



LOGIC AND ACCURACY TEST (LAT)
State Primary Election
May 28, 2024

Planned Schedule:

- Tuesday, May 28th 10:00am – 5:00pm (Conduct the LAT)
-

Common acronyms:

- **CVR:** Cast Vote Record
- **ICC:** Image Cast Central (Scan Station also referred to as Tabulator)
- **ICX:** Image Cast X Ballot Marking Device (BMD)
- **RTR:** Results Tally and Reporting (Tabulates results and generates voting reports)

Storage of personal items (designated area)

- The following items are prohibited in the scan room: Personal belongings, cameras, recording devices, memory devices, laptops, food, or beverages.

AGENDA

1. Introduction and Overview
 - Test board selects ICC and ICX for testing.
2. Test board verifies all seals on equipment
3. Ballot marking and tally
 - One (1) packet of 25 ballots provided to each Testing Board member
 - Vote test ballots
 - Create a team tally (2-person process) using the tally sheet
4. Tally sheets reviewed for accuracy by BOCO staff
 - Inspected for damage or improper markings
 - Testing board makes any needed corrections prior to voting ICX ballots
5. Image Cast X (ICX) Test (Ballot Marking Device)
 - Mark and print all Testing Board ballots using the ICX including at least one ballot using:
 - Audio ballot playback and accessible input devices
 - Spanish language option
6. Scanner Test (Mail and In-Person ballot counting device)
 - Take manually marked and ICX marked ballots to scanner
 - Process ballots on scanner in separate batches
 - Adjudicate ballots as needed
 - Tabulate and verify results against team tally
7. Prepare Testing Results (optional attendance)
 - Create cumulative result comparisons for ease of use during LAT board review
 - Collect, organize, and complete test documentation



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8. Resetting and sealing of equipment
 - Reset and seal ICX equipment
 - Reset Scan Stations
 - Reset Results Tally and Reporting (RTR)
9. Completion of testing
 - Review test information and results
 - Complete Statement of Qualification
10. Secure storage of all LAT material and ballots



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GUIDELINES FOR OBSERVERS AT THE LOGIC AND ACCURACY TEST

- The LAT test shall be open to representatives of the political parties, the press, and the public to the extent allowable and pursuant to section (CRS 1-7-509(2)(b)). The designated election official may limit the number of representatives from each group because of space limitations. (Rule 11.3.2(b)).
- Each major political party, minor political party, ballot issue committee that has an issue on the ballot, and coordinating entity may designate one person, who shall be allowed to witness all public tests and the counting of pretest votes. (CRS 1-7-509(2)(b))
- If an observer or designee hinders or disturbs the test process, the designated election official may remove the person from the test area. An observer or designee who has been removed from a public test may be barred from future tests. (CRS 1-7-509(2)(b))
- The absence of observers or designees shall not delay or stop the public test. (CRS 1-7-509(2)(b))
- The election official will provide name tags and badges to all participants and observers. Participants and observers are required to sign-in to enter our ballot processing area. A copy of the LAT Information Packet will be available for observers.
- The Logic & Accuracy Testing will take substantially all the Elections staff time and resources today. Therefore, any questions should be directed to Stephanie Gnoza, Elections Director, or her designee.



Requirements of the LAT

Preparation:

- ✓ The county has prepared a test deck that includes every ballot style and precinct in the election.
- ✓ The county test deck includes a mark for every vote position for every candidate, overvotes, and undervotes for each contest. It also includes write-in candidates when applicable.
- ✓ The county test deck includes ballots printed from a ballot-on-demand printer that will be used in the upcoming election and commercially printed ballots.
- ✓ Testing Board is comprised of one registered elector from each major political party.
- ✓ Testing Board members are registered in Boulder County and have been sworn in as election judges
- ✓ 25 test ballots have been provided to each Test Board member and are clearly marked “TEST”
- ✓ Test ballots were marked using the instructions printed on the ballot.
- ✓ Testing Board created and retained a record of the tally on a tally sheet.
- ✓ Each type of voting device and each type of ballot is represented in testing.
- ✓ Appropriate number of devices were made available for the test.
- ✓ Testing Board members have randomly selected the machines to test.

ICX Test (Ballot Marking Device):

Testing Board members completed the following:

- ✓ Used at least one ICX to mark and print 25 ballots in the same manner the Testing Board member manually marked their test ballots (aside from overvotes)
- ✓ Marked at least one ballot using audio ballot playback and accessible input device

Scanner Test (Ballot counting device):

Testing Board members completed the following:

- ✓ Verified the zero-report generated on the scan stations
- ✓ Observed the separate counting of county and Testing Board’s test ballots on at least one scanner. This may be done at the same time if the board requests it.

Tabulation:

Testing Board members completed the following:

- ✓ Verified the zero-report generated from RTR before tabulating
- ✓ Observed the separate tabulation and result report generation of all test ballots

Comparison:

Testing Board members completed the following:

- ✓ Verified that the results reports exactly correspond to the Testing Board member’s predetermined tally of the votes
- ✓ Verified that the county test deck results report exactly corresponds to the county’s predetermined tally of the votes
- ✓ Observe the investigation into any discrepancies and sign off on the finding behind the discrepancy.



