SECOND DECLARATION OF WALTER C. DAUGHERITY

WALTER C. DAUGHERITY declares, under penalty of perjury, pursuant to 28 U.S.C. § 1746, that the following is true and correct.

Qualifications

1. I am a Senior Lecturer Emeritus in the Department of Computer Science and Engineering at Texas A&M University and also a computer consultant to major national and international firms, as well as to government agencies, including classified work.

2. Prior to my retirement in 2019, I taught computer science and engineering at both the undergraduate and graduate levels for 37 years, the last 32 years being at Texas A&M University. Courses I developed and taught include courses in artificial intelligence, expert systems, programming and software design, quantum computing, and cyberethics.

3. I have published 26 research articles related to expert systems, fuzzy logic, noise-based logic, and quantum computing from over $2.8 million in funded research projects, plus conference papers and other publications.

4. As a computer expert I have consulted for major national and international firms, including IBM Federal Systems Division, *New York Times*, *Washington Post*, *Los Angeles Times*, Southwestern Bell Telephone, Fulbright & Jaworski (Houston), and Phonogram B.V. (Amsterdam), and also for government agencies such as Cheyenne and Arapaho Tribes of Oklahoma, Texas Department of Agriculture, U. S. Customs Service, and classified work.

5. Further details about my qualifications are included in my Curriculum Vitae attached as Exhibit A.

6. I have qualified as an expert witness in other court cases related to elections, electronic voting machines, and election data, including the cases listed in Exhibit B.

Updated Findings

7. This Second Declaration is an update to my declaration in this case dated June 8, 2022 ("First Declaration") filed in the case of *Kari Lake et al. v. Katie Hobbs et al.* (2:22-cv-00677-JJT) filed in U.S. District Court for the District of Arizona (Doc. No. 38). This Second Declaration details important new information which has come to my attention since January 1, 2024.

8. This new information, described beginning at ¶ 13 below, does not change the conclusions in ¶¶ 42-45 of my First Declaration that:

(a) The evidence overwhelmingly demonstrates to a reasonable degree of scientific and mathematical certainty that the sequence of the Cast Vote Record ("CVR") data in both Maricopa County, Arizona, and Pima County, Arizona, shows artificial control over the tabulation of ballots and the election results for the November 2020 election.

(b) Such control could be implemented by manual means or by a computer algorithm, such as a Proportional-Integral-Derivative ("PID") controller or some equivalent mathematical procedure. However, the alternating oscillations above and below the trend line, with decreasing deviations from the trendline, would require a prohibitive amount of calculation to accomplish by hand, not to mention the careful manual sorting of many thousands of batches of ballots to achieve the actual curves observed in the 26 races analyzed. This means that some type of computer algorithm is indicated, and a PID controller is the simplest control function that

would exhibit following a trend line with alternating oscillations above and below the trend line with decreasing deviations from the trendline.

(c) This same type of manipulation occurred both in Pima County, Arizona, which used ES&S voting machines (as did most other counties in Arizona), and also in Maricopa County, Arizona, which used Dominion voting machines (as did 23 other states), indicating that the same (or similar) software was responsible. Such manipulating software could be installed in a variety of ways, including vendor programming, operating system components, open-source or commercial off-the-shelf libraries, remote access, viruses or other malware, etc.

(d) Unless and until future proposed electronic voting systems (including hardware, software, source code, firmware, etc.) are made completely open to the public and also subjected to scientific analysis by independent and objective experts to determine that they are secure from manipulation or intrusion, in my professional opinion as a computer expert, electronic voting systems should not even be considered for use in any future elections, as they cannot be relied upon to generate secure and transparent election results free from the very real possibility of unauthorized manipulation.

