireflies out there. Boy, there is one of them that is really pretty.

P Yes, I see them.

97 23 50

C Got some brilliant fireflies out there. Boy, there is one of them that is really pretty.

P Yes, I see them.

C I have fireflies.

97 23 50

C Got some brilliant fireflies out there. Boy, there is one of them that is really pretty.

P Yes, I see them.

C I have fireflies.

C Oh boy!

97 23 50

C Got some brilliant fireflies out there. Boy, there is one of them that is really pretty.

P Yes, I see them.

C I have fireflies.

C Oh boy!

97 27 37

P Look at that firefly sparkling.

97 23 50

C Got some brilliant fireflies out there. Boy, there is one of them that is really pretty.

P Yes, I see them.

C I have fireflies.

C Oh boy!

97 27 37

P Look at that firefly sparkling.

C Yes. It is.

17 3- 01

0

I see little things floating along with us. Ei.

97 34 01

C

I see little things floating along with us, Ed.

97 34 01

C

I see little things floating along with us, Ed.

97 34 03

C

Yes.

97 34 01 C I see little things floating along with us, Ed.

97 34 03 C Yes.

97 34 06 P Hey! I noticed them going the other way the other night.

97 34 01 C I see little things floating along with us, Ed.

97 34 03 C Yes.

97 34 06 P Hey! I noticed them going the other way the other night.

97 34 08 C Yes, so did I. They were going forward.

97 34 01 C I see little things floating along with us, Ed.

97 34 03 C Yes.

97 34 06 P Hey! I noticed them going the other way the other night.

97 34 08 C Yes, so did I. They were going forward.

97 34 10 P I was small-end-forward, and they were going forward.

02 04 37 C No, I can't see it. Maybe

02 04 46 P Oh, those must be fireflies again! Are you in the light over there?

02 04 50 C Yes, I'm in the light.

02 04 51 P How does that happen? I'm in night over here.

02 04 55 C We're going sideways.

02 04 57 C Actually, we're going around to blunt-end-forward.

02 05 00 P All right. A very interesting thing - Jim's got full daylight out his window, and I have full night out of mine. We're gradually yawing around to blunt-end-forward, and it looks like the reflection of the sun on these fireflies causes them to glow very brightly. That was the type of stars that we saw on our first dark side.

02 05 29 P It seems very strange for me to look out Jim's side and see daylight and look out my side and it's just pitch black.

32 15 10 P Oh! Did you see that flash? Huh? Yes. A very
bright flash right on the air glow. It was on your
side. A very bright flash and went out.

32 15 25 C No, I didn't see it. Is the recorder on now?

32 15 29 P Yes.

32 15 49 . P Shucks! Now keep a bright eye out your window, because the area I saw is in your window now - where I saw the flash. It was right at the top of the air glow.

32 16 34 P There! See it again? Out your side?

32 16 41 C You're not kidding. That was on the earth.

32 16 44 P It was shooting down toward the - that one was much lower.

32 16 46 C Oh, it's shooting down into the earth.

32 16 49 P Yes.

32 16 50 P Wonder what that was?

32 16 52 C Maybe it was a falling star.

32 16 53 P I don't know.

32 20 20 C I think we are about to have a sunrise.

32 20 29 P

32 20 46 C

32 20 55 P Okay.

32 21 17 C

32 21 22 P Yes. burning up and what I saw went
right into the air glow. There goes another one!
See it?

32 21 47 P is deceptive as far as the altitude

32 21 58 P the fireflies

73 26 44 C I'm trying to think of a banana and a kangaroo joke
but I can't put the two together.

73 27 06 CC Is your buddy awake?

73 27 09 C No, he's sound asleep.