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Storage of test materials:

- ✓ All test materials were secured in a sealed metal cage when not in use
- ✓ Each Testing Board member verified the seals and initialed the chain-of-custody log
- ✓ If records were opened for inspection, at least two election officials verified the newly attached seals and initialed the chain-of-custody log

Completing the test:

- ✓ Test result files have been exported for Election Night Reporting and Risk Limiting Audit purposes
- ✓ The county has backed up the election project containing test results, including test results and CVR files
- ✓ Testing Board watched the county reset and seal each voting device, if applicable
- ✓ Testing Board and Clerk verified the documented seal number attached to each voting device

Statement of Qualification:

Testing Board and Clerk signed a written statement attesting to:

- ✓ The qualification of each device successfully tested,
- ✓ The number of the seal attached to the voting device at the end of the test,
- ✓ If applicable, any problems discovered, and
- ✓ Any other documentation necessary to provide a full and accurate account of the condition of a given device.



Logic and Accuracy Test (LAT) Testing Board Procedures

Purpose of LAT (CRS 1-7-509 and SOS Election Rule 11):

The purpose of the LAT is to test the compatibility of the election ballots through the scanning and tabulation equipment to confirm that every voting position on the ballot is accurately counted where a properly marked selection is made.

Testing Board member responsibilities:

- You will be participating in all parts of the LAT, ensuring all requirements are met.
- You will attest to this at the end of the process and document the successful completion of testing.
- No process shall be delayed due to the absence of a Testing Board member.



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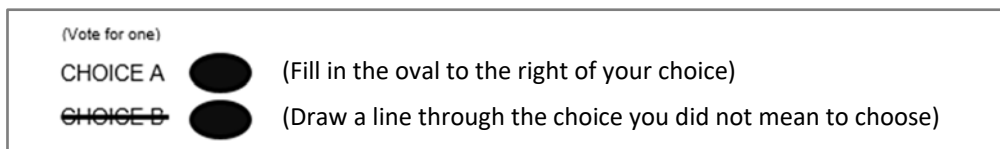
Ballot Marking:

The county has provided a packet of test ballots to each Testing Board member that includes 25 unique precinct district style ballots.

This is in addition to the ballots prepared to fulfill the county test deck requirements.

1. Confirm the number of ballots, verify they are all labeled “TEST” and are numbered at the top, 1 through 25 for the Testing Board.
2. Each Testing Board member has a support team member. The Testing Board member may enlist the help of their team member in marking their ballots.
3. Mark your ballots following the “Instructions for voting” printed on the ballot.
 - Use the pen provided and fill in the oval completely; no X or V.
 - Voting for more than the maximum number of allowed choices is considered an Overvote and will not be counted.
 - Voting for less than the maximum number of allowed choices is considered an Undervote.
4. How to correct a mistake:

NOTE: Ballots that are damaged or improperly marked will be reviewed and/or rejected prior to the scanner portion of testing. Catching and correcting a mistake immediately prevents delays in testing later.



5. If a mistake (wrong choice, stray mark, hesitant mark) is made in a contest that you did not intend to vote, request a replacement ballot from staff.
6. Write-In votes: For this election **there are no Write-In candidates**
7. When finished marking your paper ballots, organize your ballots in sequential order (1-25 in upper right corner).
8. Notify staff that you are ready to create your tally.



Creating the tally:

Testing Board members are to use the provided tally sheet.

- Sheet 1 will include columns to capture votes for ballots 1 through 12, totals for Sheet 1, totals for Sheet 2, and the Grand Total (tally) for each contest option.
- Sheet 2 will include columns to capture votes for ballots 13 through 25, and totals for Sheet 2.

On each sheet of the tally sheet, follow this procedure to create a tally for your test ballots:

1. Print both participant names on the first page of your tally sheet and initial subsequent pages.
 - This document will be available to the public so please do not add your signature.
2. Starting with ballot #1 and using the provided line rulers, Person A reads aloud the ballot number recorded in the top right corner while Person B verifies this on the tally sheet.
3. Person A reads aloud each contest name and contest selection made, indicating any voting marks that are outside the prescribed voting instructions.
4. Person B will record the selections read aloud by Person A on the manual verification worksheet by making a slash mark for the appropriate contest option read and will make notation of any abnormal markings as indicated.
 - If a contest has not been voted, a slash mark must be recorded in the “Undervote” row for that contest.
5. When all ballots have been recorded, trade roles to verify the accuracy of the tally sheet, noting and resolving any discrepancies found.
6. For each tally sheet, add up the selections for each contest option and record this number in the applicable Total field.
 - It is extremely important to validate each other’s calculations.
7. Transfer tally Sheet 2 Totals to Sheet 1 in the column labeled “Sheet 2 Total,” and add the totals from Sheet 1 and Sheet 2 together to create the Grand Total (team tally). Calculators are provided.
8. After verification has been completed, organize your ballots in sequential order (1-25 in upper right corner) and give your tally sheet to an election support staff member.
9. Support staff will make a copy of the tally sheet. The copy should be reviewed by team members to confirm it is accurate.
 - Support staff then enter the tally sheet into the electronic cumulative manual verification spreadsheet.



