



Beaver Creek Township Hand Count of Ballots: Review and Findings

Summary

A hand count of ballots conducted in Beaver Creek Township initially showed a different result from the tabulator result. Upon investigation and review, it was determined that the hand count was incorrect and that tabulators counted the ballots accurately. Differences in ballot design across different precincts led to a human error when reviewing ballots, with human counters most likely confusing one ballot proposal for another because of their similar placement on different ballot styles. The human error repeated over multiple hand counts but was eventually identified.

Background

Following the November 2022 election, the Clerk of Beaver Creek Township (Crawford County) supervised an informal, hand-count review of ballots tabulated in the jurisdiction.¹ The hand count resulted in vote totals for Proposals 2022-2 and 2022-3 that were different than those from the tabulator used on Election Day. Specifically, the hand count did not match the Election Day results on the totals tape printed from the tabulator or the unofficial electronic results data reported to the county from the Compact Flash cards (CF cards/tabulator media) on election night.

On Election Day, the Township reported issues with its tabulator to its voting system-support contractor (Election Source), who then took the original scanner for maintenance and replaced it with a loaner scanner, which was used for the rest of Election Day. The tabulator issues on election day are what prompted the Clerk to authorize the hand review of ballots, and because of the initial issue, both the Clerk and the Bureau of Elections (Bureau) initially believed a tabulator error may have been the cause of the discrepancy. However, after multiple reviews it was determined that in fact the hand count was incorrect and the tabulator was correct. It is not uncommon for hand counts to be off by a small number of voters because of human error, but this hand count error was larger because of ballot design issues that led human counters to mistakenly confuse votes for one proposal for another.

¹ Paper ballots must be retained by the municipal clerk for 22 months following federal elections. Paper ballots are public records and may be inspected by members of the public, although only the clerk or the clerk's authorized designee may physically handle ballots. There is no prohibition in the Michigan Election Law on a clerk reviewing paper ballots following the election, even though doing so does not constitute a formal audit (formal audits are conducted by county clerks and the Bureau of Elections and also involve hand counting ballots in randomly selected precincts).

Bureau of Elections Review

In Beaver Creek Township, the official reported election results for Proposals 2 and 3 were as follows:

<u>Proposal 2</u>	<u>Proposal 3</u>
Yes: 443	Yes: 456
No: 379	No: 371
Other: 21	Other: 17

According to the hand count conducted by the Township, the results were as follows:

<u>Proposal 2</u>	<u>Proposal 3</u>
Yes: 441	Yes: 445
No: 378	No: 379
Other: 25	Other: 20

After receiving the report of the differential in the hand count, Bureau staff visited the Township on March 1, 2023 to conduct its own hand count of ballots, using procedures modeled on those used in recounts and audits. The Bureau initially believed the most likely explanation was hand-count error, which turned out to be the case but for reasons slightly more complicated than the Bureau had anticipated. In fact, the Bureau's own first hand count of the ballots was identical to the one conducted by the Township.

During its visit, the Bureau also retrieved the poll book from the Crawford County Clerk but did not identify any potential explanations (for example, ballot duplication errors).

At this stage, the Bureau considered the possibility that some issue with tabulator or ballot settings may have contributed to the difference between the tabulator and hand tallies. On election day, tabulators had difficulties scanning some ballots, which resulted in the ICP Tabulator being replaced with a "loaner" tabulator² that also had scanning issues. On Election Day, 46 ballots were run on the initial township tabulator and the rest were run on the loaner tabulator. Election Source said that the reason the tabulator scanning issues occurred may have been because the Mylar plastic film on the scan unit became dirty from the use of gel pens by voters. It was also possible that ballot printing imperfections may have also contributed to some of the scanning problems. (See Examples 1 & 3)

On March 16, 2023, Bureau staff again travelled to Beaver Creek Township. The Bureau again reviewed the poll book provided by the Crawford County Clerk. The Bureau also reviewed other election documentation, including applications to vote, envelopes, and blank ballots. On this visit, the Bureau ran ballots through a tabulator. To tabulate ballots, the Bureau used tabulator media that the County Clerk generated using the same programming used on Election Day.

