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20 September 2021

## EXECUTIVE SUMMARY

I have been asked to review scans and microscopic photographs of the ballots from the November 2020 election in Maricopa County, Arizona. I have identified over 23,000 ballots that were printed from an unidentified printing source other than directly from the PDF for the official election ballot.

The ballots were counted in "batches" of 200. Based on the counts, 61 batches have been found that contain a percentage of 90 or higher for one of the candidates. 58 out of 61 batches favor Biden by over 90% and 3 out of 61 batches favor Trump by over 90%. Each of these batches identified is from the Early Voting ballots, which I have been told is a random accumulation from across the area. While this 58/3 discrepancy may seem unexplainable; I would recommend a statistician to calculate the chances of a nearly even race containing such a wide discrepancy.

The total number of ballots in this discrepancy alone exceeds 10,440 in favor of Biden. (58 X 200 per batch Biden - 3 X 200 per batch Trump = 11,000)

## EXAMINATION PROCESS AND FINDINGS

Over the past nearly 30 years as a document examiner, a portion of my duties have included election cases ranging from petition matters to ballots cast. The examinations apply long recognized and accepted scientific techniques to this type of case. The common elements that can be examined are the paper type, printing process or resolution, CPS codes on color printers, impressions, ink types, similarities or differences in inks, and patterns that exist in these elements. I have testified over 400 times on findings of this type in 37 different states and 11 countries.

I had access to photos of the front and back of each ballot as well as zoomed in images from the areas of the ballot, including any places of color printing, the top right corner of the ballot, the oval for the presidential vote cast, and the calibration "bullseye" with transmitted light showing through to see the area from both sides.

I arrived in Arizona on 9 September and continued my review through the date of this report 20 September. The review is ongoing. Clearly, not every image could be reviewed in the time that I have had the access to the images.

There are two primary groups of ballots; first is the early voting (EV), these can be either the mail in type or from polling centers done before election day. The locations that these ballots are from I am told is not traceable as they were combined in a fashion that is unknown and not readily sortable. The second type of ballot is election day (ED), these ballots are largely identifiable as to the location of origin. I was further supplied with a "key" as to the locations where the election day ballots came from on each pallet and in each box.

The images are broken up by pallet and box number. This is how they were received for the imaging process and returned in substantially (or exactly) the same location.

I was also told (and in many cases further corroborated with the evidence found in the images) the following:

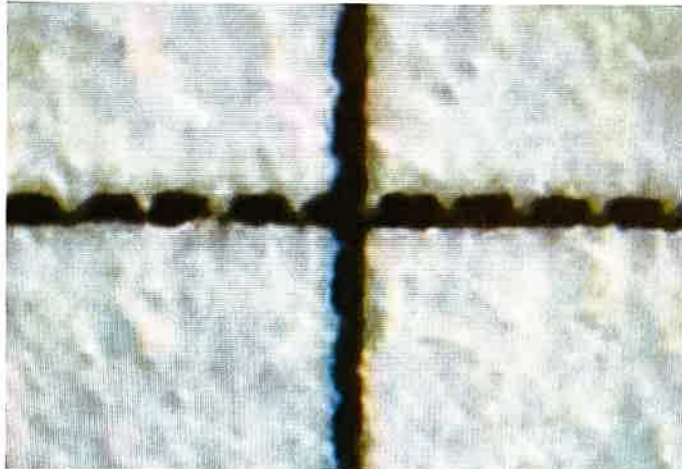
1. The election day (ED) ballots are printed on demand when a voter presents at a designated polling location. These printed ballots should all be from the official ballot PDF. The printed product in these cases should be the same.
2. In the county there are a little over 5,000 ballot configurations (English and Spanish versions makes the total number over 10,000)
3. The ballots are contained in the system that are printed on demand. These are in PDF format; I was provided the over 10,000 different PDFs to review of the ballot configurations.
4. Every polling center for Early voting and Election Day voting would need to have the ability to print a ballot on demand for any given precinct and ballot type.