ICX Test (Ballot Marking Device):

The ICX is a Ballot Marking Device (BMD) that visually displays or audibly presents ballots and allows voters to print a paper ballot. An ICX BMD also provides voting accessibility to voters who may be otherwise unable to mark a paper ballot privately and independently. It includes an audio ballot playback feature with headphones and can accept adaptive devices for voters with mobility impairments.

1. Record which ICX you are testing in the upper right-hand corner of the tally sheet.
2. Bring your test ballots to the selected ICX where you will:
 - Mark and print all 25 test ballots on the ICX in the same manner you manually marked the test ballots.
 - Confirm that the ballot style, contests, and selections on the ICX review screen match the paper ballot prior to printing (overvotes reflecting as a blank/unvoted contest).
 - Verify that the ballot style, contests and selections printed from the ICX match the paper ballot (overvotes reflecting as a blank contest).
 - Validate the ICX audio and screen content for at least one manually marked test ballot.
3. Marking a ballot using the audio ballot playback and accessible input device:
 - Person A
 - ✓ Listens to audio instruction and uses accessible input device (paddles) to make ballot selections.
 - Person B
 - ✓ Verifies that the ICX selection made matches the manually marked ballot selection.
4. Before printing the ballot, verify that the ballot style, and choices displayed on the ICX Review Screen match the manually marked ballot selections.
5. Once printed, verify the ballot style, and selections of the ICX printed ballot and, attesting that the ICX ballot matches the manually marked test ballot.
6. In the upper right-hand corner of the ICX ballot, write in the ballot number that coincides with the manually marked ballot used for testing (1, 2, 3).
7. Overvotes on ICX:
 - Hand marked ballots are used for the ICX portion of voting, which does not allow for overvotes. Since all ballots are to be marked in accordance with the voter instructions, there should be no overvotes. You are encouraged to verify the ICX does not allow you to create an overvote.



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Scanner Test (Mail and In-Person paper ballot counting device):

An ICC scan station is designed to capture an image of a voter's paper ballot, process the image of that ballot and capture the voter's choices.

This test ensures properly marked choices are being accurately captured and recorded; we want to make sure that a choice for Candidate A is being recorded as a vote for Candidate A, and not Candidate B and that there is compatibility between the ballots (proper printing and alignment), and the equipment.

An adjudication station provides for the resolution of voter intent as prescribed by the Colorado Secretary of State. Ballots that have been over voted will be flagged and adjudicated per state guidelines.

1. Before the start of any scanner testing, the Testing Board will verify the zero report at each ICC, confirm that the Total Ballots Accepted on the scan screen is set to zero, and verify that there are no batches listed in the Batch Reporting section of the ICC Status screen. They will also verify the zero report and zero count on the RTR tabulation system at this time.
2. Testing Board ballots (manually marked and ICX marked) are brought to the selected ICC scan station. Record the ICC station ID in the upper right-hand corner of your tally sheet and check that the Batch Size on the scan screen is zero.
3. Testing Board ballots are then processed on the scanner and votes captured.
 - Each set of test ballots are scanned in and saved, to capture and process ballot images.
 - Scan count is validated by the team
 - Applicable ballots are adjudicated if needed following state rule and guidelines.



Scanner results tabulated and verified:

The RTR application tabulates vote records to produce combined election results. This process confirms that votes are accurately tabulated and aggregated by the scanner and tabulation system.

1. Before starting the scanner test, the RTR Election Summary Report showing “0” votes cast is presented to the Testing Board for verification that the system has been set to zero. They also verify that no batch results have been received in RTR.
 - Both team members initial and date the report, documenting that it has been verified.
2. After tabulation, reports will be generated for the isolated tabulation of the Testing Board’s ballots.
 - A separate Election Summary Report is generated for manually marked and ICX marked ballots.
3. The team compares the results report to their team tally sheet validating that the results produced by the scanner exactly corresponds to the team’s predetermined tally of the manually marked and ICX marked test ballots.
4. When the team concludes the counts to be accurate, both team members initial and date the results report, attesting to the accuracy of the count and the machine.

Discrepancy resolution (in order of escalation):

1. Review for entry and recording errors
 - Review tally sheet for too few or too many votes captured
 - Review ballots with tally sheet for incorrect recording and recount if needed
 - Review Adjudication and Audit Marks for resolution differences (if applicable)
 - Review comparison and recount if needed
2. If error is identified as a hardware or software error on single device
 - Validate other tested equipment was not impacted
 - Mark device unsatisfactory, replace and test alternative/new device
3. If error is identified on more than one device and devices are failing in similar fashion
 - Test multiple devices that could reasonably have same error
 - Mark devices unsatisfactory, replace and test alternative/new devices
 - If enough resources are not available for replacement, error shall be corrected, and retesting will be completed
4. If error is identified as a software or ballot programming error
 - Alert staff for correction
 - Correct software or ballot programming error and restart testing from beginning



County Test Deck on Scanners:

The county is required to prepare a test deck of ballots that includes every ballot style and, where applicable, precinct. The county test deck must include a sufficient number of ballots to:

- Mark every vote position for every contest, including write-in candidates
- Allow for situations where a contest permits an elector to vote for two or more positions
- Include overvotes skipped ranking, duplicate ranking and undervotes for each contest where applicable

In addition to the packets provided to the Testing Board, the county has prepared a deck and tally (tally sheet) that meets the above requirement.