² This is the typical practice when a tabulator appears to not be functioning well on Election Day.

During the re-scan, several ballots could not be run through the tabulator due to “marginal” hand marks on ballots. Like other voting equipment, Dominion Voting Systems include a setting in which a “mark density” within a specified range is returned to the voter because it is unclear how the voter marked the ballot. Under the default setting for black ovals, the marginal range is 12 to 35 percent, meaning 36 percent and higher density marks are recognized as voter marks. Anything inside the marginal range would be returned to the voter with a message. During the initial scan, 9 ballots could not be scanned by the tabulator and needed to have results manually added to totals. Some of the ballots were able to be read on other tabulators (See Example 2).

The Bureau also reviewed Audit Log files from Election Day retrieved from County Election Management System. During this visit, the Crawford County Clerk also travelled onsite to observe the process. Test decks used for logic and accuracy testing for both ballot styles (1A and 1B) were run on the Bureau’s tabulator. Results were as expected. The Bureau tabulator produced the same Proposal 2 and 3 results as the Beaver Creek tabulator. The Bureau did note multiple ballot jams, one of which ripped a corner portion from one of the ballots (See Example 2). The unused ballot count matched the expected count.

Following the second visit, the Bureau had ruled out the following explanations:

- Ballots being altered or swapped. This was ruled out by verifying the blank ballot count – there were very few overvotes/voter corrections.
- Certain types of marks or ink not being recognized by tabulator (for example, a check mark or x, along with pencil or various color inks on ballots). This was ruled out by tabulating separately 58 ballots with issues such as this. The totals matched the expected outcome.
- Database problems or mismatches causing incorrect counts. This was ruled out because there were no database changes reported by Election Source and test decks all validated correctly.
- Machine tampering. This was ruled out when the Bureau’s tabulator produced the same results as the Township tabulator. No firmware hash validation process was performed on the township loaner tabulator in order to preserve the tabulator in its the current condition. The tabulator was securely stored in locked room with limited access at township hall. Visual inspection showed tamper evident seals were on equipment.

At this point, the Bureau did not yet know that the hand count was incorrect because the Bureau’s own hand count had matched the Township hand count.

On April 13, 2023, the Beaver Creek Township Clerk and Deputy travelled to Lansing with the ballots for additional testing. Election Source also visited Lansing to assist with operating an Image Cast Central (ICC) high-speed tabulator to be used as part of the review. The Bureau turned on the setting to record ballot images to assist in the review. The images have front and back scan of each ballot along with the machine record of which votes were counted on the ballot. All ballots were scanned on the high-speed tabulator in multiple batch sizes, and the total again matched the total from each previous tabulator count.

The Bureau then conducted an additional ballot count to once again attempt to verify the hand count. For this count, ballots were carefully sorted into “yes” and “no” piles, then put into batches of 10 ballots each. (See Example 4). Each batch was then scanned on the high-speed tabulator and the report was

generated to validate the results. Any sorting or counting errors (more than 10 or less than 10 ballots) were corrected, and batches were re-scanned. The final results matched the previous results on both previously used tabulators.

Conclusion

The high-speed tabulator scan of the carefully hand-sorted ballots confirmed that in each previous instance, the tabulator tallies were correct and the hand counts were erroneous. Although small errors in hand counts are common, the Bureau believes the larger errors encountered here – which were repeated across multiple hand counts – were due to ballot design issues specific to this precinct, which featured a precinct split leading similar looking but different contests to appear on the same physical location of different ballot styles.

