

Date: 6/9/2021

Analyst: Jeff Lenberg

Subject: Central Lake Township Ballot Reversals Make Ballots Impossible to Count, Helena Township 21% Ballot Reversal Rate, 20% Higher Reversal Rate for Republican voters and Mancelona Late Night Ballot Processing

Executive Summary

In Central Lake Township, there was an eighty (82) percent reversal rate that drastically exceeded the rate across the rest of the precincts in Antrim County. Forensic examination of the tabulator log file indicates that there were modifications made to the ballots outer markers that led to the specific ballots being reversed by the ICP tabulator. Sixty (60) percent of the reversals are attributed to tampering with a subset of ballots. Those tampered ballots are never actually counted because they always reverse, and therefore never record votes. This irregularity is cause for investigation into the changes that occurred with respect to the ballots originally cast in Central Lake Township. It is not possible to investigate or evaluate the ballot processing in Central Lake Township for the election day on November 3, 2020 because those files were not stored on the EMS, not provided in any other forensics data from Antrim County, nor provided during discovery by the defendants.

Given the fact that the Central Lake Township ballots were re-processed on November 6, 2020 (three days after election day), this high reversal rate indicates an intentional injection of these tampered ballots in order to overshadow the ambient reversal rate of twenty percent. Similarly, in Warner Township on October 21, logic and accuracy testing (LAT) was performed prior to the election. The Warner Township logs from the LAT indicate precisely the same ballot tampering issue that was noted in Central Lake Township on November 6, 2020. It appears that despite a striking number of reversals occurring during the LAT in Warner Township before the election, no steps were taken to address the detected issues to ensure it did not also occur in Central Lake Township on November 6. The purpose of the LAT is to determine if there are any extant issues with the “logic” and “accuracy” of the Dominion Voting Systems equipment. The fact that this LAT occurred after normal business hours and did not result in actions to fix the errors indicates that intentional manipulation of ballots and voting systems occurred.

There was a substantial level of ballot reversals of approximately twenty-one (21) percent in Helena Township and a higher rate of thirty-five (35) percent on average across Antrim County during the November 3, 2020 general election. A ballot reversal occurs when a ballot is not accepted by the Dominion ImageCast Precinct (ICP) tabulator, the ballot is drawn into the ICP, scanned, and then it is “reversed” and returned back out the front to the user that fed it into the system, no votes are recorded when this occurs.

The Antrim County configuration for ballot reversals simply rejects the ballot and returns it to the poll worker for reprocessing. It is unclear how each poll worker dealt with the reversals; however, the log data indicates that when the ballot reverses it was immediately fed into the ICP again for reprocessing, and in the vast majority of cases the ballot is accepted on the second or third attempt. Based on this assumption, the ballot reversals in Helena Township disproportionately impacted Republican voters twenty (20) percent more in comparison to Democrat voters. This is normalized for the percentages of Republicans and Democrats that are present in the voter rolls for Helena Township.

In Mancelona Township, there was evidence of long runs of continuous ballot feeding into the ICP warranting additional investigation. This is anomalous in and of itself because typical voting day behavior is aperiodic input of ballots as voters complete their ballots. The Mancelona Township behavior demonstrates an attempt at feeding of ballots approximately every 11 seconds for almost 4 hours straight interrupted by a high rate of reversals, late into the night after the polls officially closed. The continuous feeding of ballots ended just after midnight.

Details

Central Lake Township 82% Reversal Rate

The extremely high rate of reversals of 82% was calculated for Central Lake Township. This reversal rate occurred on November 6, 2020 several days after the general election on November 3, 2020. At the time of the reversals being recorded in the log file the Antrim County clerk was reprocessing ballot from election day in order to properly account for the votes that had been impacted by manipulation days earlier during the election. It is unclear exactly who was responsible for the reprocessing of the ballots for Central Lake Township on November 6, 2020.

