Assignment 2 – Sterilize Media & Document

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Course: Digital Forensics

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Evidence Description

On February 12, 2026, I identified and documented a removable USB storage device for the purpose of forensic sterilization and reformatting pursuant to Assignment 2 requirements. The device is physically branded as SanDisk, as observed on the exterior casing of the device. The USB device was connected to an HP Envy x360 laptop and examined using native Windows administrative utilities.

Physical and Logical Identification

Device Type:

Removable USB flash drive

Manufacturer:

SanDisk (confirmed via physical branding and Windows device listing)

Model / Friendly Name:

SanDisk Cruzer Glide USB Device

Disk Number:

Disk 1 (Removable)

Hardware Serial Number:

20051941900572C079B2

(Source: PowerShell Get-Disk output)

Volume Serial Number:

38B4-950D

(Source: `vol D:` command output)

Storage Characteristics

Reported Capacity:

8,000,372,736 bytes
(Approximately 7.45 GB usable capacity)

Partition Layout:

Single Primary Partition

File System:

FAT32

Drive Letter:

D:

Current Usage:

- Used Space: 59,817,984 bytes (57.0 MB)
- Free Space: 7,940,554,752 bytes (7.39 GB)

Disk Management Confirmation

Disk Management confirms:

- Disk 1 is removable media
- Capacity: 7.46 GB
- One primary partition

- File system: FAT32
- Status: Healthy (Primary Partition)

The device is operational and recognized by the operating system as functioning properly.

Appendix A – Photographic Evidence

Figure 1 – External view of SanDisk USB device:

Appendix B – Logical Identification Screenshots

Figure 2 – Disk Management (showing Disk 1):

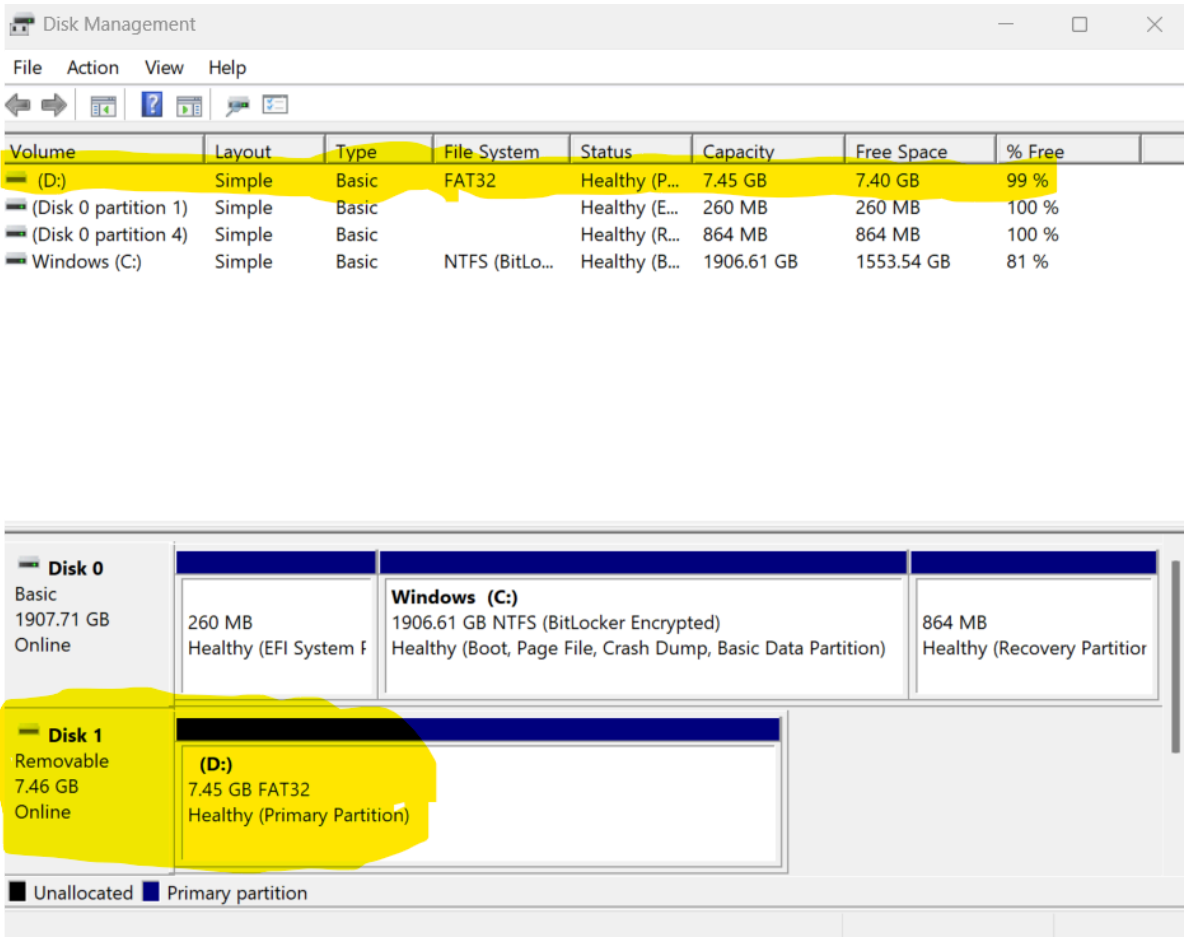


Figure 3.1 – USB Properties window (Capacity & File System):