As is required for the Testing Board ballots, the county ballots are counted on one or more scanners, adjudicated, and then tabulated for comparison against the county tally. Results are then generated and provided to the testing board, where the testing board then verifies that the results exactly match the pre-determined tally.

Reporting and back up :

When all individual results have been verified, the county will generate a Cumulative Election Summary Report that includes all tested ballots. The reports will be reviewed with the Testing Board at the end of the LAT.

1. All team tally sheet and machine count data is entered onto the Cumulative Results Comparison spreadsheet.
2. Cumulative Election Summary Report is generated, and total ballot count verified.
3. Election result files are exported to fulfill Election Night Reporting and Risk Limiting Audit requirements, and the test election data is backed up.
4. Cumulative result information is entered and validated in the Cumulative Results Comparison spreadsheet.
5. Cumulative result is reviewed by test board and if correct, initialed, and dated.
6. Testing documentation is collected and organized.



Resetting and sealing of equipment:

After testing, the Testing Board must watch the county reset and seal each voting device, as applicable. As part of the Statement of Qualification, the Testing Board and Clerk must attest to the seal number attached to the voting device at the end of testing.

1. Testing Board witnesses the resetting and sealing of the ICX equipment, verifying the seal numbers attached to each device.
2. Testing Board witnesses the resetting of scan stations and Results Tally and Reporting, verifying that the Total Ballots Accepted on the ICCs is "0" and that the Election Summary Report is regenerated and shows "0" votes cast.

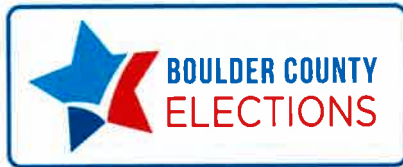
Completion of Testing:

After the devices are reset and sealed, the results of all testing is reviewed with the Clerk and Testing Board, along with testing documentation. The Testing Board and the county clerk must sign a written statement attesting to the qualification of each device successfully tested, the number of the seal attached to the voting device at the end of the test, any problems discovered, and any other documentation necessary to provide a full and accurate account of the condition of a given device.

1. Test information and results are reviewed with the Clerk and Testing Board
2. Cumulative results are verified by the Testing Board
3. Testing Board and Clerk complete the Statement of Qualification

Secure storage of all LAT materials and ballots:

The county must keep all test materials, when not in use, in a durable, secure box. Each member of the Testing Board must verify the seals and initial the chain-of-custody log maintained by the county clerk. If the records are opened for inspection, at least two election officials must verify the seals and initial the chain-of-custody log.

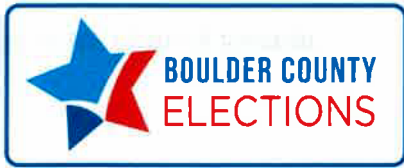


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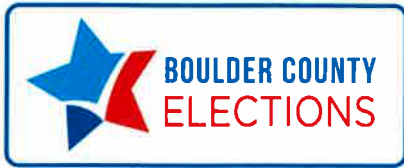
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Logic and Accuracy Test Information

Election Title: 2024 Boulder County State Primary Election		
Election Date: June 25, 2024		
Logic and Accuracy Test Dates: May 28, 2024		
Test Location: 1750 33rd St. Boulder, CO		
Team	Entity	Participant Name
1	Democratic Party Testing Board Member	Pat Feeser
1	Republican Party Testing Board Alternate & Support	David Brown
2	Republican Party Testing Board Member	John Barrett
2	Democratic Party Testing Board Alternate & Support	Kathy Ludwig
N/A	Boulder County Clerk & Recorder	Molly Fitzpatrick
N/A	Boulder County Clerk & Recorder – Elections Director	Stephanie Gnoza
N/A	Boulder County Support	Brad Light
N/A	Boulder County Support	Ann Hansen
N/A	Boulder County Support	Josh Hansen
N/A	Boulder County Support	Kayla Gehring
N/A	Boulder County Support	Tricia Grossnickle
N/A	Boulder County Support	Matt Hansen



Device ID	Type of Device	Seal # (Where applicable)	Seal # (Where applicable)	Seal # (Where applicable)
ICX # Serial # 76 47246	Ballot Marking Device (BMD)	[REDACTED]	[REDACTED]	[REDACTED]
Image Cast Printer # Serial #	BMD Printer	[REDACTED]	[REDACTED]	NA
ICX # Serial # 57 47246	Ballot Marking Device (BMD)	[REDACTED]	[REDACTED]	[REDACTED]
Image Cast Printer # Serial #	BMD Printer	[REDACTED]	[REDACTED]	NA
Scan Station A (1) Serial # [REDACTED]	Central Count Scanner	[REDACTED]	NA	NA
Scan Station B (2) Serial # [REDACTED]	Central Count Scanner	[REDACTED]	NA	NA
Scan Station C (3) Serial # [REDACTED]	Central Count Scanner	[REDACTED]	NA	NA
Scan Station D (4) Serial # [REDACTED]	Central Count Scanner	[REDACTED]	NA	NA
Scan Station E (5) Serial # [REDACTED]	Central Count Scanner	[REDACTED]	NA	NA
Scan Station F (6) Serial # [REDACTED]	Central Count Scanner	[REDACTED]	NA	NA
Scan Station G (7) Serial # [REDACTED]	Central Count Scanner	[REDACTED]	NA	NA