TEXAS

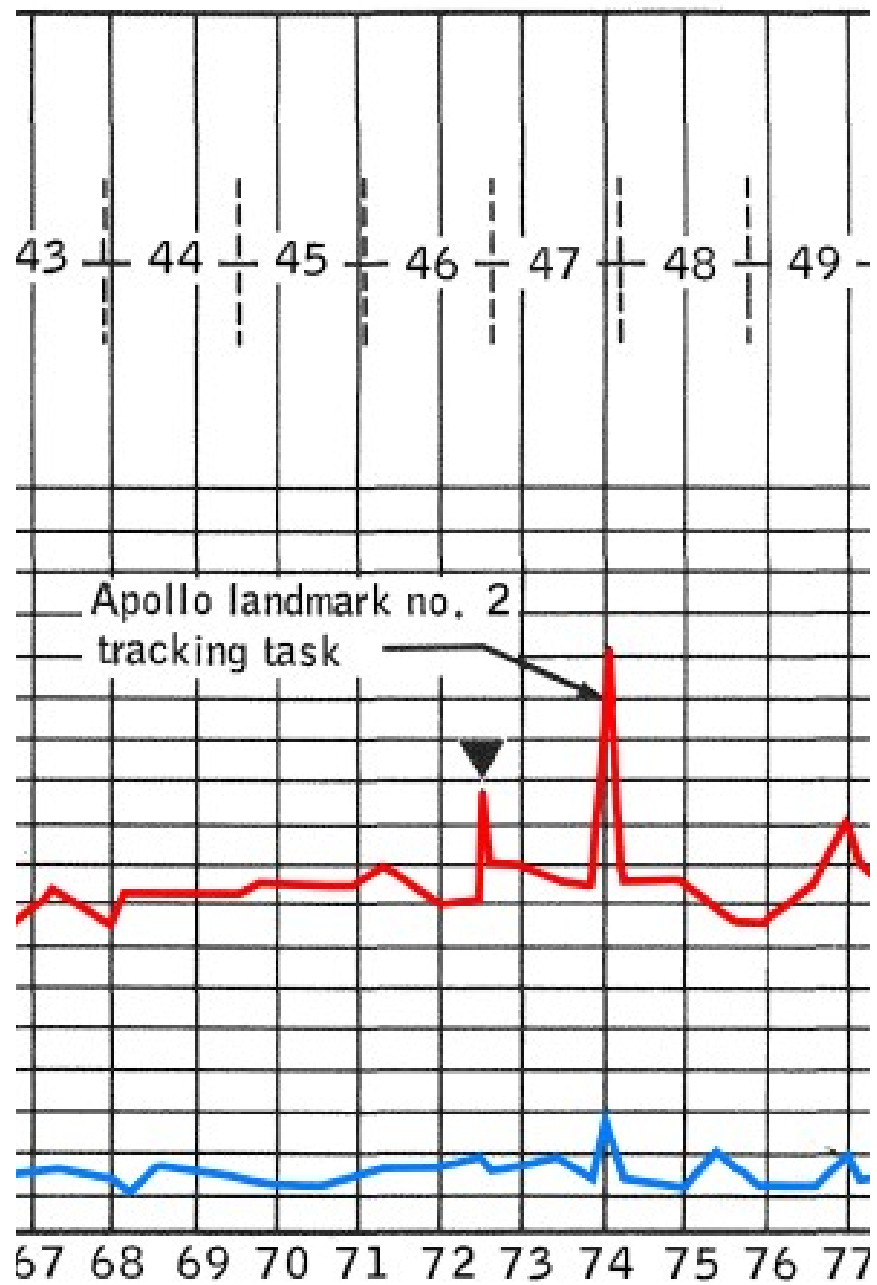
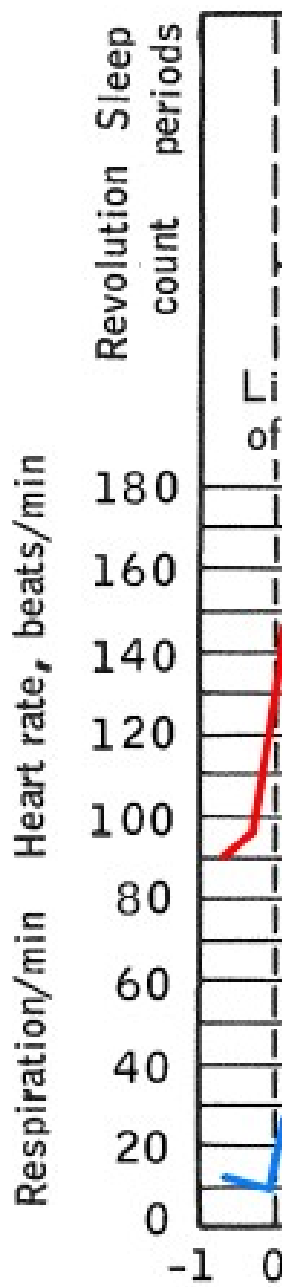
74 09 12 CC Gemini 4, Houston CAP COM.