9. Regarding ¶ 8(a) above, my First Declaration mathematically analyzed the CVR data from the November 2020 election, which is a public election record. As stated at in my First Declaration, the CVR is an election record that collects in spreadsheet format the selections contained on each ballot in the order recorded through the tabulator machines without any information that would identify the voter. A key feature of this record is that it records the ballot data in the order in which the ballots are processed for tabulation. After the November

2022 election, the same CVR was requested from Maricopa County as a public record, but the county refused, and only released a redacted CVR with all rows randomly shuffled, thereby destroying the sequence information as to the order the batches of ballots were tabulated.

10. As noted in ¶ 33 of my First Declaration, without the sequence information it is impossible to detect controlled manipulation. Maricopa County thus deliberately blocked the ability to determine whether the processing of ballots in the November 2022 election was manipulated as I had concluded in my First Declaration with respect to the November 2020 election. Should the Court be able to obtain from Maricopa County the original unredacted unshuffled CVR for the November 2022 election, I stand ready to analyze it for controlled manipulation in the same way as I did the 2020 CVR.

11. I note that deliberately concealing and/or altering the sequence information of the public election record may violate 52 U.S.C. § 20702 (codified from § 301 of the Civil Rights Act of 1960), which prescribes penalties for concealing or altering an election record. The Department of Justice's Publication "Federal Law Constraints on Post-Election 'Audits'" dated July 28, 2021, mandates that the materials covered "extend beyond 'papers' to include other 'records.' Jurisdictions must therefore also retain and preserve records created in digital or electronic form."

12. As stated in ¶ 41 of my First Declaration, the conclusions there were based on the data that I reviewed and analyzed, and not on any consideration of specific allegations of fraud. It was brought to my attention on May 4, 2022, subsequent to the analysis in ¶¶ 6-40 of my First Declaration, that a Pima County whistleblower's email previously received by Plaintiff Finchem and others included allegations consistent with, and corroborative of, my conclusions. The whistleblower's full email is attached as Exhibit C. My independent analysis stands separate

from this email, but the similarity between the allegations in the email and the result of my analysis is interesting.

The New Information

13. New information came to my attention in January 2024 that provides insight into ¶ 8 above regarding a significant vulnerability in the Dominion Voting System machines used in Maricopa County that allows total access and control over the election results. This unauthorized access provides a clear means to insert or modify or delete files (including software, ballot images, and election results), invoke commands or processes (including operations to insert or modify or delete software, ballot images, and election results), and to alter or delete the logs recording those unauthorized operations, covering all traces of the intrusion.

14. I am now informed that Dominion Voting Systems database and backup files from the 2020 general election in Maricopa County contain extremely alarming data, including both the cryptographic keys used to encrypt and decrypt election data and also passwords, all stored in plain text and in an unprotected state other than the Windows login to the Election Management System ("EMS"). This allows cryptographic safeguards to be bypassed, rendering the protections afforded by encryption worthless, and enabling attacks, including insider threats, on the election system.

15. In the following paragraphs these issues will be discussed, then their significance to PID control, and finally their significance to the enormous problem with rejected ballots which occurred in Maricopa County during the November 2022 midterm election.

Cryptographic Bypasses and Insider Threats

16. Dominion's contract with Maricopa County (Serial No. 190265-R Elections Tabulation Systems) entered into in June 2019 represents that:

> OPTIONAL PREFERENCES:
> The County verifies hash codes of all software and firmware that is in escrow at the Secretary of State's (SOS) Office and on file with National Institute of Standards and Technology (NIST). Dominion agrees to the following:
>
> Data generated by the Democracy Suite platform, including results reporting, is protected by the deployment of FIPS-approved symmetric AES and asymmetric RSA encryption. The Democracy Suite Election Management System uses these techniques to encrypt election files prior to their use on ImageCast tabulators. Once the polls have been closed, the ImageCast tabulators encrypt all of the results files prior to transmitting them back to EMS.
>
> SHA-256 hashes are used for all data integrity and verification. Should an intrusive process or altering of any file occur, hash values will be, in turn, altered as well. With that said, any presence of an intrusive process will be detected, as the hashes of any altered data will not match the value initially determined.