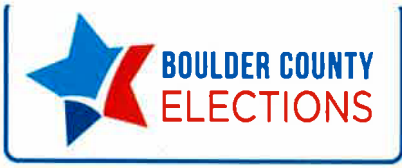


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Device ID	Type of Device	Seal # (Where applicable)	Seal # (Where applicable)	Seal # (Where applicable)
Scan Station H (8) Serial [REDACTED]	Central Count Scanner	[REDACTED]	NA	NA
Scan Station I (9) Serial [REDACTED]	Central Count Scanner	[REDACTED]	NA	NA
Scan Station J (10) Serial [REDACTED]	Central Count Scanner	[REDACTED]	NA	NA

Device ID	Type of Device	Seal # (Where applicable)	Seal # (Where applicable)	Seal # (Where applicable)
Adjudication Workstation 1 Serial # 36XNHH2	Adjudication Station	[REDACTED]	NA	NA
Adjudication Workstation 2 Serial # [REDACTED]	Adjudication Station	[REDACTED]	NA	NA
Adjudication Workstation 3 Serial # [REDACTED]	Adjudication Station	[REDACTED]	NA	NA
Adjudication Workstation 4 Serial # [REDACTED]	Adjudication Station	[REDACTED]	NA	NA
Adjudication Workstation 5 Serial # [REDACTED]	Adjudication Station	[REDACTED]	NA	NA
EMS Workstation 1 Serial # [REDACTED]	Results Tally & Reporting	[REDACTED]	NA	NA
EMS Workstation 2 Serial # [REDACTED]	Results Tally & Reporting	[REDACTED]	NA	NA
Election Server 1 Serial # [REDACTED]	Election Server	[REDACTED]	45570772 ✓	NA
Election Server 2 Serial # [REDACTED]	Election Server	[REDACTED]	45570114 ✓	NA



**Boulder County Clerk & Recorder Elections Division
Statement of Qualification of Election Devices**

I attest that, to the best of my knowledge, each election device used in the Logic and Accuracy Test (LAT) passed the requirements of the LAT and accurately tabulated all properly marked LAT ballots.

It is the determination of the Logic and Accuracy Test Board that all devices tested are qualified to be used in the 2024 State Primary Election on June 25, 2024.

[Redacted signature]

Pat Feeser, Democratic
LAT Test Board Member

[Redacted signature]

David Brown, Republican
LAT Test Board Member

[Redacted signature]

Molly Fitzpatrick
Boulder County Clerk & Recorder

Any problems discovered during testing are described as follows. Additionally, I am reporting any other information or attaching any additional documentation that might be necessary to provide a full and accurate account of the condition of each piece of equipment:

Pat Feeser, Democratic Party LAT Test Board Member:

David Brown, Republican Party LAT Test Board Member:

Molly Fitzpatrick, Boulder County Clerk & Recorder:

Election Summary Report

Closed Primary

Boulder

June 25, 2024

Summary for: All Contests, All Districts, All Tabulators, All Counting Groups

LAT - Cumulative Results Total

Voters Cast: 1,044 of 249,592 (0.42%)

Representative to the 119th United States Congress - District 2 - DEM (Vote for 1) DEM

		Total	
Times Cast		532 / 249,592	0.21%
Undervotes		424	
Overvotes		0	
Candidate	Party	Total	
Joe Neguse	DEM	108	
Total Votes		108	
		Total	
Unresolved Write-In		0	

State Board of Education Member - Congressional District 2 - DEM (Vote for 1) DEM

		Total	
Times Cast		532 / 249,592	0.21%
Undervotes		353	
Overvotes		21	
Candidate	Party	Total	
Kathy Gebhardt	DEM	68	
Marisol Lynda Rodriguez	DEM	90	
Total Votes		158	
		Total	
Unresolved Write-In		0	

Regent of the University of Colorado - At Large - DEM (Vote for 1) DEM

	Total	
Times Cast	532 / 249,592	0.21%
Undervotes	353	
Overvotes	21	

Candidate	Party	Total
Elliott Hood	DEM	72
Charles "CJ" Johnson	DEM	86
Total Votes		158