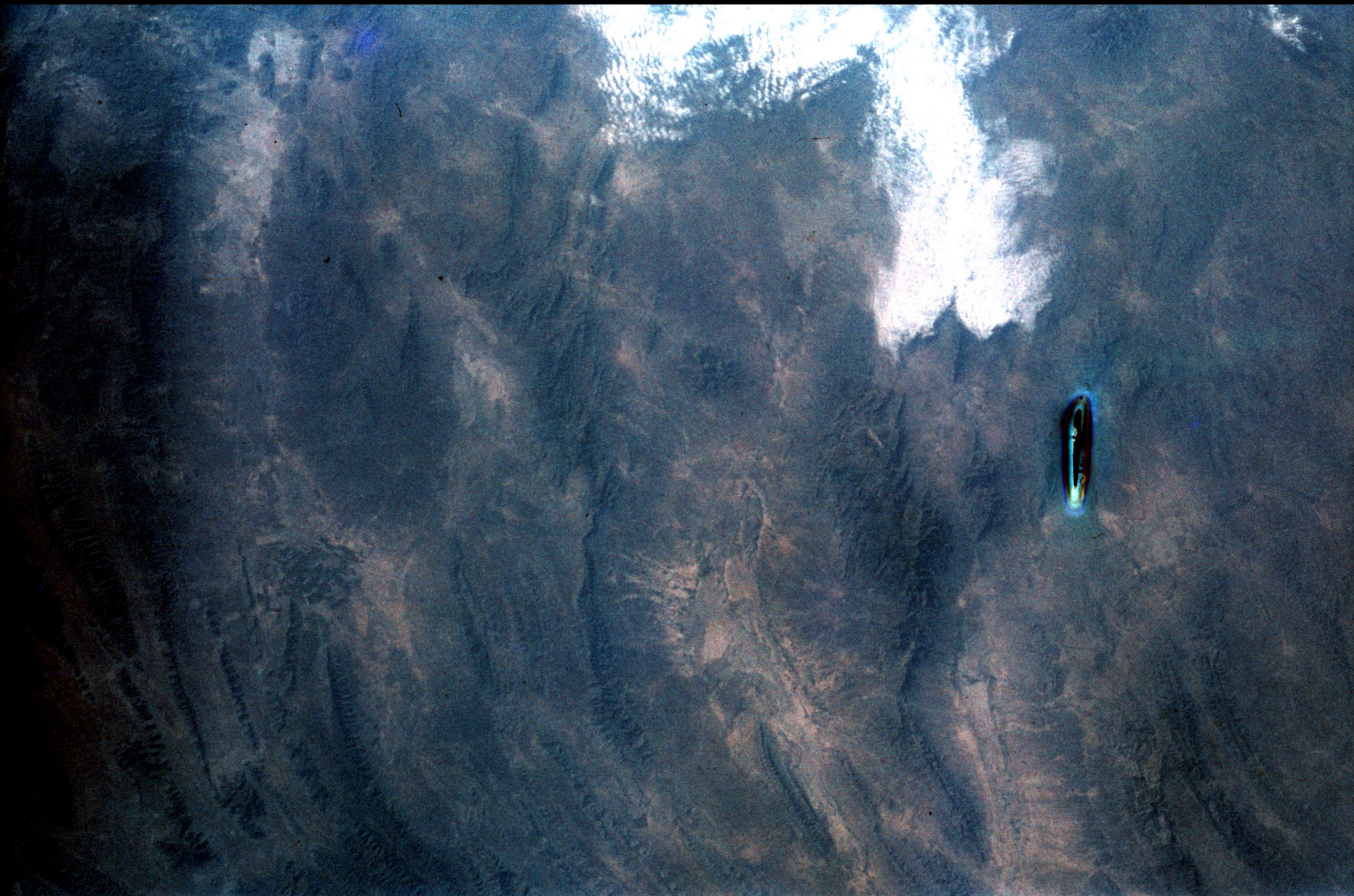
74 09 14 C Go ahead, this is Gemini 4.

74 09 15 CC Roger, I'd like to give you your 51-4 time.

74 09 34 C Okay, go ahead.

~~CONFIDENTIAL~~







Davis Remmel
d@visr.me