The same errors were also discovered in Warner Township where logic and accuracy testing (LAT) was occurring on the evening of Oct 20, 2020 starting at 5:14PM ET. The LAT was concluded at 7:18PM ET taking place entirely outside normal business hours. During the course of LAT there were a total of 256 ballots successfully processed with 283 reversals during the LAT. There is a one hundred-ten percent (110) reversal rate during LAT. Given the extremely high reversal rate, the technician performing the LAT should have taken measures to fix the fundamental issue that was causing the reversals. There are no records that indicate any measures were taken to fix the tabulator nor were appropriate steps taken to avoid the same problem reoccurring during the November 6, 2020 reprocessing of the votes from Central Lake Township.

Forensic analysis of the slog.txt file for Central Lake Township show there are specific irregularities found on outer markers on the physical ballots. The external markings along the edges of the ballots showed modification on blocks 15, 18, 28, 41, and 44. These irregularities were found on both the right and left side of the

ballots. The physical ballots and the associated blocks around the perimeter of the ballot were tampered/modified, with either a pen, or some other marker to distort the shape of the block and make the ICP reverse the ballot instead of processing it normally. Experimentation with ballot folding and processing has determined that different error codes are generated if the folding causes distortion of the outer markers, these are distinct from the ones observed in this scenario. More specifically, folding may generate errors that the marker is “missing,” the observed errors are for markers that are oversized.

The error messages that were found in both Warner and Central Lake Townships are similar and are depicted in Table 1 (Warner) and Table 2 (Central Lake) showing the raw error messages for the modifications to the ballot outer markers on the ballots.

Table 1 – Sample Errors from Warner Township Oct 20, 2020 Logic and Accuracy Testing from Compact Flash Card slog.txt

Date/Time	Action	Alert	Information
Oct 20/2020 17:14:21	ScanVote	Warning	+ error, correlateMarker inputs: xx(0,1120) yy(1133,44)
Oct 20/2020 17:14:21	ScanVote	Warning	+ error, correlateMarker findPattern
Oct 20/2020 17:14:21	ScanVote	Warning	+ error, left marker#18, rectangle height, detected 35, expected 24
Oct 20/2020 17:14:21	ScanVote	Warning	+ failed correction, left edge marker#18, pattern match, percent=0.0 rc=51484
Oct 20/2020 17:14:21	ScanVote	Warning	+ error, left edge marker#18 on top side not found.
Oct 20/2020 17:14:22	ScanVote	Warning	+ error, Front page grid problem
Oct 20/2020 17:14:22	ScanVote	Warning	+ Ballot format or id is unrecognizable.
Oct 20/2020 17:14:24	ScanVote		Ballot has been reversed.

Table 2 - Sample Errors from Central Lake Township November 6, 2020 Compact Flash Card slog.txt file

Date/Time	Action	Alert	Information
Nov 06/2020 09:33:20	ScanVote	Warning	+ error, correlateMarker inputs: xx(0,1069) yy(1082,41)
Nov 06/2020 09:33:20	ScanVote	Warning	+ error, correlateMarker findPattern
Nov 06/2020 09:33:20	ScanVote	Warning	+ error, left marker#18, rectangle height, detected 33, expected 24
Nov 06/2020 09:33:20	ScanVote	Warning	+ failed correction, left edge marker#18, pattern match, percent=0.0 rc=51484
Nov 06/2020 09:33:20	ScanVote	Warning	+ error, left edge marker#18 on top side not found.
Nov 06/2020 09:33:21	ScanVote	Warning	+ error, Front page grid problem
Nov 06/2020 09:33:21	ScanVote	Warning	+ Ballot format or id is unrecognizable.
Nov 06/2020 09:33:23	ScanVote		Ballot has been reversed.

Replicating the Reversals in Warner and Central Lake Township

The error found in both Warner and Central Lake Townships logs was recreated by taking a pristine ballot and adding to the outer blocks with a pen, changing the shape of the blocks. Modifying or tampering with the ballot in this fashion creates the same error messages observed in the logs for both Warner and Central Lake Townships.