17. Encrypted information uses a secret "encoding key" to transform the original data (called "plaintext") into an encoded form called "ciphertext" which is unintelligible to others. Only by means of the corresponding "decoding key" can the ciphertext be transformed back to the original plaintext.

18. Symmetric encryption uses the same key for both encoding and decoding; this was the function performed by the Enigma machine famously used by Nazi Germany in World War II. This single key must be kept secret by both the encoder and the decoder. Symmetric encryption is used in the Dominion system both with an Advanced Encryption Standard ("AES") Rijndael key and also with a Hash-based Message Authentication Code ("HMAC") key.

19. Public-key cryptography, on the other hand, uses two keys, a public encoding key

which is not secret paired with a secret private decoding key. Public-key cryptography is used in the Dominion system with X.509 certificates. The original design of X.509 certificates was to serve as a "trusted directory" where one user or process (the sender) could look up the public key for the intended recipient, much like looking up someone's street address in an old-fashioned telephone directory to mail them a letter. However, there are "extended" X.509 certificates which contain the private key as well as the public key for a recipient, and this is apparently what Dominion uses. In this case it is mandatory that the entire X.509 certificate be stored securely, *e.g.*, encrypted.

20. As just noted, symmetric keys such as Rijndael keys and HMAC keys must be kept secret, and the private key for a public key with an X.509 certificate must also be kept secret. Alarmingly, ***all of these are stored in plain text and unprotected*** in the EMS database, along with the Rijndael vector, which performs a function similar to the "salt" used to protect password hashes. This means that anyone with access to the EMS database can completely bypass all the cryptographic safeguards in the Dominion system. As others have publicly demonstrated, gaining access to the EMS database is relatively simple technically.

21. The consequences of this cannot be overemphasized: with access to the Rijndael "master key" anything on the EMS can be altered or spoofed in an undetectable way. For example, according to Dominion, official ballots are sent between the EMS and the Network Attached Storage ("NAS") server using the X.509 public and private keys. Since the private key was not kept secret, an intruder (including an insider) could, for example, decode official ballots from the NAS, alter or replace them, encode the new "official" ballots, and pass them on as legitimate. Since the correct keys are used, the substitution is undetectable.

22. In similar fashion, all of the other critical election files, election databases, device

configuration files, machine behavior settings, results files, reports and logs, ballot images, ballot layout definitions, and user credentials stored on Dominion "iButtons" are encrypted with the HMAC key ***which is stored unencrypted***. Since the HMAC key was not kept secret, an intruder (perhaps an insider) could, for example, decode reports or logs on the NAS and alter and re-encode them. Since the correct key is used, this is undetectable.

23. Storing cryptographic keys unprotected is thus an abysmal breach of cybersecurity protocols and best practices.

Significance to PID Control

24. All of the security failures described above also apply to the PID controller I concluded the CVR shows existed (¶ 8 above). (For more background please see my First Declaration, particularly ¶¶ 34-36, and then return to this paragraph.) With such inadequate security it is quite possible for an intruder or an insider to invoke the PID controller; modify its parameters K_p, K_i, and K_d, and setpoints; or even restart the PID controller.

25. The significance of restarting a PID controller is that the integral accumulator would be reset to zero, discarding the accumulated but not yet corrected deviation from the predetermined setpoint. This would effectively restart an election.