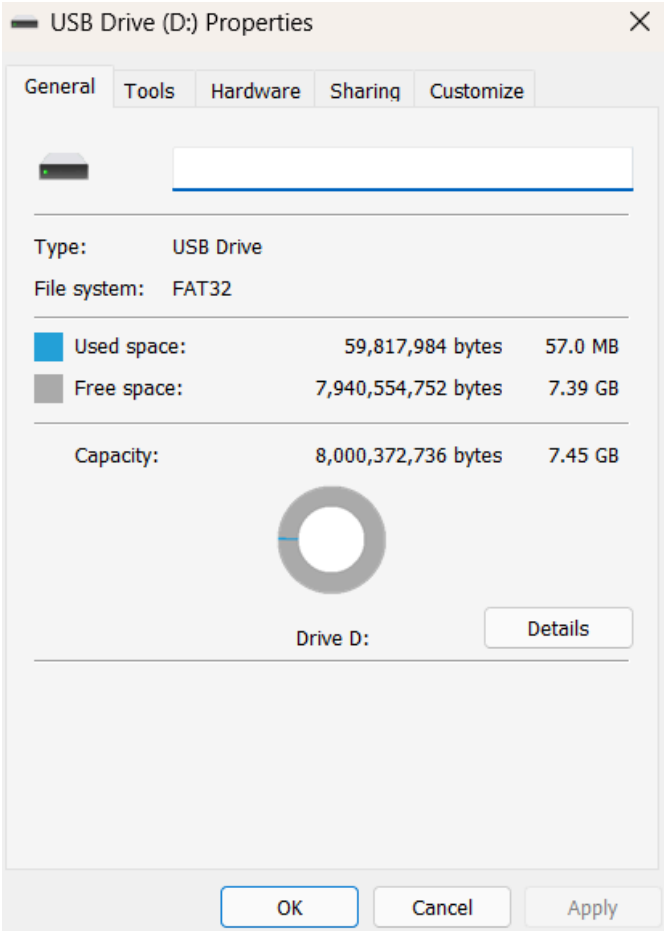


Figure 3.2 - USB Properties window (Capacity & File System):

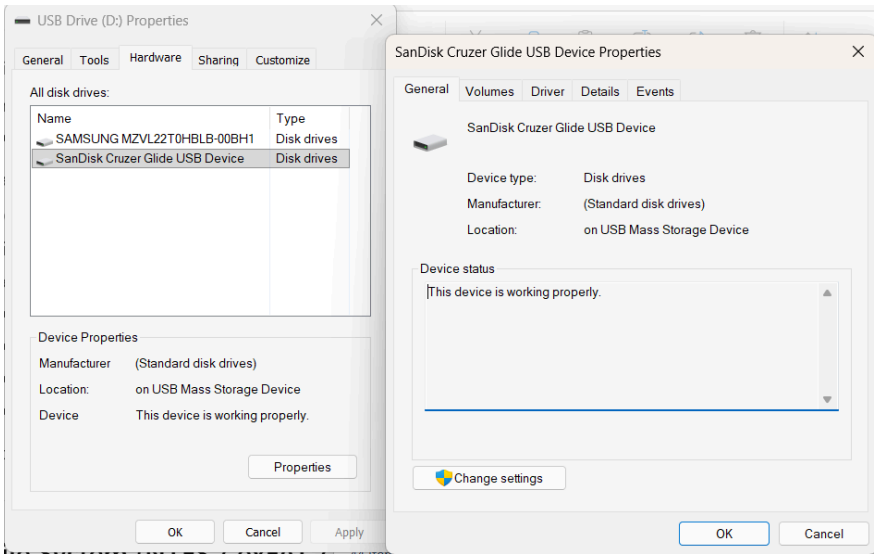


Figure 4 – PowerShell Get-Disk output:

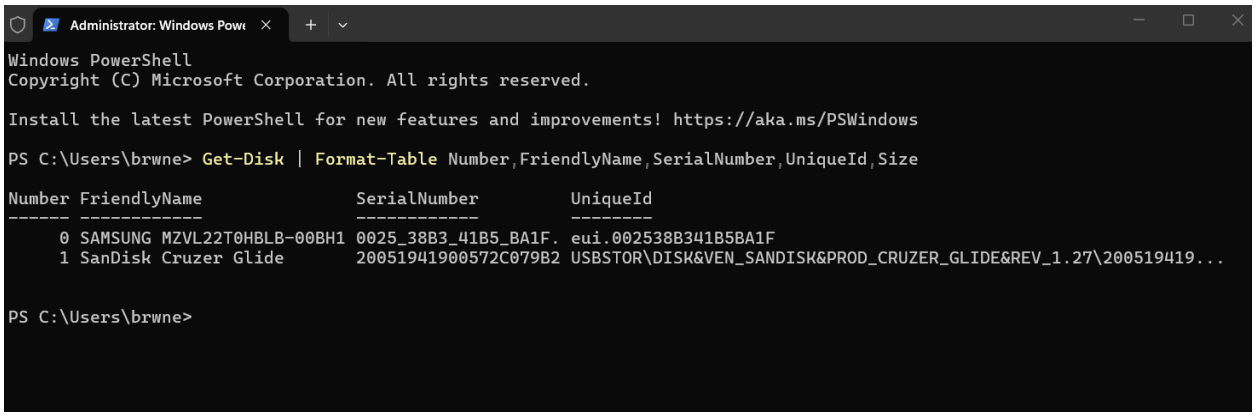
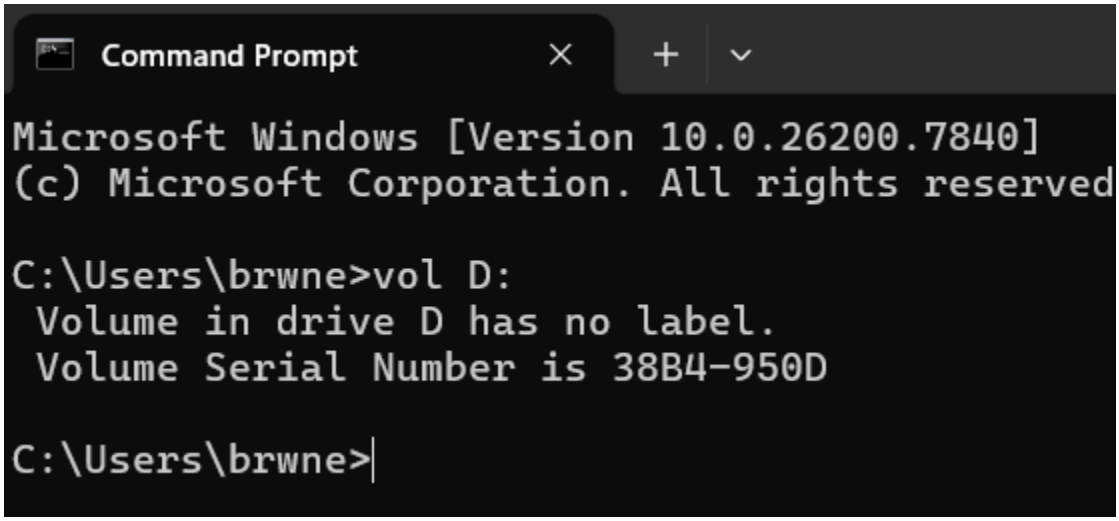