See the Figures below to note the modification of the ballots that create the errors seen in both Townships. This testing shows that the modifications create the same error messages as found in both Warner and Central Lake Townships.

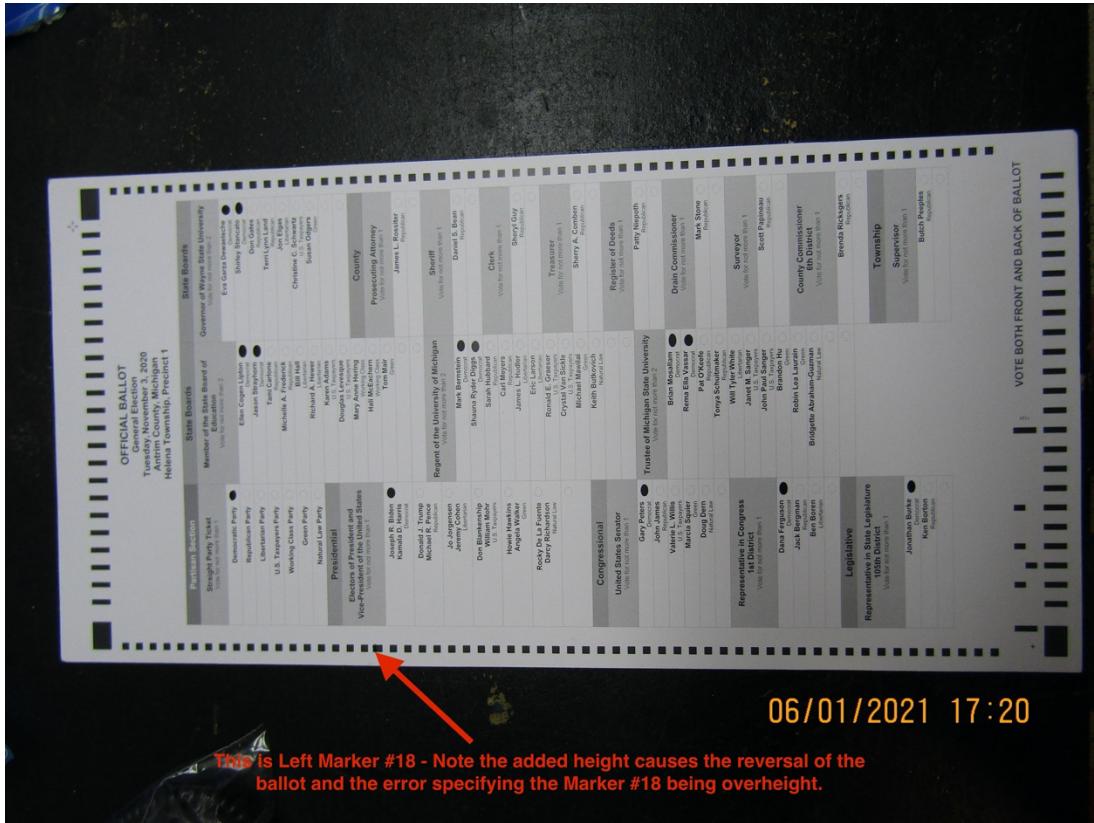


Figure 1 – Overview of Ballot with Left Marker #18 Modified to Cause Reversal

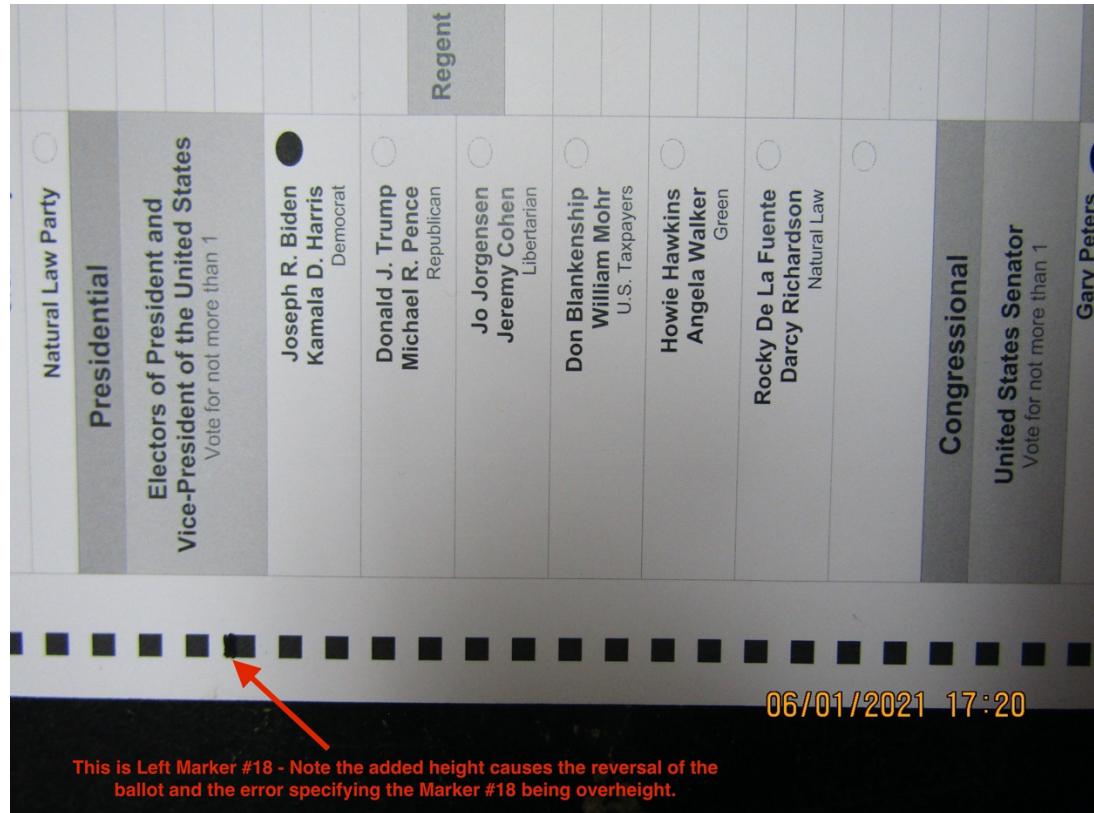


Figure 2 - Close-up of Ballot with Left Marker #18 Modified to Cause Reversal

Helena Township Ballot Reversals

Helena Township experienced ballot reversals during the November 3, 2020 general election at a level of approximately twenty-one (21) percent reversal rate. The reversal rate of the ballots in Helena is lower than most precincts in Antrim County with the exception of Central Lake Township which had an extremely high reversal rate during the election near eighty (80) percent.

Table 3 - Reversal Rates for Antrim County Precincts

Compact Flash Card for Nov 3, 2020	Total Votes	Reversals	Reversal Rate %
CF01_CentralLake_2 ¹	1491	1222	82.0
CF03_Mancelona_11_11	1138	329	28.9
CF05_Mancelona_11_12	913	302	33.1
CF07_Echo_5	602	223	37.0
CF09_MiltonAV_13	1184	45	3.8
CF11_Milton_13	640	360	56.3
CF13_ForestHome_7	1390	134	9.6
CF15_Banks_1	1129	399	35.3
CF17_Helena_8	746	159	21.3
CF19_Jordan_9	573	231	40.3
CF21_Warner_16	228	158	69.3
CF23_Custer_4	776	157	20.2
CF26_Kearney_10	1240	51	4.1
CF27_TorchLake_15	1006	266	26.4
CF30_Chestonia_3	296	149	50.3
CF31_Star_14	635	410	64.6
CF33_ElksRapid_6	1423	201	14.1
CF35_ELKS_RapidAV_6_100	634	245	38.6

The reversal rate in Helena Township has been found to have disproportionately impacted Republican voters in comparison to Democrat voters based on the votes recorded directly in the results file from the ICP tabulator.