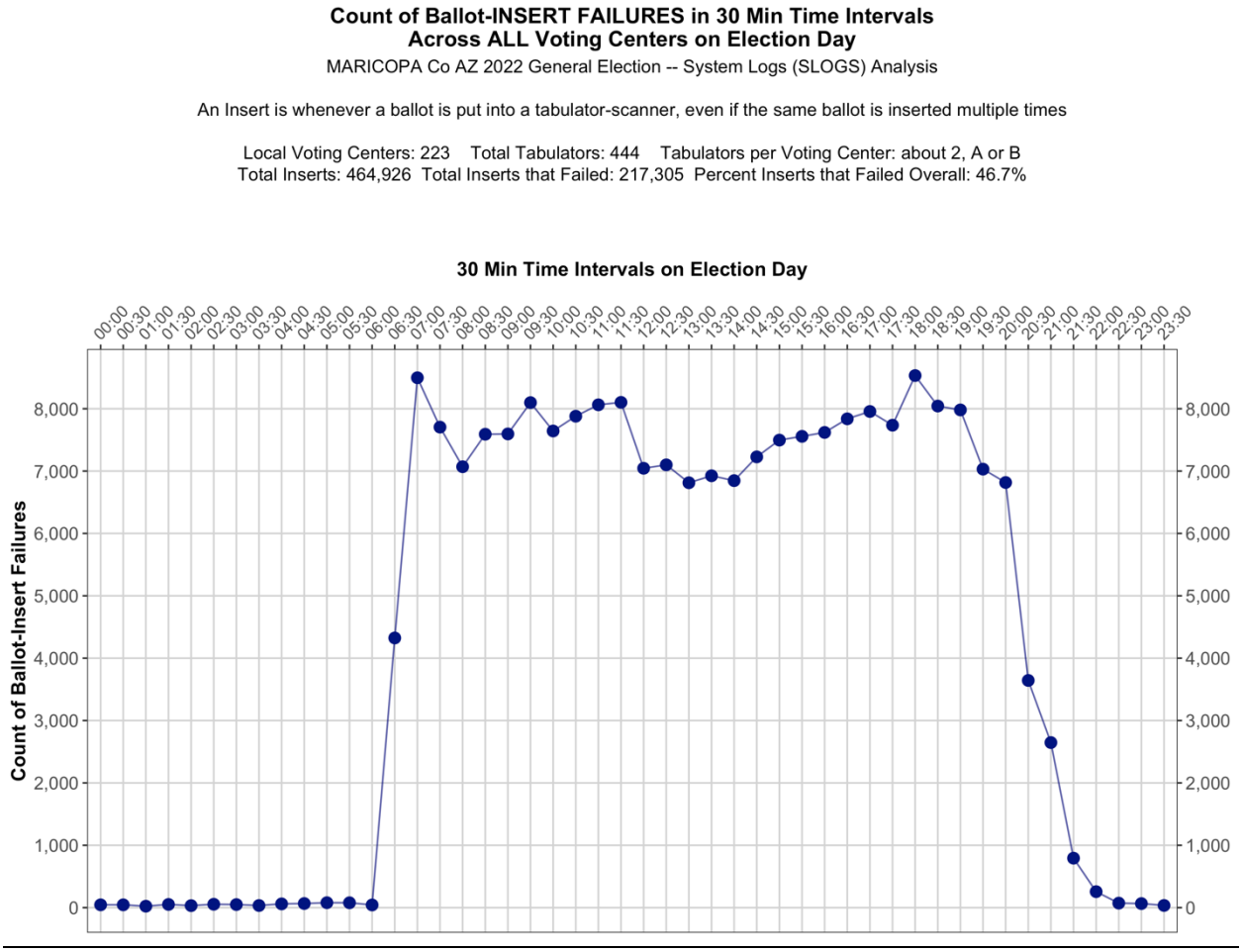
26. The security failures detailed in ¶¶ 13-23 above could thus have been used to install a PID control software module, to set its parameters (including the desired election results) and/or modify them, to start the PID controller, to stop it, to reset it, and so on.

27. The unprotected cryptographic keys would both enable such operations to be performed and also provide the means for deleting all traces of such operations from the logs, as described in ¶ 22 above, making them undetectable.

Significance to Rejected Ballots in the 2022 Midterm Election

28. All of the security failures detailed above could also provide one of the avenues causing the huge numbers of ballots in the Maricopa County 2022 midterm election to be rejected by the tabulators as unscannable. A total of 138 of the 223 vote centers (over 61%) had a tabulator rejection rate of ballots at 20 per cent or more.