Figure 5 – Command Prompt `vol D:` output:



Sterilization Methodology

Sterilization Tool Used

Sterilization was performed using:

- **Tool:** Microsoft DiskPart Utility
- **Execution Context:** Administrator PowerShell
- **Method:** `clean all` command

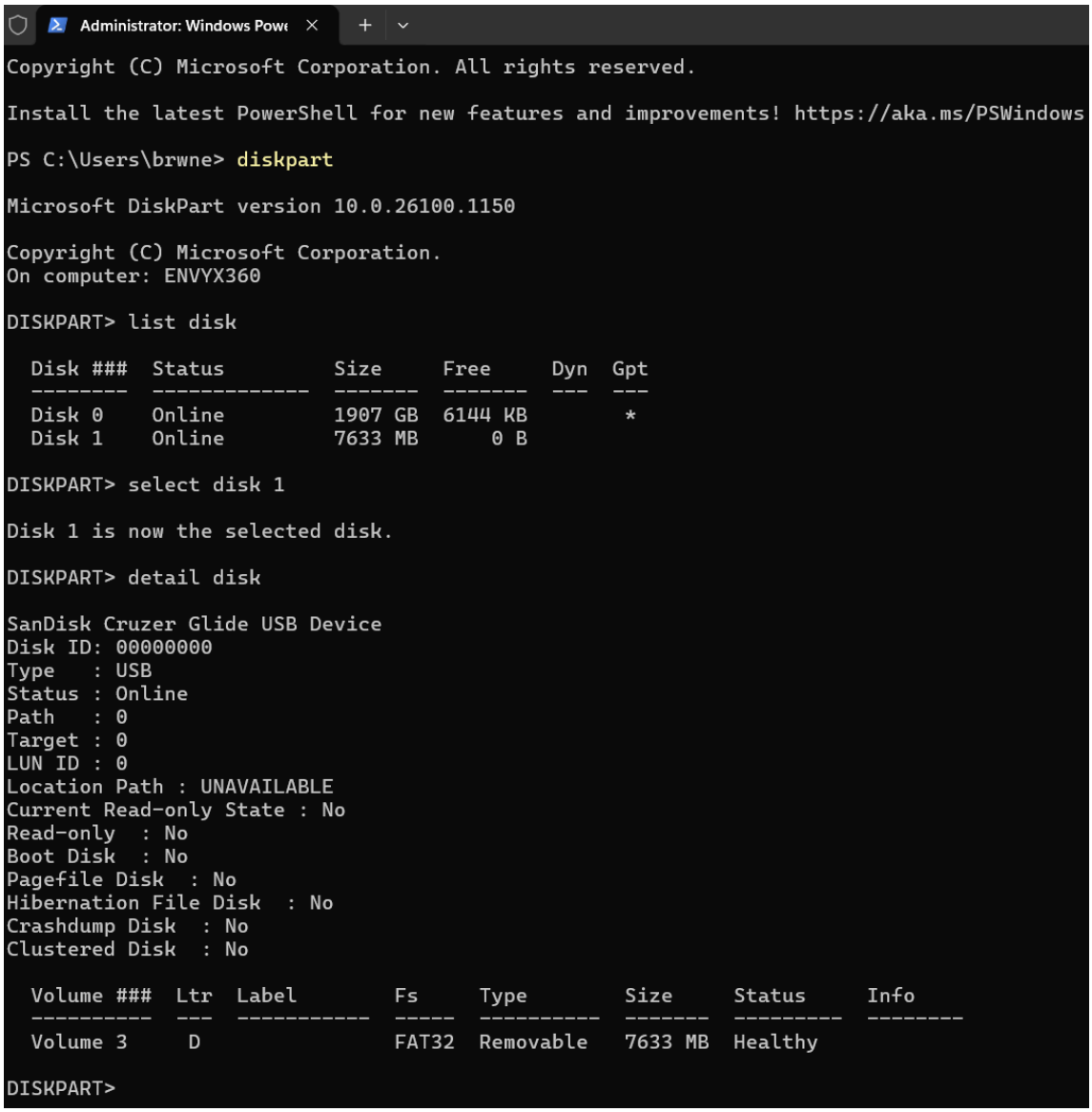
The `clean all` command was selected because it writes zeros to every sector on the disk, effectively overwriting all previous data and rendering the media forensically sterile.

