# IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF GEORGIA ATLANTA DIVISION

DONNA CURLING, ET AL.,	)
Plaintiffs,	)
	) CIVIL ACTION
VS.	)
	) FILE NO. 1:17-cv-2989-AT
BRAD RAFFENSPERGER,	)
ET AL.,	)
	)
Defendants.	)

# PLAINTIFFS' REPLY ON GEMS DATABASE DISCOVERY

The Secretary insists that, while the *data* in the GEMS databases is not confidential, the "structure" of the database is confidential. This necessarily means two things: first, that the Secretary is required under Rule 26 to immediately produce to Plaintiffs all the non-confidential *data* in the GEMS databases, which can be done without disclosing the "structure" of the databases; and second, that only a single, narrow dispute remains before the Court at this time: have Defendants met their burden to establish that the *concededly-relevant* GEMS *databases* are so confidential (assuming they are confidential at all) that they require the extraordinary restrictions the Secretary insists on for their disclosure to Plaintiffs' attorneys and two election security experts. This is the only question

before this Court, and Plaintiffs respectfully submit that the answer is an unequivocal no.

As a threshold matter, it is important to correct the record. Defendants claim that "Dr. Halderman's position on the June 28, 2019 teleconference with the Court" was "that reviewing a mirror of the GEMS database on a workstation in the Secretary's facilities was a reasonable proposal." (Doc. 453 at 4 n. 4.) Defendants similarly claim that the Curling Plaintiffs originally approved "a review of the GEMS Database by Plaintiffs' attorneys and experts in a facility operated by the Secretary of State." (Id. at 1.) This is incorrect. The Coalition Plaintiffs were exclusively concerned with the GEMS databases. For the Curling Plaintiffs, the focus of the discussion on the June 28, 2019 teleconference was on discovery of forensic images of the GEMS servers, not just copies of the GEMS databases. (Doc. 438 at 9, 11-12, 14-15, 41-45). Thus, when the Court offered the proposal Defendants cite, Curling Plaintiffs' counsel and expert both understood that proposal to apply to the server images, not the databases—much less the data within the databases. To try to expedite discovery of the GEMS databases and the data, Plaintiffs decided to table the issue of the server images. (Doc. 451 at 2; Doc. 446). Thus, only the databases and data are before the Court at this time—and

Plaintiffs have never agreed to review those at "a facility operated by the Secretary of State," nor could they for the analysis required here.

Defendants have approached this issue from the start as if Plaintiffs bear a burden to establish that the GEMS databases and any data within them are *not* confidential. Not so. Defendants alone bear the burden, and they have failed to meet it. They pretend as if Merle King, the former head of CES who was entrusted with managing the GEMS databases for years, never testified under oath that the GEMS databases in Georgia are the same as those in other states, contrary to Defendants' unsubstantiated claim. They similarly ignore the evidence showing that GEMS databases are public in other states.

Nevertheless, to resolve this dispute, Plaintiffs on July 3, 2019, advanced a proposal that addresses any legitimate objection the Secretary may maintain. That proposal was based on one previously accepted by another state's Secretary of State for disclosure of far more sensitive information (*i.e.*, underlying source code) for review by Dr. Alex Halderman and others. It includes that the GEMS databases be reviewed (i) only by Plaintiffs' two computer science experts and their attorneys, (ii) only in secure work areas, and (iii) only on air-gapped, standalone computers, and (iv) that only non-confidential data may be extracted

from the GEMS databases for review by non-experts but only subject to

Defendants' ability to object and obtain relief from the Court if appropriate.

In their Response (Doc. 453), Defendants moved in several directions, some promising and others illogical and unworkable. In the following paragraphs, Plaintiffs will address each relevant condition and propose a protocol that will move this discovery forward without compromising any legitimate state interest. For purposes of clarity, Plaintiffs will reorganize the terms to address what will be reviewed, who will review it, how and where the review will be conducted, and how non-confidential data will be extracted and provided to the Plaintiffs' non-experts subject to Defendants' ability to object.

# A. Summary of Plaintiffs' Proposal

#### 1. What will be reviewed.

The first issue is *which* GEMS databases will be reviewed. The parties agree that there is no such thing as a single "GEMS database," but instead are multiple GEMS databases. In this discovery, Plaintiffs seek a pair of GEMS databases in the possession of the Secretary for each county for the November 6, 2018 election:

#### a) Pre-election GEMS databases

Plaintiffs seek the outgoing GEMS databases (prepared by the Secretary's contractor ES&S and, allegedly, the Secretary's staff) and sent to each county in Georgia. The Secretary agrees that each of these will be produced. (Doc. 453 at page 6 and *id.* n.6).

## b) Post-election GEMS databases

Plaintiffs seek the post-election GEMS databases received from each county by the Secretary. The Secretary concedes that the counties "are supposed to provide the final GBF files on a CD with their certification packets" but adds that "[i]t is possible that the counties did not include the correct files on the CD that they returned." (Doc. 453 at 6 n.6). Putting aside for present purposes the implications of the post-election GEMS databases not being properly returned to, or lost by, the Secretary, Plaintiffs are entitled to review whatever GEMS databases were returned by the counties. The Secretary should be ordered (i) to produce all those in its possession and (ii) within 48 hours obtain from the counties the post-election GEMS databases that the counties should have returned with their certification packets, and to produce all those as well.

#### 2. Who will review

The review will be conducted by two groups working in parallel. The first group includes Plaintiffs' computer science experts and attorneys. In their response, Defendants profess confusion over which of Plaintiffs' experts will be conducting the experts' review. To be clear: Alex Halderman and Matthew Bernhard ("Experts") are the Plaintiffs' experts who will be conducting the experts' review alongside Plaintiffs' attorneys.

A second group will be composed of non-experts engaged by Plaintiffs who will conduct the labor-intensive review of the voluminous *non-confidential* data contained in the GEMS databases. They will compare this data to documents collected in the public domain that appear to show anomalies and discrepancies. The review by Plaintiffs' non-experts is address below in Section 4.

#### 3. Where and How the Review will be Conducted

Plaintiffs have provided sworn declarations from their attorneys and Experts describing where and how the review will be conducted, including specific security conditions. (*See* Doc. 451-1, 451-2 and 451-3). Although Defendants alone bear the burden here, they provide no specific objection to these conditions apart from a general complaint that the facilties are not controlled by the Secretary of State. They provide neither argument nor evidence to establish that Plaintiffs' proposed

conditions are inadequate or present any significant risk. This should end the analysis and compel production of the GEMS databases under the conditions Plaintiffs have proposed.

For clarity, Plaintiffs reiterate the proposed conditions here. Plaintiffs' Experts (Alex Halderman and Matthew Bernhard) and attorneys will conduct their review in Ann Arbor, MI (in a secure room at the University of Michigan to be used by Alex Halderman and Matt Bernhard); Washington, DC (in a secure room at Morrison & Foerster LLP's office to be used by Curling Plaintiffs' attorneys and attorneys from the Lawyers' Committee); and Atlanta, GA (in a secure room at Bruce Brown's office to be used by Coalition Plaintiffs' attorneys).

Each secure facility would employ the following security protocols to ensure that only authorized personnel:

- Limited access, by key or key card, only available to experts or attorneys on the review team (*i.e.*, janitorial staff and any others will not have access to the room);
- 24-hour video camera surveillance of the entrances to each of the three facilities, and a log of access to the work areas would be maintained;
- Installation of copies of the GEMS databases onto a limited number of air-gapped, password-protected, standalone computers that are not

PCs would be specified by the Court, though Plaintiffs request at least two computers per facility (six total) so that experts and attorneys are able to work in parallel.

- Plaintiffs' attorneys and experts would be permitted to bring their own
  laptops into the secure work areas. Beyond material required to analyze
  the GEMS database, no additional equipment or materials would be
  permitted in the secure work areas.
- Plaintiffs' experts and attorneys would need to install review tools (via USB sticks) onto the Protected PCs to conduct their review of the GEMS database files.<sup>1</sup>
- Plaintiffs' attorneys and experts may take notes during their
   examination/review. These notes would be designated confidential under

<sup>&</sup>lt;sup>1</sup> Defendants seems to offer some vague concern about Plaintiffs' attorneys and experts using software on the Protected PCs. (Doc. 453 at 4, 6.) But this makes no sense under the conditions here. Those PCs will contain mere *copies* of the GEMS databases; they will not be connected to the actual GEMS system or even the internet at all. Thus, nothing Plaintiffs' attorneys or experts install on the Protected PCs could in any way affect the actual Georgia election system. In fact, given Defendants' repeated—albeit, unsubstantiated—claims that the Georgia election system is itself air-gapped and otherwise secure against infiltration, their unspecified concern about installation of software on the Protected PCs is either baseless or calls into question those claims.

the protective order. Defendants would not be permitted access to or copies of Plaintiffs' attorneys' or experts' notes due to work product protections. Defendants would have the right to request *in camera* review of any such notes upon a showing of good cause—supported by evidence, including sworn testimony—for believing that the notes present a specific security risk and thus warrant greater protections than afforded them under a confidential designation under the Protective Order

Upon final disposition of this matter, Plaintiffs will securely erase or
otherwise destroy all materials provided by Defendants, who may inspect
the Protected PCs to ensure this has been done.

# 4. Extraction of Non-Confidential Information for Review by Non-Experts

Significantly, Plaintiffs and Defendants agree that non-confidential data may be extracted from the GEMS databases for review by Plaintiffs, though the exact protocol for doing so may not be completely agreed upon. Defendants propose that the Secretary's office "will extract any data files Plaintiffs believe are required so long as those files contain only data and no confidential information and will provide those to Plaintiffs." (Doc. 453 at page 7). Plaintiffs agree that such extraction will be limited to files containing no confidential information. Plaintiffs

do not agree that the extraction must be performed by the Secretary's personnel; that would be unworkable as the review will not be conducted at the Secretary's office. As explained in detail in Plaintiffs' initial brief (Doc. 441), it is imperative that the labor-intensive review of the voluminous non-confidential data be performed by non-experts. The attached proposed order, therefore, provides that the non-confidential data extracted by the Plaintiffs' Experts will be provided to Plaintiffs, who are authorized to engage non-experts for review.

The parties' agreement that non-confidential data may be extracted from the GEMS databases and provided to Plaintiffs, however, begs the question of how disputes over what information is confidential should be resolved. Initially, since this involves the extraction of data only, the State has no argument that any such data extraction would expose non-confidential "structure" or "architecture." Plaintiffs, therefore, are entitled to an Order that requires the Secretary to simply provide that data now, rather than requiring the parties – and the Court – to go through the tedious process of identifying the data and then litigating what is essentially not in dispute.

However, to address any argument that there may be data on the GEMS database that is confidential, Plaintiffs propose a phased production:

Phase I. Beginning within 48 hours and ending within four calendar days, the Secretary would produce to the Plaintiffs, for review by Plaintiffs' attorneys, Experts, and non-experts, the data from the GEMS databases that are identified in the attached Exhibit B. These 51 categories of public information contained in the GEMS databases listed on Exhibit B are the standard categories of GEMS data that appear in all GEMS databases. The specific screenshots that follow the list in Exhibit B show how the data appear in the GEMS database. These were obtained by Plaintiffs from review of a public copy of Cobb County's GEMS database from the 2002. The Secretary would not be required to produce these data in a GEMS database; production in an otherwise blank Microsoft Access database would be sufficient.

Phase II. For data not produced in Phase I, Plaintiffs would follow the protocol set forth in their original proposal (Doc. 451 at page 5). This protocol is restated in the Proposed Order, filed herewith.

# II. Defendants' Proposal Is Unworkable

Plaintiffs respectfully address each term of of Defendants' proposal below by reference to the same paragraph number in their Response (Doc. 453):

1. This does not apply at this stage because it concerns the server images.

- 2. As discussed above at section A (1), this does not include all the necessary GEMS databases for the November 2018 election or related data files provided or possessed by the counties.
- 3. Plaintiffs intend to use such software in their own secure facility.
- **4.** Plaintiffs are not currently seeking the GEMS application.
- **5.** This is completely unworkable and perhaps the most egregious of Defendants' unreasonable demands. Plaintiffs' Experts are both in Michigan, and Curling Plaintiffs' primary trial counsel are in Washington, D.C. The review and analysis required, especially given the enormous volume of data contained in the many GEMS databases, likely will require many days or even weeks to complete. To do this at the Secretary of State's facility in Atlanta would cost tens of thousands of dollars in travel expenses alone for attorneys and Experts. It also would not be feasible to do it all on one trip given Plaintiffs' attorneys and Experts have other obligations that would prevent them from remaining in Atlanta for a single, uninterrupted stay for such a potentially extended period. Moreover, Plaintiffs' attorneys and Experts will need to return to the GEMS databases and data for further review and analysis as discovery unfolds in this case

and new information comes to light. Additionally, Plaintiffs' Experts will need access to their own equipment and tools, including software, to use for their analyses (to the extent permitted under the protocol) and would not have access to such resources while in Atlanta; nor could they be sure they would necessarily foresee all the equipment and tools they would need to bring with them. There also are the inevitable logistical issues of gaining access to the facility when needed, including nights and weekends given the pace at which discovery is moving in this case and the unavoidable need for review and analysis outside regular work hours. Lastly, Defendants' proposal of "supervised access" is not only facially unreasonable but suggests an effort to use feigned confidentiality concerns to invade work product and potentially other privileges that protect the work of Plaintiffs' attorneys' and Experts' review and analysis of the databases and the data within them. In sum, Plaintiffs' attorneys and Experts regularly possess information just as sensitive—indeed, far more sensitive—as what they seek here, and Defendants have failed to meet their burden to establish that Plaintiffs' attorneys and Experts somehow are incapable of securing copies of the GEMS databases

- under the highly secure conditions proposed.
- **6.** Plaintiffs addressed this above at footnote 1. In short,
- This is unworkable as it would prevent Plaintiffs' attorneys and Experts from doing necessary analysis. Moreover, this is facially unreasonable for the same reasons as No. 6—what will be produced are just *copies* of GEMS databases and they will reside on air-gapped PCs not connected to the internet at all, in which case any equipment connected to the PCs could not possibly pose any risk to the actual GEMS election system (unless that system possesses some serious vulnerability that Defendants have failed to disclose).
- **8.** Plaintiffs do not object to this as discussed above regarding Phases I and II for data extraction from the GEMS databases to be produced.
- **9.** Plaintiffs do not object to this term.
- 10. This term is unworkable and wholly improper for the reason discussed above regarding supervised access. As proposed above, Defendants can seek *in camera* review of any such notes if they make the requisite showing.

In conclusion, the parties at this point disagree on a few specific conditions for the disclosure of the GEMS databases and the data within them—in particular,

that any review must occur at a facility operated by the Secretary of State in Atlanta rather than Plaintiffs' attorneys and Experts' own secure facilities in only three locations; any supervision by Defendants of Plaintiffs' attorneys' and Experts' review and analysis of the databases; any prohibition of installing software on or connecting hardware to the airgapped Protected PCs; and any access by Defendants to any notes of any such review or analysis. Defendants have failed to meet their burden—or even present any evidence at all—to establish that the draconian restrictions they seek are necessary and appropriate. Those restrictions would hamstring Plaintiffs' attorneys and Experts in their use of this concededly-relevant data, no doubt just as Defendants intend. Plaintiffs have proposed an accepted protocol for this discovery that meets every confidentiality concern Defendants have raised, notwithstanding their failure to prove that the GEMS databases are confidential at all. Accordingly, Plaintiffs respectfully request that the Court order discovery of the GEMS databases and data at its earliest convenience according to the conditions Plaintiffs have proposed.

Respectfully submitted this 8<sup>th</sup> day of July, 2019.

## /s/ Bruce P. Brown

Bruce P. Brown Georgia Bar No. 064460 BRUCE P. BROWN LAW LLC 1123 Zonolite Rd. NE Suite 6 Atlanta, Georgia 30306 (404) 881-0700

#### /s/ Robert A. McGuire, III

Robert A. McGuire, III Admitted Pro Hac Vice (ECF No. 125) ROBERT MCGUIRE LAW FIRM 113 Cherry St. #86685 Seattle, Washington 98104-2205 (253) 267-8530

Counsel for Coalition for Good Governance

## /s/ Cary Ichter

Cary Ichter Georgia Bar No. 382515 ICHTER DAVIS LLC 3340 Peachtree Road NE Suite 1530 Atlanta, Georgia 30326 (404) 869-7600

Counsel for William Digges III, Laura Digges, Ricardo Davis and Megan Missett

#### /s/John Powers

John Powers
Lawyers' Committee for Civil Rights
Under Law
1500 K St. NW, Suite 900
Washington, DC 20005
202-662-8300
dbrody@lawyerscommittee.org
jpowers@lawyerscommittee.org

Counsel for Coalition Plaintiffs

# **CERTIFICATE OF COMPLIANCE**

Pursuant to LR 7.1(D), I hereby certify that the foregoing document has been prepared in accordance with the font type and margin requirements of LR 5.1, using font type of Times New Roman and a point size of 14.

/s/ Bruce P. Brown
Bruce P. Brown

# **CERTIFICATE OF SERVICE**

This is to certify that I have this day caused the foregoing to be served upon all other parties in this action by via electronic delivery using the PACER-ECF system.

This 8<sup>th</sup> day of July, 2019.

/s/ Bruce P. Brown
Bruce P. Brown

E

X

 $\vdash$ 

В

Δ

# IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF GEORGIA ATLANTA DIVISION

DONNA CURLING, ET AL., Plaintiffs,

V.

Civil Action No. 1:17-CV-2989-AT

BRIAN KEMP, ET AL., Defendants.

#### PROPOSED ORDER ON GEMS DATABASE DISCOVERY

This matter is before the Court on the parties Consolidated Discovery Statements [Docs. 416, 440, 441, 451, 453 and 45@] regarding Plaintiffs' discovery relating to the State's GEMS databases.<sup>1</sup>

As this Court found in its Order dated July 2, 2019, "analysis of the GEMS database<sup>2</sup> is highly relevant to Plaintiffs' claims, as Plaintiffs' experts contend that such analysis is a necessary first step in evaluating security vulnerabilities and

<sup>&</sup>lt;sup>1</sup> Plaintiffs have also separately requested that the State Defendants produce a forensic image of the GEMS server. In Document 441, Plaintiffs indicated that they wish to first proceed with a review of the discovery of the GEMS databases.

<sup>&</sup>lt;sup>2</sup> The parties agree that there are actually multiple GEMS databases. For the purpose of this Order, the term "GEMS database" or "GEMS databases" refers to both the election configuration versions of the GEMS databases sent to each Georgia county prior to the November 2018 election and the completed version the counties sent back after the election to the Secretary.

flaws in the State's GEMS system which have an actual impact on voting tabulations." (Doc. 446 at 2).

Plaintiffs seek unrestricted access to the GEMS databases because, they contend, the databases – which are public records in some other states – do not contain any confidential information and their disclosure would not compromise election security. The State Defendants contend that while data contained in the GEMS databases may not be confidential, the disclosure of the GEMS databases themselves would reveal the system's "structure" or "architecture" and would compromise election security. The contention that Georgia's GEMS database differs from other state's GEMS database structure is refuted by the testimony (in another case) of Merle King, the former Director of CES. In addition, the State Defendants do not point to expert testimony or other evidence establishing that the disclosure of the GEMS database would compromise election security or disclose confidential information. Defendants have not identified any specific risk of disclosure of the GEMS databases or the data within them. As a result, Defendants have failed to meet their burden to establish confidentiality at any level, much less at the level that would warrant the highly unusual and highly restrictive limits they propose for disclosure to Plaintiffs.

Nevertheless, in an abundance of caution, the Court at this point in the proceedings will grant the State Defendants the following relief to protect against

unnecessary disclosure of truly confidential information or information that would compromise election security:

Production of the GEMS databases will occur in two Phases, In Phase I, the State Defendant will produce to the Plaintiffs, without restriction, the data described in Exhibit B to the Plaintiffs most recent submission, Doc. 45@, for each of the GEMS databases ("Phase I Data"). The Phase I Data shall be copied by the State Defendants onto CDs or other appropriate media in a form readable by Microsoft Access or other standard database format (such as SQL). The State Defendants shall begin the Phase I Data production within 48 hours and complete the production within four calendar days, at which time counsel for the State Defendants shall file with the Court a certificate documenting the State Defendants' compliance with this Order.

Phase II governs the review of the GEMS database files and information that is not produced in Phase I, as well as the Phase I documents (for complete analysis by the Plaintiffs' Experts and attorneys). For the Phase II production, Plaintiffs experts Alex Halderman and Matthew Bernhard ("Plaintiffs' Experts") will establish locked, secure work areas (in Atlanta, Georgia, Washington, D.C., and the University of Michigan) in which only Plaintiffs' attorneys and Plaintiffs' Experts have access. The State Defendants will produce to Plaintiffs' Experts copies of the GEMS databases (with Phase I and Phase II files). Plaintiffs' Experts

will install the GEMS databases onto a limited number of air-gapped, password protected, standalone computers ("protected PCs") that are not connected to the internet. Plaintiffs' Experts and attorneys may bring their own laptops into the secure work areas subject to the following restrictions:

- 1) GEMS databases shall not be installed on their own laptops;
- 2) Laptops may be connected to the internet via an external wireless network while they are in the room, but they shall not be networked to any of the protected PCs on which the GEMS databases are installed. Plaintiffs may use appropriate software and other tools on the protected PCs to enable efficient and accurate review.
- 3) Plaintiffs' Experts and attorneys may maintain private notes that will not be shared with Defendants and which will be maintained as "confidential" as that term is used in a protective order to be entered by the Court;
- 4) Only Plaintiffs' Experts and attorneys will initially review the full GEMS databases; provided, however:
  - a. If Plaintiffs' Expert or attorneys identify non-confidential information that can be safely extracted from the databases for review by the other non-lawyer, non-expert members of Plaintiffs' teams, they will identify that information to Defendants, who will

have 24 hours to raise an objection. It is anticipated that both sets of Plaintiffs will employ teams of attorneys and other contractors to review the extracted non-confidential data.

b. After 24 hourse, if no objection is raised, Plaintiffs' Experts or attorneys may provide the non-confidential information to the non-expert members of the Plaintiffs' teams in text or Excel files. If Defendants raise an objection within 24 hours, the issue will be presented to the Court for resolution, with the Defendants' bearing the burden of proof.

SO ORDERED this	day of
	U.S. District Court Judge Amy Totenberg

E

X

H

В

R

#### Exhibit B

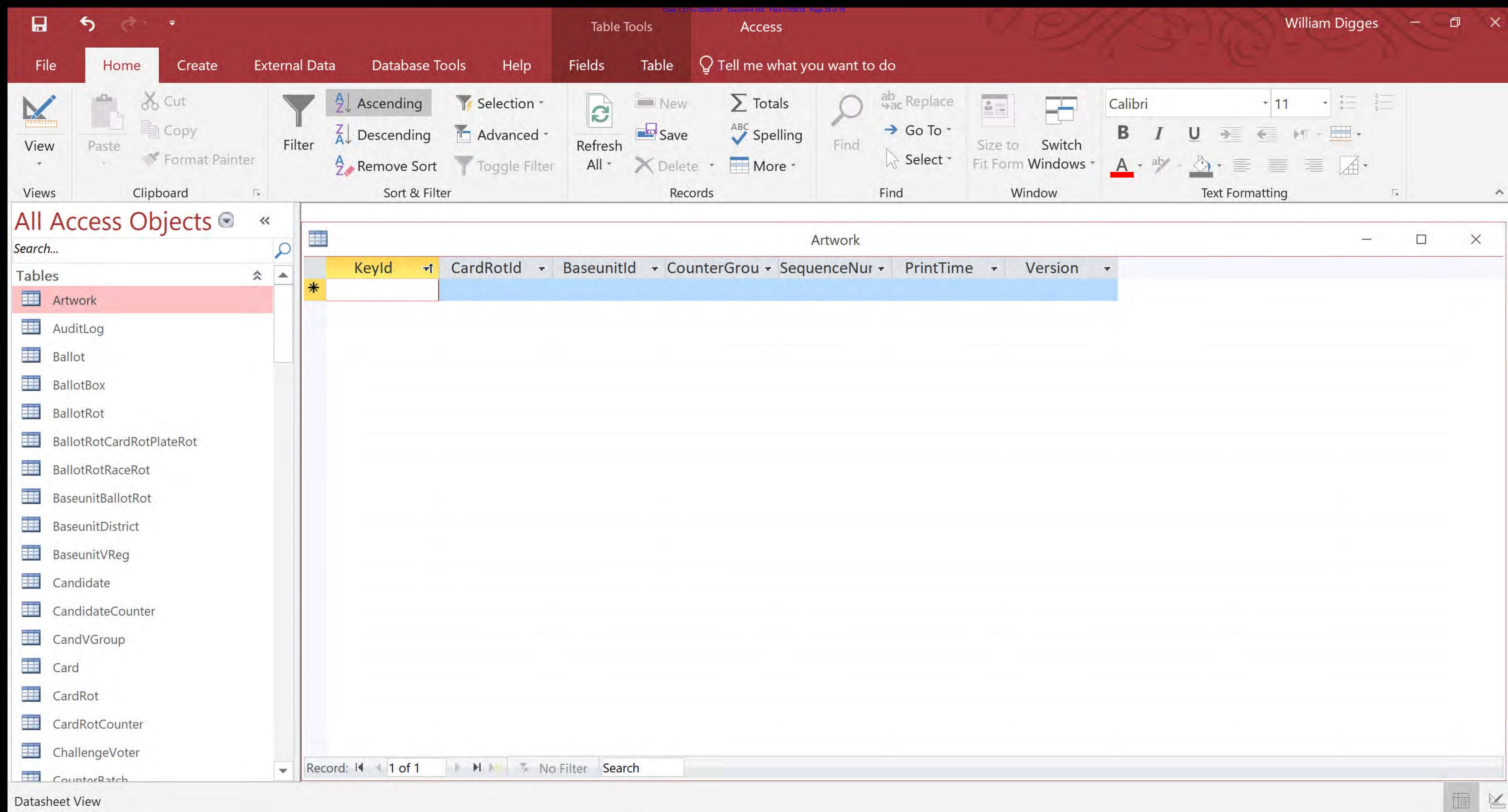
## Data Fields in GEMS Databases<sup>1</sup>