In Helena Township the reversals impacted Republican voters twenty (20) percent more often than Democrats in Helena Township. This indicates that the ICP was reversing Republican voters ballots more often. Forensic examination of the log file from ICP indicates the reason for the reversal being the ballot exceeding the maximum size allowed, error code 46022. The other error code was 46023 which indicated a scanner transport error. The same error codes were provided when rejecting both Republican and Democrat ballots, but nevertheless, the Republican

¹ Central Lake Compact Flash Card was from November 6, 2020 reprocessing

ballots were disproportionately affected. This expert report supersedes the previous preliminary expert report on Helena County filed on 5/18/2021.

Table 4 - Example Reversal Errors from Slog.txt file from Helena Township Compact Flash Card

Date/Time	Action	Information
Nov 03/2020 07:13:41	ScanVote	Actual scanning of ballot failed with error [46022].
Nov 03/2020 07:13:41	ScanVote	Ballot's size exceeds maximum expected ballot size.
Nov 03/2020 07:20:26	ScanVote	Actual scanning of ballot failed with error [46023].
Nov 03/2020 07:20:26	ScanVote Audit	Scanner transport error.
Nov 03/2020 07:27:07	ScanVote	Actual scanning of ballot failed with error [46023].
Nov 03/2020 07:27:07	ScanVote Audit	Scanner transport error.
Nov 03/2020 07:29:10	ScanVote	Actual scanning of ballot failed with error [46023].
Nov 03/2020 07:29:10	ScanVote Audit	Scanner transport error.
Nov 03/2020 07:29:26	ScanVote	Actual scanning of ballot failed with error [46023].
Nov 03/2020 07:29:26	ScanVote Audit	Scanner transport error.
Nov 03/2020 07:29:47	ScanVote	Actual scanning of ballot failed with error [46023].

Mancelona Township Precinct 1 After-Hours Ballot Processing

Mancelona Township Precinct 1 ICP poll closed 12:21AM on November 4, 2020. At 8:33PM ET individual voters stopped voting and remainder of election night votes were fed into the machine an attempted rate of approximately 11 seconds per ballot.

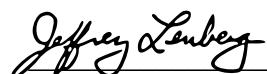
The ICP is rated to process approximately 1200 ballots in the four-hour timespan from the end of in-person voting to the closure of the ICP for presumably absentee ballot processing. The reversal rate was slowing the process substantially and the poll workers should have been able to finish in 1 hour of time vice 4 hours, but the reversal rate was impeding their ability to complete their duties.

At 8:47PM ET, the ICP in Mancelona Precinct 1 was shut down after a series of jams and restarted at 8:50PM ET and continued to process ballots from where the tabulator left off.

It is unclear why there were 313 ballots processed at the end of the election night long after the polls had closed for the night. What is certain is that the ballots processed in Mancelona Precinct 1 were done so in a methodologic fashion one right after another. The results files on the EMS reflect ballots processed late into the night.

The precise nature of the 313 ballots that were processed after the polls closed to individual voters is unknown. Additional discovery is necessary to discover which ballots were processed until 12:21AM on November 4, 2020.

Under the penalties of perjury, I declare that I have read the foregoing report and that facts stated in it are true.



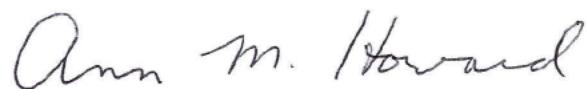
Jeffrey Lenberg

MICHIGAN NOTARY ACKNOWLEDGEMENT

State of Michigan
County of Oakland

The foregoing instrument was acknowledged before me on this 9th day of June, 2021 by Jeffrey Lenberg.

Notary Public Signature:

A handwritten signature in black ink that reads "Ann M. Howard". The signature is fluid and cursive, with "Ann" and "M." on the first line and "Howard" on the second line.

Notary Printed Name: Ann M. Howard
Acting in the County of: Oakland
My Commission Expires: 2/24/2023