Results:

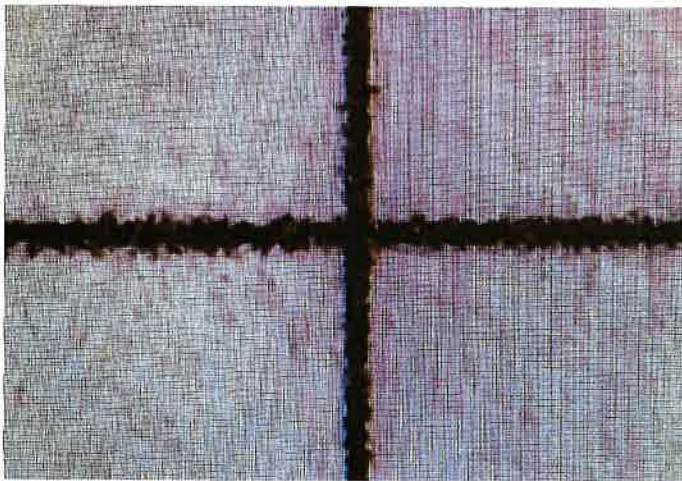
#### Printing Anomalies Found in Resolution and Degradation

As a result of only having images and selected photos, the forensic examination that can be performed is limited. It is always more desirable to have the original evidence when possible. The examination conducted used the available captured reliable evidence in the photos and images to make the findings and arrive at the conclusions.

One of the easiest characteristics that can be seen in the enlarged areas is the printing resolution. If a straight line is smooth and straight when enlarged or if that line has an irregular pattern to it. See the two photos below:



Non uniform dividing lines



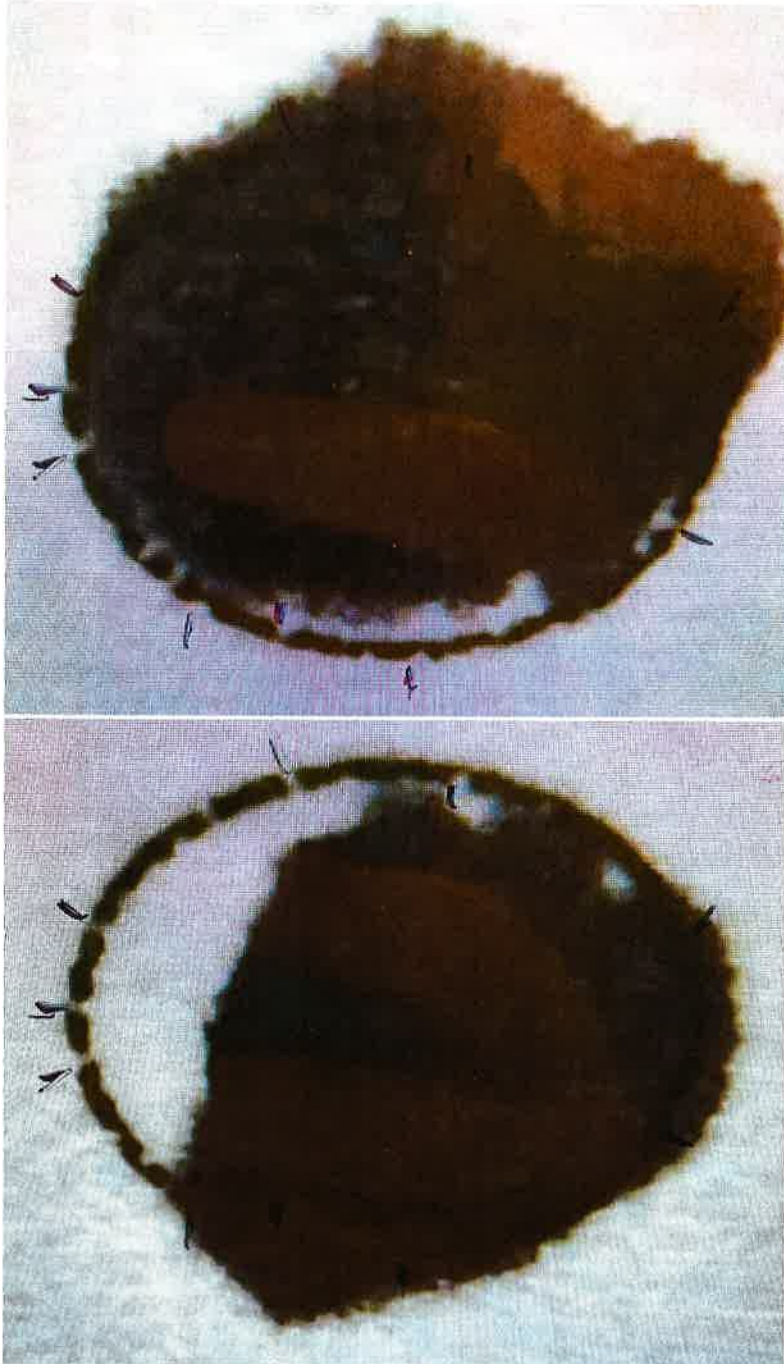
Well-formed straight dividing lines

I located many groups of Election Day (ED) and Early Voting (EV) ballots that show this type of evidence of not being printed from the “official ballot” PDF based on the line quality, areas of shading, and other printing patterns. They are different than cleanly printed ED ballots from other areas and also different from the printed mail-in ballots, both of which typically have the well-formed lines.

Further, a subset of these printing anomalies was found in several places throughout the EV ballots, but many more in the ED ballots. This subset can be identified by anomalies in the printed lines, such as the breaks in the printed ovals corresponding to a candidate. The lines in these ballots are broken in exactly the same place on the oval, even for different precincts ballots.

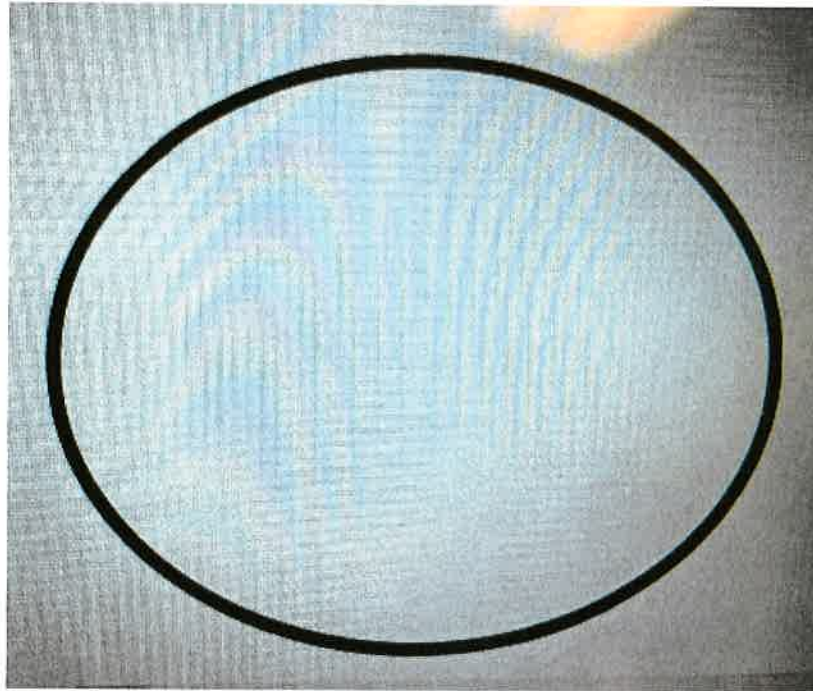
- a. A few representative “Biden ovals” are shown below. In this image, there is an acetate overlay with markings pointing to the anomalous breaks in the lines. The same acetate overlay with the same markings is placed in the examples below to show the identical nature in of these. This is strong evidence that these were not printed from the “Official Ballot” PDF that I was provided for that ballot type.





The same type of alignment of breaks or anomalies in the printed lines exist of the “Trump” ovals are found as well.

For reference, this is an oval from the PDF for the “Official Ballot” that I was provided:



At this point in my review, I have identified over 23,000 ballots with this printing defect. Based on the identical nature of the anomalies, it is my opinion that this subset of ballots originated from the same source at some point.

I then attempted to track the origin of these ballots with the printing anomalies through the information and correlation spreadsheets I was provided.

In some cases, the entire box submitted (or nearly all but a few ballots) contained the same printing defects. A few of these examples from election day (ED) ballots are:

Pallet 42 – Box 10574 – Polling location of Holiday Park School

Pallet 42 – Box 11495 – Polling location of Burton Barr Central Library

Pallet 42 – Box 12299 – Polling location of Camel Back Inn

Pallet 42 – Box 12897 – Polling location has conflicting information; either all Brophy College Prep OR Brophy College Prep AND some from Arrowhead Mall

Pallet 42 – Box 13694 – Polling location Cartwright Annex

Pallet 42 – Box 14044 – Polling location has conflicting information; either all Buckeye City Hall OR Buckeye City Hall AND some from Charles Harris School