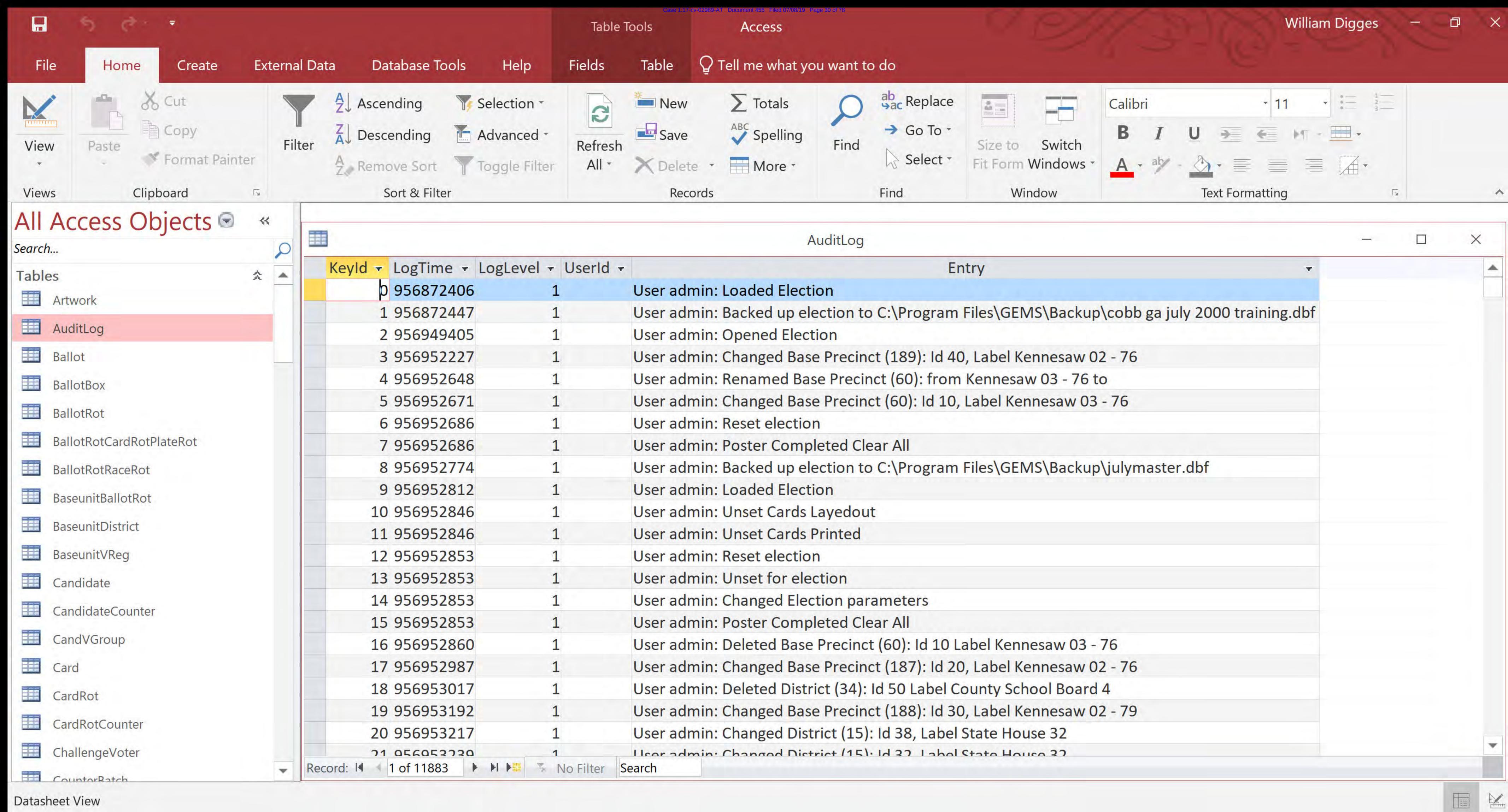
- 1. Artwork (Ballot headers are defined, and ballot artwork and rotations generated)
- 2. Audit Log (A record of all User transactions during the election in GEMS)
- 3. Ballot
- 4. Ballot Box (Counts of Ballots & Type)
- 5. Ballot Rotation (Creates a ballot for each rotation for every ballot style)
- 6. Ballot Rotation Candidate (Manages candidate rotation)
- 7. Ballot Rotation Race (Manages Race rotation)
- 8. Base Unit Ballot (IDs for base precincts)
- 9. Base Unit District (IDs for the unit district)
- 10. Base Unit Voter Reg (Registered voters)
- 11. Candidate (Candidate name IDs)
- 12. Candidate Counter (Provide a means for separately classifying ballot counting)
- 13. Candidate Voter Group (Manage voter groups Party, etc.)
- 14. Card (Document containing a unique set of races)
- 15. Card Rotation (Manages card rotation)
- 16. Card Rotation Counter (Manages ballots with different rotations)
- 17. Challenge Voter (Provisional ballots)

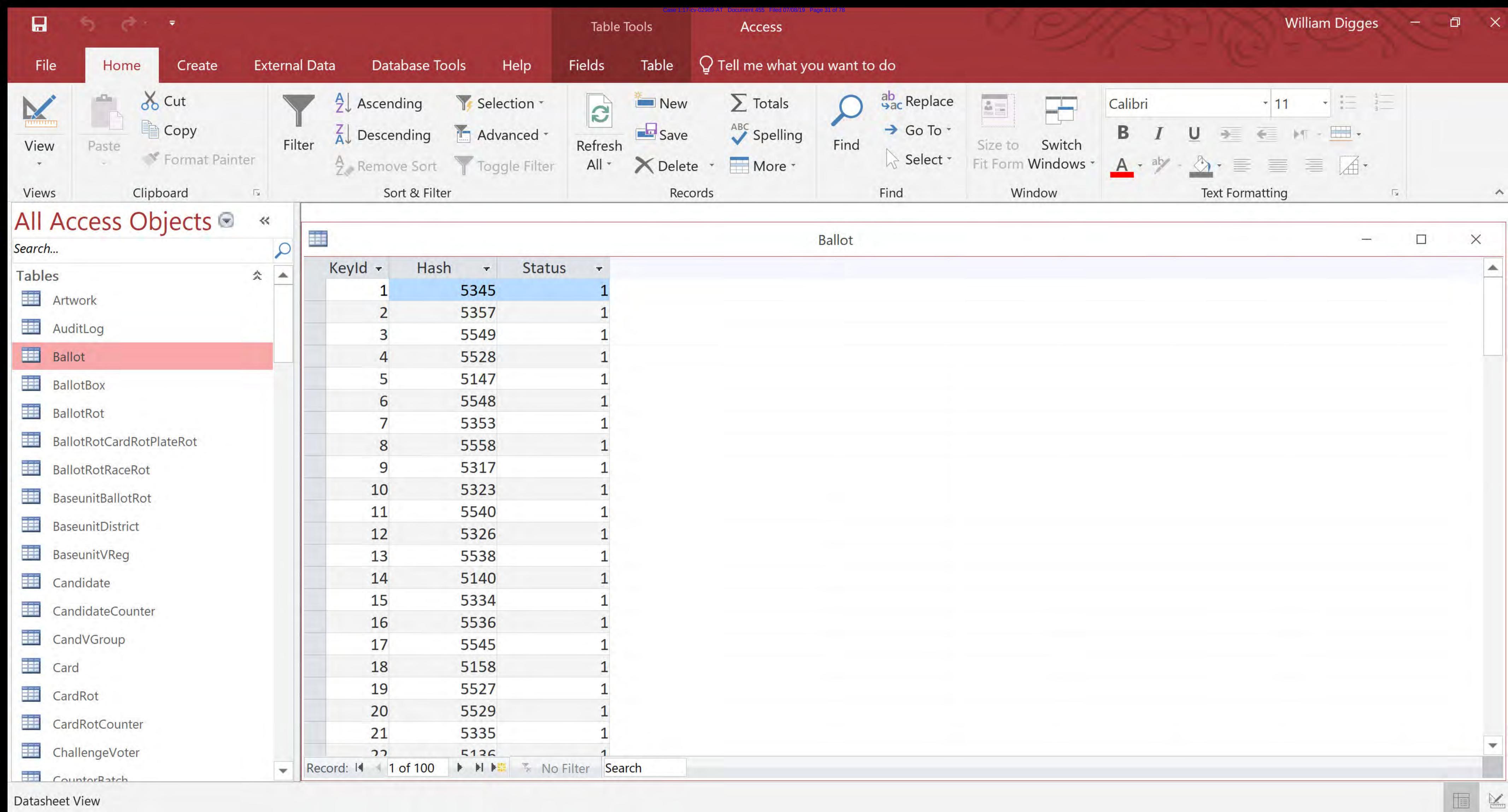
<sup>&</sup>lt;sup>1</sup> Parenthetical note regarding the purpose of the data field is Coalition Plaintiffs' summarized interpretation based on Diebold GEMS user manual database instructions and analysts review of other public GEMS databases.

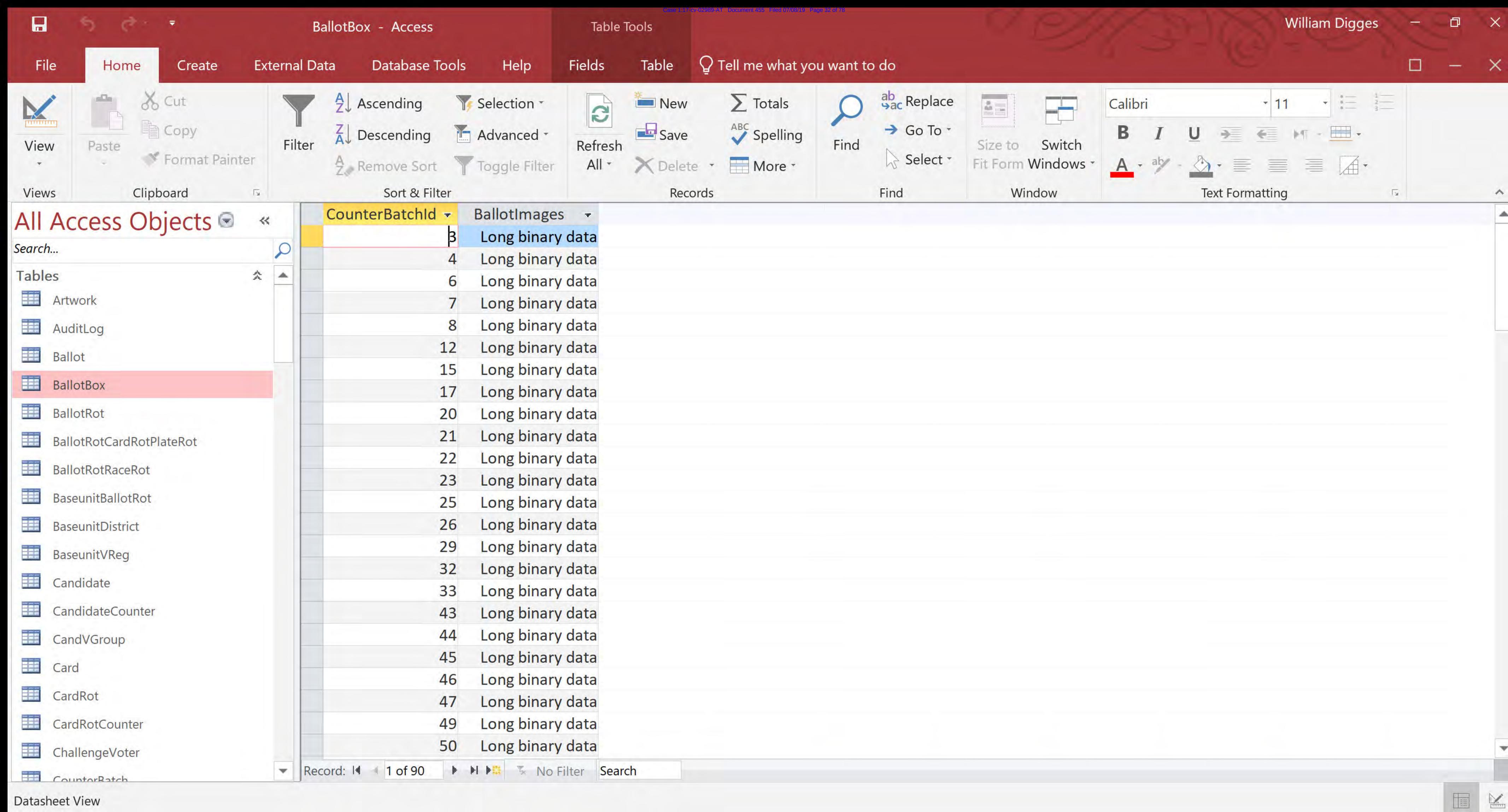
- 18. Counter Batch (Manages ballot counting in large quantities)
- 19. Counter Group1 (Absentee, polling place, early voting, provisional, etc.)
- 20. Counter Group (Same as above, extended fields in the table)
- 21. District (Voting districts)
- 22. Export Format (Describes the export formats available)
- 23. Header (Ballot Titles)
- 24.Key Table
- 25. Languages (Ballot language options)
- 26. Monitor Script (Election results display formats)
- 27. Operator (Admin & password data)
- 28.Plate
- 29.Plate Header
- 30.Plate Race
- 31.Plate Rotation
- 32. Preference (Manage preference races)
- 33. Race (Add race information to GEMS)
- 34. Race Counter (Counting race values)
- 35. Region (Defines election regions)
- 36. Reporting Set (Groups races for reporting purposes)
- 37. Reporting Set Race (Links races to a race id)
- 38. Reports Default (Sets defaults for reporting)

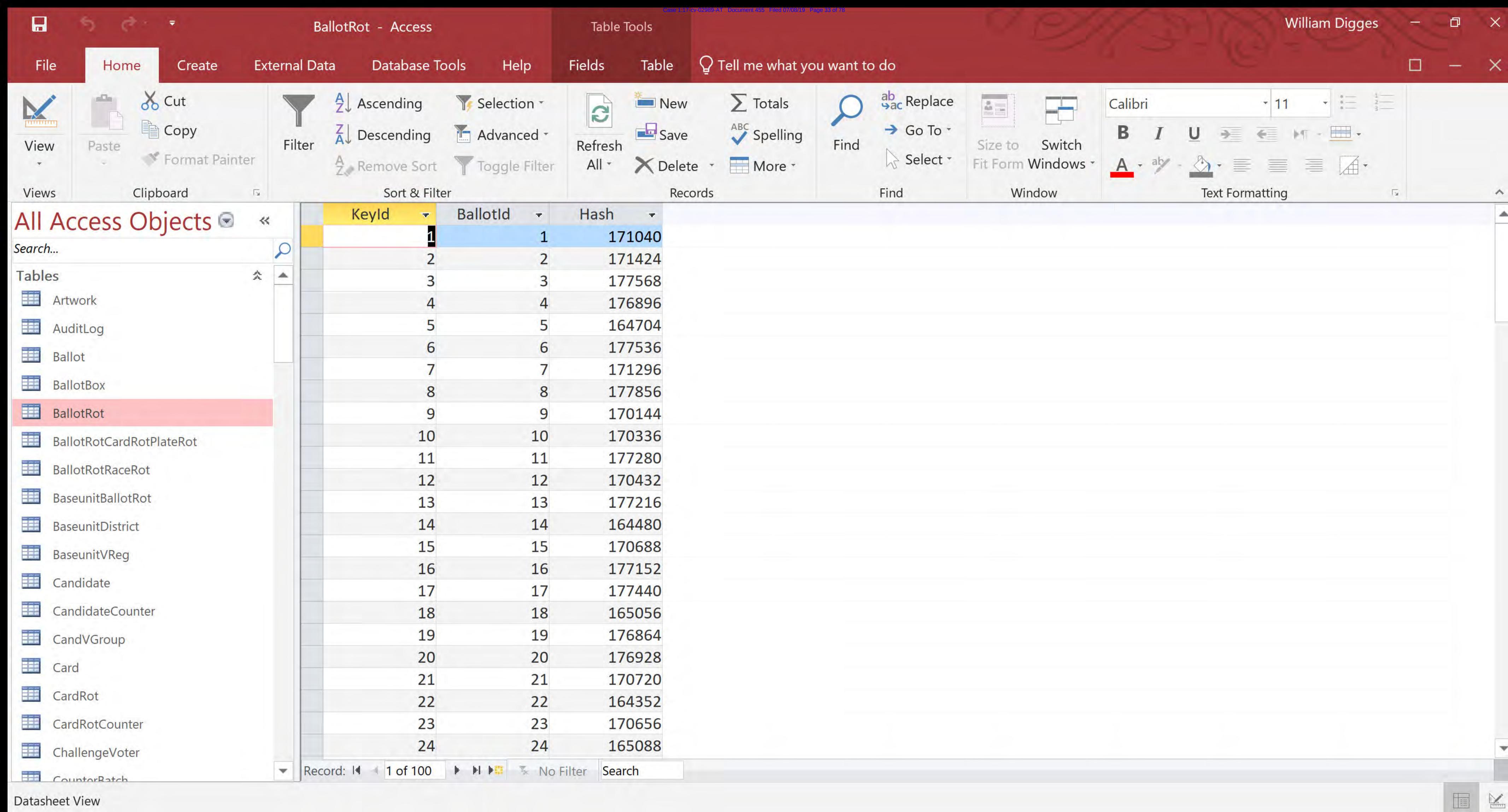
- 39.RTFD Data (Rich Text Format Directory- Word processing format)
- 40. Sum Candidate Counter (Summarizes candidate counts)
- 41. Sum Card Rot Counter (Summarizes rotation counts)
- 42. Sum Race Counter (Summarizes race counter table)
- 43.Sum Report unit Stats
- 44. Sum Vote Center Stats (Summarizes Vote Center Table)
- 45. Vote Center (Defines voting centers)
- 46. Vote Center Category (Defines center by polling or absentee)
- 47. Vote Center Report Unit (Links voting center with reporting unit)
- 48. Voter Group (Political parties in a primary)
- 49. Write in Counter (Recording and counting write-in votes)
- 50. Monitor Script (For configuration of results reports)
- 51. Data required to generate cast vote records contained in ballot image reports (sample ballot image report attached)