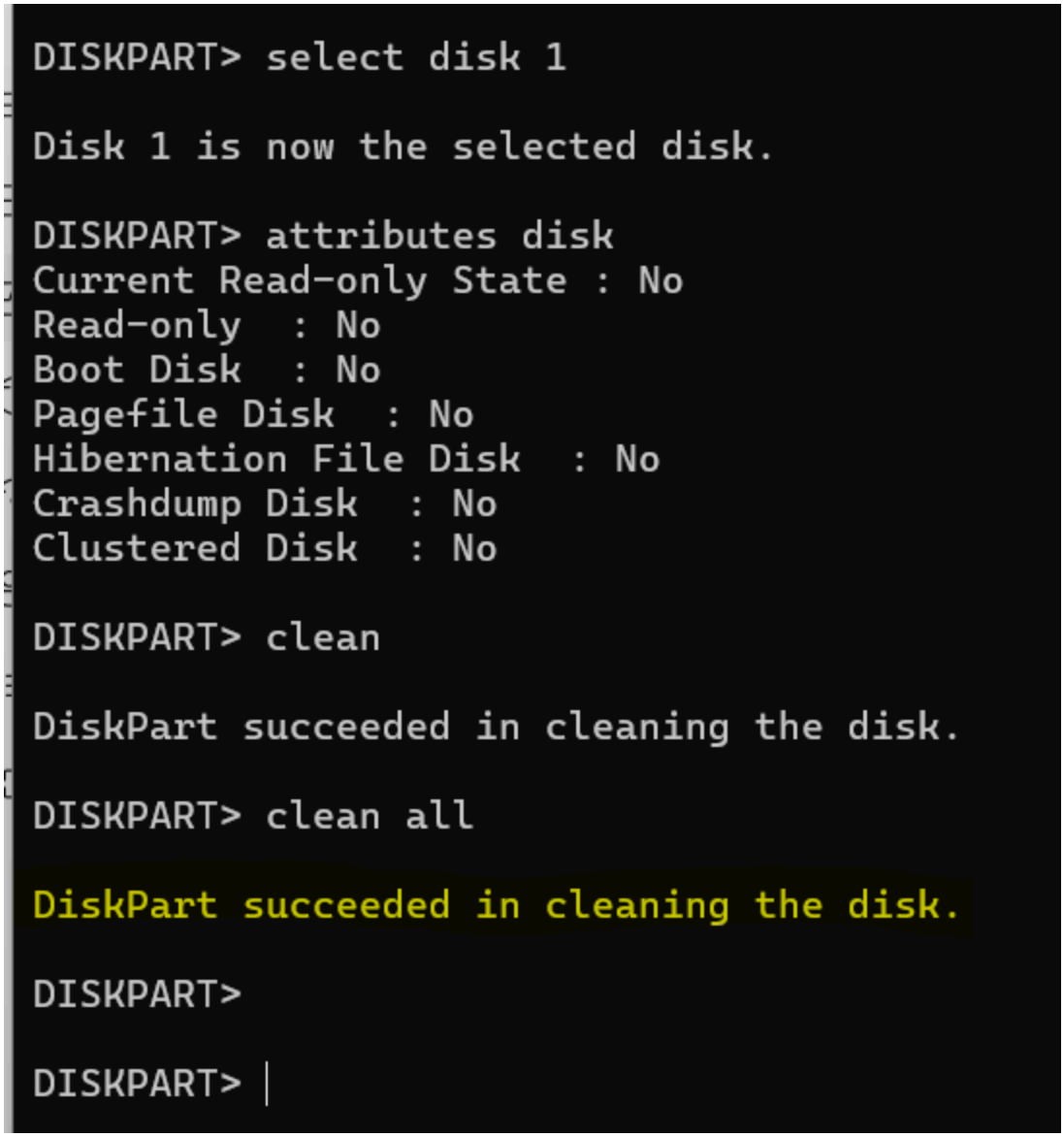
Commands Executed

The following commands were issued:

```
diskpart

list disk

select disk 1

attributes disk

clean

clean all
```

- The `clean` command removed partition information.
- The `clean all` command performed a full zero-write across the disk.


Administrator: Windows Powe
Copyright (C) Microsoft Corporation. All rights reserved.
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
PS C:\Users\brwne> diskpart
Microsoft DiskPart version 10.0.26100.1150
Copyright (C) Microsoft Corporation.
On computer: ENVYX360
DISKPART> list disk
Disk ### Status Size Free Dyn Gpt
Disk 0 Online 1907 GB 6144 KB *
Disk 1 Online 7633 MB 0 B
DISKPART> select disk 1
Disk 1 is now the selected disk.
DISKPART> detail disk
SanDisk Cruzer Glide USB Device
Disk ID: 00000000
Type : USB
Status : Online
Path : 0
Target : 0
LUN ID : 0
Location Path : UNAVAILABLE
Current Read-only State : No
Read-only : No
Boot Disk : No
Pagefile Disk : No
Hibernation File Disk : No
Crashdump Disk : No
Clustered Disk : No
Volume ### Ltr Label Fs Type Size Status Info
Volume 3 D FAT32 Removable 7633 MB Healthy
DISKPART>