	Total	
Unresolved Write-In	0	

State Senator - District 17 - DEM (Vote for 1) DEM

	Total	
Times Cast	196 / 110,389	0.18%
Undervotes	162	
Overvotes	0	

Candidate	Party	Total
Sonya Jaquez Lewis	DEM	34
Total Votes		34

	Total	
Unresolved Write-In	0	

State Senator - District 18 - DEM (Vote for 1) DEM

	Total	
Times Cast	222 / 119,343	0.19%
Undervotes	165	
Overvotes	6	

Candidate	Party	Total
Judy Amabile	DEM	24
Jovita Schiffer	DEM	27
Total Votes		51

	Total	
Unresolved Write-In	0	

State Representative - District 10 - DEM (Vote for 1) DEM

	Total	
Times Cast	102 / 59,100	0.17%
Undervotes	83	
Overvotes	2	

Candidate	Party	Total
Junie Joseph	DEM	6
Tina Mueh	DEM	11
Total Votes		17

	Total	
Unresolved Write-In	0	

State Representative - District 11 - DEM (Vote for 1) DEM

	Total	
Times Cast	126 / 64,384	0.20%
Undervotes	104	
Overvotes	0	

Candidate	Party	Total
Karen McCormick	DEM	22
Total Votes		22

	Total	
Unresolved Write-In	0	

State Representative - District 12 - DEM (Vote for 1) DEM

	Total	
Times Cast	144 / 68,060	0.21%
Undervotes	110	
Overvotes	0	

Candidate	Party	Total
Kyle Brown	DEM	34
Total Votes		34

	Total	
Unresolved Write-In	0	

State Representative - District 19 - DEM (Vote for 1)
DEM

		Total	
Times Cast		62 / 22,211	0.28%
Undervotes		42	
Overvotes		0	

Candidate	Party	Total	
Jennifer Lea Parenti	DEM	20	
Total Votes		20	

		Total	
Unresolved Write-In		0	

State Representative - District 49 - DEM (Vote for 1)
DEM

		Total	
Times Cast		98 / 35,837	0.27%
Undervotes		62	
Overvotes		4	

Candidate	Party	Total	
Lesley Smith	DEM	14	
Max Woodfin	DEM	18	
Total Votes		32	

		Total	
Unresolved Write-In		0	

District Attorney--20th Judicial District - DEM (Vote for 1)
DEM

		Total	
Times Cast		532 / 249,592	0.21%
Undervotes		422	
Overvotes		0	

Candidate	Party	Total	
Michael T. Dougherty	DEM	110	
Total Votes		110	

		Total	
Unresolved Write-In		0	

Boulder County Commissioner - District 1 - DEM (Vote for 1)
DEM

		Total	
Times Cast		532 / 249,592	0.21%
Undervotes		426	
Overvotes		0	
Candidate	Party	Total	
Claire Levy	DEM	106	
Total Votes		106	
		Total	
Unresolved Write-In		0	

Boulder County Commissioner - District 2 - DEM (Vote for 1)
DEM

		Total	
Times Cast		532 / 249,592	0.21%
Undervotes		424	
Overvotes		0	
Candidate	Party	Total	
Marta Loachamin	DEM	108	
Total Votes		108	
		Total	
Unresolved Write-In		0	

Boulder County Coroner - DEM (Vote for 1)
DEM

		Total	
Times Cast		532 / 249,592	0.21%
Undervotes		424	
Overvotes		0	
Candidate	Party	Total	
Jeff Martin	DEM	108	
Total Votes		108	
		Total	
Unresolved Write-In		0	

Representative to the 119th United States Congress - District 2 - REP (Vote for 1) REP

	Total	
Times Cast	512 / 249,592	0.21%
Undervotes	404	
Overvotes	0	

Candidate	Party	Total
Marshall Dawson	REP	108
Total Votes		108

	Total
Unresolved Write-In	0

State Board of Education Member - Congressional District 2 - REP (Vote for 1) REP

