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Chuck Broerman, El Paso County Clerk  
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## **Subject: Potential BIA Pilot using AuditEngine for El Paso County**

Dear Chuck Broerman:

I hope this message finds you well. I am reaching out to you regarding the recent election in your county and Colorado, including the use of a very weak and time-consuming "risk limiting audits" to audit many very close contests.

We chatted before about our tool AuditEngine and since then it has undergone continued development. We recently completed a pilot with the state of Maryland<sup>1</sup>. We have also audited many other counties, including Volusia, Collier and Port St. Lucie Counties in Florida, Fulton, Dekalb, and Bartow counties in Georgia, Dane County in Wisconsin and Monmouth, Mercer, and Burlington Counties in New Jersey.

[AuditEngine](#) can go to a much finer detail than the RLA audits being used in Colorado, particularly since they don't audit all contests sufficiently and they certainly don't include all ballots. Our platform allows for a more detailed analysis compared to the RLA audits currently employed in Colorado. RLAs, while effective in theory, are very hard to implement in practice to actually meet risk limits in every contest. This is particularly true in off-year elections when there are many small contests. When voters are asked if RLAs include sufficient ballots, surveys find that voters feel that too few ballots are checked<sup>2</sup>.

<sup>1</sup> <https://copswiki.org/Common/M2005> -- MD Pilot Audit 20231107 Narrative Report

<sup>2</sup> [https://www.academia.edu/73350124/Voter\\_Perceptions\\_of\\_Trust\\_in\\_Risk\\_Limiting\\_Audits](https://www.academia.edu/73350124/Voter_Perceptions_of_Trust_in_Risk_Limiting_Audits) -- "Voter Perceptions of Trust in Risk-Limiting Audits" Asmita Dalela, Oksana Kulyk, Carsten Schurmann,

We have also recently developed the "cooperative workflow," where we can get our audit done and initial results after getting the ballot images within ~24 hours. Then, we compare with the CVR and provide detailed discrepancy reports also within the certification deadline.

Recent errors made in places like DeKalb County, GA, where the barcodes were wrong due to a last minute candidate withdrawal, Northampton County PA, where the voting system was not configured properly making the voter-verifiable text on the BMD swapped with the adjoining contest, would be likely caught when we do our initial configuration prior to the election. With constraints on how contest names are changed between hand-marked paper ballot and BMD ballots, we can fully automap the election with only a need to proof two sets of reports prior to the election. This puts the notion of auditing all counties practical.

We are actively seeking areas where we can apply this tool to showcase its effectiveness. In CO, we were alerted to the contest for Mayor in Arvada City, Jefferson County, with a margin of about 1%. They compared 279 samples in the entire county and only 46 in the city area. They would need to sample 695 in the Arvada City area to meet the 3% risk limit. Thus, this is not risk limiting, it is just risk calculating. In this case, the risk calculated was about 80%, i.e. only 20% confidence, and yet nothing is done to meet the designated risk limit.

Not that I blame the SOS and election officials for trying to make the amount of work to do the RLA tractable. We suggested performing a Ballot Image Audit (BIA) of Jefferson County. Harvie Branscomb suggested that Jefferson County would not be receptive but your county may be more receptive. In looking over the list of contests, only two contests would probably be sufficiently covered by the audit, and some may not have any samples drawn at all.

Please read my letter<sup>3</sup> to Jefferson County and SOS Griswold regarding the Arvada County issue and suggesting that they increase the samples taken. This will be a good example for my paper: "The Four Fatal Flaws of RLA audits"<sup>4</sup>. In this case, the fatal flaw is that they are not actually performing an RLA to avoid all the work that would be required.

Instead, the RLA audit can validate the images so RLA proponents will not be able to complain that our BIA audit can't rely on the images. Long term though, we would rather not have you do all the work to organize ballots for individual random access, and instead

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<sup>3</sup> <https://copswiki.org/Common/M2004> -- Letter to CO SOS Griswold re Arvada Mayor's Contest 2023

<sup>4</sup> <https://copswiki.org/Common/M1938> -- The Four Fatal Flaws of RLA Audits

we can scan batches of ballots using our companion app ScanEngine. By checking batches that can be aligned with results in the election, we can eliminate that (very small) weakness.

But long-term, I am working with the Internet Engineering Task Force (IETF), which is the standard body that enabled the Internet, to establish standards so the original images will be secured immediately after scanning and then it is possible to prove that the ballot image we use in our audit is the same as that originally created. This is my future vision and will further streamline the work involved.

Thus, I am approaching you to see if we can work together to showcase our solution AuditEngine in this prior election. Unlike other ballot image auditing solutions, we process all BMD ballots and we "read" the voter-verifiable text rather than any barcodes.

For a comprehensive audit, we require the ballot images, cast-vote records, and ideally, the ballot style masters. While the latter is not mandatory, it significantly streamlines the process, and is required for cooperative workflow. The obtained files can be easily uploaded to our platform, where, following some configuration steps, we leverage secure cloud resources for efficient processing. We are approved for up to 10,000 virtual CPUs in parallel.

It's important to note that after generating independent results, our system allows for a meticulous comparison of each ballot, identifying and adjudicating every issue through our online application, "AdjudiTally." We have found something amiss or at least interesting or astounding in every audit we have performed so far. The only thing missing from a pure ballot image audit is some check that the images match the paper, and the RLA audit they are already performing does that to a sufficient extent.

CitizensOversight is a 501(c)(3) nonprofit organization, and while we appreciate any funding support to cover our operational costs, our primary goal is to demonstrate the efficacy of our system. We are familiar with Dominion ballots and have successfully worked with them on many occasions.

We recognize the importance of your involvement, and we are eager to collaborate with you. Your support and any contributions towards our efforts are highly appreciated. Please feel free to reach out to me directly at [raylutz@citizenoversight.org](mailto:raylutz@citizenoversight.org) or directly at 619-820-5321 if you require any additional information or clarification.

Looking forward to your response and a constructive discussion on this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ray Lutz', with a long horizontal stroke extending to the right.

Raymond Lutz, Executive Director  
Citizens' Oversight

P.S. Happy winter solstice today!