- *Figure 6 & 7 - DiskPart succeeded in cleaning the disk*

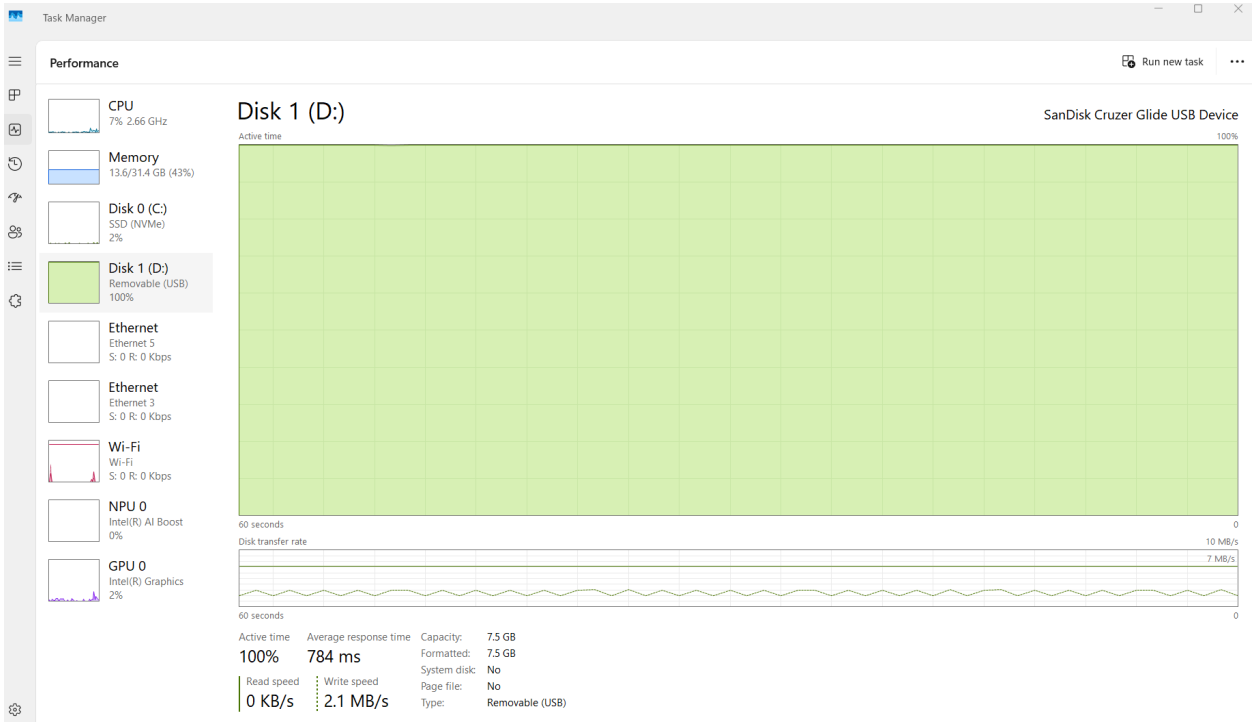
Observed System Behavior During Sterilization

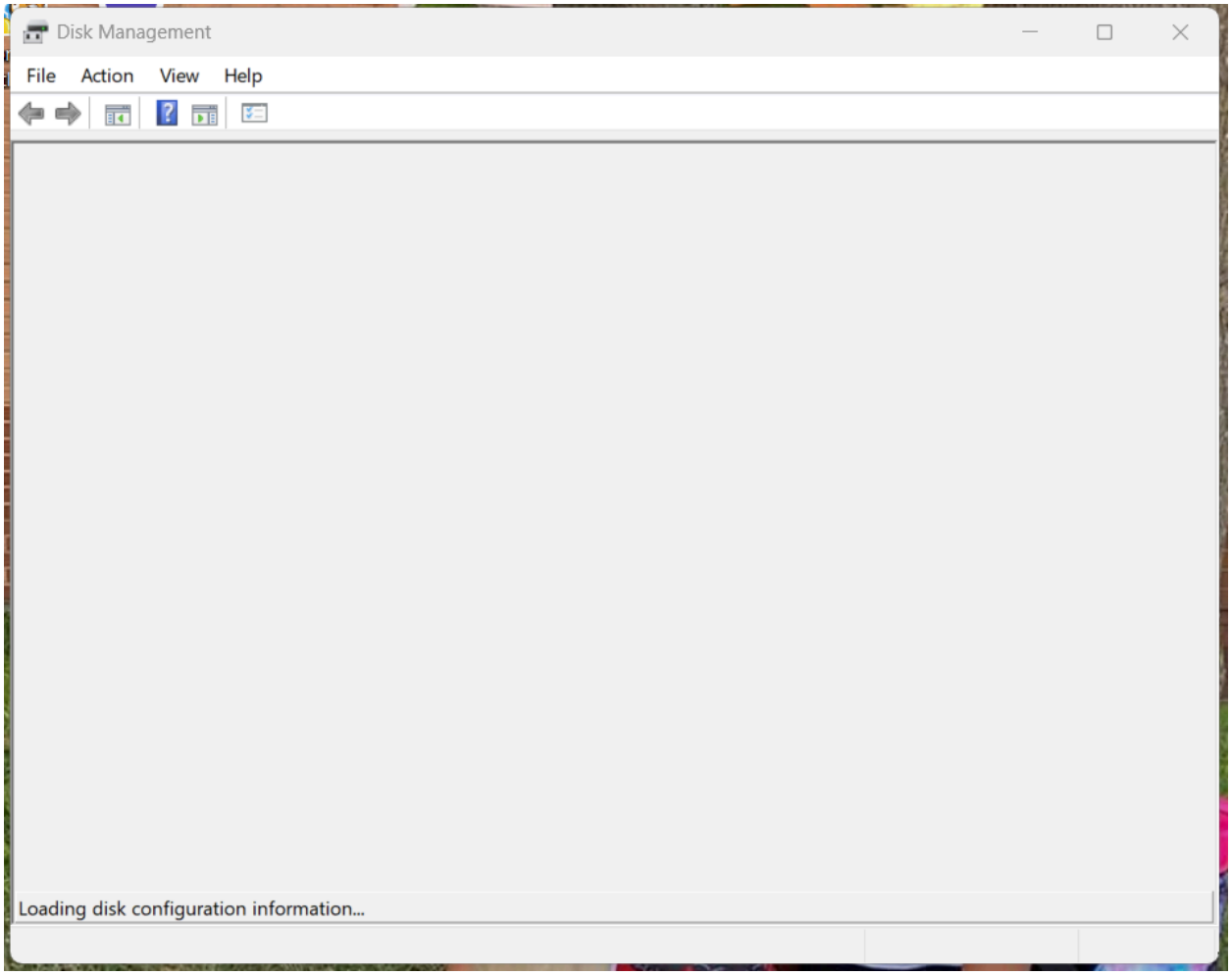
During execution of `clean all`:

- Disk 1 showed 100% Active Time in Task Manager.
- Write speed averaged approximately 2.1 MB/s.