	Total	
Times Cast	512 / 249,592	0.21%
Undervotes	512	
Overvotes	0	

Candidate	Party	Total
There are no candidates for this office		
Total Votes		0

	Total
Unresolved Write-In	0

Regent of the University of Colorado - At Large - REP (Vote for 1) REP

	Total	
Times Cast	512 / 249,592	0.21%
Undervotes	408	
Overvotes	0	

Candidate	Party	Total
Eric Rinard	REP	104
Total Votes		104

	Total
Unresolved Write-In	0

State Senator - District 17 - REP (Vote for 1)
REP

	Total	
Times Cast	192 / 110,389	0.17%
Undervotes	158	
Overvotes	0	

Candidate	Party	Total
Tom Van Lone	REP	34
Total Votes		34

	Total
Unresolved Write-In	0

State Senator - District 18 - REP (Vote for 1)
REP

	Total	
Times Cast	214 / 119,343	0.18%
Undervotes	214	
Overvotes	0	

Candidate	Party	Total
There are no candidates for this office		
Total Votes		0

	Total
Unresolved Write-In	0

State Representative - District 10 - REP (Vote for 1)
REP

	Total	
Times Cast	98 / 59,100	0.17%
Undervotes	86	
Overvotes	0	

Candidate	Party	Total
William B. DeOreo	REP	12
Total Votes		12

	Total
Unresolved Write-In	0

State Representative - District 11 - REP (Vote for 1) REP

	Total	
Times Cast	126 / 64,384	0.20%
Undervotes	91	
Overvotes	5	

Candidate	Party	Total
Kathy Reeves	REP	12
Terri Goon	REP	18
Total Votes		30

	Total
Unresolved Write-In	0

State Representative - District 12 - REP (Vote for 1) REP

	Total	
Times Cast	144 / 68,060	0.21%
Undervotes	89	
Overvotes	6	

Candidate	Party	Total
Robert Mahler	REP	20
Mark Milliman	REP	29
Total Votes		49

	Total
Unresolved Write-In	0

State Representative - District 19 - REP (Vote for 1) REP

	Total	
Times Cast	54 / 22,211	0.24%
Undervotes	34	
Overvotes	0	

Candidate	Party	Total
Dan Woog	REP	20
Total Votes		20

	Total
Unresolved Write-In	0

State Representative - District 49 - REP (Vote for 1)
REP

		Total	
Times Cast		90 / 35,837	0.25%
Undervotes		68	
Overvotes		0	
Candidate	Party	Total	
Steve Ferrante	REP	22	
Total Votes		22	
		Total	
Unresolved Write-In		0	

District Attorney--20th Judicial District - REP (Vote for 1)
REP

		Total	
Times Cast		512 / 249,592	0.21%
Undervotes		512	
Overvotes		0	
Candidate	Party	Total	
There are no candidates for this office			
Total Votes		0	
		Total	
Unresolved Write-In		0	

Boulder County Commissioner - District 1 - REP (Vote for 1)
REP

		Total	
Times Cast		512 / 249,592	0.21%
Undervotes		512	
Overvotes		0	
Candidate	Party	Total	
There are no candidates for this office			
Total Votes		0	
		Total	
Unresolved Write-In		0	

Boulder County Commissioner - District 2 - REP (Vote for 1) REP

	Total	
Times Cast	512 / 249,592	0.21%
Undervotes	405	
Overvotes	0	

Candidate	Party	Total
Donald "Don" Lewis	REP	107
Total Votes		107

	Total
Unresolved Write-In	0

Boulder County Coroner - REP (Vote for 1) REP

	Total	
Times Cast	512 / 249,592	0.21%
Undervotes	512	
Overvotes	0	

Candidate	Party	Total
There are no candidates for this office		
Total Votes		0

	Total
Unresolved Write-In	0

2024 Boulder County Primary Election Logic and Accuracy Test
Results Comparison Worksheet

	REP - Paper	REP - ICX	DEM - Paper	DEM - ICX	County Test Deck	Total		
Total Ballots Scanned	25	25	25	25	944	1044		
	REP - Paper	REP - ICX	DEM - Paper	DEM - ICX	County Test Deck	Expected Tally	Machine Total	Difference
Representative to the 119th United States Congress - District 2 - DEM								
Undervotes	1	1	0	0	422	424	424	φ
(Overvote not possible)	0	0	0	0	0	0		
Joe Neguse	12	12	12	12	60	108	108	φ
State Board of Education Member - Congressional District 2 - DEM								
Undervotes	0	1	0	0	352	353	353	φ
Overvotes	1	0	0	0	20	21	21	φ
Kathy Gebhardt	7	7	7	7	40	68	68	φ
Marisol Lynda Rodriguez	5	5	5	5	70	90	90	φ
Regent of the University of Colorado - At Large - DEM								
Undervotes	0	1	0	0	352	353	353	φ
Overvotes	1	0	0	0	20	21	21	φ
Elliott Hood	8	8	8	8	40	72	72	φ
Charles "CJ" Johnson	4	4	4	4	70	86	86	φ
State Senator - District 17 - DEM								
Undervotes	0	0	0	0	162	162	162	φ
(Overvote not possible)	0	0	0	0	0	0		
Sonya Jaquez Lewis	3	3	5	5	18	34	34	φ
State Senator - District 18 - DEM								
Undervotes	0	0	0	0	165	165	165	φ
Overvotes	0	0	0	0	6	6	6	φ
Judy Amabile	4	4	2	2	12	24	24	φ
Jovita Schiffer	2	2	1	1	21	27	27	φ

2024 Boulder County Primary Election Logic and Accuracy Test
Results Comparison Worksheet

	REP - Paper	REP - ICX	DEM - Paper	DEM - ICX	County Test Deck	Expected Tally	Machine Total	Difference
State Representative - District 10 - DEM								
Undervotes	0	0	0	0	83	83	83	0
Overvotes	0	0	0	0	2	2	2	0
Junie Joseph	1	1	0	0	4	6	6	0
Tina Mueh	1	1	1	1	7	11	11	0
State Representative - District 11 - DEM								
Undervotes	0	0	0	0	104	104	104	0
(Overvote not possible)	0	0	0	0	0	0		
Karen McCormick	2	2	3	3	12	22	22	0
State Representative - District 12 - DEM								
Undervotes	0	0	0	0	110	110	110	0
(Overvote not possible)	0	0	0	0	0	0		
Kyle Brown	4	4	4	4	18	34	34	0
State Representative - District 19 - DEM								
Undervotes	0	0	0	0	42	42	42	0
(Overvote not possible)	0	0	0	0	0	0		
Jennifer Lea Parenti	2	2	2	2	12	20	20	0
State Representative - District 49 - DEM								
Undervotes	0	0	0	0	62	62	62	0
Overvotes	0	0	0	0	4	4	4	0
Lesley Smith	1	1	2	2	8	14	14	0
Max Woodfin	2	2	0	0	14	18	18	0