Specifically, because of a school district difference, the Township ballots included the following “split”:

Beaver Creek Township, Precinct 1A	688 ballots
Beaver Creek Township, Precinct 1B	156 ballots
Total	844 ballots (<i>verified on both voter list and totals tape</i>)

A majority of the ballots were Ballot Style A, as noted above. Because the content on each ballot style was slightly different, the placement of each proposal on the ballot was shifted down and on a different location on certain ballots than other, which likely have contributed to hand counting issues when ballots were not sorted by ballot style prior to the hand count. When the ballots were not sorted by ballot style prior to hand counting, human counters looking at each ballot quickly most likely attributed a “yes” or “no” vote for one proposal when it was actually for a *different* proposal (but on a similar location on the ballot, because of the different ballot styles), leading to the difference in the counts. See Example 5.

In the final test on April 13, by contrast, the ballots were first sorted by “yes” and “no”. They were then hand sorted into batches of 10 and counted using the high-speed scanner on the ICC. The totals were also verified by batch reports. This minimized any possibility that incorrect results were achieved by a careful hand sort and then tally by the high-speed tabulator. After performing the hybrid high-speed/hand count, all parties involved are confident and accepting that the tabulator results on Election Day, which also matched the subsequent Bureau re-tabulation performed onsite at Beaver Creek Township and the hybrid high-speed count, was correct. Since ballots were separated by yes and no, to the extent there are any further questions about this conclusion, it can be confirmed by reviewing the ballots again (although such review would have to be done very carefully, looking at stacks of 10 ballots and being sure not to confuse different ballot styles as noted above).

Unlike the previous hand counts, this methodology more effectively found errors in the “yes” and “no” sorting as well as in the batch number counts, done by hand. All discrepancies were researched and validated, then corrected. As indicated above, the initial sorting may have resulted in counts for the incorrect proposal on the ballot since the position was roughly in the same place on the ballot. This would also explain why both Township and Bureau had the same incorrect number in the hand count.

Lessons Learned and Recommendations

- Ultimately, this review illustrates the benefits of using tabulators, rather than a hand-count, to tally the results of elections. Multiple groups of hand counters, including Bureau experts, made hand-count errors by not noticing slight differences in ballot styles that caused them to count “yes” or “no” votes for the wrong proposal without realizing it, an error that tabulators did not make. Even during the careful 10-ballot batch hand sort, several errors were found and corrected throughout the process – further illustrating the point that hand counting is subject to human error.
- Preventative maintenance should be performed on the original tabulator and the loaner tabulator.
- Clerks should encourage the use of Sharpies to mark ballots, which are the marking pen recommended by vendors. Sharpies have quick drying ink that will not smear, unlike gel pens. Gel pens should never be used, because ink-smearing can cause scanning problems on the tabulator (See Example 1). Here, the Clerk indicated she does encourage and provide Sharpies, but clerks cannot stop voters using their own pens in the precinct. Still, increased emphasis on encouraging the use of Sharpies could be helpful. The Bureau encourages this as well.
- Updates may be needed to the ballot secrecy sleeves used before and as ballots are fed into tabulators to help voters not to hold on to ballots as they are being pulled through the scan unit, which can cause scanning errors.