Pallet 42 – Box 14286 – Polling location has conflicting information; either all Hi Way Baptist Church OR Hi Way Baptist Church AND some from Young Town Clubhouse

Pallet 42 – Box 15685 – Polling location correlates to only the number of ballots attributed to Annex and Chandler Commons

Pallet 42 – Box 15570 (Bag #2) – Polling location shows TG Barr School and Pendegast Community Center

Pallet 42 – Box 15645 – Polling location shows Scottsdale Plaza

Pallet 42 – Box 15673 – Polling Location shows Canyon Trails

Pallet 43 – Box 12430 – Polling location is not listed

Pallet 44 – Box 10215 – Polling location shows Scottsdale Worship Center

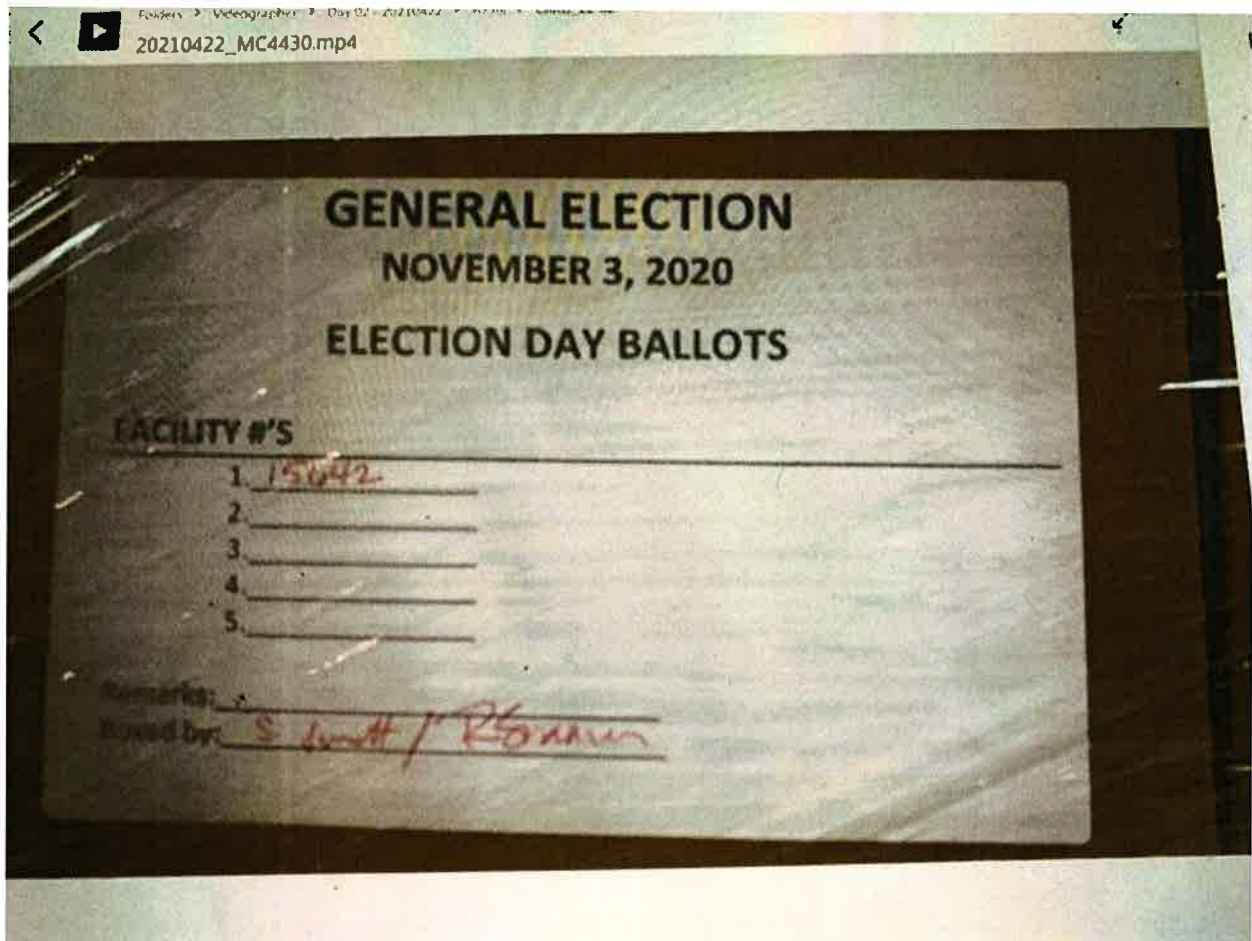
Pallet 45 – Box 11458 – Polling location of Betania Presbyterian Church

Pallet 45 – Box 15707 – Polling location shows Turf Paradise

The following show data that cannot be reconciled with the source information that I have been given:

Pallet 45 – Box 15642 – Polling location shows ASU Poly Campus

The photo as the pallet was unloaded shows that polling location as the only contents of the box as well.