- Disk Management temporarily displayed “Unallocated” space.
- Disk Management interface temporarily paused while disk configuration updated.

This behavior is consistent with full-sector overwrite operations.



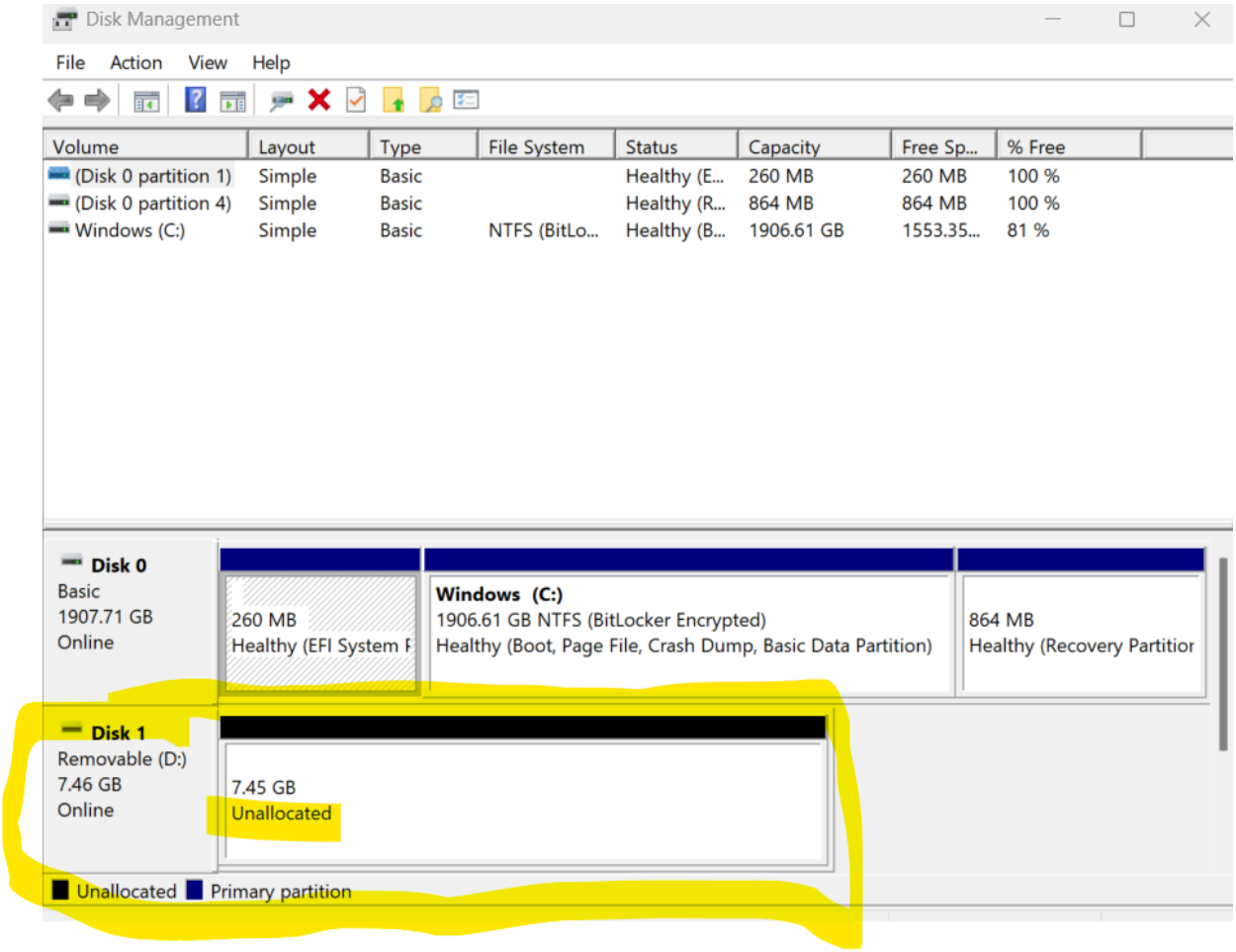


- *Figure 7 & 8 - Task Manager Disk Manager observation during Sterilization*

Post-Sterilization Verification

After sterilization completed successfully:

- Disk 1 showed 0 B free prior to reinitialization.
- Disk Management displayed the entire disk as Unallocated.
- No partitions were present.
- No file system was assigned.



