

Post-Election Audit Summary

August 3, 2021 Special Congressional Primary Election

For Representative to Congress (11th District) (UTE 1/3/2023)

There were 75,091 total ballots cast in the August 3, 2021 Special Congressional Primary Election. A hand count was conducted of 3,312 ballots cast in the audited contest. The accuracy rate for the post-election audit is 100%.

On September 6, 2021, we conducted one Risk-Limiting Post-Election Audit for the August 3, 2021 Special Congressional 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
For Representative to Congress (11th District) (UTE 1/3/2023)	70,300	38	3,312	513
Total	70,300	38	3,312	513

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 six batch types each consisting of one single ballot type category: Vote-by-Mail, Election Day, Early In-Person, Provisional, Post Vote-by-Mail, and Post Election Day.

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 999999 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.

For Representative to Congress (11th District) (UTE 1/3/2023)

PRECINCT NAME	NUMBER OF TIMES SELECTED	SELECTED BATCH TYPE	OFFICIAL BALLOTS CAST	AUDIT HAND COUNT	DIFFERENCE
BEACHWOOD -00-G	1	Vote-by-Mail	84	84	0
BEDFORD HEIGHTS -03-B	1	Vote-by-Mail	138	138	0
CLEVELAND -05-R	1	Vote-by-Mail	15	15	0
CLEVELAND -06-U	1	Vote-by-Mail	39	39	0
CLEVELAND HEIGHTS -01-E	1	Vote-by-Mail	94	94	0
CLEVELAND HEIGHTS -04-C	1	Vote-by-Mail	57	57	0
EAST CLEVELAND -03-A	1	Vote-by-Mail	18	18	0
EUCLID -01-D	1	Vote-by-Mail	124	124	0
EUCLID -05-C	1	Vote-by-Mail	36	36	0
EUCLID -08-B	1	Vote-by-Mail	33	33	0
OAKWOOD -03-A	1	Vote-by-Mail	27	27	0
PEPPER PIKE -00-A	1	Vote-by-Mail	118	118	0
SHAKER HEIGHTS -00-I	1	Vote-by-Mail	109	109	0
SOUTH EUCLID -03-D	1	Vote-by-Mail	44	44	0
BEACHWOOD -00-E	1	Election Day	188	188	0
BEACHWOOD -00-H	1	Election Day	236	236	0
BEDFORD -05-A	1	Election Day	118	118	0
CLEVELAND -01-E	1	Election Day	124	124	0
CLEVELAND -01-S	1	Election Day	103	103	0
CLEVELAND -05-G	1	Election Day	28	28	0
CLEVELAND -06-H	1	Election Day	45	45	0
CLEVELAND -08-N	1	Election Day	56	56	0
CLEVELAND -09-H	1	Election Day	94	94	0
CLEVELAND -14-M	1	Election Day	15	15	0
CLEVELAND -15-Q	2	Election Day	104	104	0
CLEVELAND HEIGHTS -02-B	1	Election Day	249	249	0
GLENWILLOW -01-A	1	Election Day	42	42	0
ORANGE -00-C	1	Election Day	156	156	0
SHAKER HEIGHTS -00-E	1	Election Day	180	180	0
SHAKER HEIGHTS -00-L	1	Election Day	220	220	0
UNIVERSITY HEIGHTS -00-B	1	Election Day	185	185	0
UNIVERSITY HEIGHTS -00-I	1	Election Day	207	207	0
NORTH RANDALL -00-A	1	Early In-Person	11	11	0
SHAKER HEIGHTS -00-H	1	Post Vote-by-Mail	4	4	0
SHAKER HEIGHTS -00-Q	1	Post Vote-by-Mail	8	8	0
EUCLID -03-E	1	Post Election Day	1	1	0
CLEVELAND -05-C	1	Provisional	1	1	0
MAPLE HEIGHTS -04-B	1	Provisional	1	1	0
Total	39		3312	3312	0