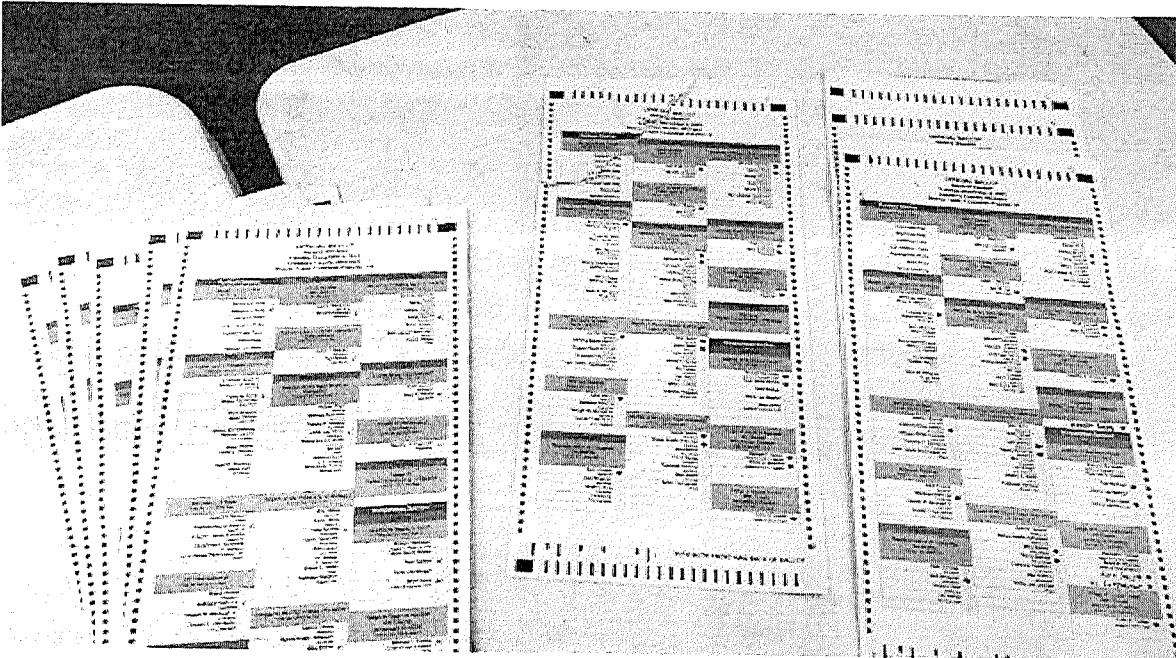
If a jurisdiction has concerns about equipment or a tabulation issues, they should contact the Bureau and ask to be put on a post-election audit or the statewide ballot audit list. Audits allow ballots to be reviewed in a publicly accessible transparent environment.

Example 1

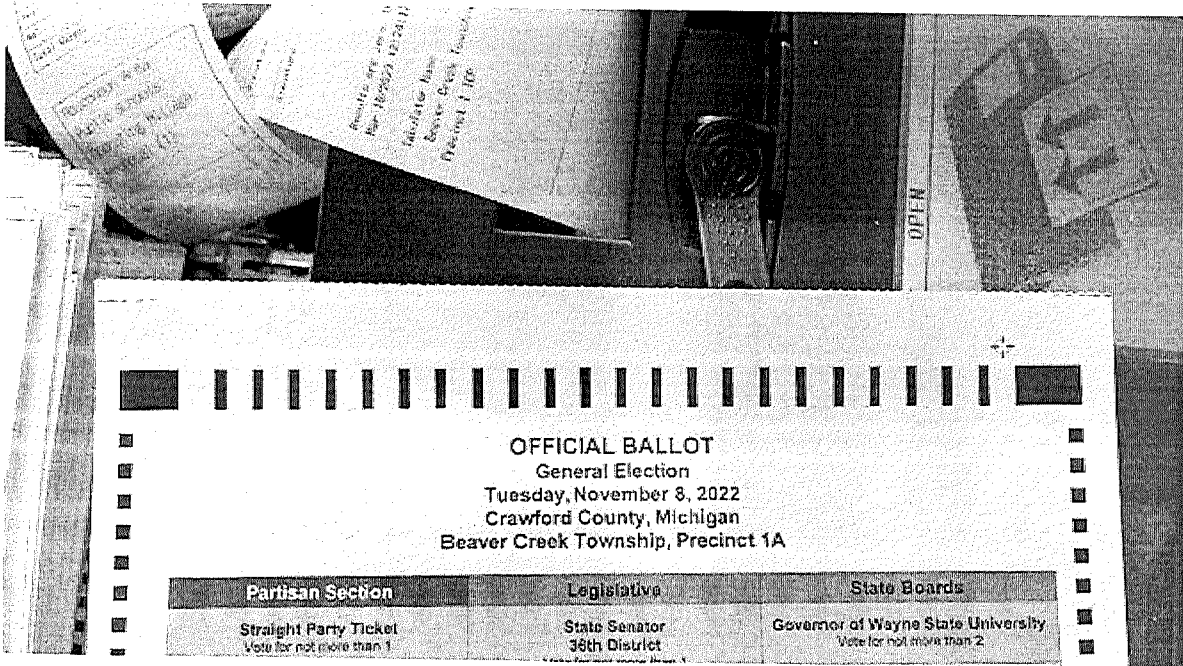
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Democratic Party <input type="radio"/>	
Republican Party <input checked="" type="radio"/>	
Libertarian Party <input type="radio"/>	
U.S. Taxpayers Party <input type="radio"/>	
Working Class Party <input type="radio"/>	Representative 1051 Vote for
Green Party <input type="radio"/>	
Natural Law Party <input type="radio"/>	
State	