2024 Boulder County Primary Election Logic and Accuracy Test
Results Comparison Worksheet

	REP - Paper	REP - ICX	DEM - Paper	DEM - ICX	County Test Deck	Expected Tally	Machine Total	Difference
District Attorney--20th Judicial District - DEM								
Undervotes	0	0	0	0	422	422	422	0
(Overvote not possible)	0	0	0	0	0	0		
Michael T. Dougherty	13	13	12	12	60	110	110	0
Boulder County Commissioner - District 1 - DEM								
Undervotes	1	1	1	1	422	426	426	0
(Overvote not possible)	0	0	0	0	0	0		
Claire Levy	12	12	11	11	60	106	106	0
Boulder County Commissioner - District 2 - DEM								
Undervotes	0	0	1	1	422	424	424	0
(Overvote not possible)	0	0	0	0	0	0		
Marta Loachamin	13	13	11	11	60	108	108	0
Boulder County Coroner - DEM								
Undervotes	0	0	1	1	422	424	424	0
(Overvote not possible)	0	0	0	0	0	0		
Jeff Martin	13	13	11	4	60	108	108	0

2024 Boulder County Primary Election Logic and Accuracy Test
Results Comparison Worksheet

	REP - Paper	REP - ICX	DEM - Paper	DEM - ICX	County Test Deck	Expected Tally	Machine Total	Difference
Representative to the 119th United States Congress - District 2 - REP								
Undervotes	1	1	0	0	402	404	404	ϕ
(Overvote not possible)	0	0	0	0	0	0		
Marshall Dawson	11	11	13	13	60	108	108	ϕ
State Board of Education Member - Congressional District 2 - REP								
Undervotes	12	12	13	13	462	512	512	ϕ
(Overvote not possible)	0	0	0	0	0	0		
There are no candidates for this race	0	0	0	0	0	0		
Regent of the University of Colorado - At Large - REP								
Undervotes	2	2	1	1	402	408	408	ϕ
(Overvote not possible)	0	0	0	0	0	0		
Eric Rinard	10	10	12	12	60	104	104	ϕ
State Senator - District 17 - REP								
Undervotes	0	0	0	0	158	158	158	ϕ
(Overvote not possible)	0	0	0	0	0	0		
Tom Van Lone	5	5	3	3	18	34	34	ϕ
State Senator - District 18 - REP								
Undervotes	3	3	6	6	196	214	214	ϕ
(Overvote not possible)	0	0	0	0	0	0		
There are no candidates for this race	0	0	0	0	0	0		

2024 Boulder County Primary Election Logic and Accuracy Test
Results Comparison Worksheet

	REP - Paper	REP - ICX	DEM - Paper	DEM - ICX	County Test Deck	Expected Tally	Machine Total	Difference
State Representative - District 10 - REP								
Undervotes	0	0	0	0	86	86	86	0
(Overvote not possible)	0	0	0	0	0	0		
William B. DeOreo	1	1	2	2	6	12	12	0
State Representative - District 11 - REP								
Undervotes	0	1	0	0	90	91	91	0
Overvotes	1	0	0	0	4	5	5	0
Kathy Reeves	1	1	1	1	8	12	12	0
Terri Goon	1	1	1	1	14	18	18	0
State Representative - District 12 - REP								
Undervotes	0	0	0	0	89	89	89	0
Overvotes	0	0	0	0	6	6	6	0
Robert Mahler	2	2	2	2	12	20	20	0
Mark Milliman	2	2	2	2	21	29	29	0
State Representative - District 19 - REP								
Undervotes	0	0	0	0	34	34	34	0
(Overvote not possible)	0	0	0	0	0	0		
Dan Woog	2	2	2	2	12	20	20	0
State Representative - District 49 - REP								
Undervotes	0	0	0	0	68	68	68	0
(Overvote not possible)	0	0	0	0	0	0		
Steve Ferrante	2	2	3	3	12	22	22	0

2024 Boulder County Primary Election Logic and Accuracy Test
Results Comparison Worksheet

	REP - Paper	REP - ICX	DEM - Paper	DEM - ICX	County Test Deck	Expected Tally	Machine Total	Difference
District Attorney--20th Judicial District - REP								
Undervotes	12	12	13	13	462	512	512	0
(Overvote not possible)	0	0	0	0	0	0		
There are no candidates for this race	0	0	0	0	0	0		
Boulder County Commissioner - District 1 - REP								
Undervotes	12	12	13	13	462	512	512	0
(Overvote not possible)	0	0	0	0	0	0		
There are no candidates for this race	0	0	0	0	0	0		
Boulder County Commissioner - District 2 - REP								
Undervotes	0	1	1	1	402	405	405	0
(Overvote not possible)	0	0	0	0	0	0		
Donald "Don" Lewis	12	11	12	12	60	107	107	0
Boulder County Coroner - REP								
Undervotes	12	12	13	13	462	512	512	0
(Overvote not possible)	0	0	0	0	0	0		
There are no candidates for this race	0	0	0	0	0	0		

Corrected Boulder County Commissioner District 2 REP on ICX
 Changed Undervote from 0 to 1 and Donald Lewis from 12 to 11