- *Figure 9 - Disk Management screenshot showing Unallocated*

Media Reinitialization and Formatting

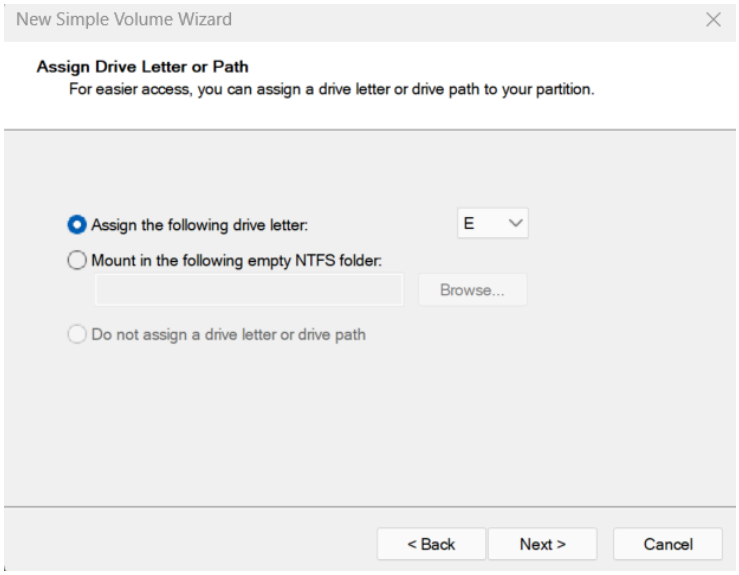
After confirming sterilization, the disk was re-prepared for future evidence collection.

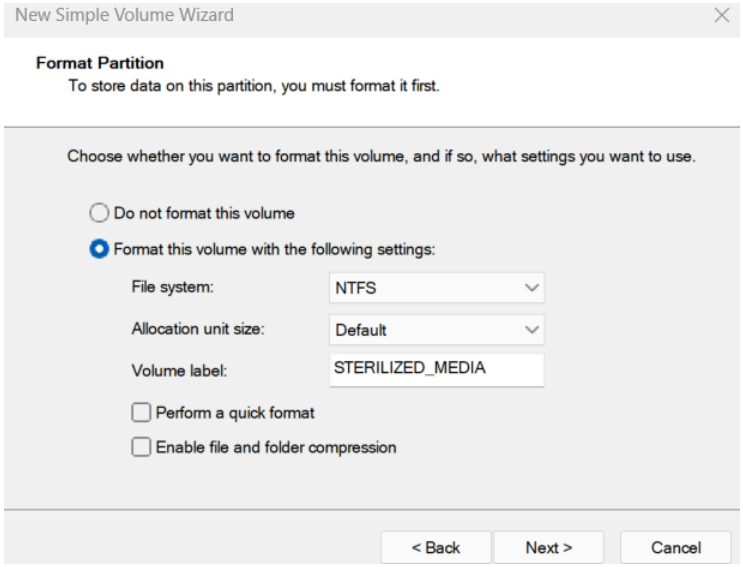
New Volume Creation

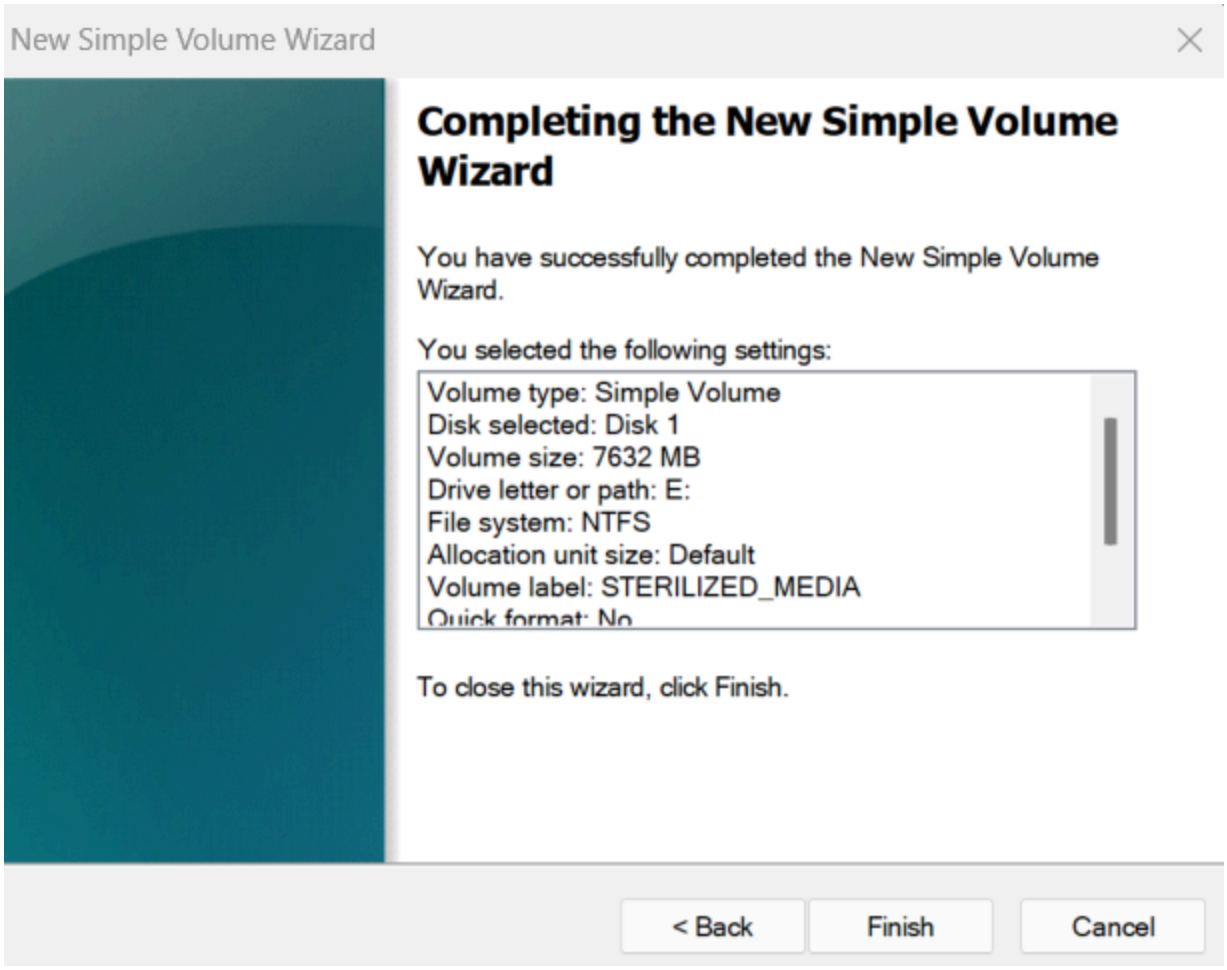
Using Disk Management:

- Created New Simple Volume
- Assigned Drive Letter: **E**
- Selected File System: **NTFS**

- Allocation Unit Size: Default
- Volume Label: **STERILIZED_MEDIA**
- Quick Format: **Not selected** (Full format performed)





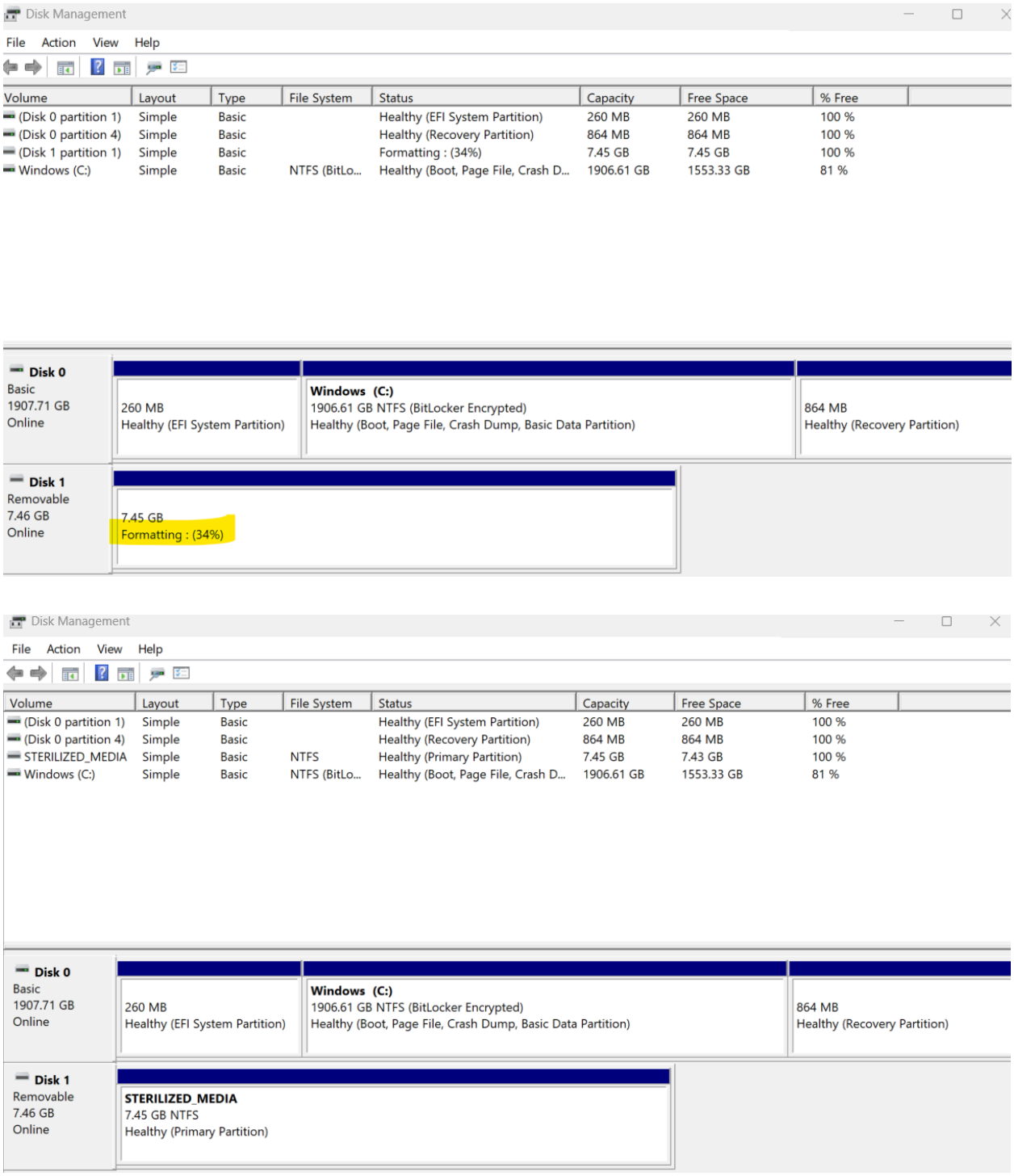


- *Figures 10, 11 & 12 - Simple Volume Wizard Setup/Settings*

Final Disk State

Final disk configuration:

- **Volume Label:** STERILIZED_MEDIA
- **File System:** NTFS
- **Partition Type:** Primary Partition
- **Capacity:** 7.45 GB
- **Status:** Healthy



- *Figures 13 & 14 - Disk Management formatting & finalized state*

Conclusion

On February 12, 2026, a SanDisk Cruzer Glide 7.5 GB USB flash drive was successfully forensically sterilized using the DiskPart `clean all` command.

The sterilization process:

- Overwrote all sectors with zeros
- Removed all partition structures
- Eliminated previous FAT32 file system
- Rendered the disk fully unallocated
- Confirmed successful zero-write completion

The device was then reinitialized and formatted with the NTFS file system under the label **STERILIZED_MEDIA**, preparing it for future forensic acquisition.

Based on documented observations and system confirmation messages, the media is considered forensically sterile and suitable for evidentiary use.