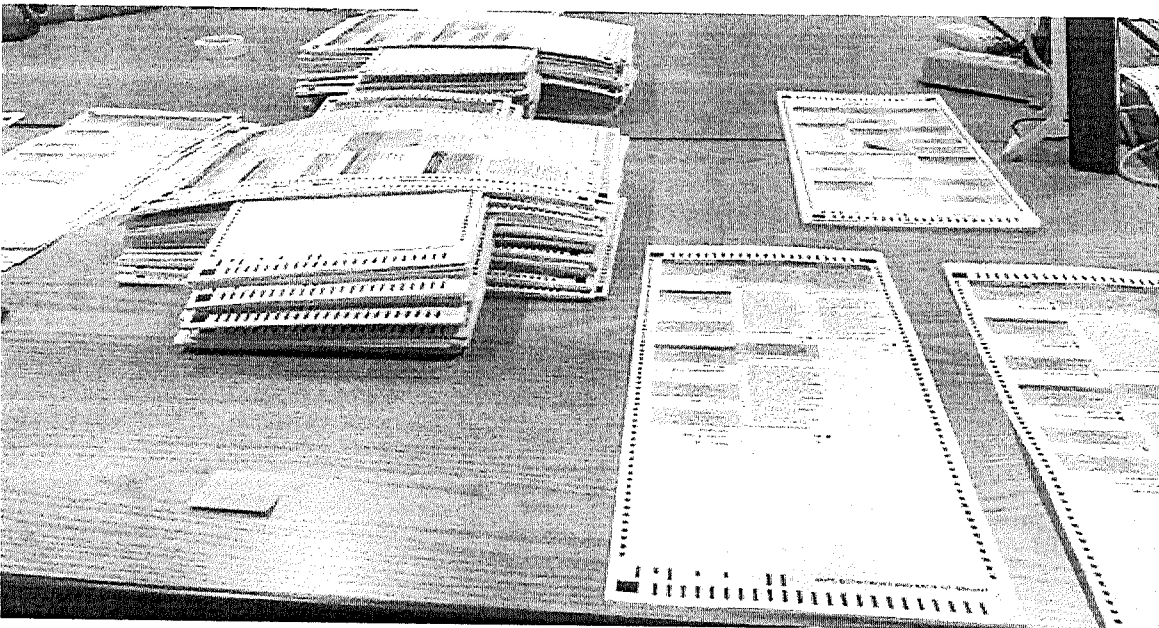
Example 2



Example 3



Example 4



Example 5

Community College	State	Local School District
<p>Beaver Creek Township Precinct 1A</p> <p>Board Member 4 Year Term Vote for not more than 1</p> <p>Yon Ribor <input type="checkbox"/></p> <p>Ray V. Spangler <input type="checkbox"/></p>	<p>State Proposal 22-1</p> <p>A proposal to amend the state constitution to add provisions regarding education.</p> <p>The proposed constitutional amendment would:</p> <ul style="list-style-type: none"> Require members of legislative, general, and other state officers and legislators and other state officers and legislators to make all decisions about property and abortion, state state to responsible attention to same safety and best preservation of individuals' personal and professional rights. <p>Should this proposal be adopted? Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>Local School District</p> <p>Board Member 4 Year Term Vote for not more than 1</p> <p>Mark Orndy <input type="checkbox"/></p> <p>Kevin Persing-Walsh <input type="checkbox"/></p> <p>Board Member 4 Year Term Vote for not more than 1</p> <p>Russ J. Plimack <input type="checkbox"/></p>
<p>Intermediate School District</p> <p>Board Member 4 Year Term Vote for not more than 1</p> <p>Eric Deussen-Walsh <input type="checkbox"/></p> <p>James S. Mangata <input type="checkbox"/></p> <p>Honey Parking <input type="checkbox"/></p>	<p>State Proposal 22-2</p> <p>A proposal to amend the state constitution to add provisions regarding education.</p> <p>The proposed constitutional amendment would:</p> <ul style="list-style-type: none"> Require members of legislative, general, and other state officers and legislators to make all decisions about property and abortion, state state to responsible attention to same safety and best preservation of individuals' personal and professional rights. <p>Should this proposal be adopted? Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>Local School District</p> <p>Board Member 4 Year Term Vote for not more than 1</p> <p>Mark Orndy <input type="checkbox"/></p> <p>Kevin Persing-Walsh <input type="checkbox"/></p> <p>Board Member 4 Year Term Vote for not more than 1</p> <p>Russ J. Plimack <input type="checkbox"/></p>