29. As depicted in the following graph, across Maricopa County, over 7,000 ballot insertion failures occurred in almost every single 30-minute period for the entirety of Election Day, starting at 6:30 A.M. and continuing to 8:00 P.M. The enormous number of rejections created chaos on Election Day in the November 2022 election, as was widely reported.



30. As has been reported elsewhere, one cause of ballots being unscannable was that

sometimes the 20" ballot image was shrunk to 19" and then printed on 20" paper. Since this made the border timing marks too small, the tabulators rejected these ballots. The same problem was noted in a follow-on investigation by Maricopa County into the causes of these massive ballot rejection failures on Election Day.

31. This was thus a gigantic and continuous problem which did not get better overall during Election Day, despite numerous technicians' making adjustments throughout the day. These facts belie Maricopa County's representations that the problems were minor and quickly remedied.

32. One possible way this could have occurred was by an intruder (perhaps an insider) using the security failures described above to create shrunken ballot images and route them to selected printers.

33. A more detailed description of the problems in ¶¶ 28-31 above is included in my testimony to the Arizona Senate Elections Committee on January 23, 2023, ("Senate Testimony"). A true and accurate copy of my Senate Testimony without exhibits is attached as Exhibit D, dated January 22, 2023. This Senate Testimony was distributed to the Senators on the Elections Committee and presented in person; the video of my presentation is archived by the Arizona Senate at https://www.azleg.gov/videoplayer/?eventID=2023011091 at 1:13:06-1:48:25 and 2:11:33-2:15:49 (last visited Mar. 16, 2024).

34. My presentation was also recorded in the Official Minutes posted at https://www.azleg.gov/legtext/56leg/1R/comm_min/Senate/01232023 ELECTIONS.pdf as follows:

"Dr. Walter C. Daugherity, distributed and explained Exhibit 4 (Attachment E) and

answered questions posed by the Committee….Audio recordings and attachments are on file in the Secretary of the Senate's Office/Resource Center, Room 115."

Conclusion

35. This new information confirms the conclusions of my First Declaration (see ¶ 8 above) and extends them by detailing enormous vulnerabilities in the Dominion software used, which open up multiple pathways for unauthorized access, making the system completely untrustworthy.

36. As stated in ¶ 8 above, in my professional opinion as a computer expert, electronic voting systems such as those used in Maricopa County (Dominion) and Pima County (ES&S), Arizona, should not even be considered for use in any future elections, as they cannot be relied upon to generate secure and transparent election results free from the very real possibility of unauthorized manipulation.

37. I have personal knowledge of the foregoing and am fully competent to testify to it at trial.

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 16, 2024.

Walter C. Daugherity

Walter C. Daugherity

EXHIBIT A

Curriculum Vitae of Walter C. Daugherity

Walter C. Daugherity
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EDUCATION

Ed.D., Mathematical Education, Harvard University, Cambridge, Massachusetts, 1977. Dissertation: "On the Ordering of Topics in the Teaching of Mathematics." Advisor: Marc Lieberman.

M.A.T., Mathematics, Harvard University, Cambridge, Massachusetts, 1967 (age 20).

B.S., Mathematics, Oklahoma Christian College, Oklahoma City, Oklahoma, 1966 (3 years). Minors: Physics and chemistry, German.

EXPERIENCE

1973 to present	Daugherity Brothers, Inc., (Computer consultants), Bethany, Oklahoma. Co-founder, chairman, and president. Clients include IBM Federal Systems Division, New York Times, Washington Post, Los Angeles Times, Cheyenne and Arapaho Tribes of Oklahoma, Southwestern Bell Telephone, Fulbright & Jaworski (Houston), Texas Department of Agriculture, Phonogram B.V. (Amsterdam), and U. S. Customs Service.
1987 to present	Texas A & M University, College Station, Texas. Visiting Assistant Professor/Senior Lecturer/Senior Lecturer Emeritus, Departments of Computer Science and Engineering and Electrical and Computer Engineering, College of Engineering.
1989-91	Texas A & M University System, College Station, Texas. Director, Knowledge Systems Research Center, Computer Science Division of the Texas Engineering Experiment Station.