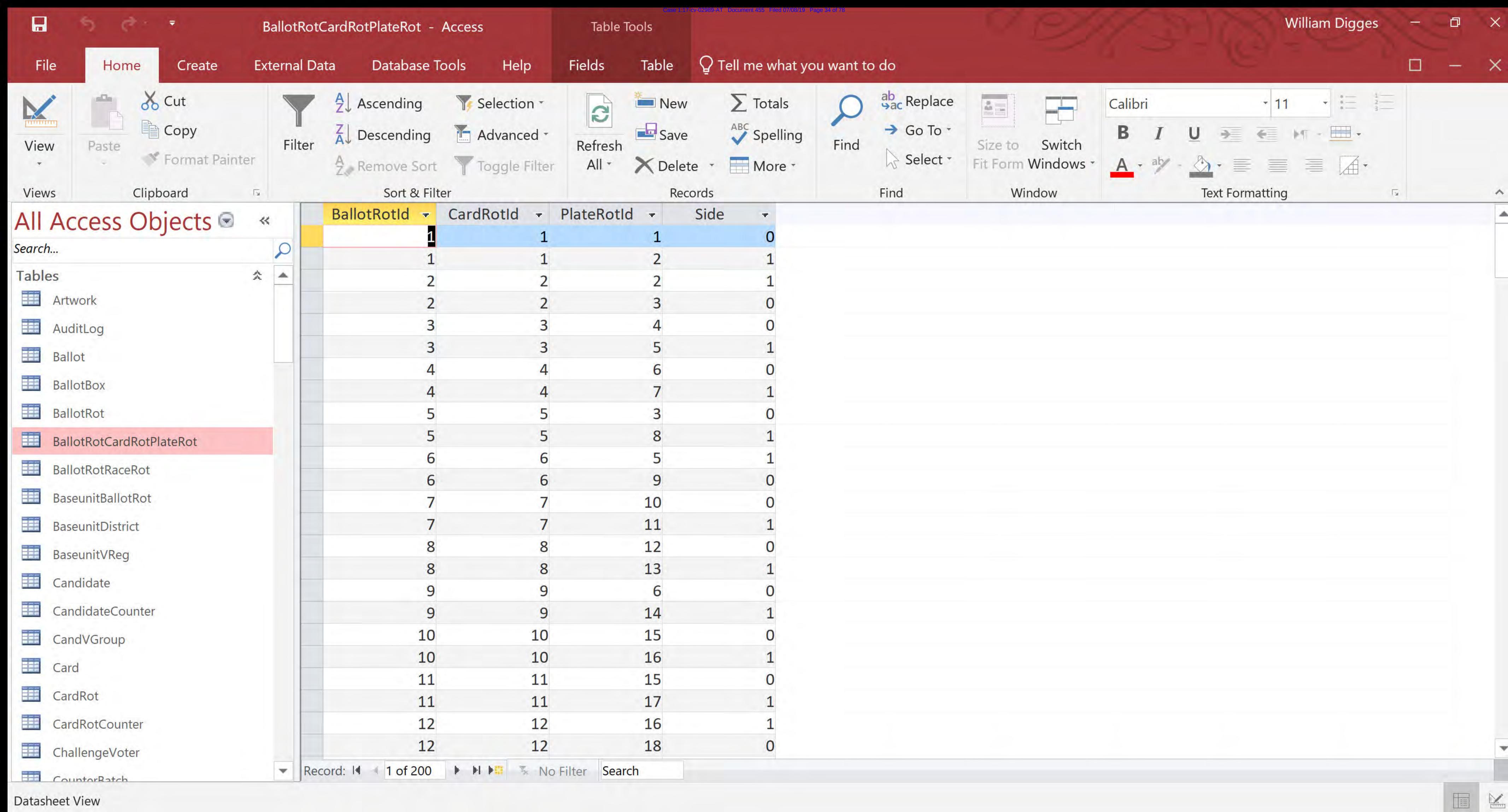


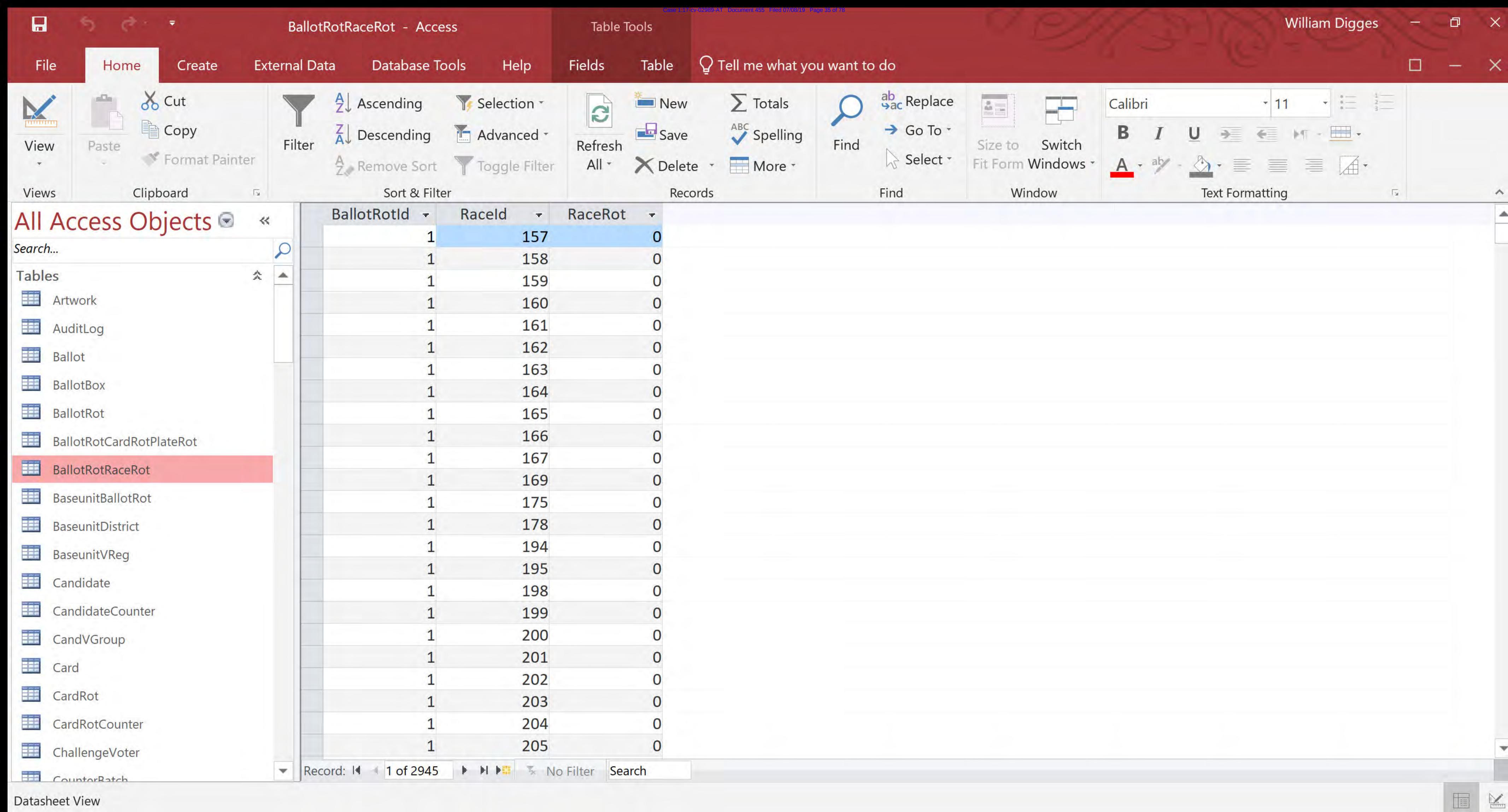


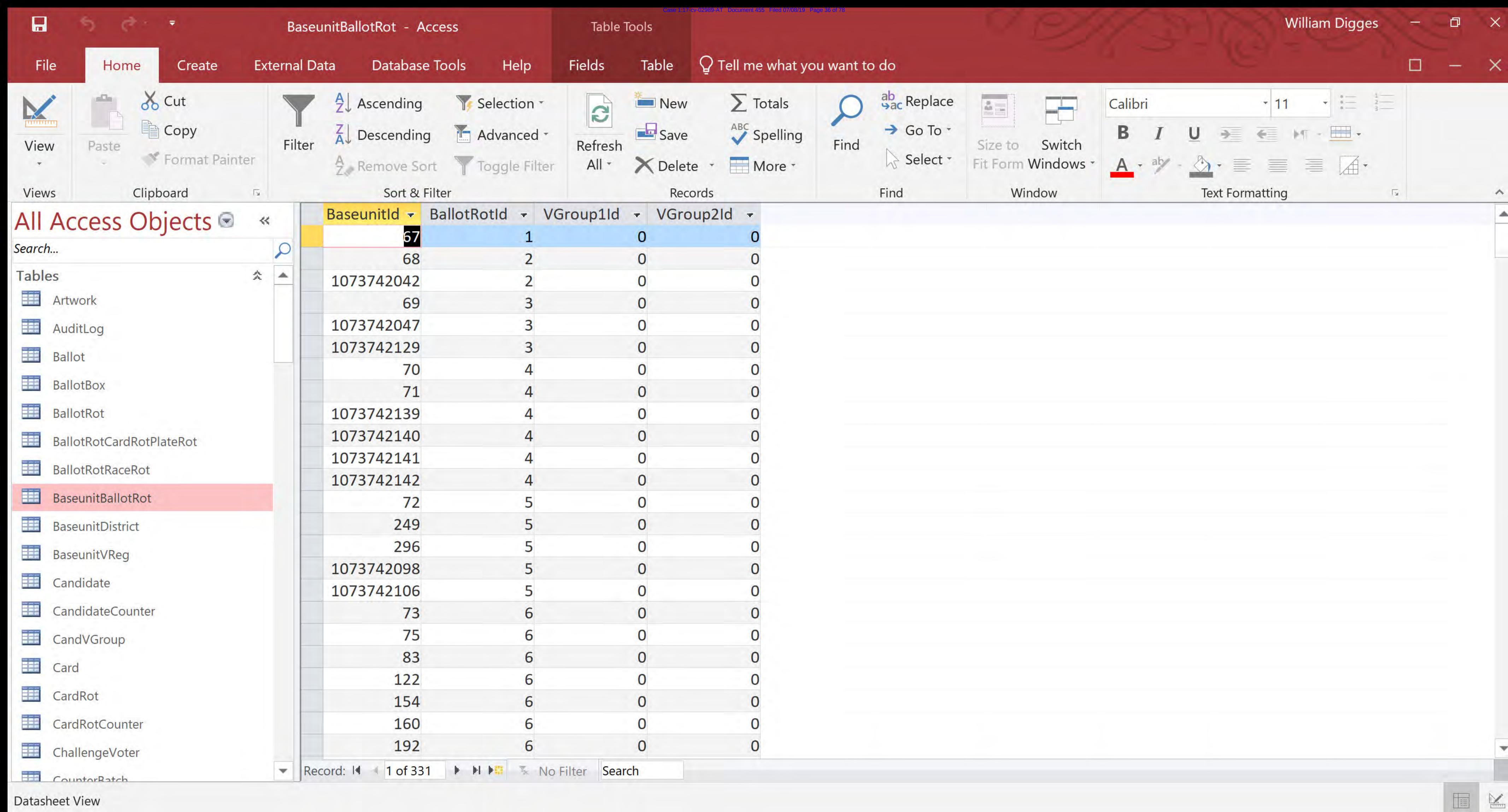


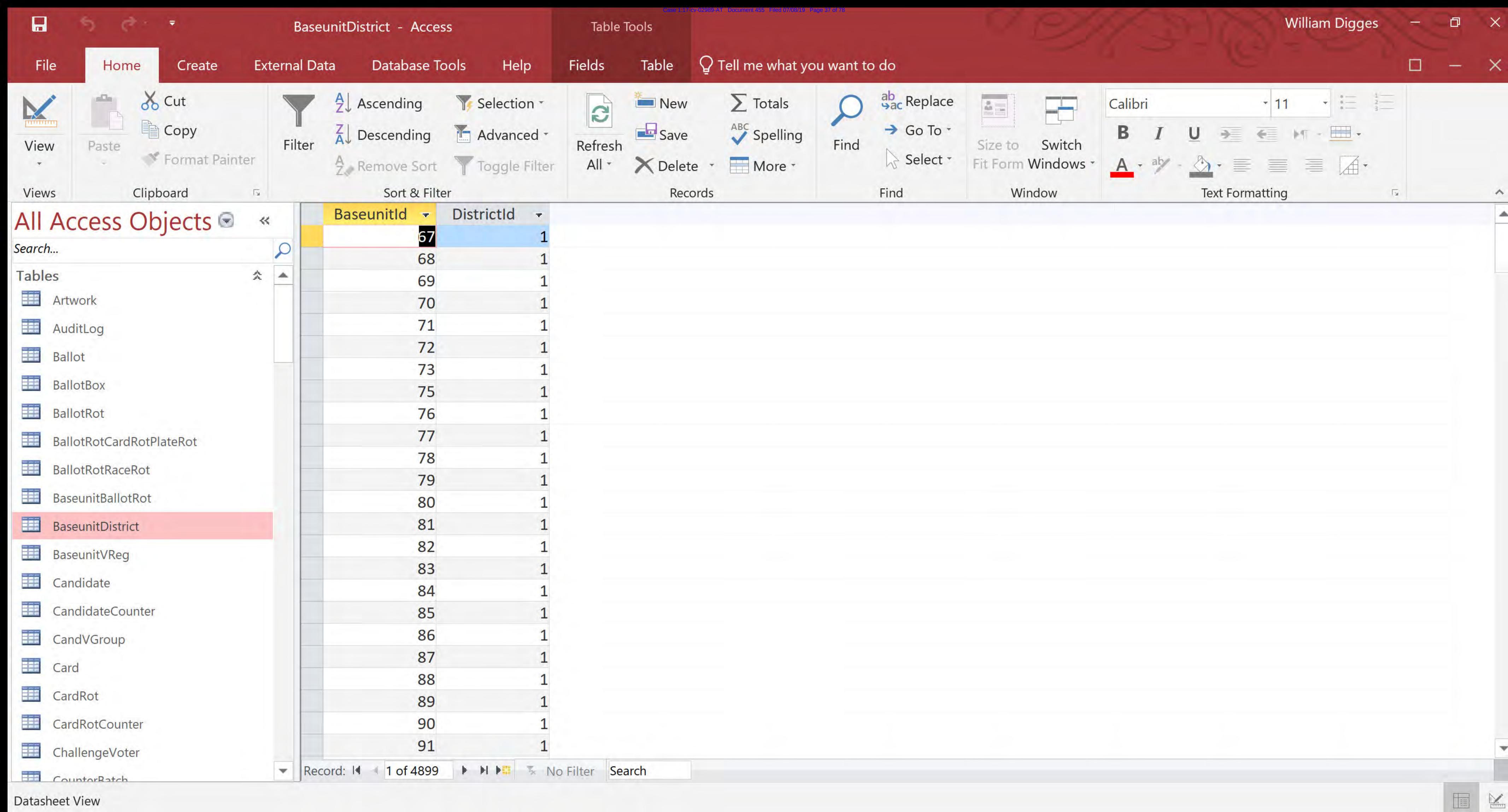


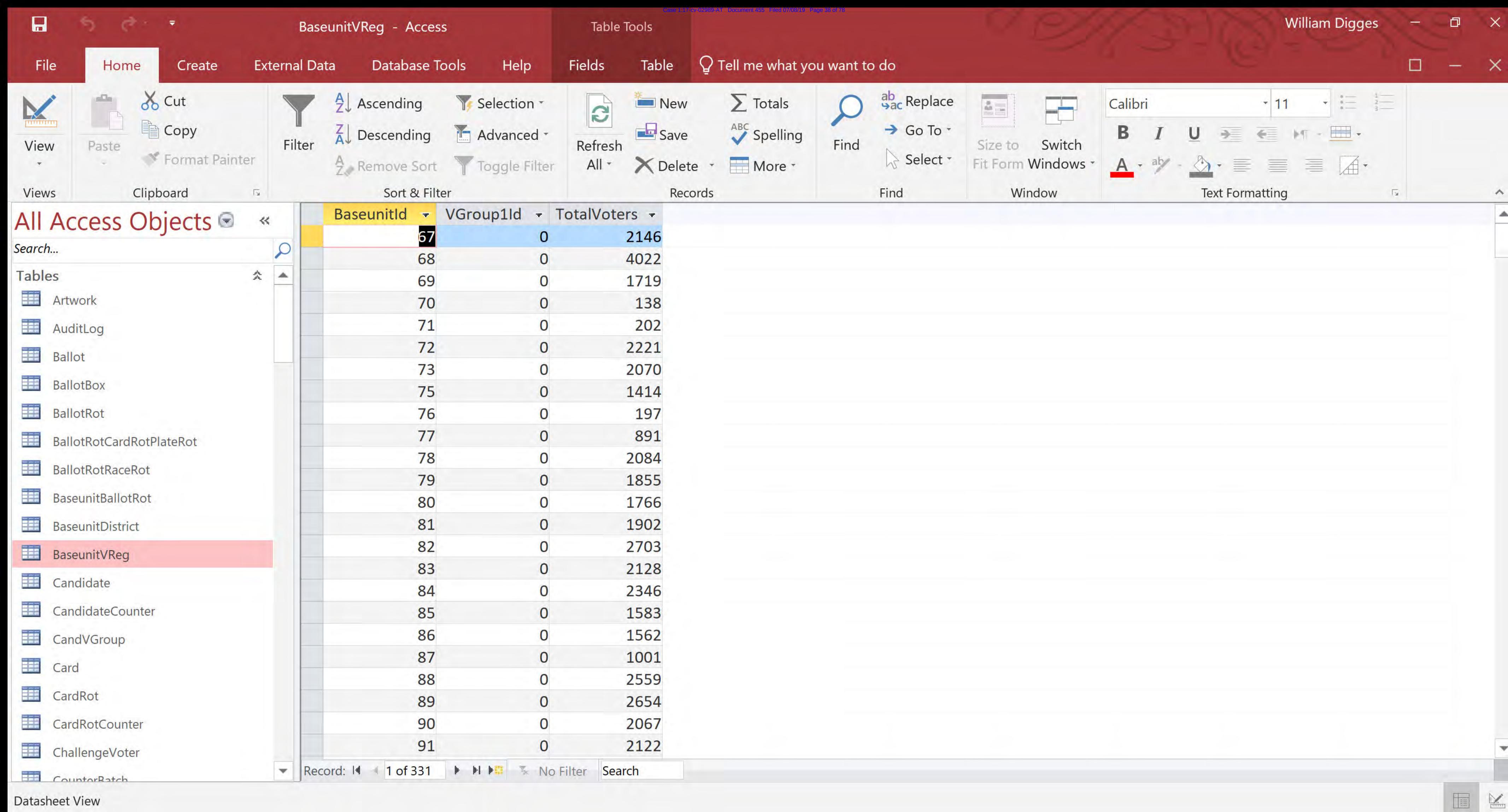


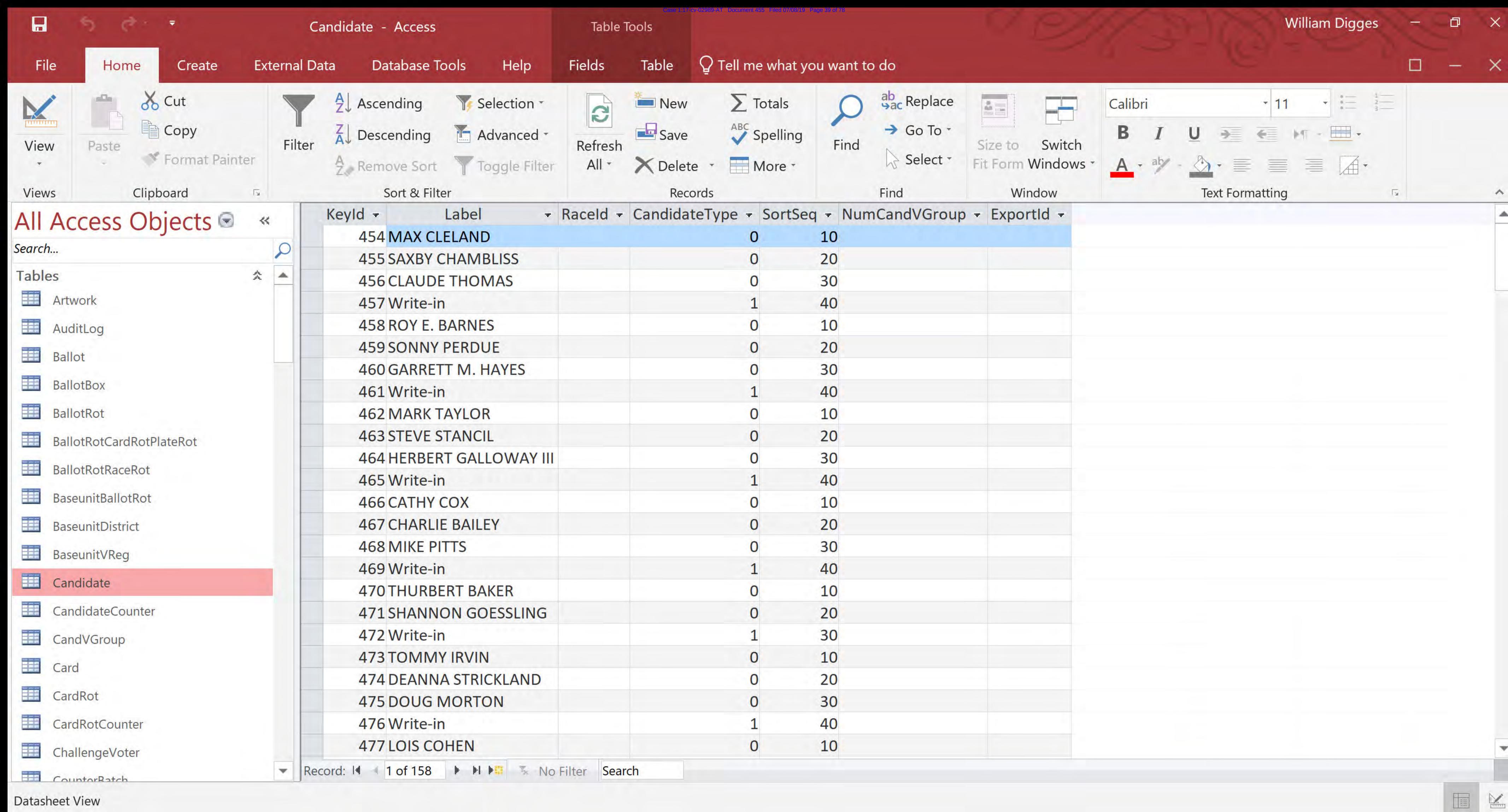


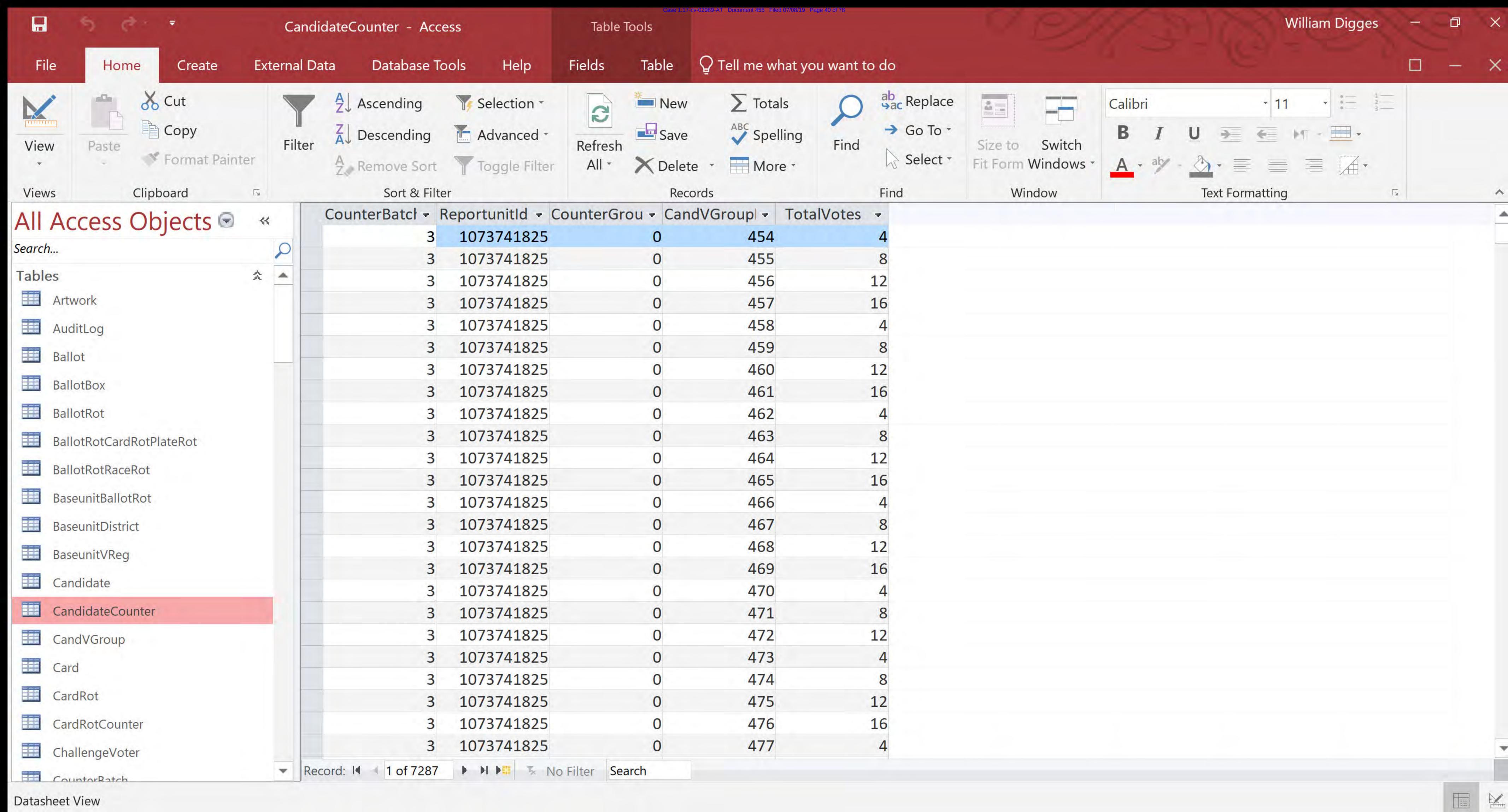


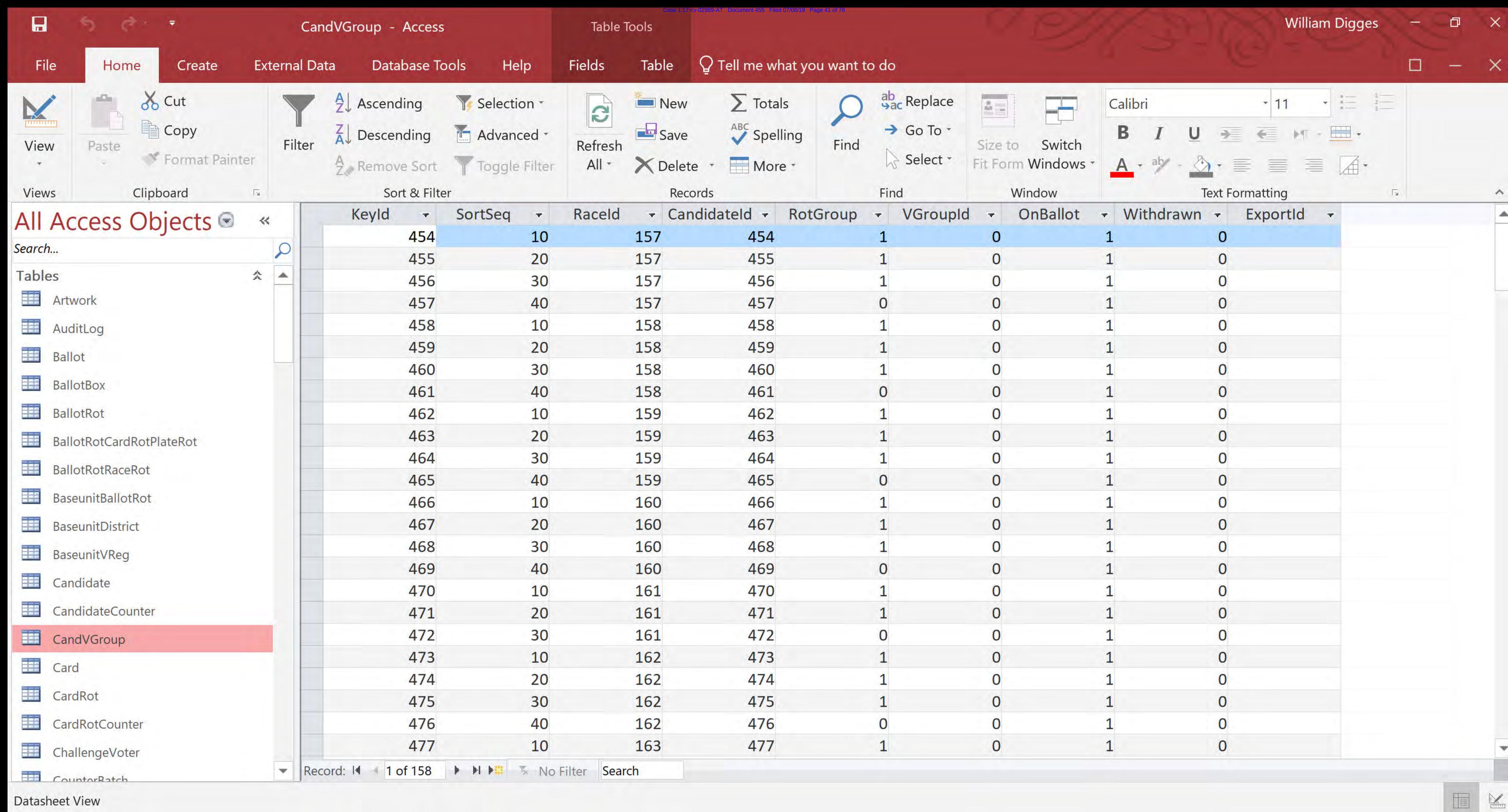


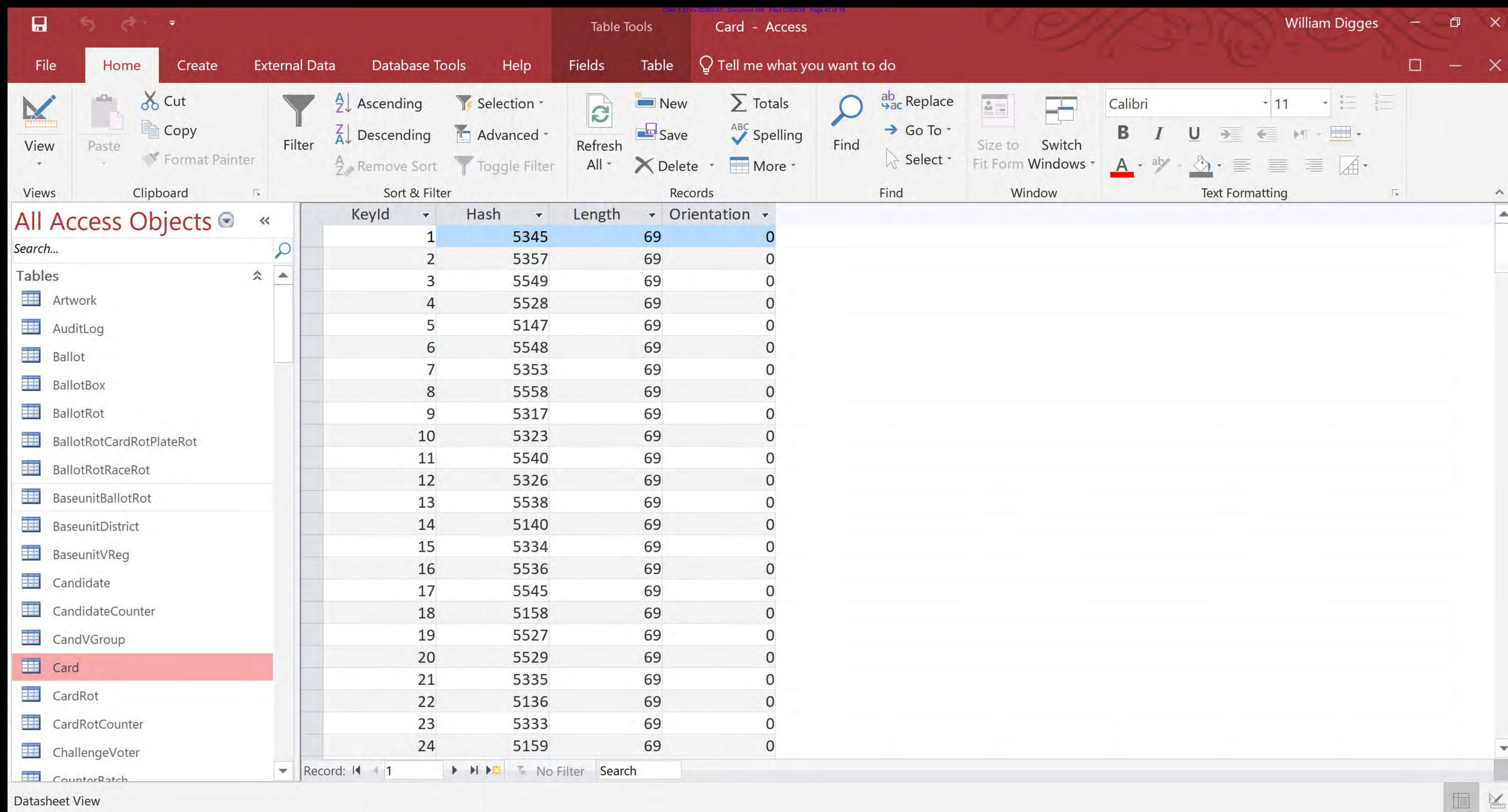


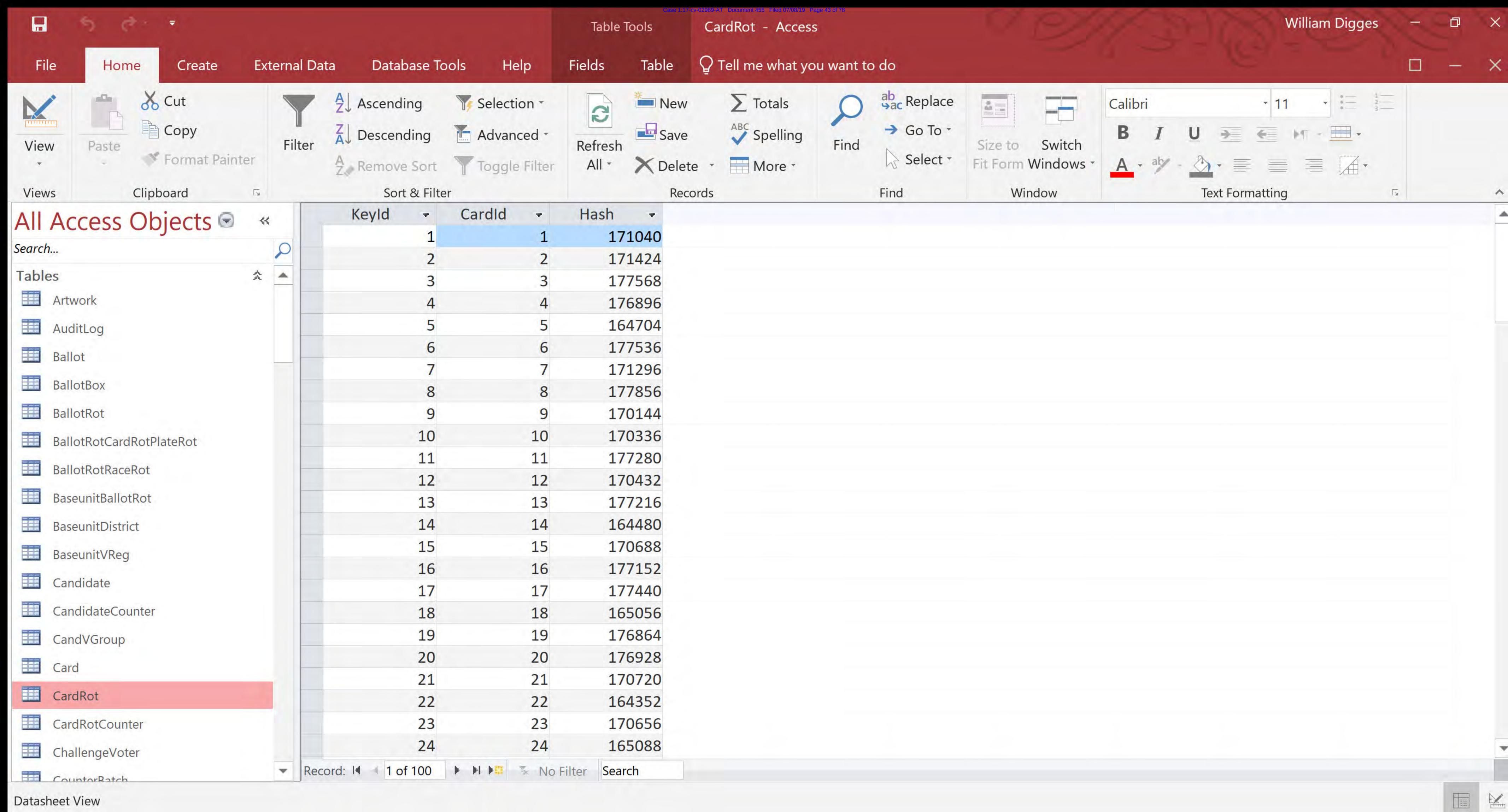


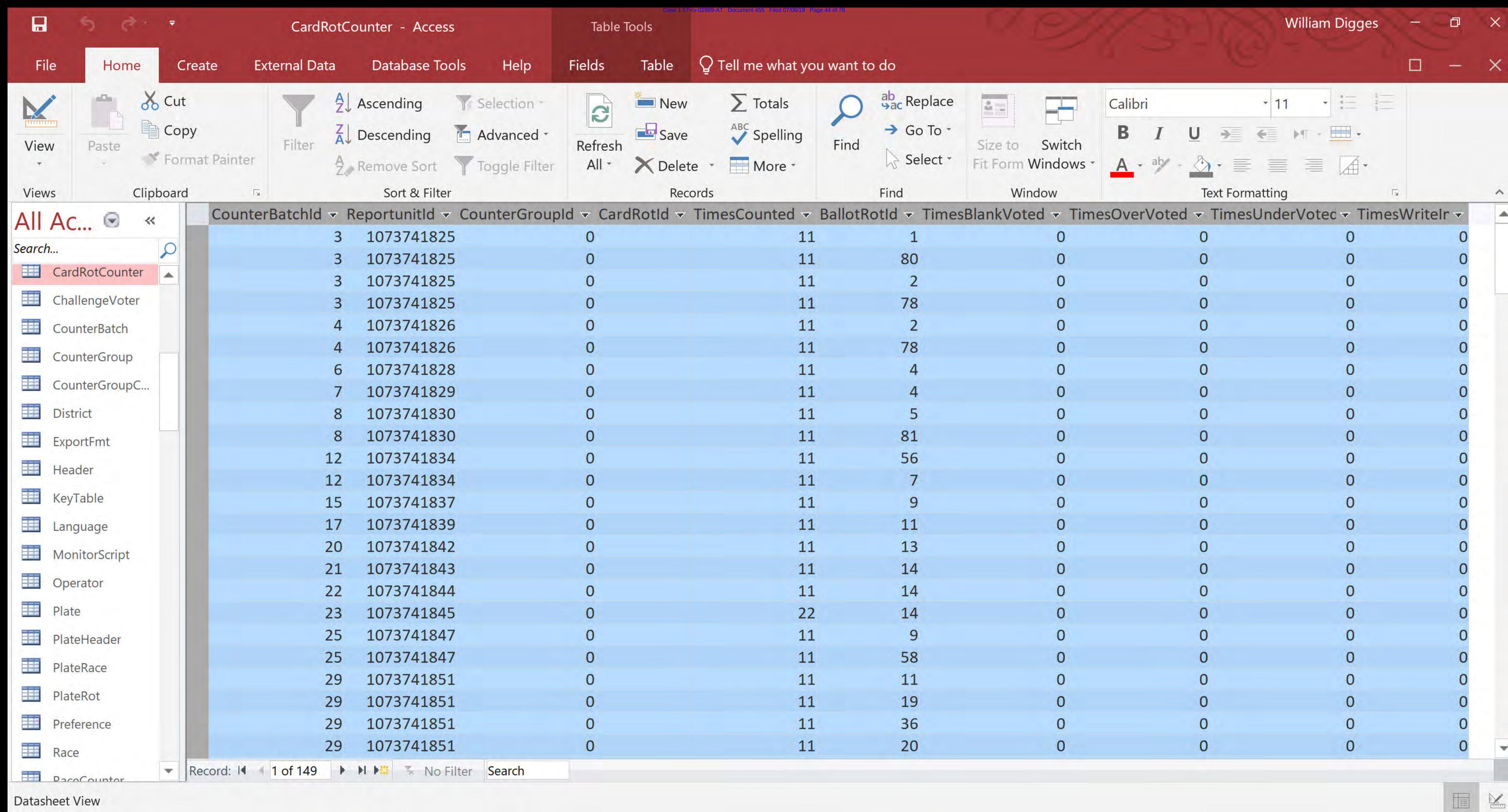


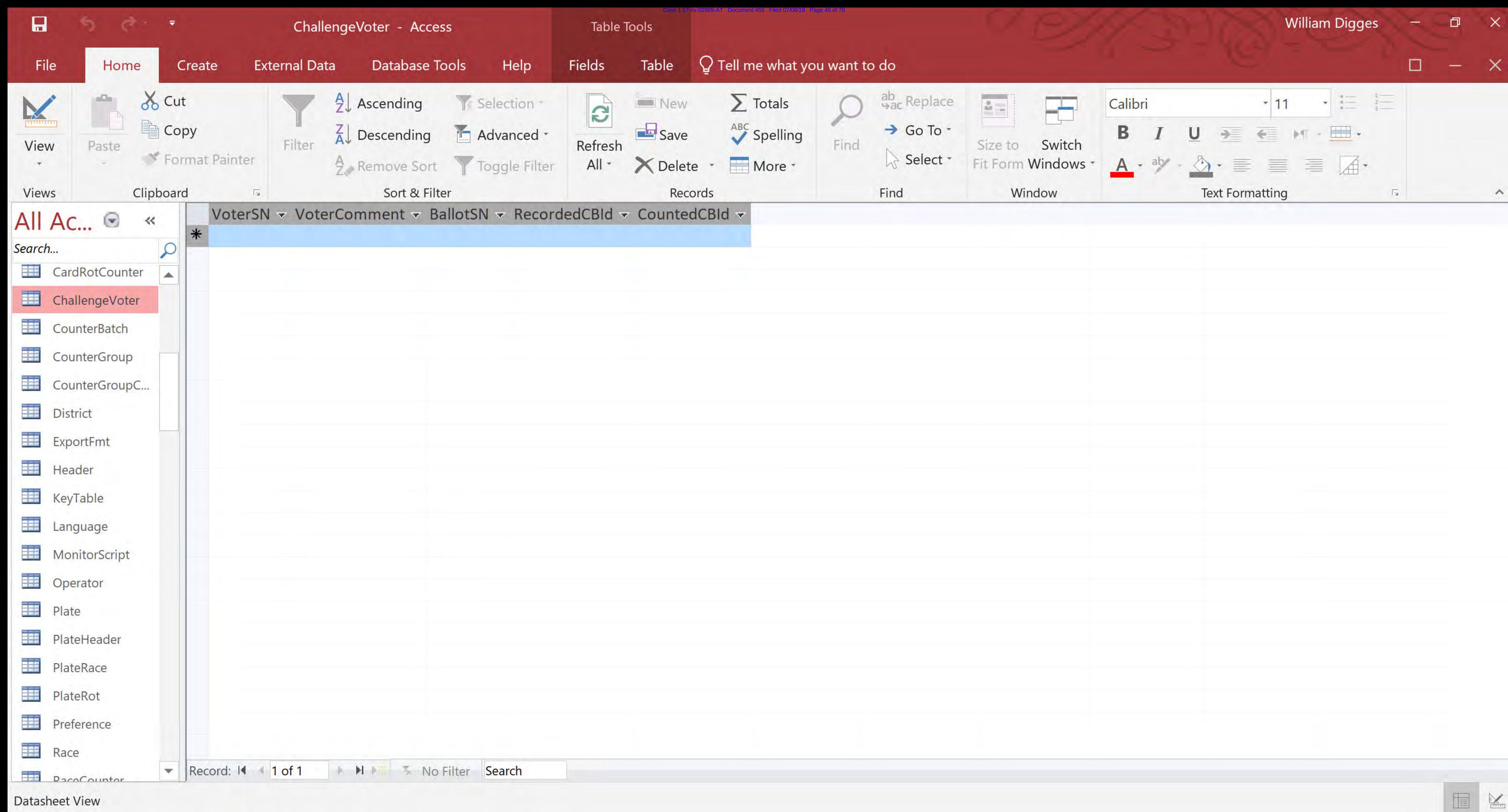


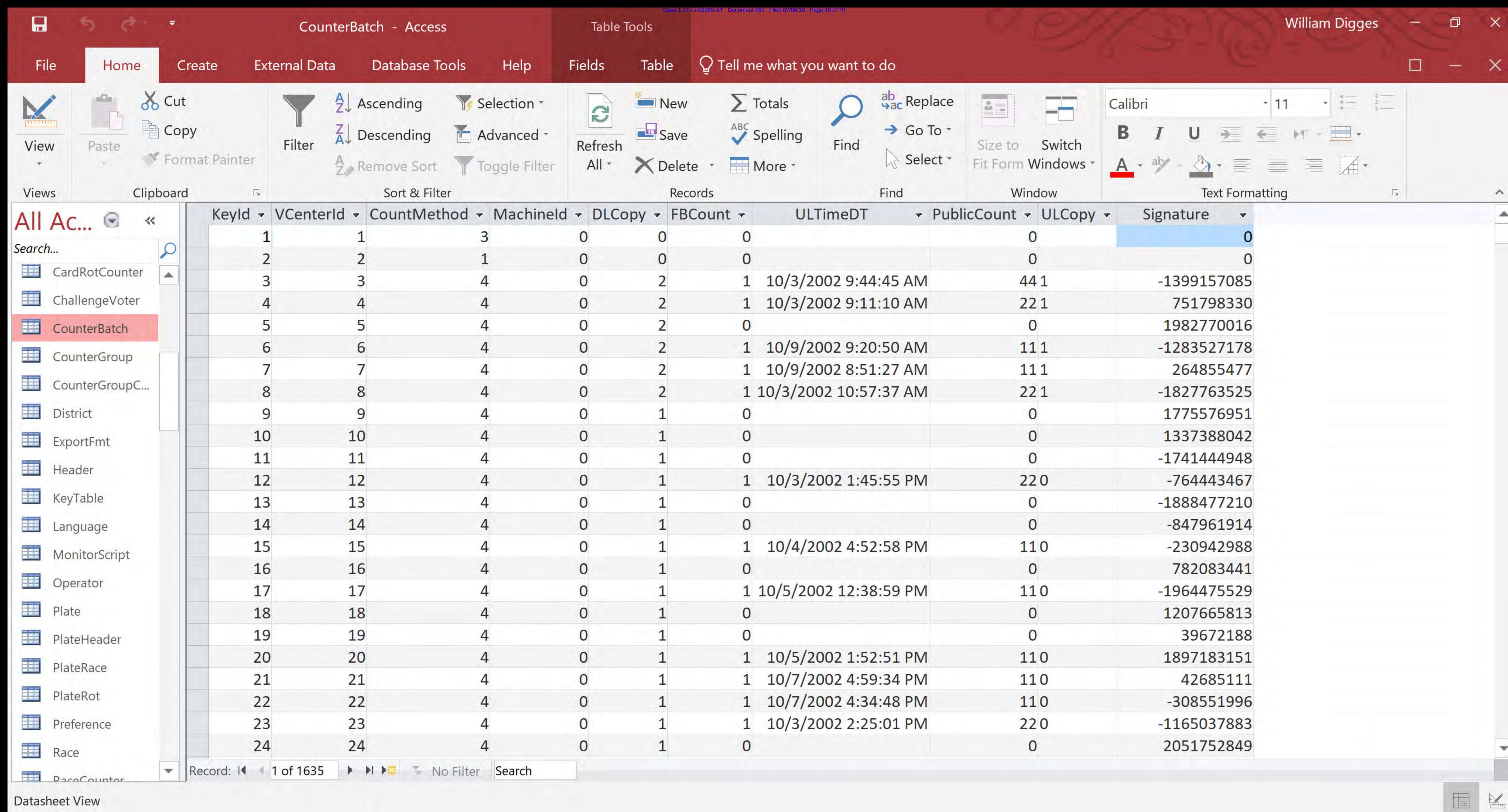


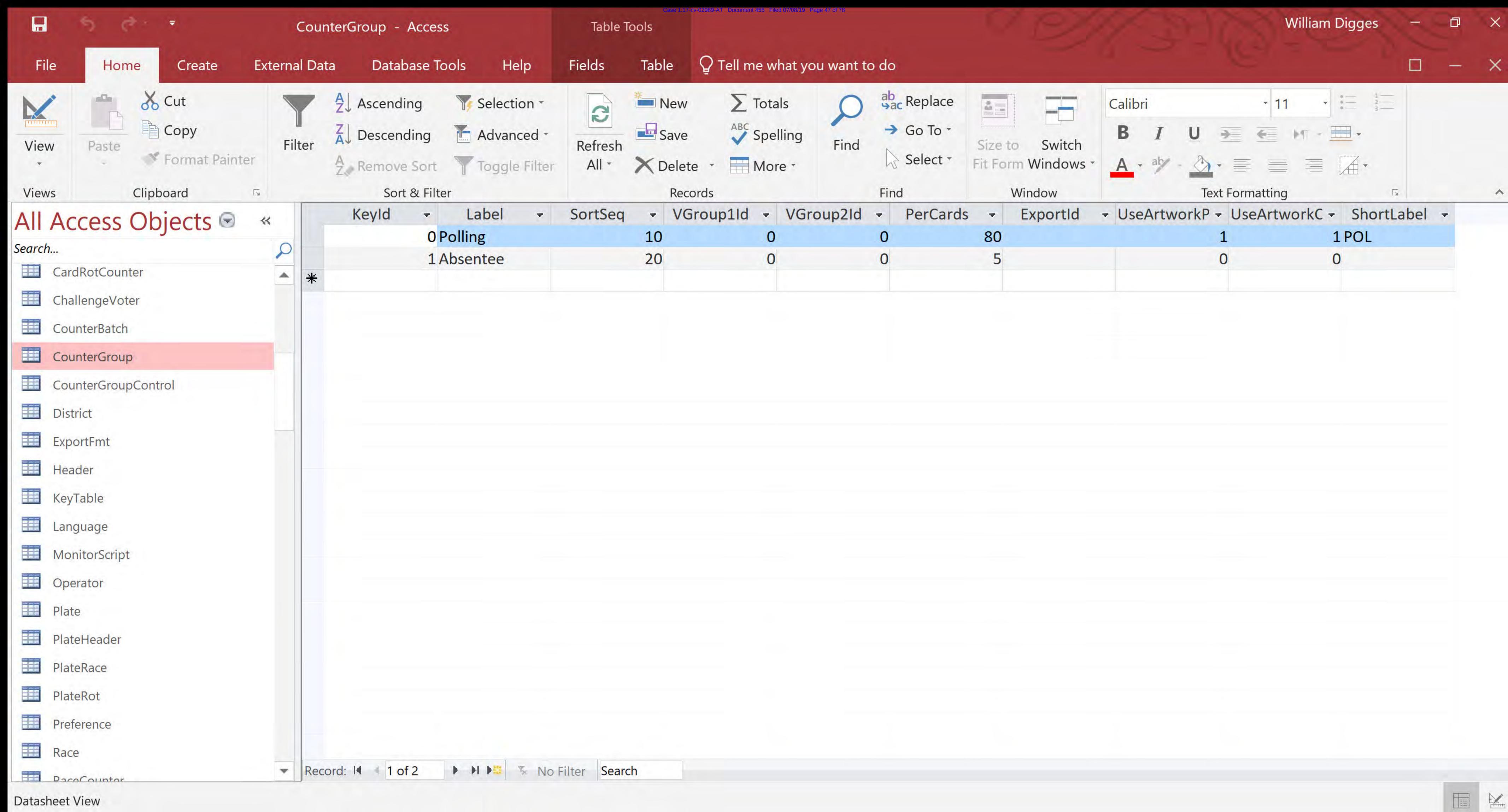


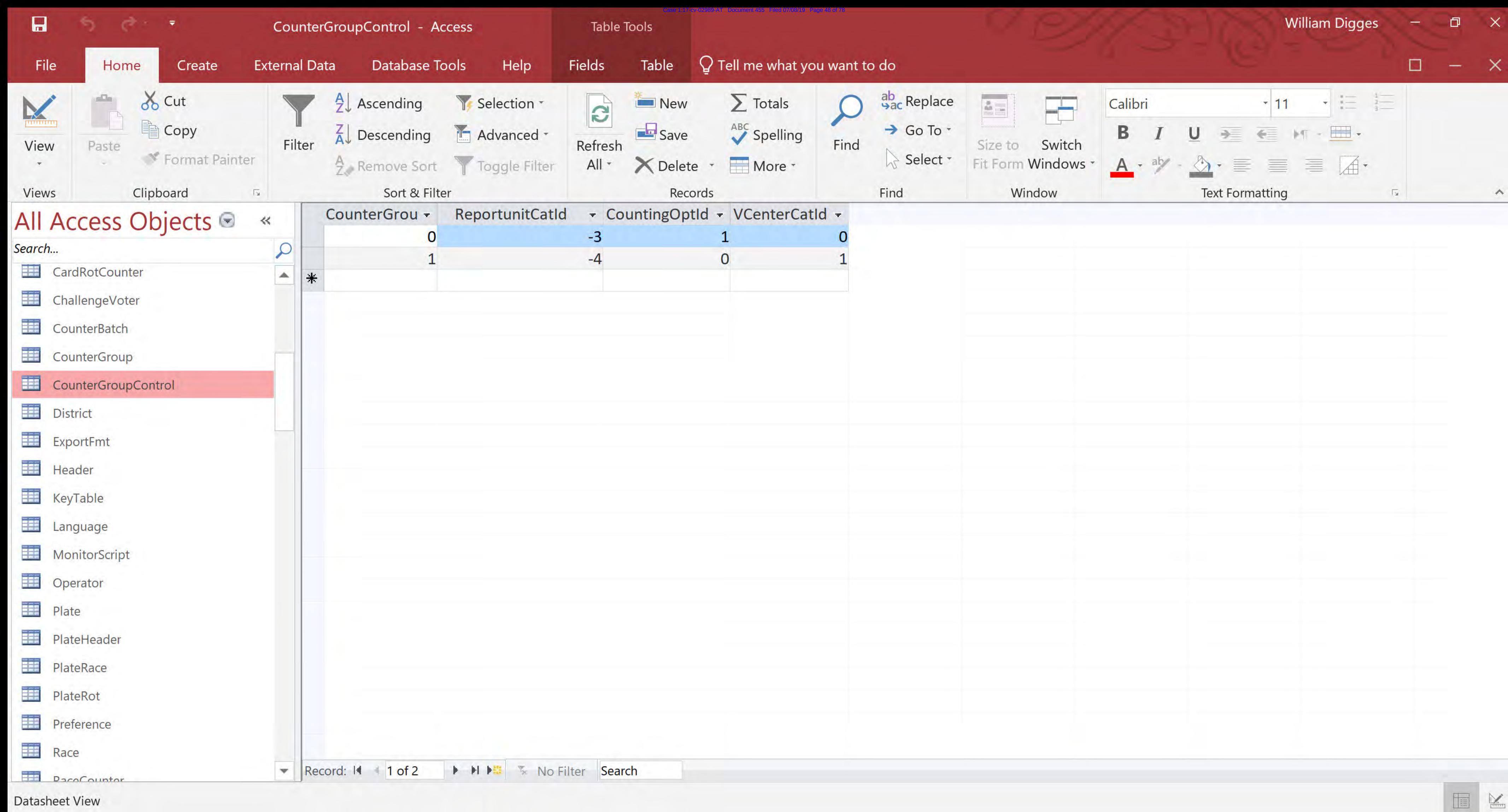