VOTE BOTH FRONT AND BACK OF BALLOT

Community College	State	Local School District
<p>Beaver Creek Township Precinct 1B</p> <p>Board Member 4 Year Term Vote for not more than 1</p> <p>Yon Ribor <input type="checkbox"/></p> <p>Ray V. Spangler <input type="checkbox"/></p>	<p>State Proposal 22-3</p> <p>A proposal to amend the state constitution to add provisions regarding education.</p> <p>The proposed constitutional amendment would:</p> <ul style="list-style-type: none"> Require members of legislative, general, and other state officers and legislators to make all decisions about property and abortion, state state to responsible attention to same safety and best preservation of individuals' personal and professional rights. <p>Should this proposal be adopted? Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>Local School District</p> <p>Board Member 4 Year Term Vote for not more than 1</p> <p>Mark Orndy <input type="checkbox"/></p> <p>Kevin Persing-Walsh <input type="checkbox"/></p> <p>Board Member 4 Year Term Vote for not more than 1</p> <p>Russ J. Plimack <input type="checkbox"/></p>
<p>Intermediate School District</p> <p>Board Member 4 Year Term Vote for not more than 1</p> <p>Eric Deussen-Walsh <input type="checkbox"/></p> <p>James S. Mangata <input type="checkbox"/></p> <p>Honey Parking <input type="checkbox"/></p>	<p>State Proposal 22-4</p> <p>A proposal to amend the state constitution to add provisions regarding education.</p> <p>The proposed constitutional amendment would:</p> <ul style="list-style-type: none"> Require members of legislative, general, and other state officers and legislators to make all decisions about property and abortion, state state to responsible attention to same safety and best preservation of individuals' personal and professional rights. <p>Should this proposal be adopted? Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>Local School District</p> <p>Board Member 4 Year Term Vote for not more than 1</p> <p>Mark Orndy <input type="checkbox"/></p> <p>Kevin Persing-Walsh <input type="checkbox"/></p> <p>Board Member 4 Year Term Vote for not more than 1</p> <p>Russ J. Plimack <input type="checkbox"/></p>

VOTE BOTH FRONT AND BACK OF BALLOT