When the contents of the box were examined, there are approximately 1290 ballots in the box. However approximately 550 of these contain the printing anomaly and 840 of these do not contain that anomaly. Each of these types are grouped together and consecutive.

There are examples of non-random (grouped together) early voting ballots that contain this same printing anomaly.

For example, Pallet 25 – Box 149 – There is a series of over 150 ballots in a row that contain this same printing anomaly. These could have come from a polling center that was allowing early voting. I was told the manner in which the EV was received was random including mail in ballots and was not traceable to a specific location.

Pallet 25 – Box 1413 – The first 410 ballots in the box contained this printing anomaly.

Pallet 25 – Box 204 – has approximately 1200 ballots in total, within those 1200 are just under 150 ballots interspersed throughout that contain the noted printing anomaly.

#### CPS Codes on Color Printed Ballots

When a document is created with a color laser printer/copier; the output typically contains yellow dots scattered throughout the document that can be seen using magnification. This is commonly called CPS; counterfeit protection system. The pattern of the dots can often be correlated to a specific machine and/or time printed. I can see that nearly all of the color printed ballots contain a CPS code (which is normal and expected), but I can only see a fraction of the code. From the ballot images, the code cannot be seen, only in the enlargements, and the entire code is not visible.

Over 100 of these color ballots have been located that are printed with color that do not appear to contain a CPS code. If the ballots were from the same printer on the same day, they should either all have the CPS code (which most do) or not have the code. Having some without a visible code is a forensic anomaly.

#### Summary and Discussion of Further Forensic Review

Based on the forensic findings, it is my opinion that further work and review of the ballots (or the images at a minimum) should be conducted to determine what significance these findings have on the whole of the ballots cast as well as possible statistical significance of the votes contained for a particular ballot item.

1. Review additional ballots (or images) to determine the scope and correlation of these printing anomalies. This can be done using AI and computers to read the ballots in combination with a visual examination of the images obtained.
  - a. Then to determine the origin of as many of these ballots as possible as done above.
  - b. Then to determine why each of these polling locations would have this anomaly in common, what they may have had for PDFs, files, equipment, copiers, etc. to determine why they are different than other locations.
  - c. Finally, a study of the voting pattern (if any) in these areas compared to other correctly printed ballots.
  - d. Review the precincts listed on the ballots to determine if any pattern exists there.



2. I am told that the votes were largely counted in “batches” of 200 ballots. The tabulations were sorted at my request for batches that contained over 90% of the votes for one specific candidate in the presidential race. There were 61 such batches with this vote distribution found. 58 of the batches favored Biden by 90% or more, 3 of them favored Trump by 90% or more.
  - a. This seems to be a large discrepancy to have in a 50/50 race. This may be an indication of the ballots being sorted in some manner before the counting in order to have such strings existing. In some cases, there are runs of 100 or more of a specific candidate in a row within the ballot batches.
  - b. The ballots in these batches should be examined for statistical trends by a qualified statistician.
  - c. Determine the possible source of these ballots to account for what may have happened with presorting and why that would have happened.
3. Review ballots where other anomalies may exist that were revealed in either a statistical model or the investigative stage. This is to determine if any forensic evidence exists to support or refute these other types of findings.

Possible Additional Examinations from the Original Ballots

4. If the original ballots are made available:
  - a. Look for impressions of ballots into each other. In the normal course of voting these would not be filled out one on top of each other.
  - b. Using infrared light to determine if more than one ink formulation was used to complete a ballot and which races contained different inks to see if there is any pattern of additions or not.
  - c. Review of the CPS code and yellow printed dots to determine similarities in the machines and the timing for the printing process.

A handwritten signature in black ink, appearing to read 'Erich Speckin', with a large, stylized initial 'E' and a long, horizontal flourish extending to the right.

Erich Speckin

Forensic Document Analyst