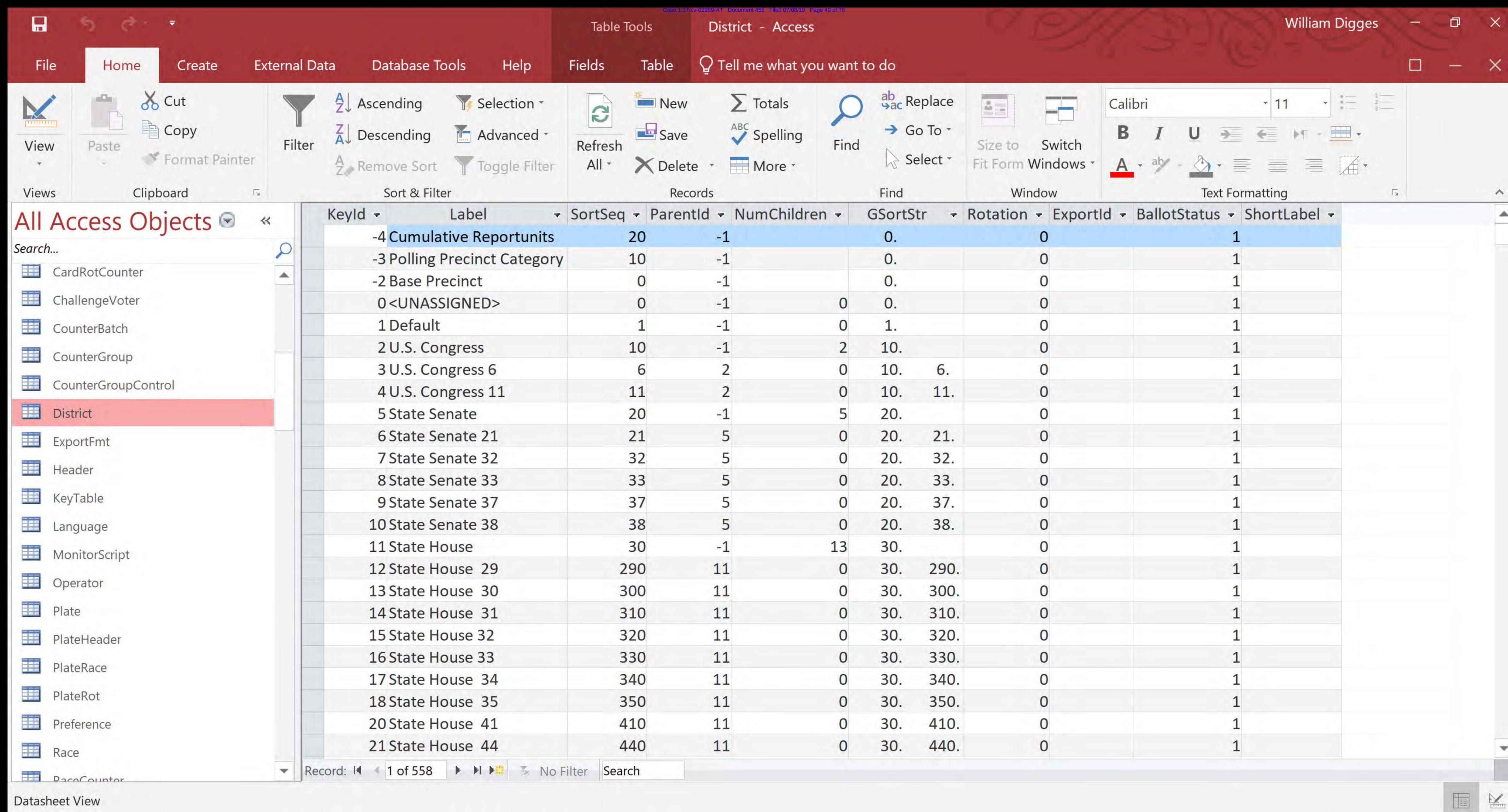


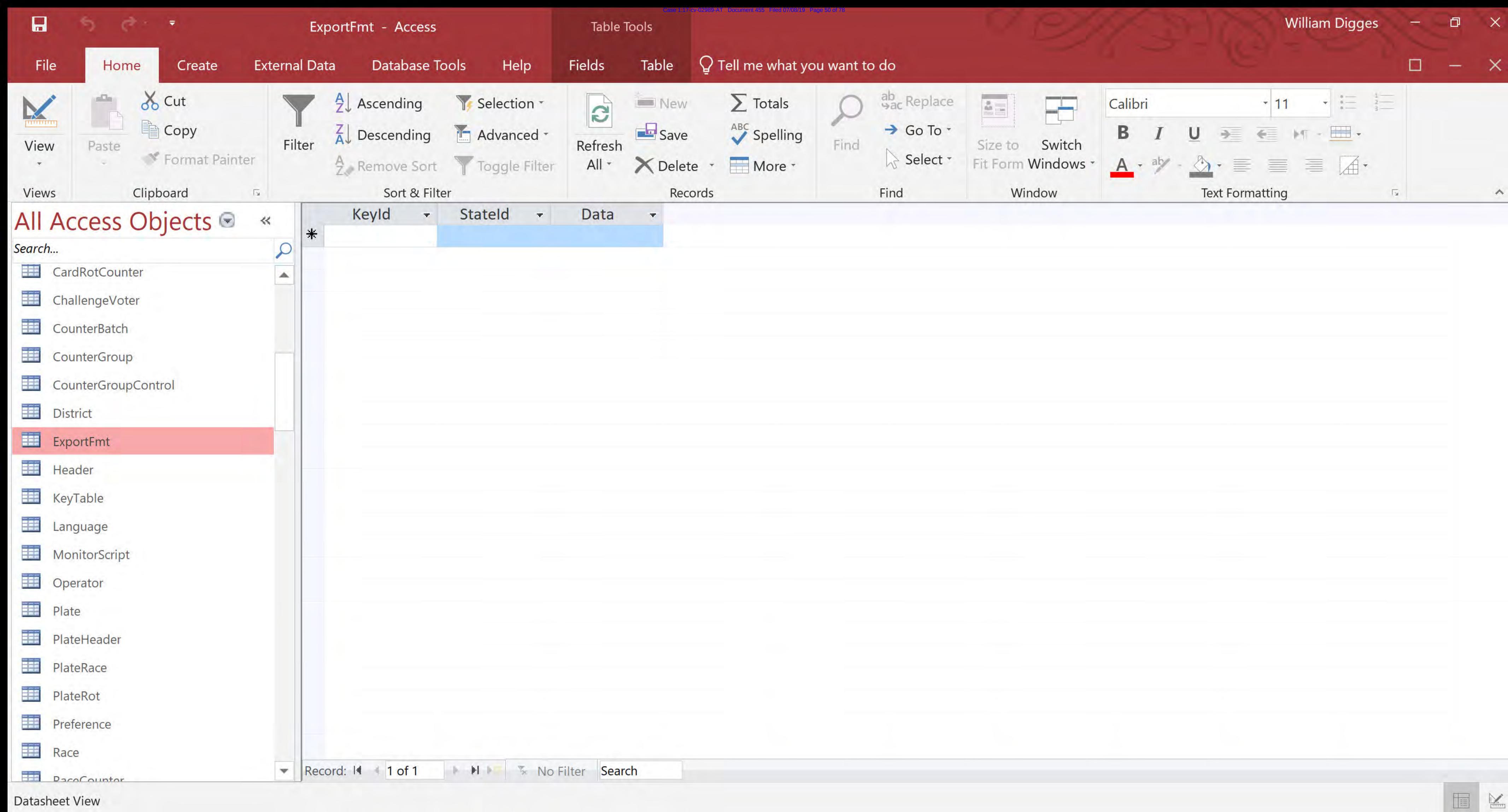


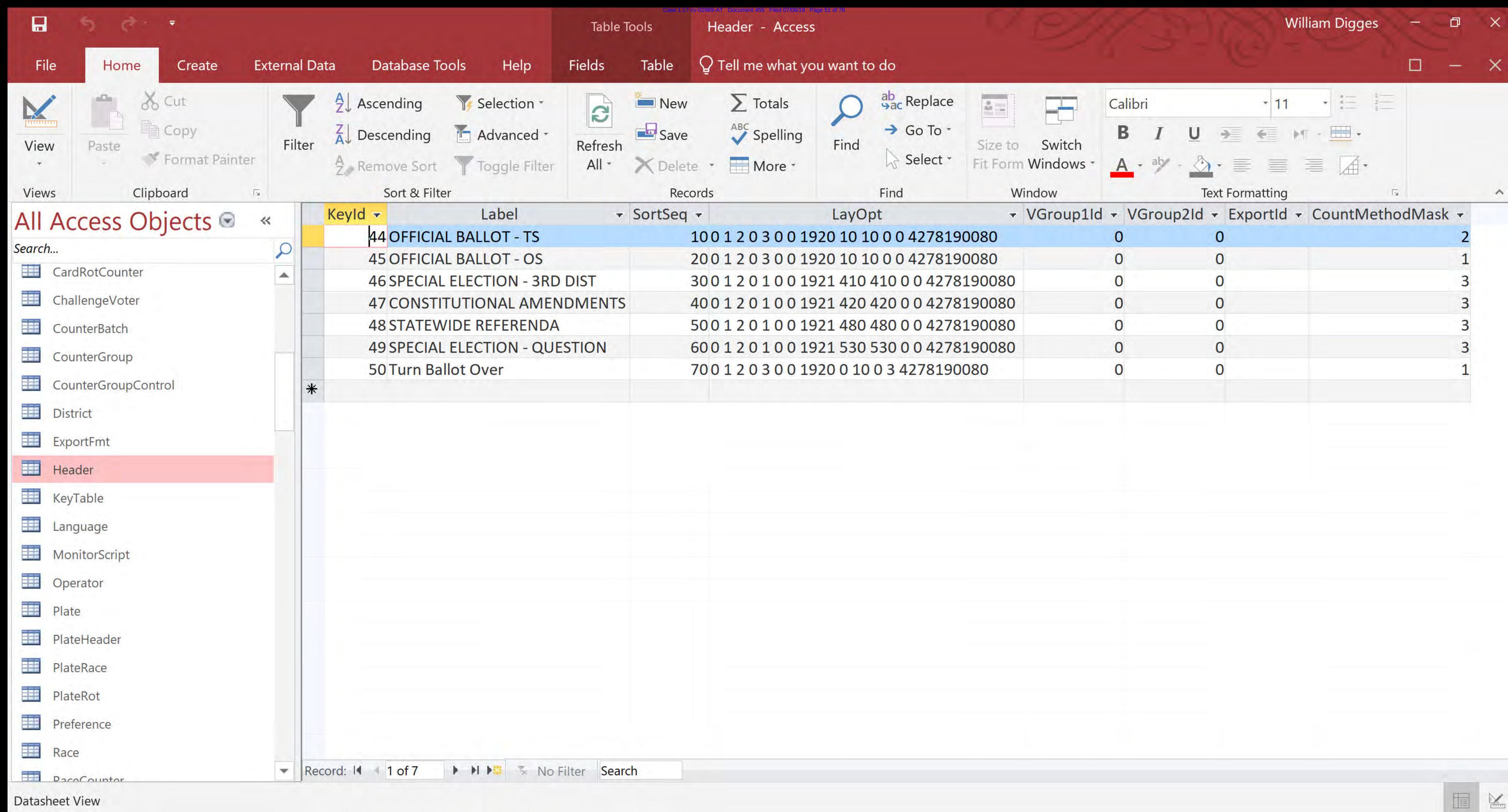


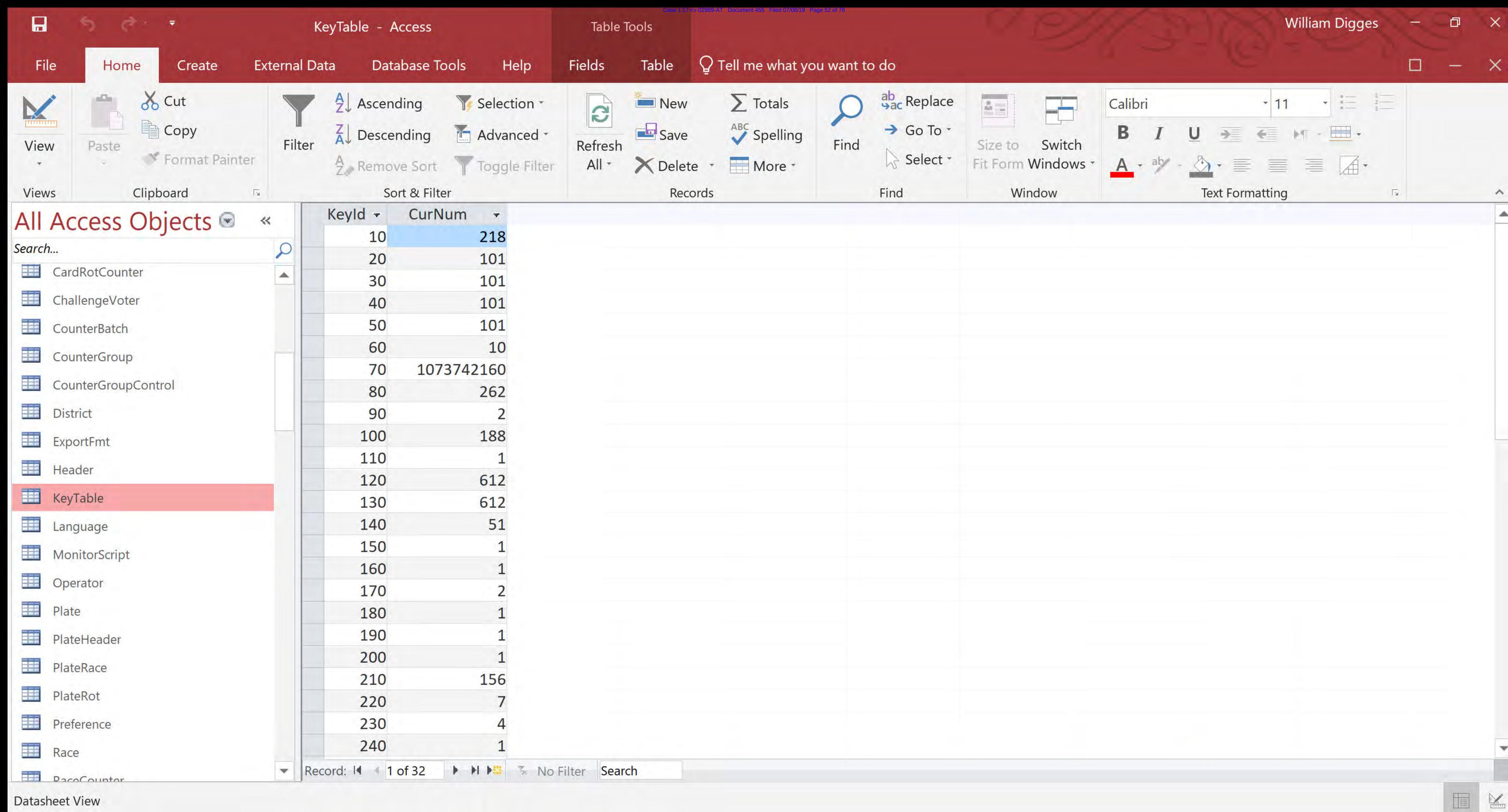


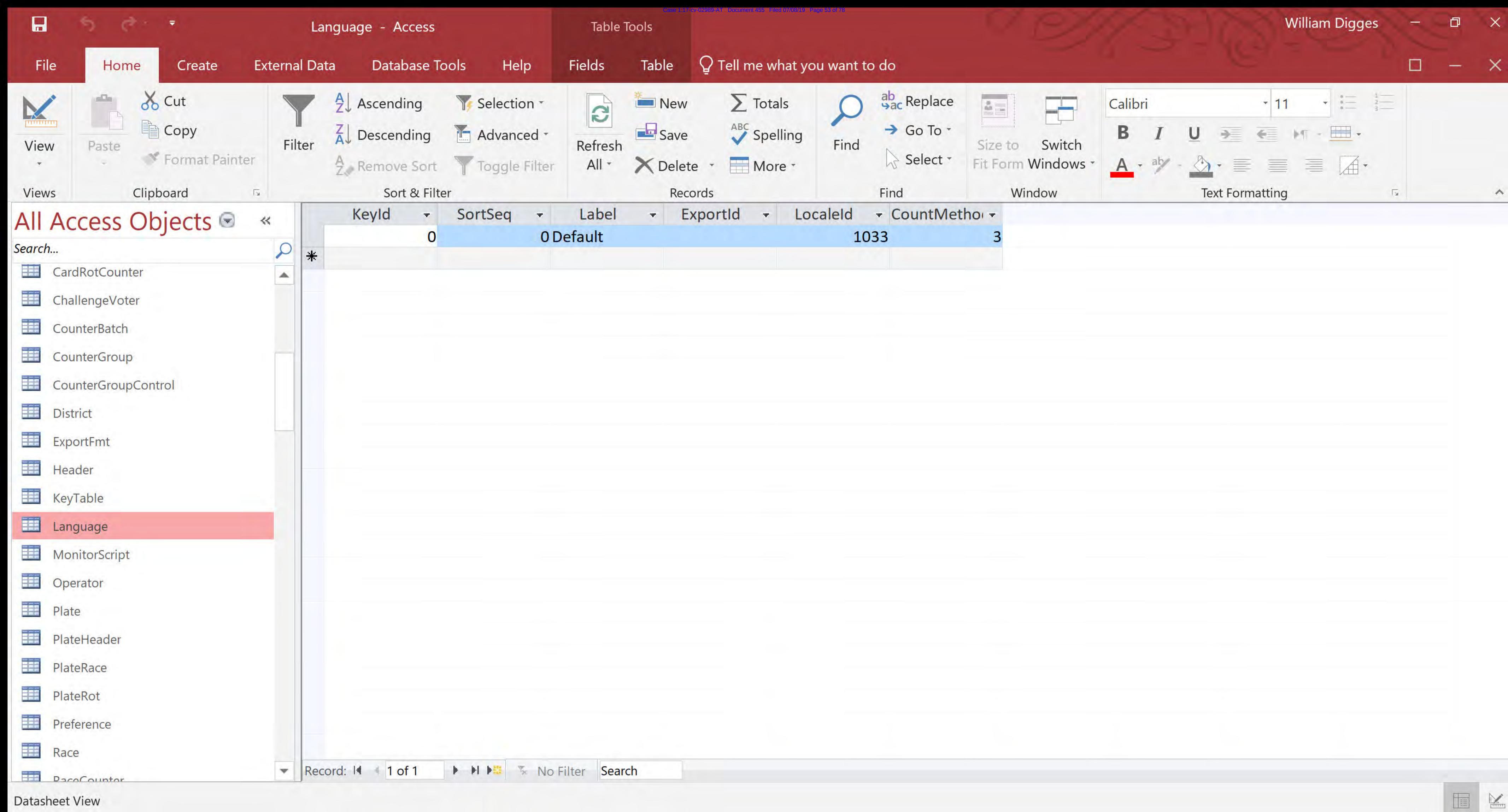


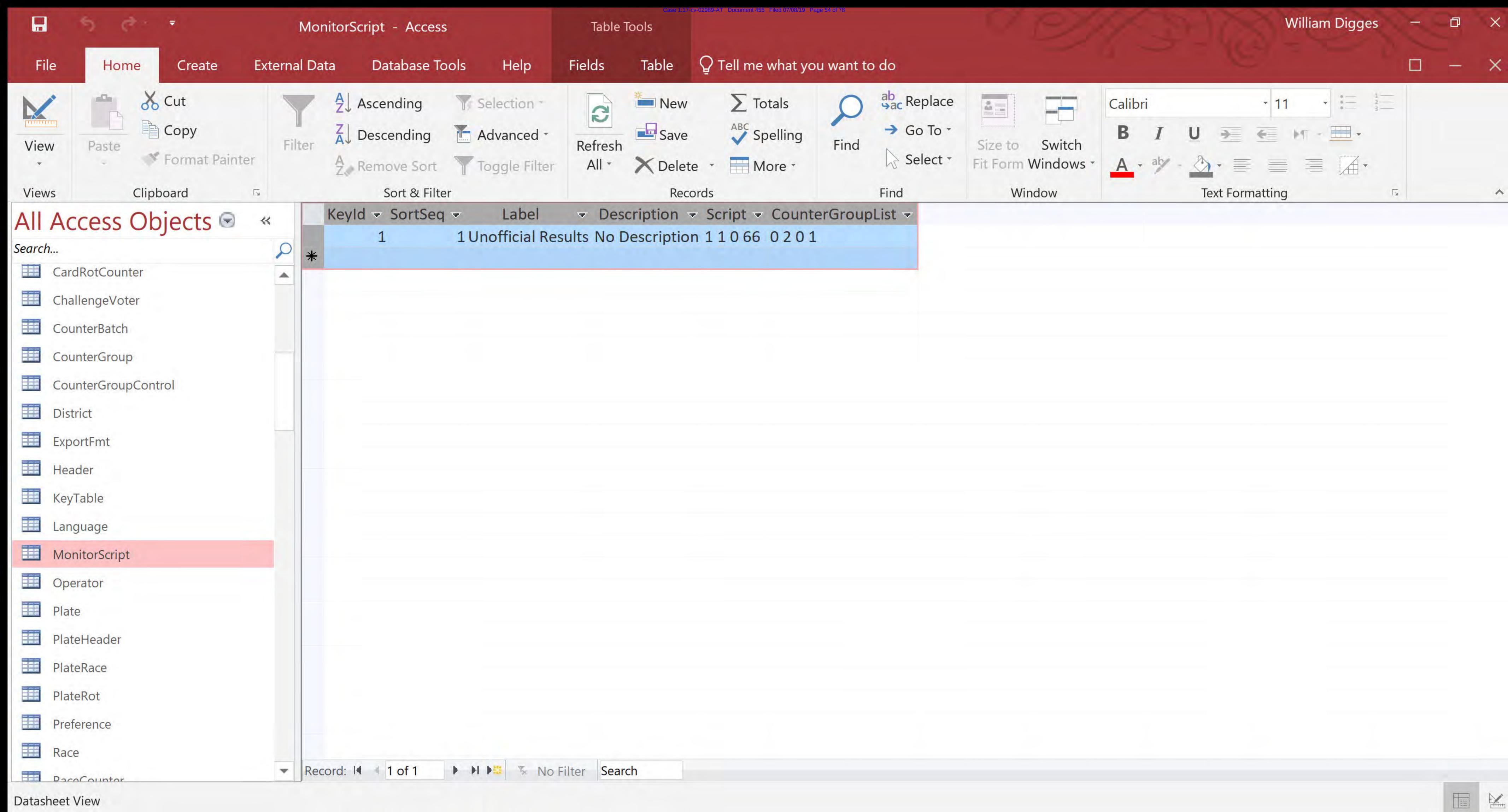


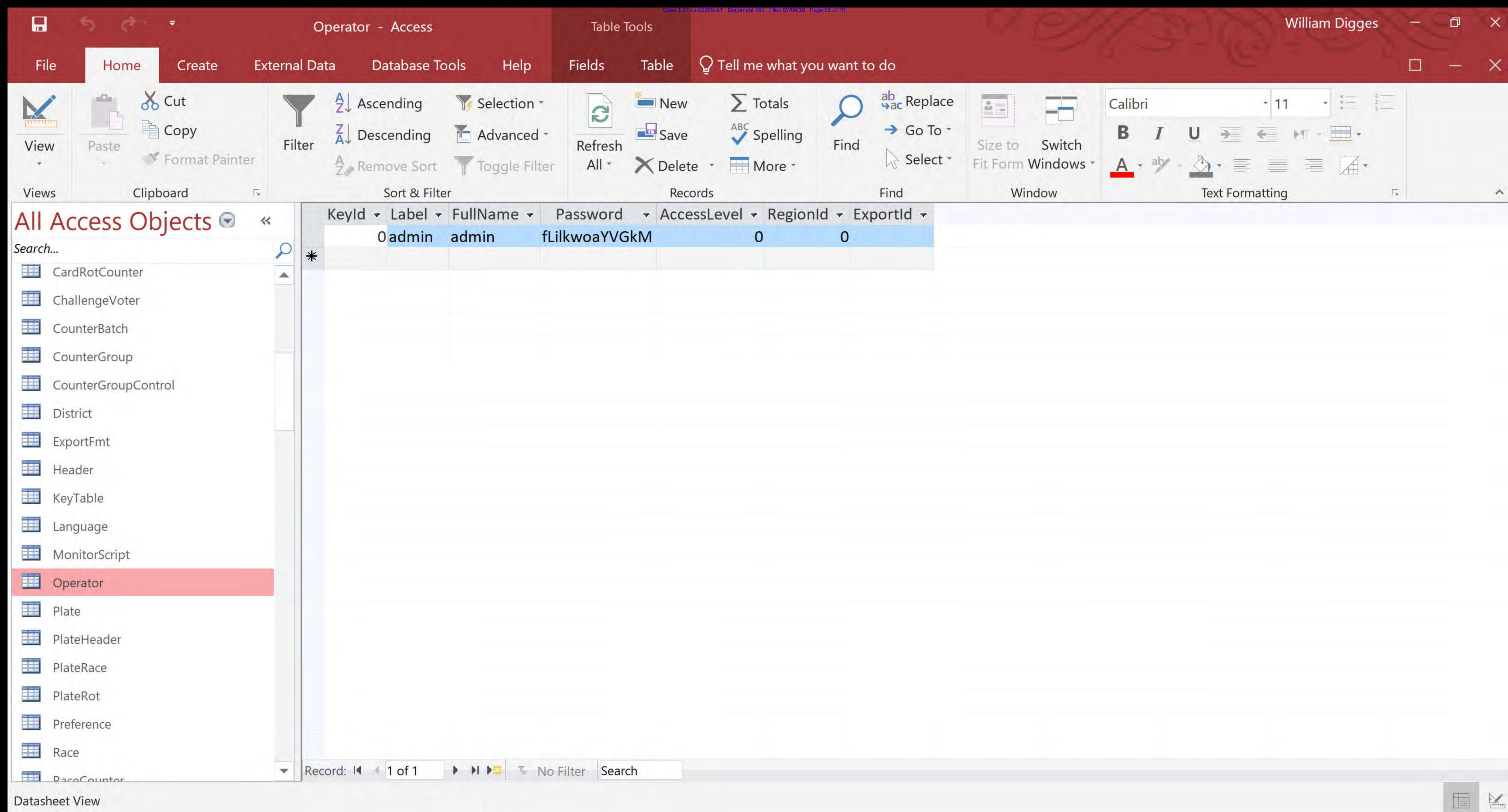


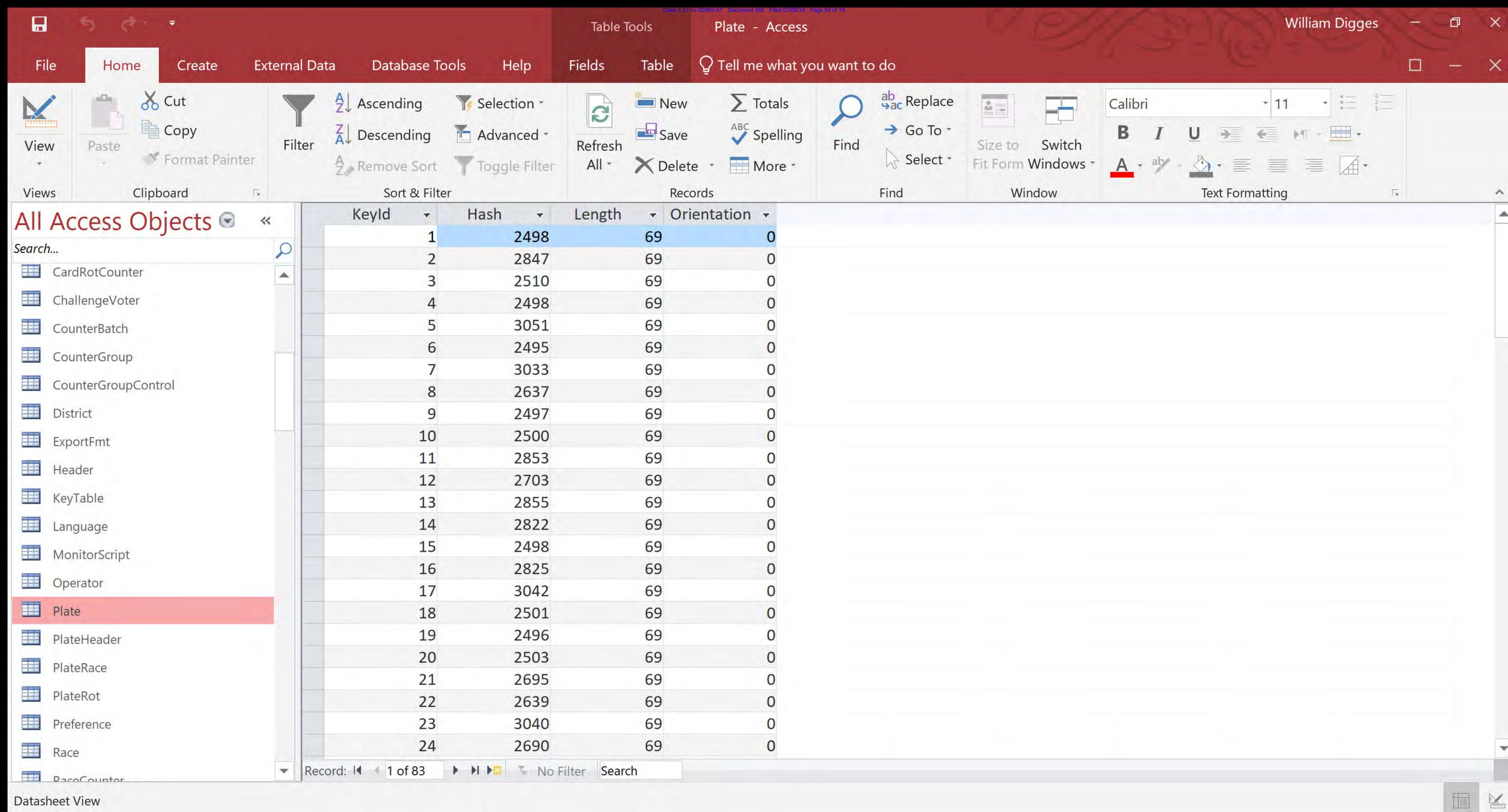


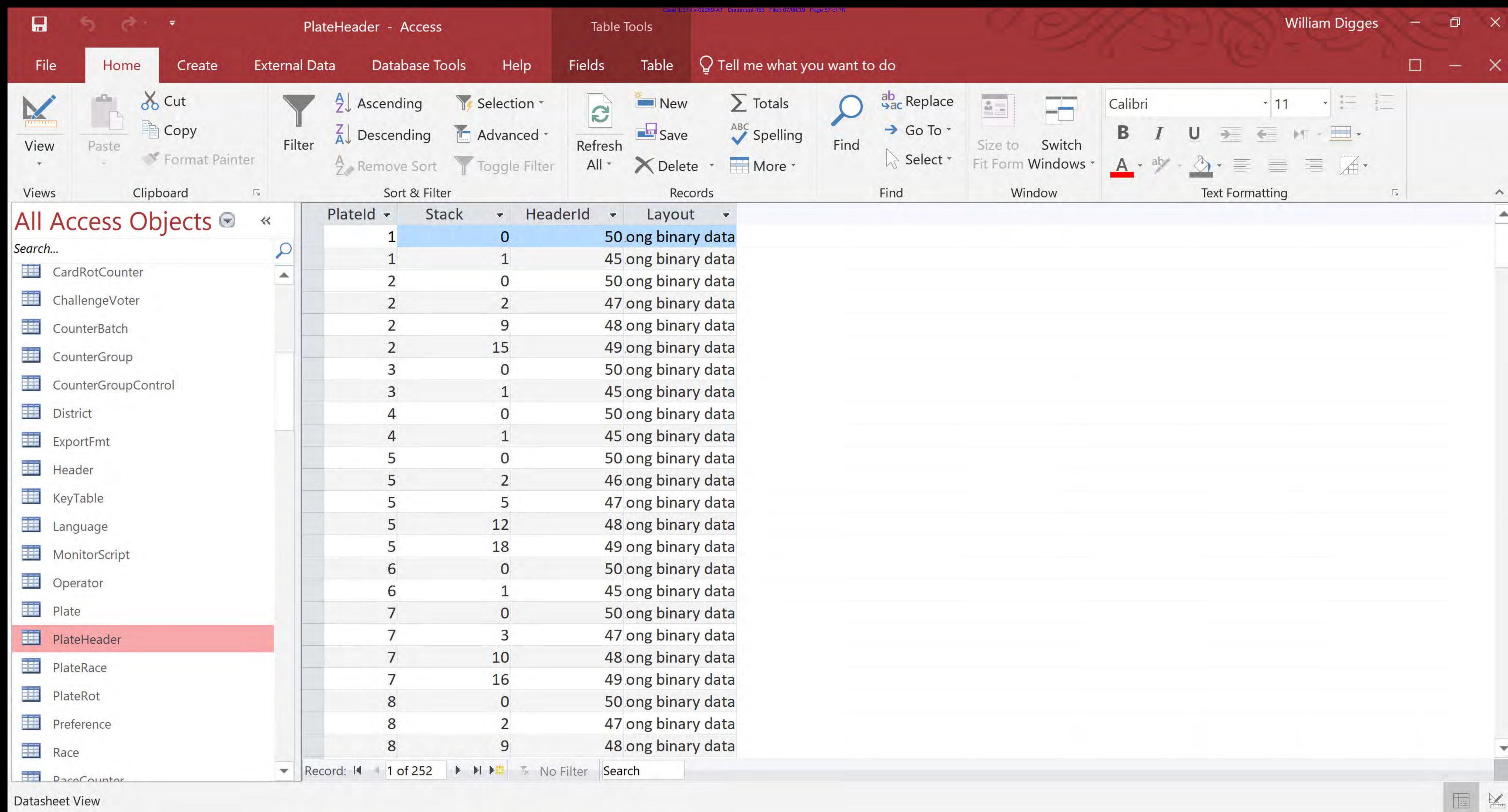


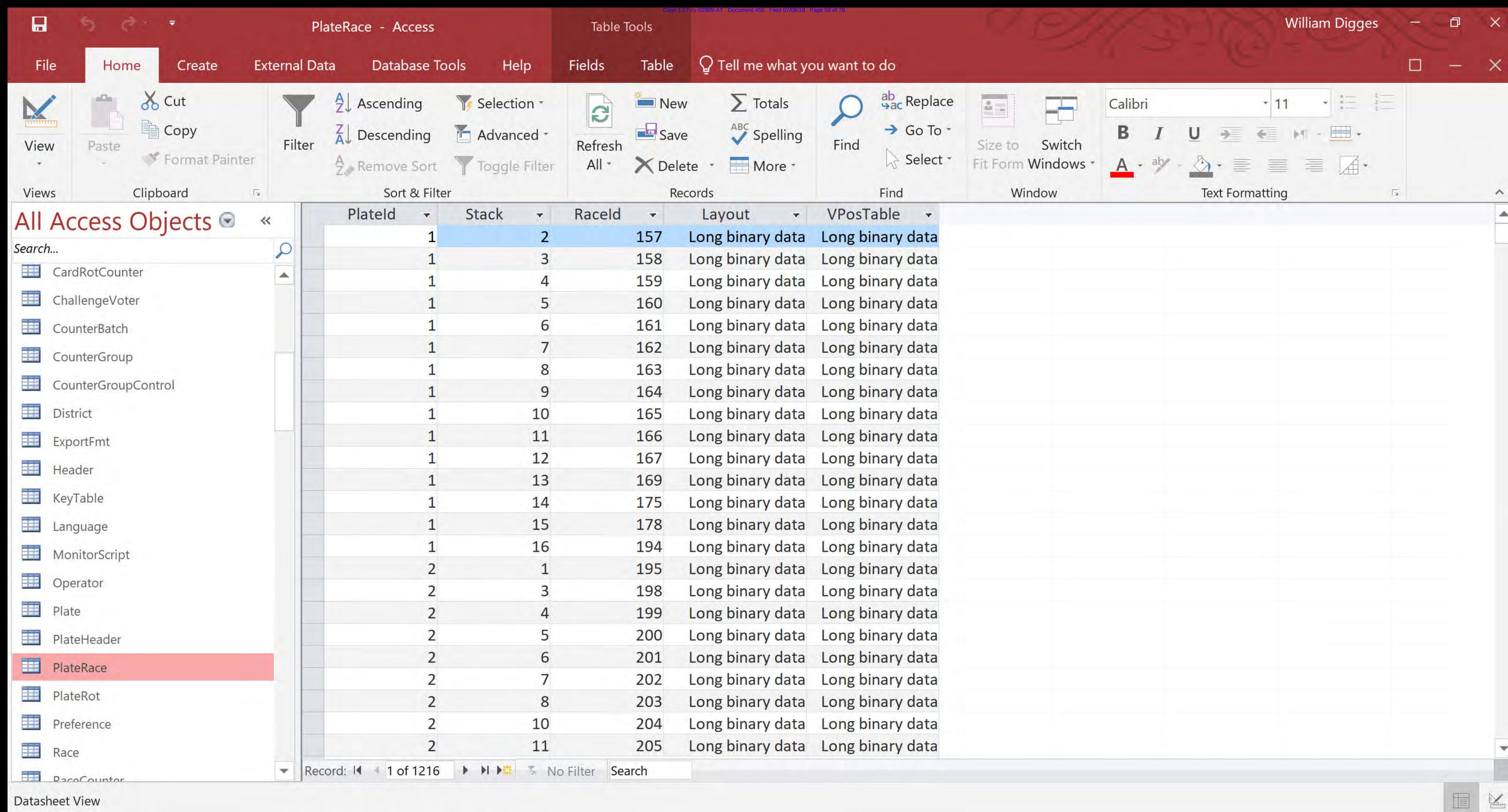


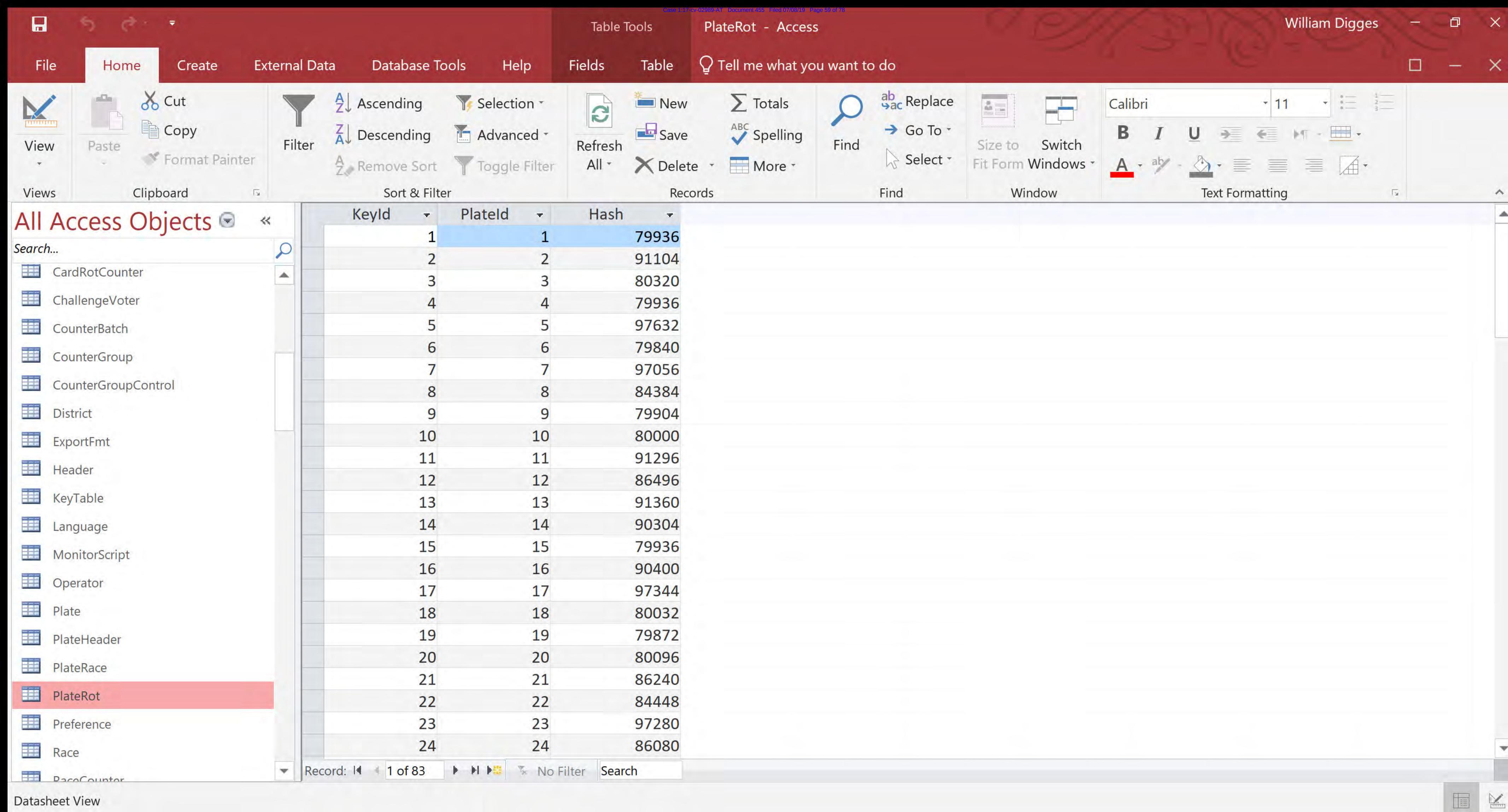


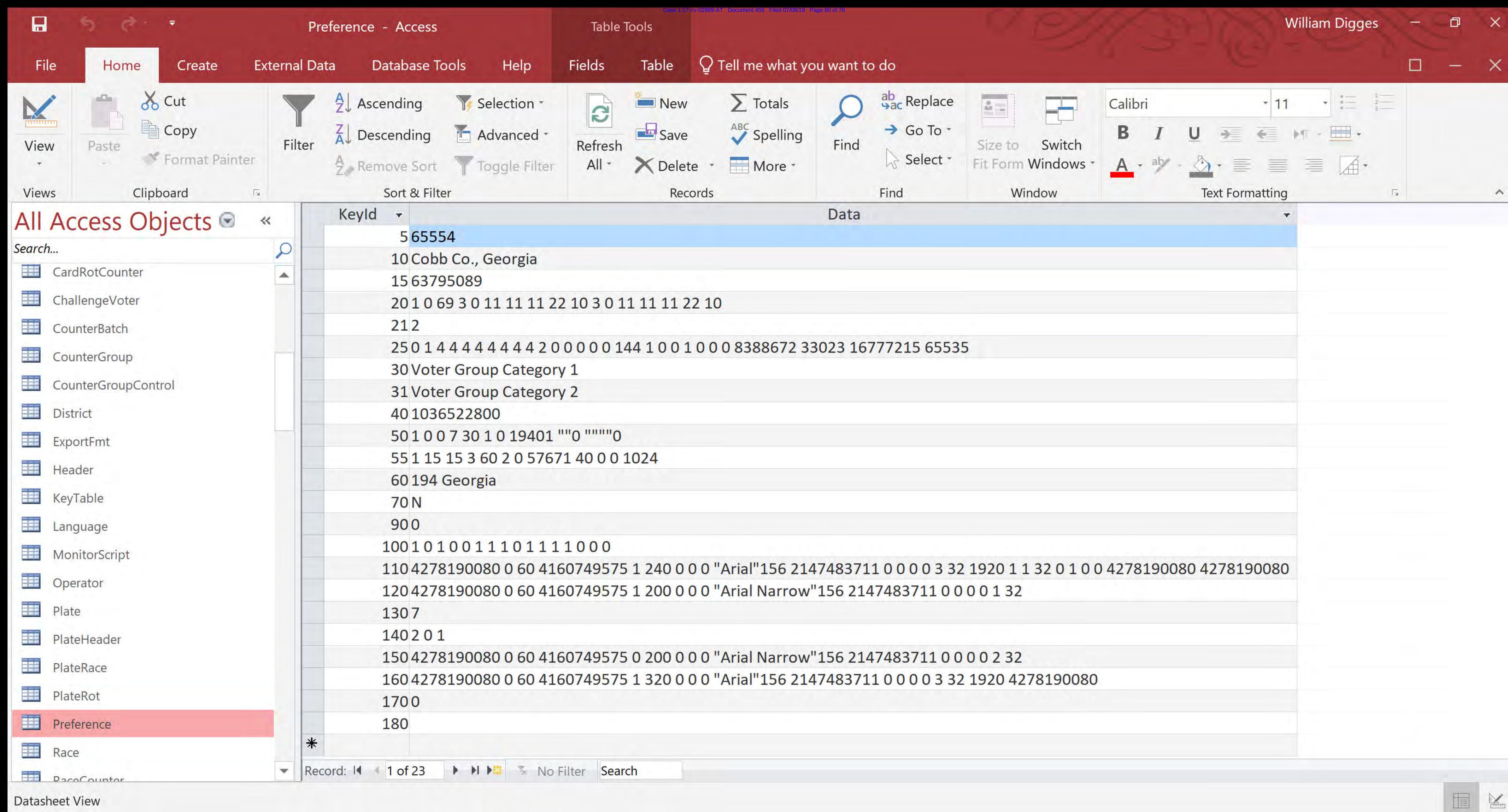


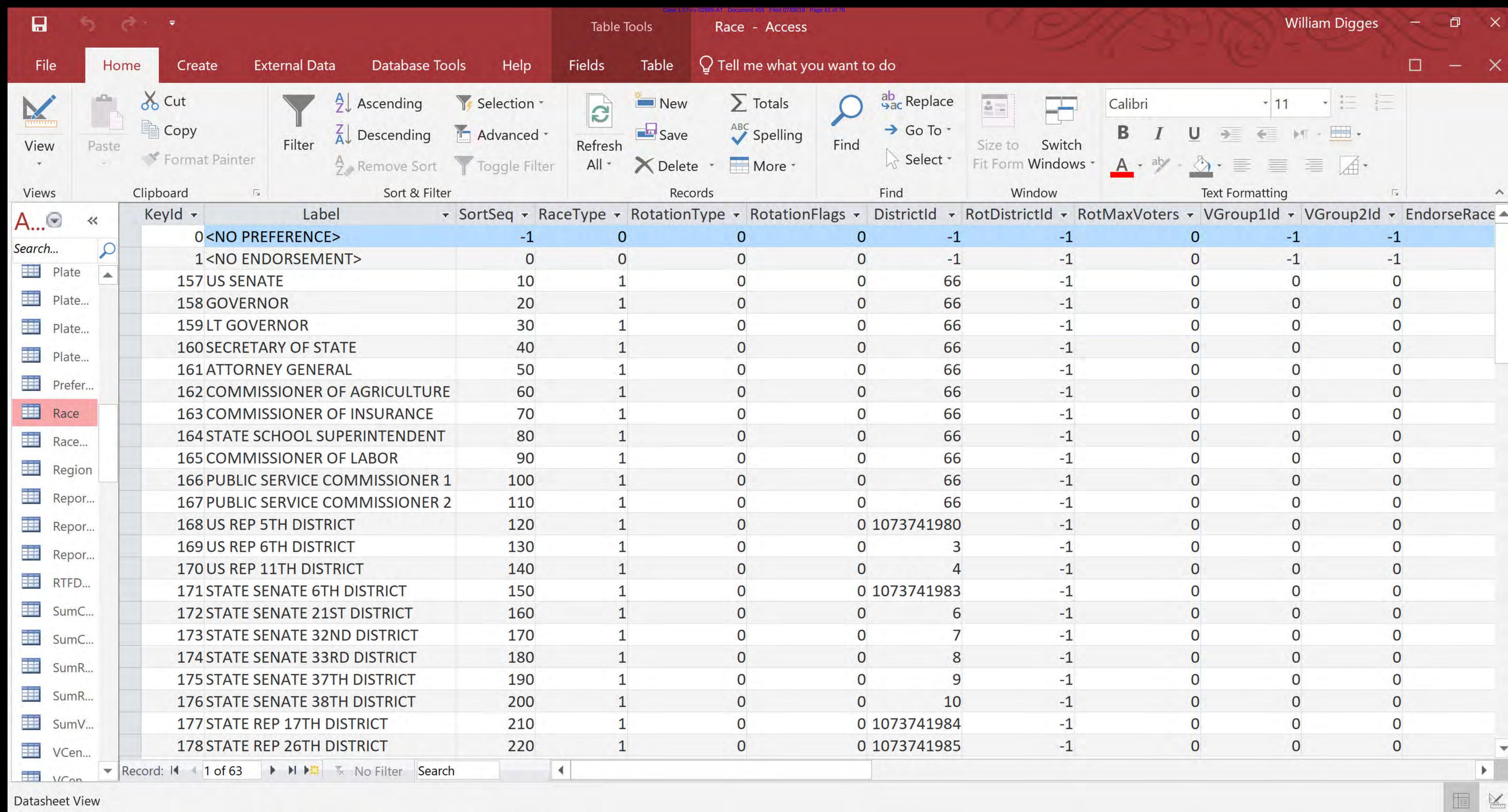


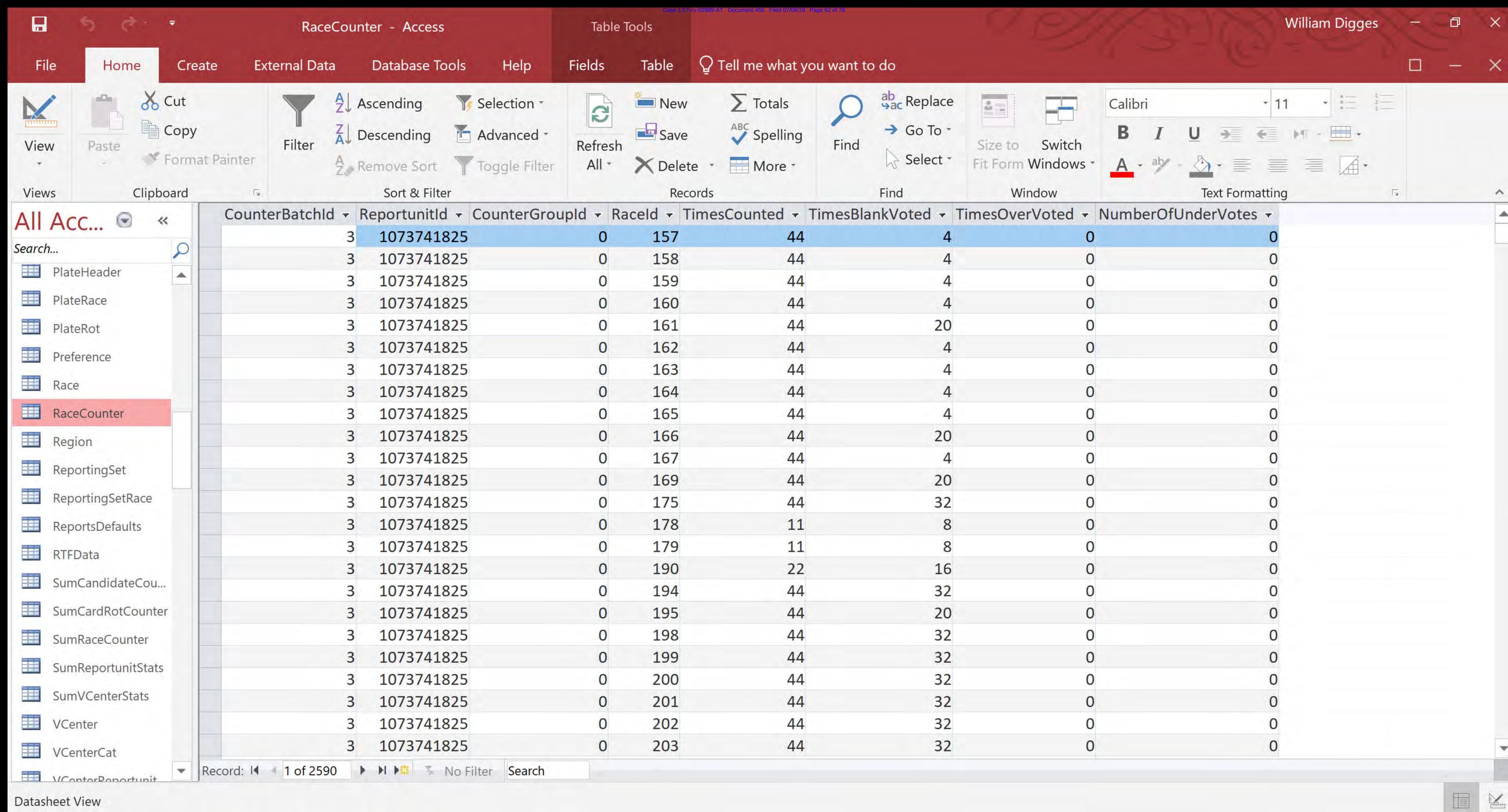


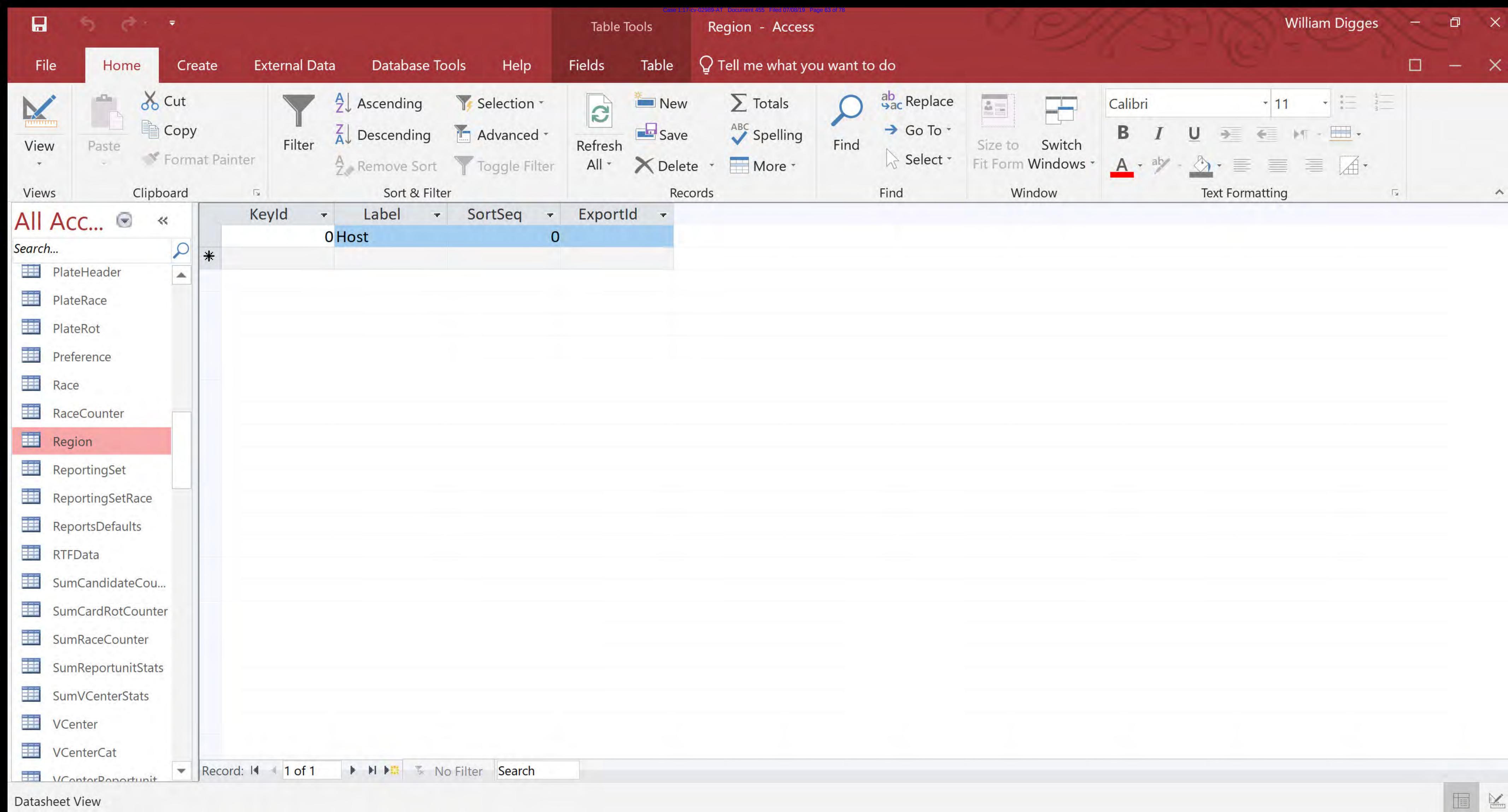


