

Post-Election Audit Summary

2020 Presidential Primary Election

DEM - Delegates-at-Large and Alternates-at-Large to the National Convention

DEM - 8th District Court of Appeals UTE 1/1/23

DEM - Court of Common Pleas (Domestic Relations Division) FTC 1-8-2020

There were 196,791 total ballots cast in the March 17, 2020 Presidential Primary Election. A hand count was conducted of 6,375 ballots cast in the audited contests. The accuracy rate for the post-election audit is 100%.

Beginning June 9, 2020, we conducted three Risk-Limiting Post-Election Audits for the 2020 Presidential Primary election. Audited race and batch details are provided below:

RACE	TOTAL BALLOTS CAST	UNIQUE BATCHES AUDITED	TOTAL BALLOTS AUDITED	NUMBER OF PRECINCTS IN CONTEST
DEM - Delegates-at-Large and Alternates-at-Large to the National Convention	143,627	6	968	980
DEM - 8th District Court of Appeals UTE 1/1/23	143,627	13	2,264	980
DEM - Court of Common Pleas (Domestic Relations Division) FTC 1-8-2020	143,627	17	3,143	980
Total		36	6,375	

Our Risk-Limiting Audits were based upon the Kaplan-Markov method as explained by Philip B. Stark and Mark Lindeman. Auditing best practices recommend we split up the total ballots cast by precinct into multiple batch types. We utilized four batch types each consisting of one single ballot type category: Vote-by-Mail, Early In-Person, Provisional, and Post Vote-by-Mail.

A master spreadsheet was created for each contest with statistical formulas to determine the number of batches that must be audited in order to reach a 90% confidence level. This confidence level means the audit has at least a 90% probability of leading to a full recount if the apparent outcome is incorrect.

We used a “Probability Proportional to Error Bound with Replacement” selection method. We assigned numbers ranging from 000000 through 999,999 for each batch within each contest. Unique ranges of numbers were allocated to specific batches based upon their error bound - i.e. the greater the possibility of a miscount within a batch, the more numbers assigned, and the more likely it is to be selected. For example, if a single batch has a high probability of a miscount, multiple numbers would be assigned to that single batch, making the random selection of that batch more likely during the audit. Each of those individual numbers might be randomly selected and included in the overall batch audit requirement, but the single batch to which those numbers are assigned would need to be audited only once. To obtain the precinct batch number we rolled differently colored dice numbered 0 - 9, each one of the colored dice representing one digit of the batch number.

DEM - Delegates-at-Large and Alternates-at-Large to the National Convention

PRECINCT NAME	NUMBER OF TIMES SELECTED	SELECTED BATCH TYPE	OFFICIAL BALLOTS CAST	AUDIT HAND COUNT	DIFFERENCE
CLEVELAND -08-B	1	Vote-by-Mail	144	144	0
NORTH ROYALTON -06-A	1	Vote-by-Mail	110	110	0
STRONGSVILLE -02-H	1	Vote-by-Mail	117	117	0
WARRENSVILLE HTS -06-A	1	Vote-by-Mail	237	237	0
WESTLAKE -04-C	1	Vote-by-Mail	179	179	0
WESTLAKE -06-B	1	Vote-by-Mail	181	181	0
Total	6		968	968	0

DEM - 8th District Court of Appeals UTE 1/1/23

PRECINCT NAME	NUMBER OF TIMES SELECTED	SELECTED BATCH TYPE	OFFICIAL BALLOTS CAST	AUDIT HAND COUNT	DIFFERENCE
BEDFORD HEIGHTS -01-B	1	Vote-by-Mail	180	180	0
BRECKSVILLE -00-A	1	Vote-by-Mail	175	175	0
CLEVELAND -11-L	1	Vote-by-Mail	52	52	0
CLEVELAND HEIGHTS -02-C	1	Vote-by-Mail	403	403	0
CLEVELAND HEIGHTS -05-F	1	Vote-by-Mail	314	314	0
INDEPENDENCE -00-E	1	Vote-by-Mail	162	162	0
MAYFIELD HEIGHTS -00-A	1	Vote-by-Mail	142	142	0
PARMA -04-E	1	Vote-by-Mail	136	136	0
ROCKY RIVER -04-D	1	Vote-by-Mail	236	236	0
SHAKER HEIGHTS -00-G	1	Vote-by-Mail	164	164	0
STRONGSVILLE -02-H	1	Vote-by-Mail	118	118	0
STRONGSVILLE -04-B	1	Vote-by-Mail	162	162	0
UNIVERSITY HEIGHTS -00-B	1	Early In-Person	20	20	0
Total	13		2,264	2,264	

DEM - Court of Common Pleas (Domestic Relations Division) FTC 1-8-2020

PRECINCT NAME	NUMBER OF TIMES SELECTED	SELECTED BATCH TYPE	OFFICIAL BALLOTS CAST	AUDIT HAND COUNT	DIFFERENCE
BROOK PARK -04-A	2	Vote-by-Mail	152	152	0
CLEVELAND -03-L	1	Vote-by-Mail	170	170	0
CLEVELAND -06-D	1	Vote-by-Mail	84	84	0
CLEVELAND -06-O	1	Vote-by-Mail	106	106	0
CLEVELAND -07-O	1	Vote-by-Mail	97	97	0
CLEVELAND -16-Q	1	Vote-by-Mail	85	85	0
CLEVELAND HEIGHTS -01-A	1	Vote-by-Mail	170	170	0
CLEVELAND HEIGHTS -02-B	1	Vote-by-Mail	434	434	0
CLEVELAND HEIGHTS -03-F	1	Vote-by-Mail	140	140	0
CLEVELAND HEIGHTS -04-D	1	Vote-by-Mail	127	127	0
LAKEWOOD -01-H	1	Vote-by-Mail	306	306	0
LAKEWOOD -02-B	1	Vote-by-Mail	239	239	0
LAKEWOOD -03-D	1	Vote-by-Mail	221	221	0
PARMA -07-D	1	Vote-by-Mail	169	169	0
PARMA -08-C	1	Vote-by-Mail	154	154	0
SHAKER HEIGHTS -00-R	1	Vote-by-Mail	333	333	0
STRONGSVILLE -03-B	1	Vote-by-Mail	156	156	0
Total	18		3,143	3,143	