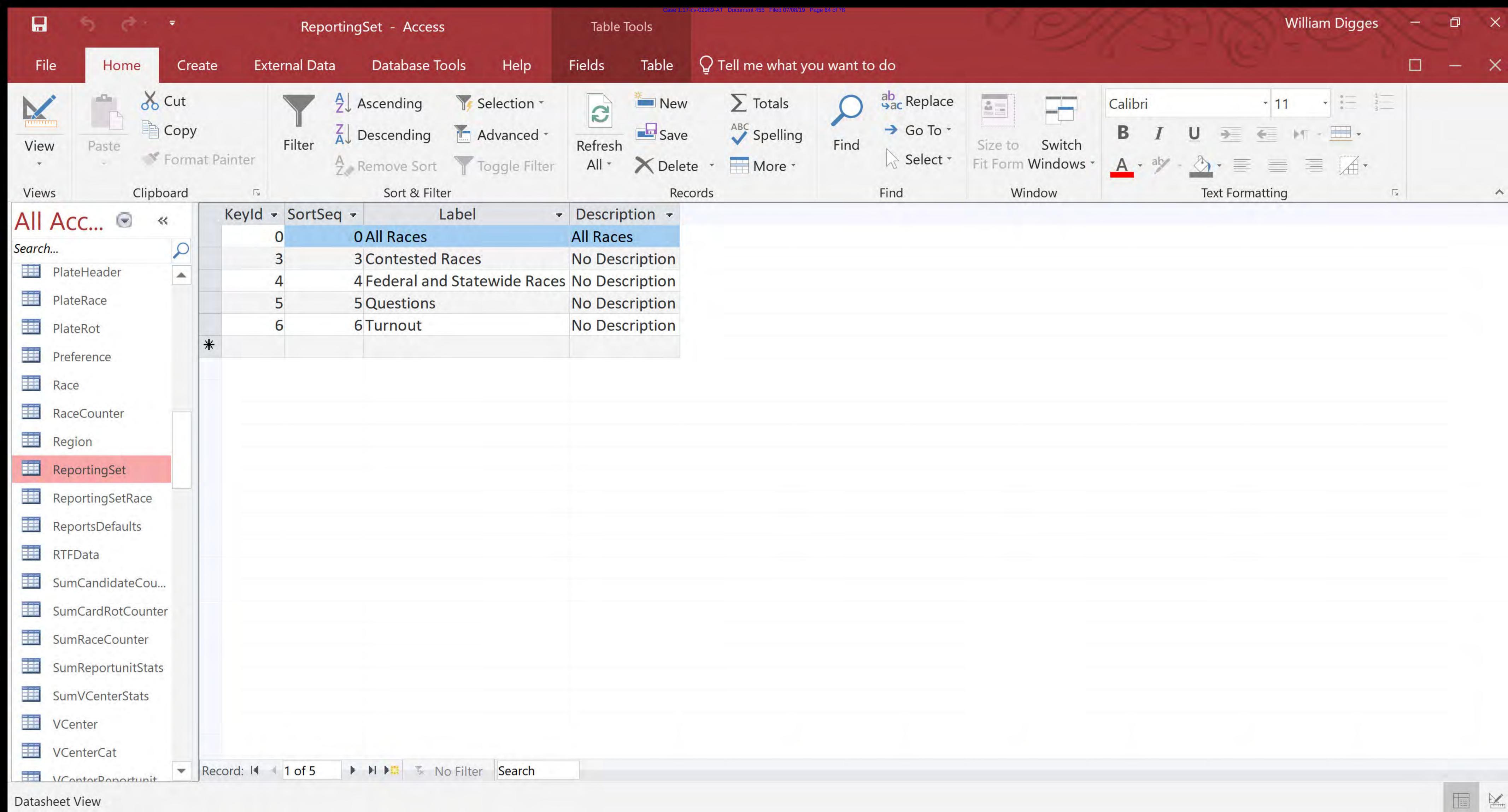


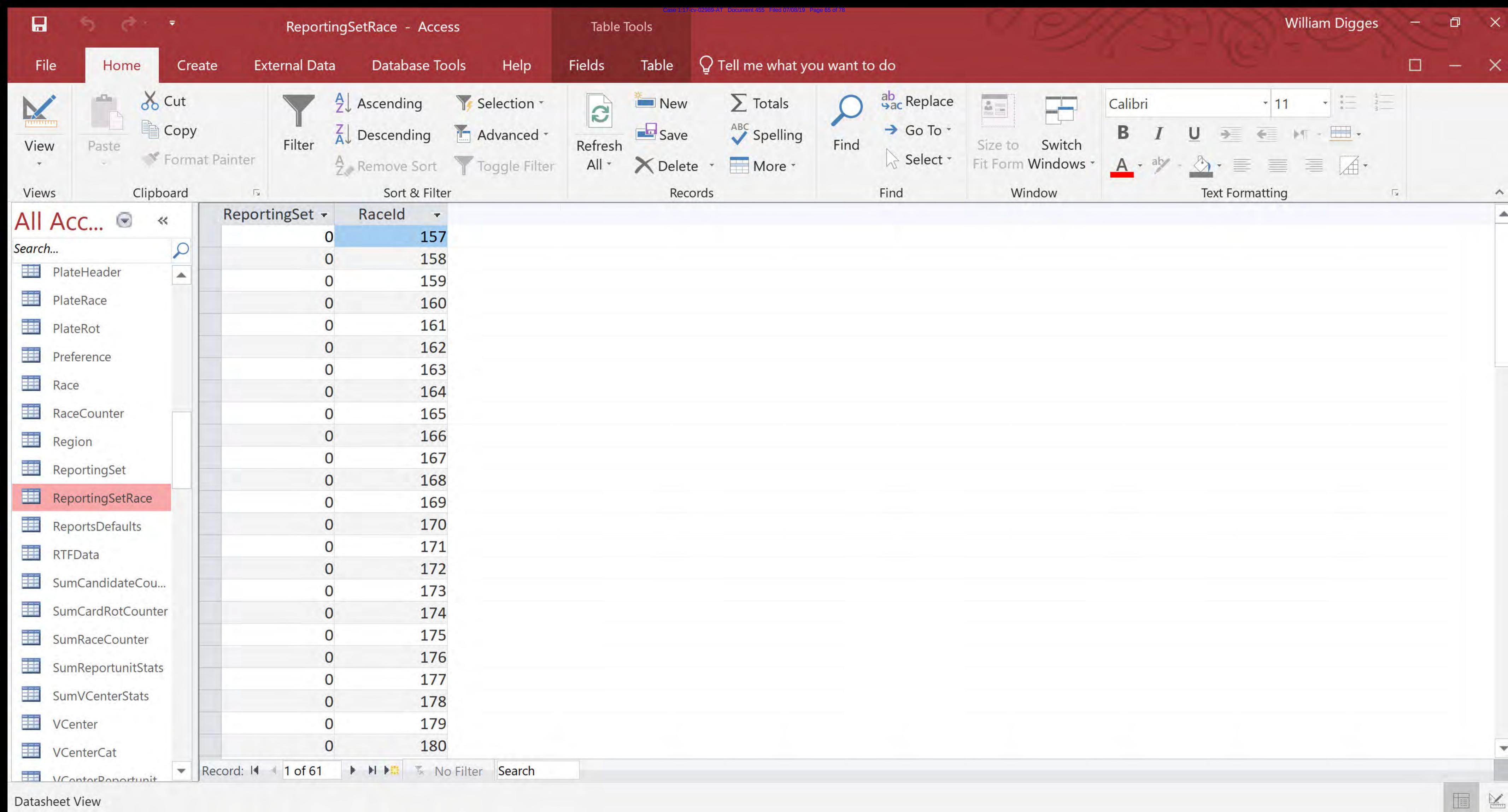


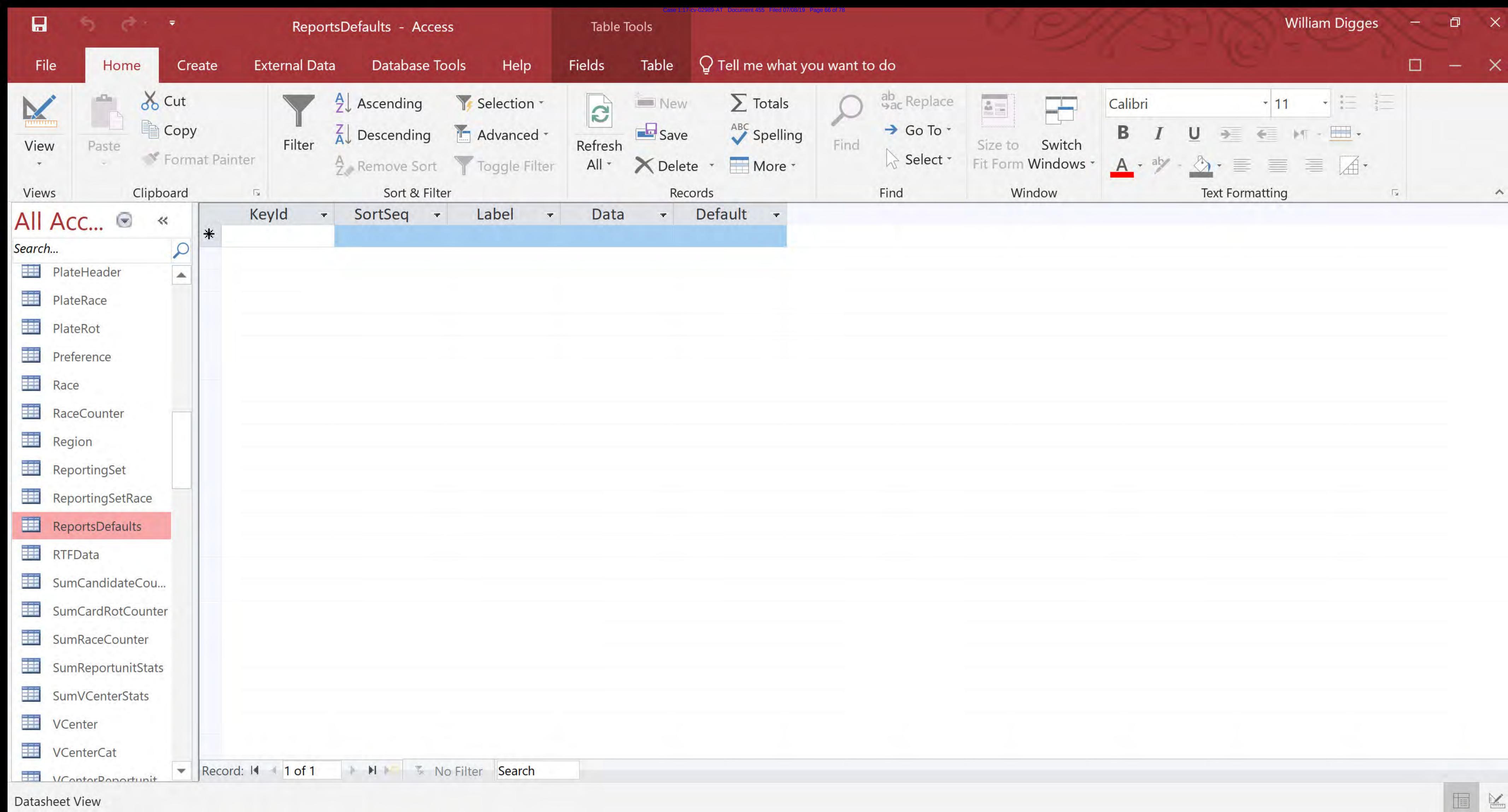


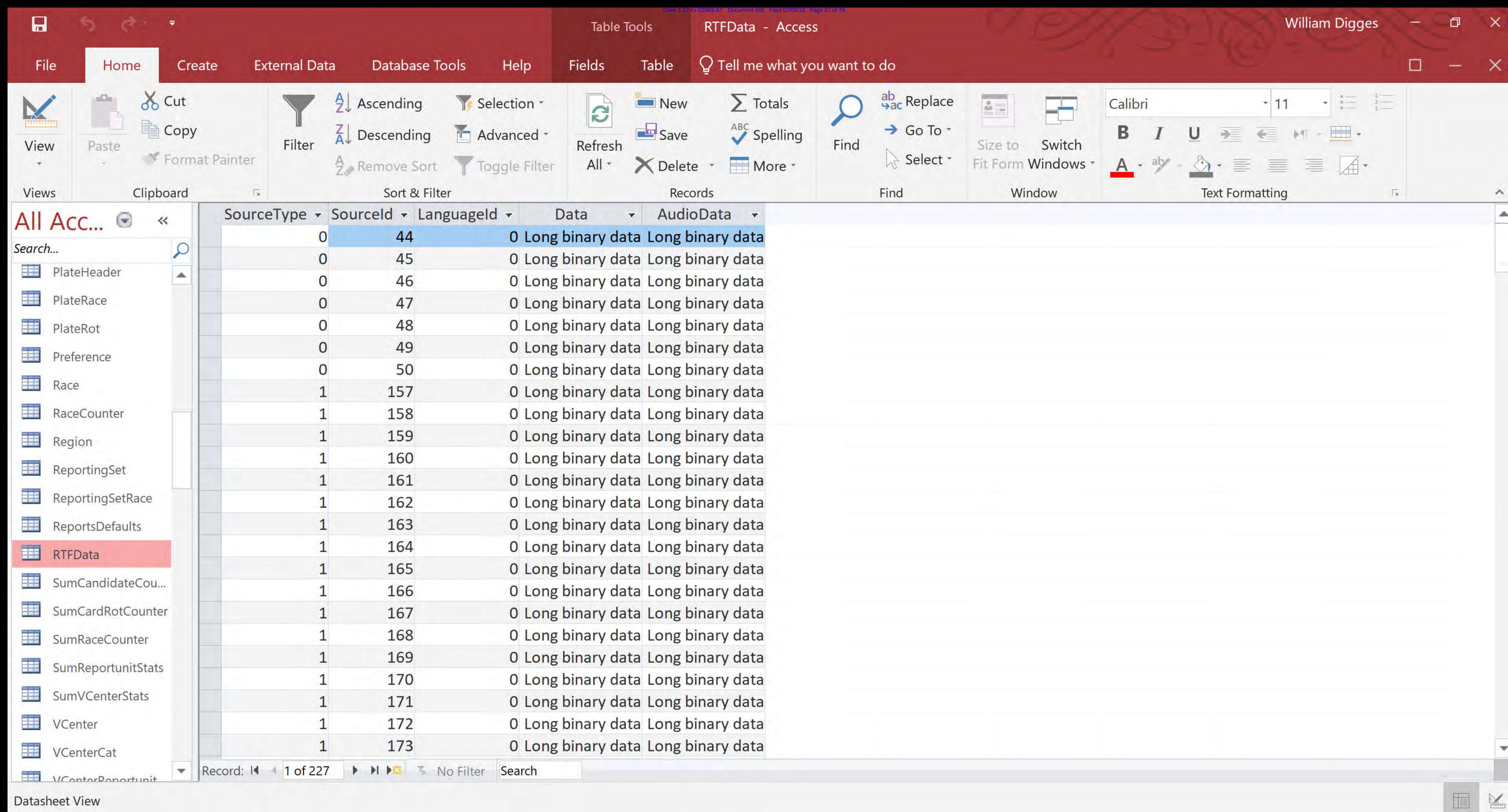


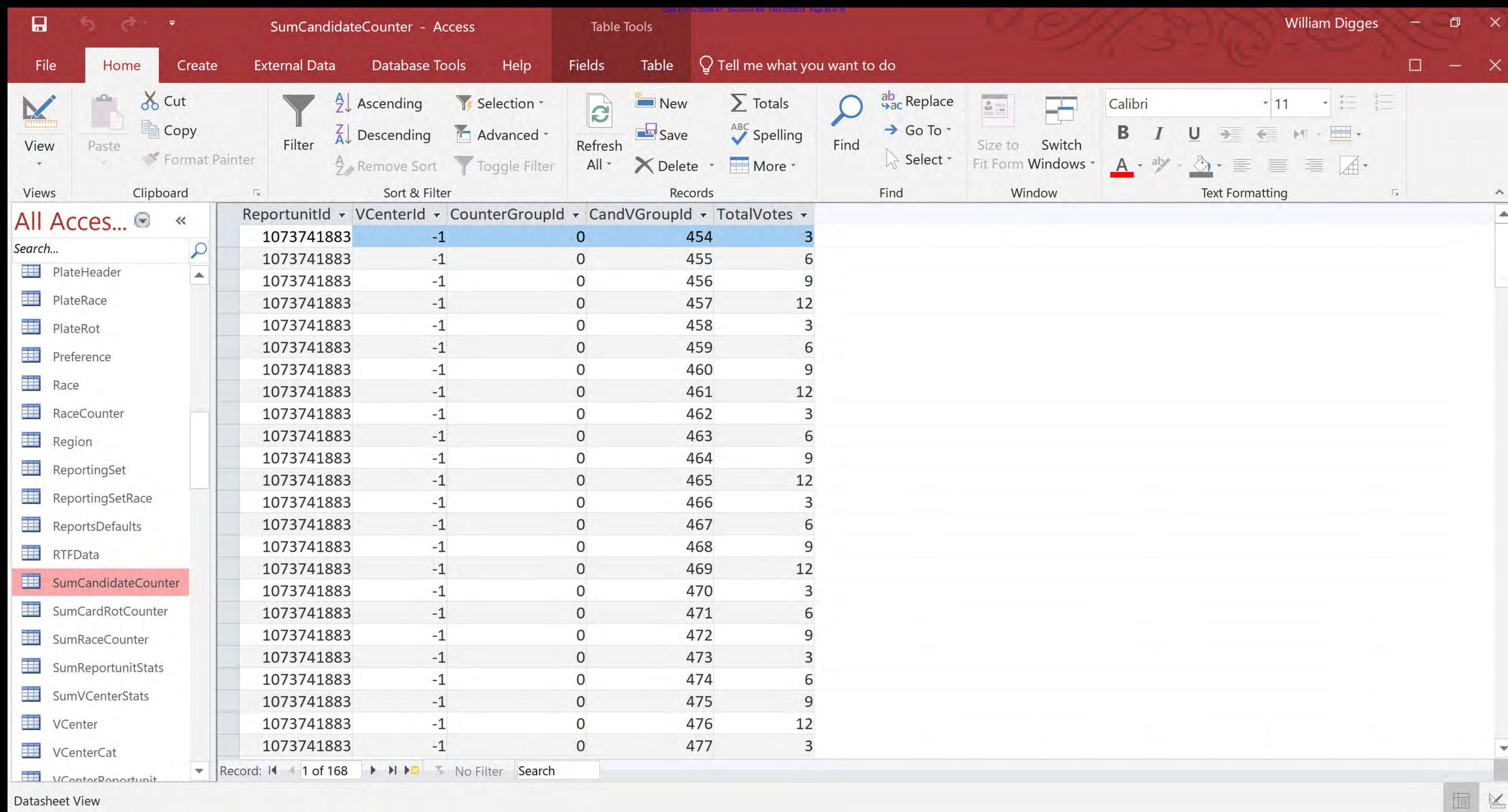


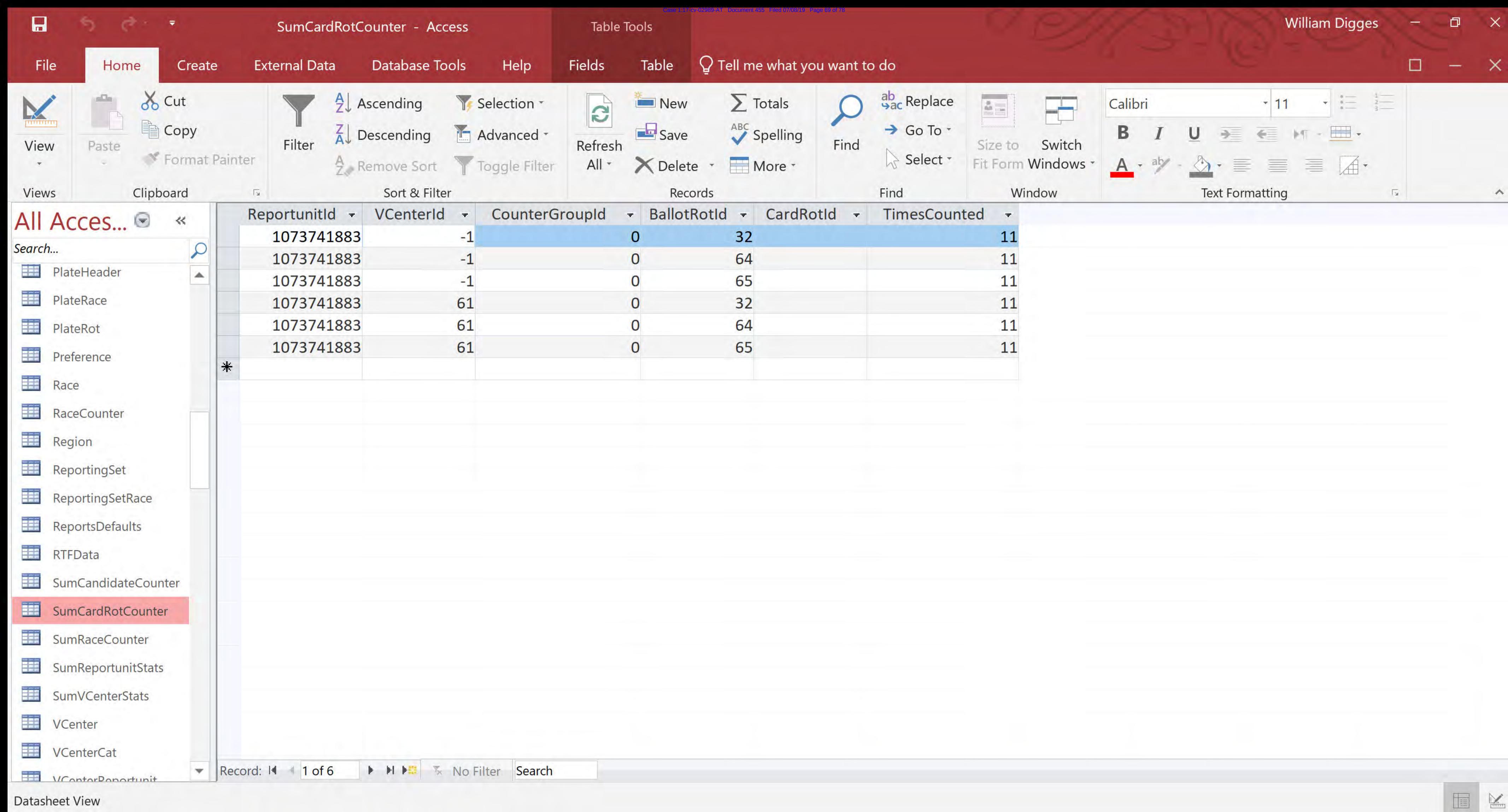


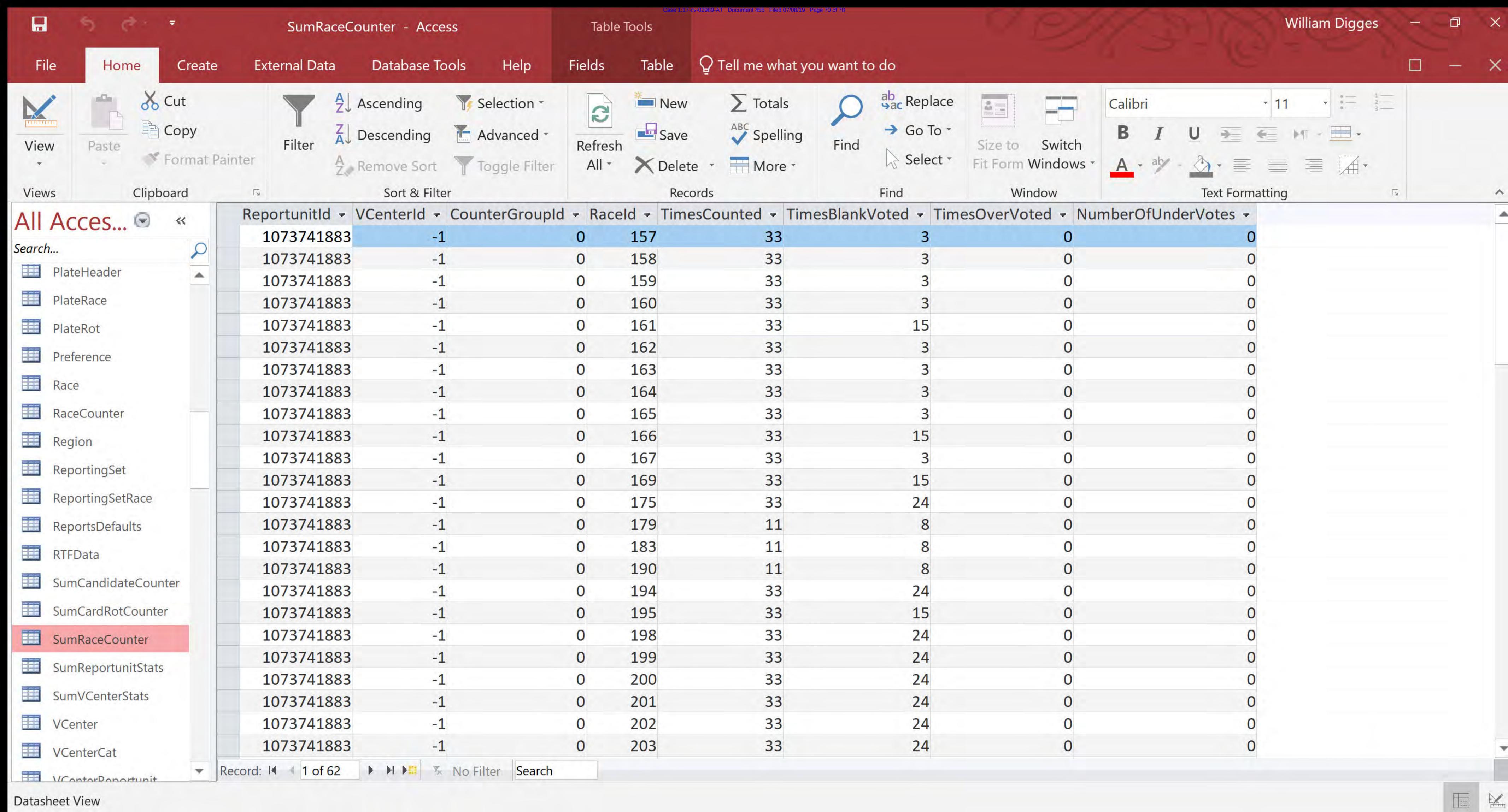


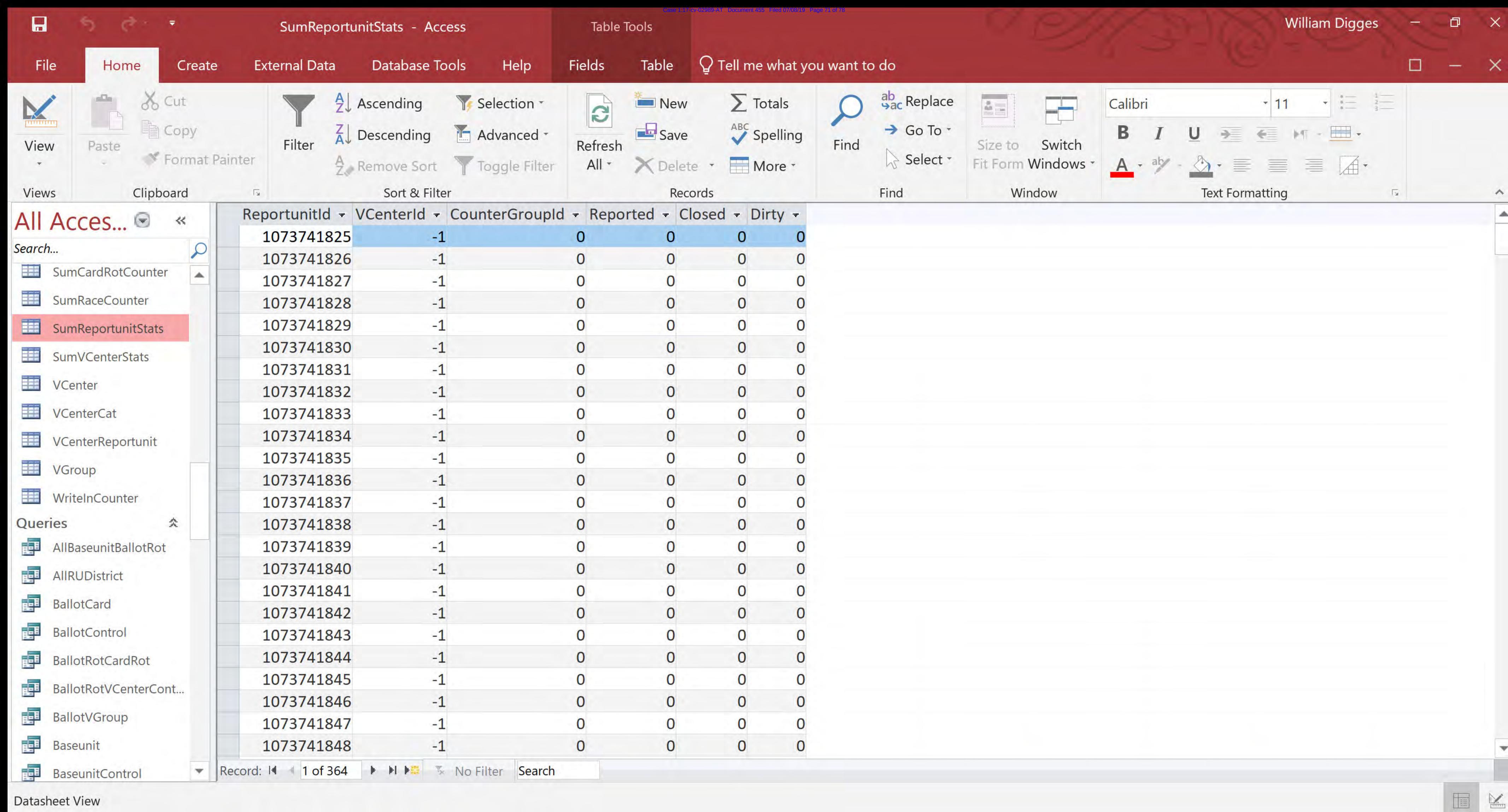


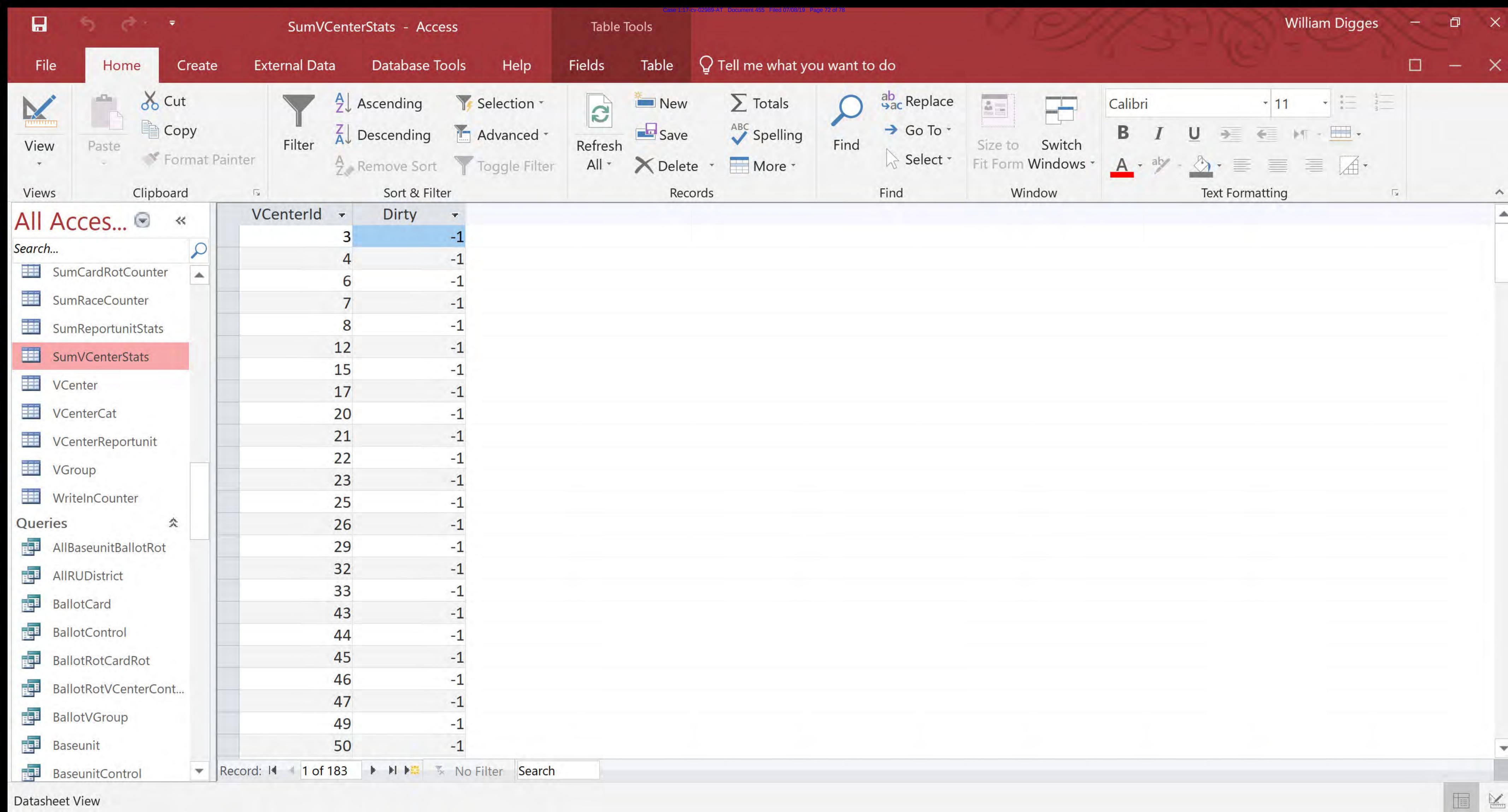


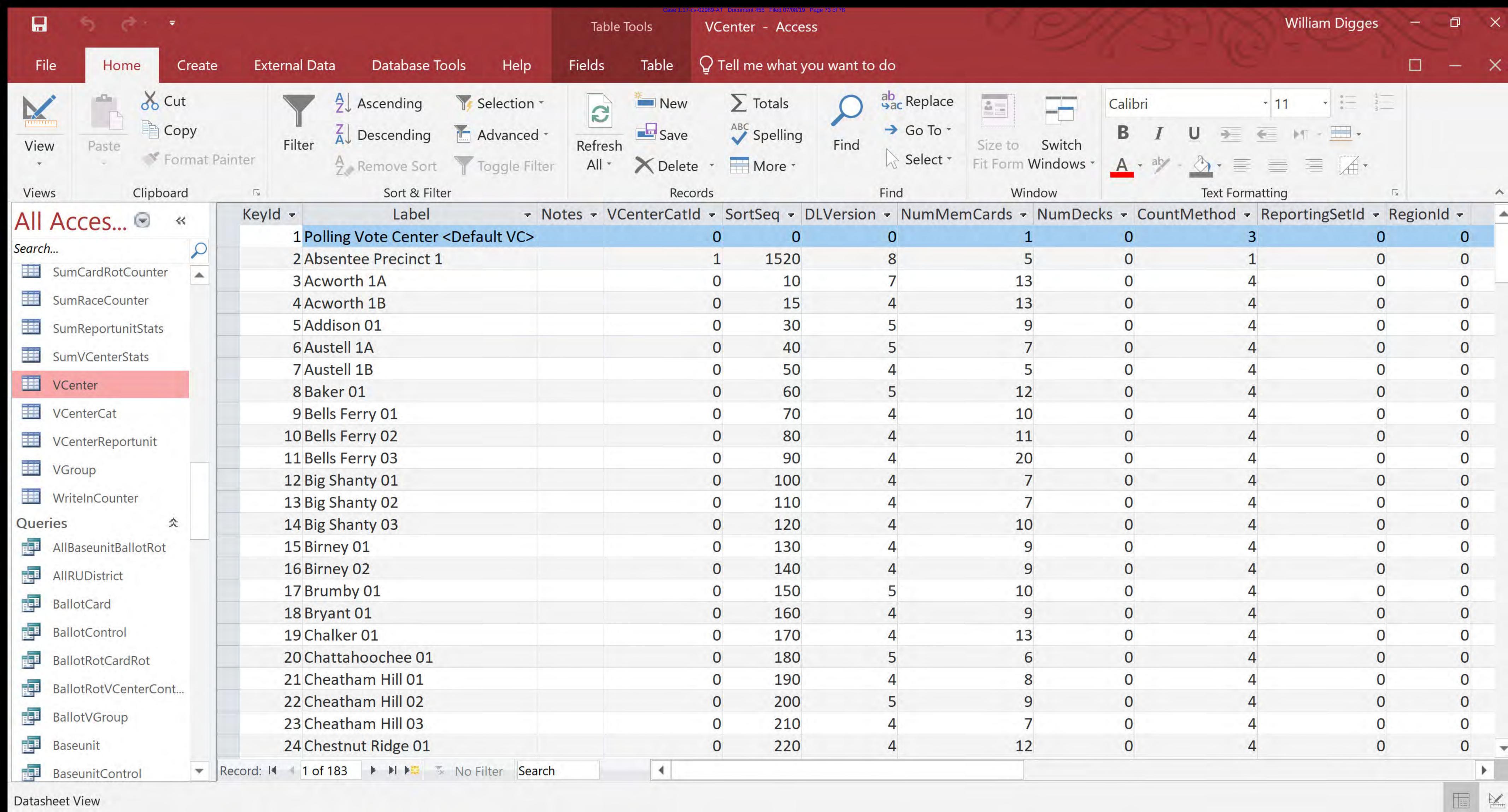


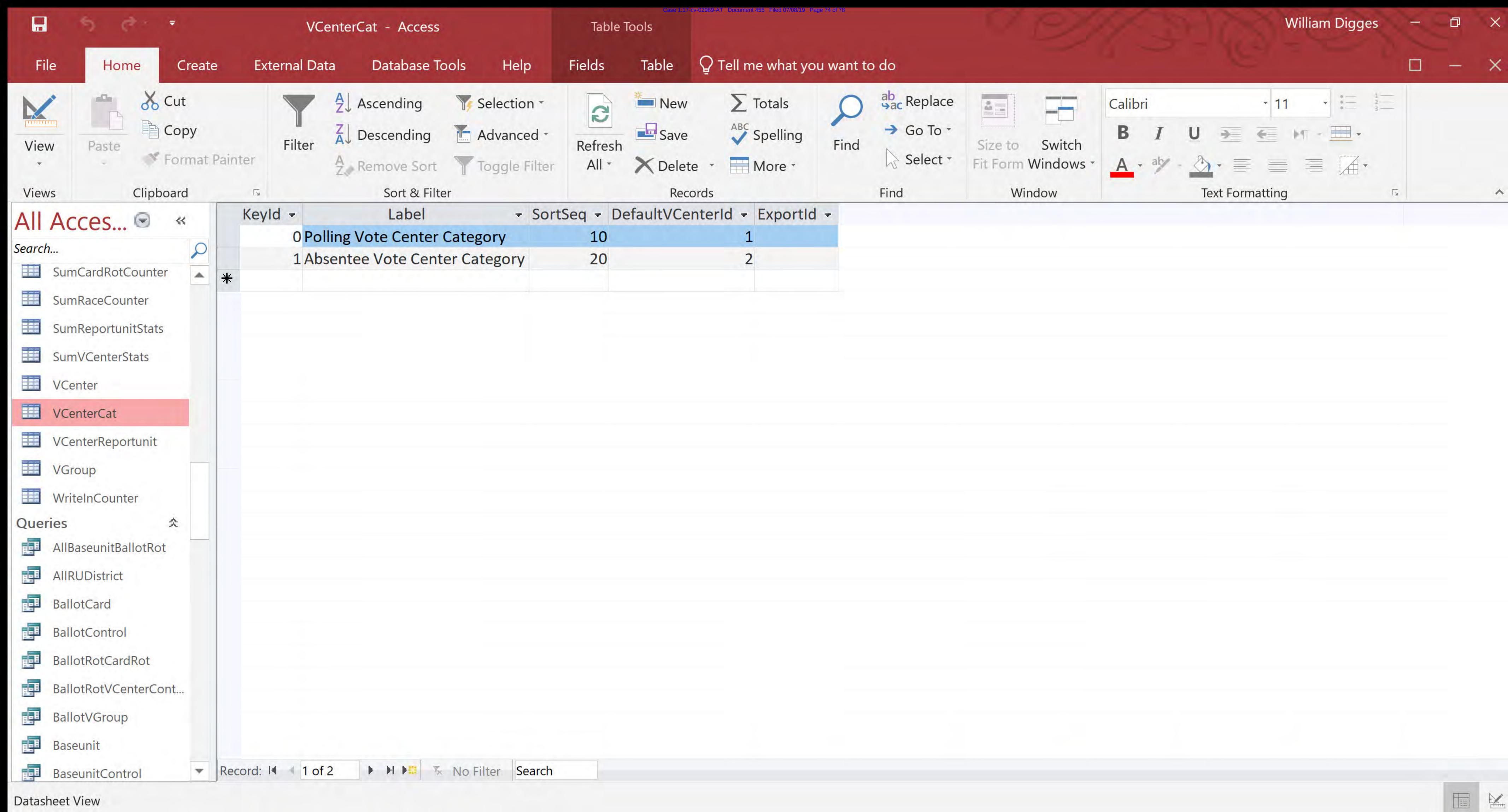


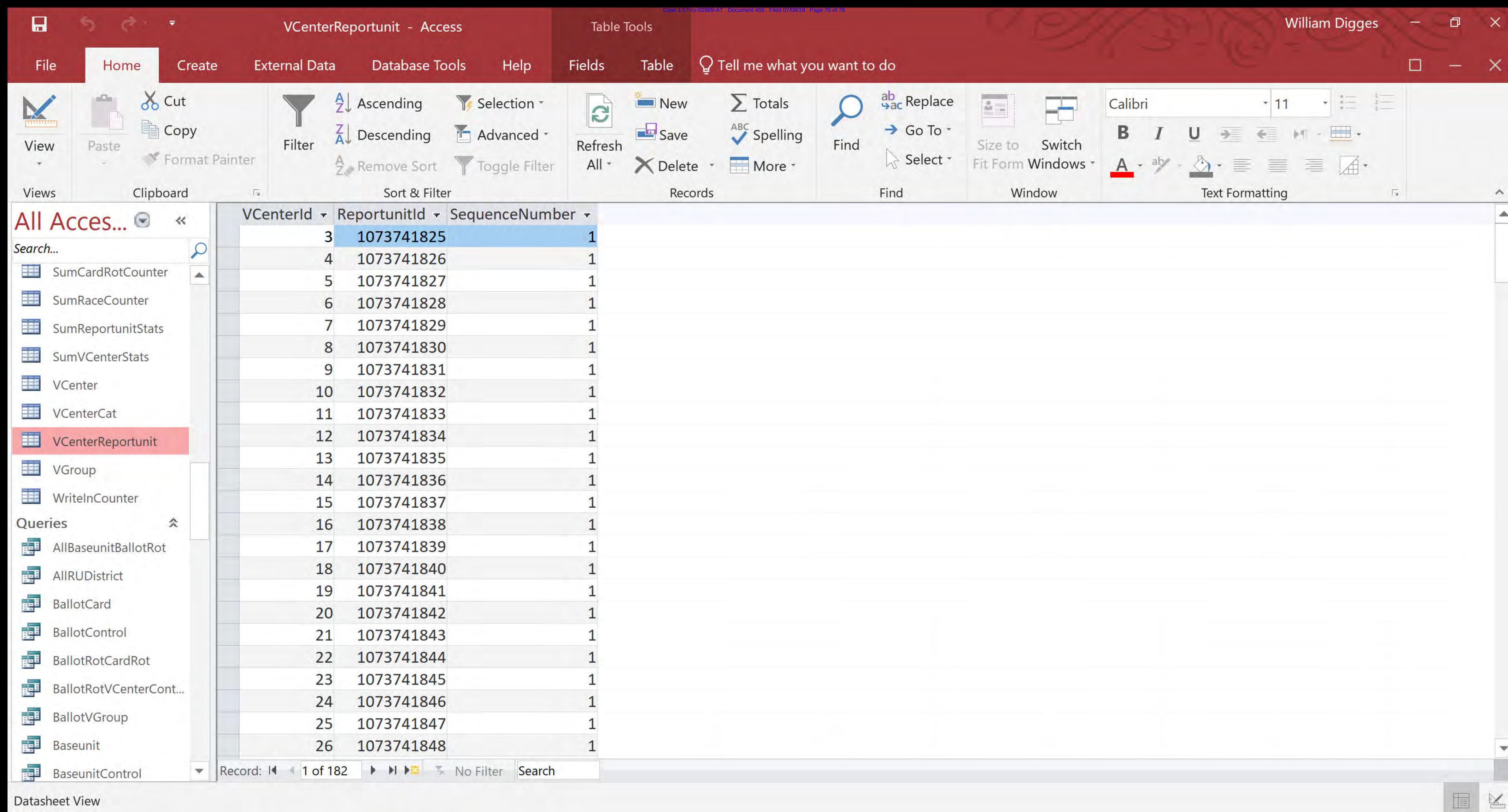


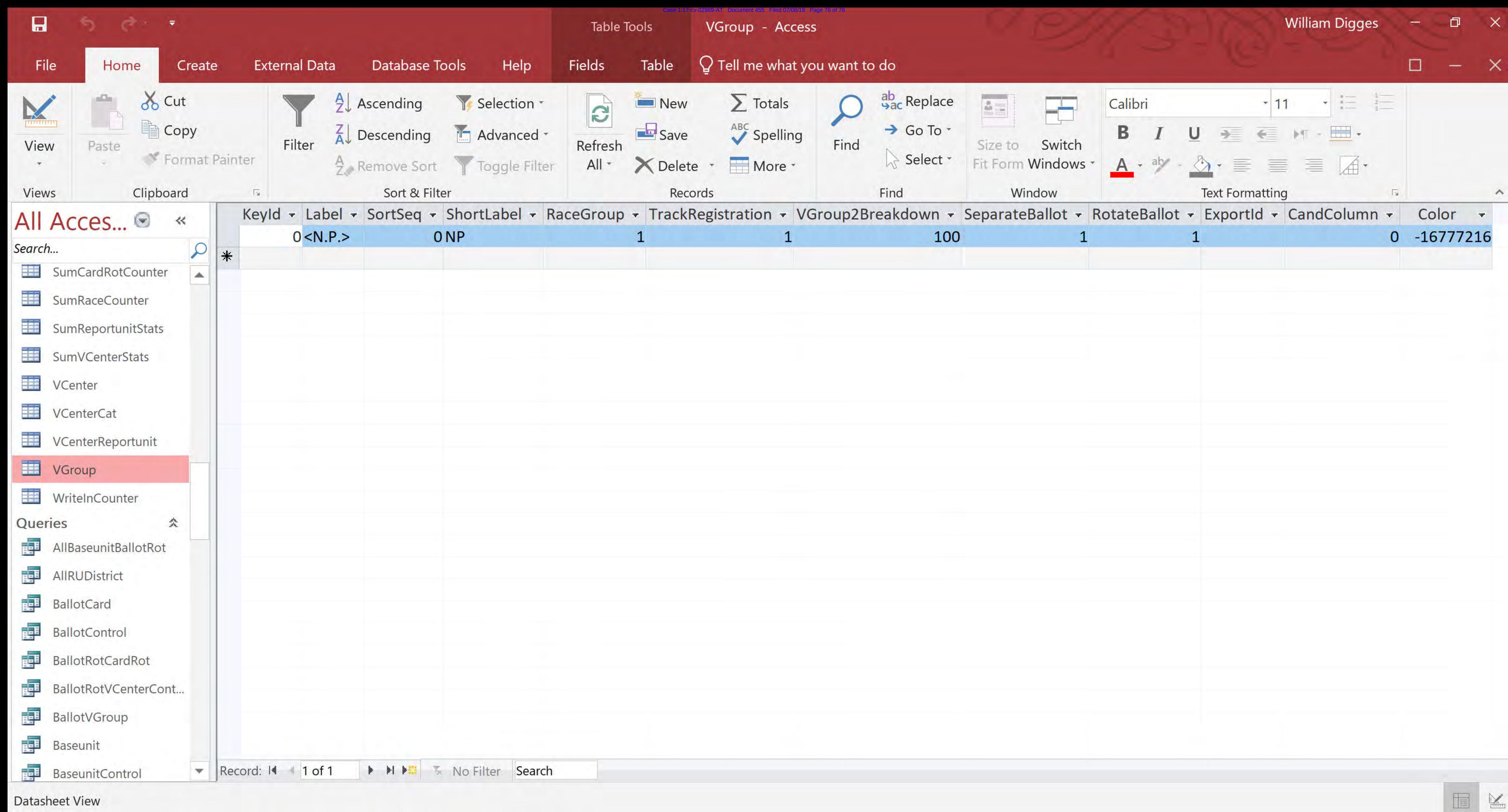


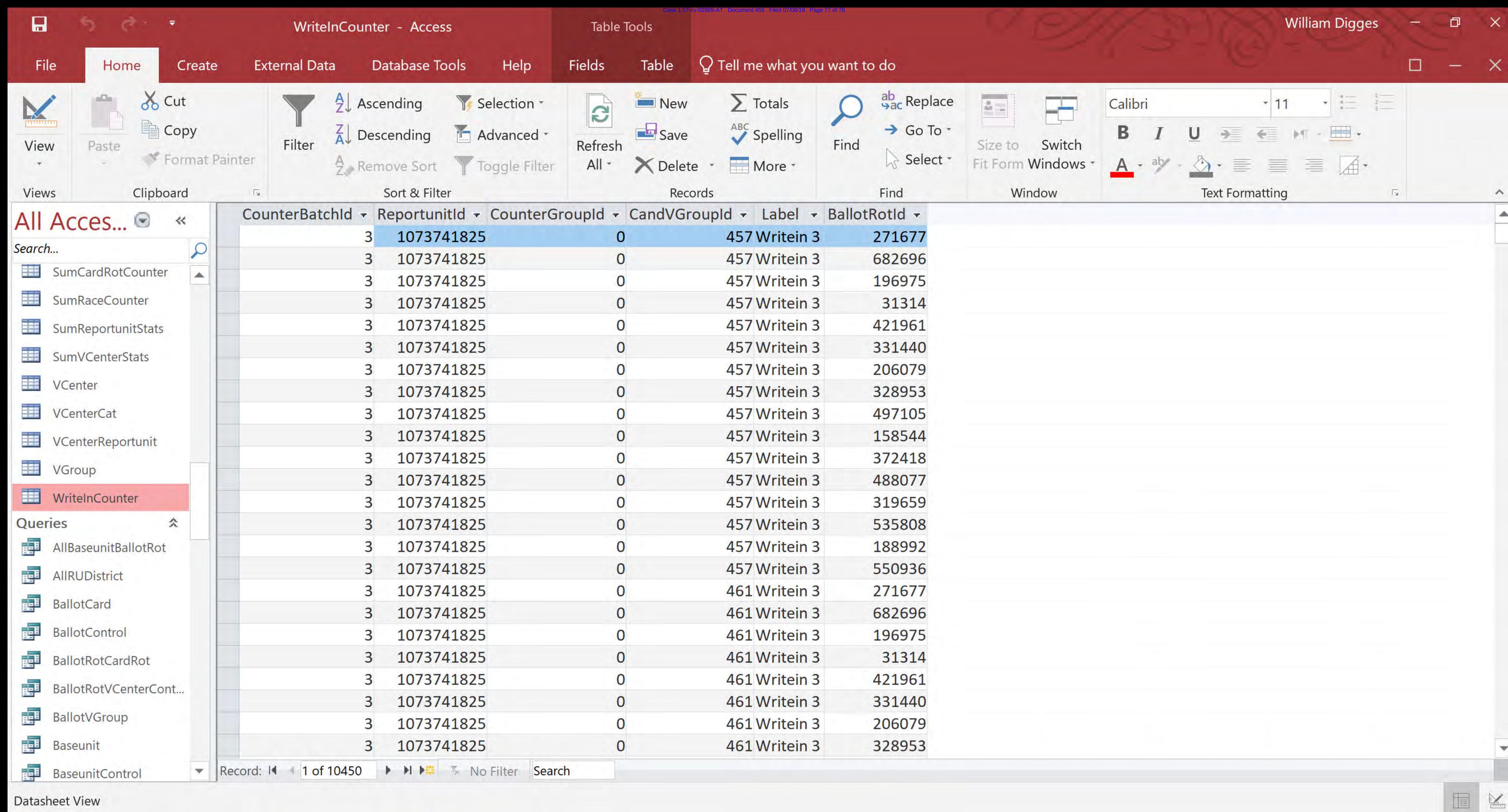












```
Precinct 90: RED Case 1:17-CY-02989-AT Document 455 Filed 07/08/19 Page 78 of 78
Ballot Id: 8 Ballot SN: 649546 Voter SN: --
30 - GOVERNOR
                                              580 - CONST AMENDMENT 3
Vote For 1
                                              Vote For 1
  [X] B. KEMP (R)
                                                [X] YES
50 - LT GOVERNOR
                                              590 - CONST AMENDMENT 4
Vote For 1
                                              Vote For 1
  [X] G. DUNCAN (R)
                                                [X] YES
70 - SECRETARY OF STATE
                                              600 - CONST AMENDMENT 5
Vote For 1
                                              Vote For 1
  [X] J. BARROW (D)
                                                [X] NO
90 - ATTORNEY GENERAL
                                              610 - REFERENDUM A
Vote For 1
                                              Vote For 1
   [X] C. CARR (I) R
                                                [X] NO
110 - AGRICULTURE COMMISSIONER
                                              620 - REFERENDUM B
Vote For 1
                                              Vote For 1
   [X] G. BLACK (I) R
                                                [X] NO
130 - INSURANCE COMMISSIONER
Vote For 1
  [X] J. BECK (R)
150 - STATE SCHOOL SUPERINTENDENT
Vote For 1
   [X] R. WOODS (I) R
170 - LABOR COMMISSIONER
Vote For 1
   [X] M. BUTLER (I) R
190 - PSC EATON
Vote For 1
   [X] R. GRAHAM (L)
210 - PSC PRIDEMORE
Vote For 1
  [X] T. PRIDEMORE (I) R
270 - US HOUSE 13
Vote For 1
  [X] D. CALLAHAN (R)
300 - STATE SENATE 10
Vote For 1
  UNDERVOTE
380 - STATE HOUSE 78
Vote For 1
  UNDERVOTE
540 - CC, D5
Vote For 1
   UNDERVOTE
550 - SOIL AND WATER
Vote For 3
   UNDERVOTE
   UNDERVOTE
  UNDERVOTE
560 - CONST AMENDMENT 1
Vote For 1
   [X] YES
570 - CONST AMENDMENT 2
Vote For 1
```

[X] YES