1984-87	Blinn College, Brenham, Texas. Computer science instructor. Part-time 1984-86, full-time 1986-87.
1978-80	Rose State College, Midwest City, Oklahoma. Data processing instructor (part-time).
1971-73	ECRM, Bedford, Massachusetts. Systems programmer.
1970-71	Harvard Computing Center, Cambridge, Massachusetts. Telecommunications specialist.
1969-70	Computer-Aided Instruction Laboratory, Harvard University, Cambridge, Massachusetts. Systems programmer.
1968-70	Harvard University, Division of Engineering and Applied Physics, Cambridge, Massachusetts. Teaching fellow (for George Mealy and Thomas Bartee).
1967	Driscoll Junior High School, Brookline, Massachusetts. Mathematics teacher.
1967	University of Oklahoma Medical Center Computing Facility, Oklahoma City, Oklahoma. Programmer.
1966	University of Central Oklahoma Data Processing Center, Edmond, Oklahoma. Programmer.
1965	Oklahoma Christian University of Science and Arts, Oklahoma City, Oklahoma. Statistical programmer.
1963	University of Oklahoma Computer Center, Norman, Oklahoma. Lab instructor.

RESEARCH AND DESIGN

1. Refereed Publications

Daugherity, W. C., and Kish, L. B., "More on the Reference-Grounding-Based Search in Noise-Based Logic," *Fluctuation and Noise Letters*, Vol. 21, No. 3, 2250023, 2022.

Kish, L. B., and Daugherity, W. C., "Entanglement, and Unsorted Database Search in Noise-Based Logic," *Applied Sciences*, Vol. 9, No. 15, 3029, 2019.

Kish, L. B., and Daugherity, W. C., "Noise-Based Logic Gates by Operations on the Reference System," *Fluctuation and Noise Letters*, Vol. 17, No. 4, 1850033, 2018.

Daugherity, W. C., and Coulson, R. N., "Knowledge Engineering for Sustainable Agriculture Management," *Proceedings of ICAST 2001 Conference* (Beijing, China, November 2001), 2:266, 2001.

Coulson, R. N., Saarenmaa, H., Daugherity, W. C., Rykiel, E. J., Saunders, M. C., and Fitzgerald, J. W., "A Knowledge System Environment for Ecosystem Management," book chapter in Klopatek, J. and Gardner, R. (eds.), *Landscape Ecological Analysis: Issues and Applications*, Springer-Verlag, 57-79, 1999.

Coulson, R. N., Daugherity, W. C., Rykiel, E. J., Saarenmaa, H., and Saunders, M. C., "The Pragmatism of Ecosystem Management: Planning, Problem Solving and Decision Making with Knowledge-Based Systems," *Proceedings of Eco-Informa '96 Global Networks for Environmental Information Conference* (Lake Buena Vista, Florida, November 1996), 10:342-50, 1996.

Coulson, R. N., Fitzgerald, J. W.*, Daugherity, W. C., Oliveria, F. L., and Wunneburger, D. F., "Using Spatial Data for Integrated Pest Management in Forest Landscapes," *Proceedings of the 11th Conference on Geographic Information Systems: Integrating Spatial Information Technologies for Tomorrow* (Vancouver, British Columbia, Canada, 1997).

Daugherity, W. C.; Harris, C. E., Jr.; and Rabins, M. J., "Introducing Ethics and Professionalism in REU Programs," *Proceedings of the 1995 World Conference on Engineering Education* (Minneapolis, Minnesota, October 1995).

Coulson, R. N., Daugherity, W. C., Vidlak, M. D.*, Fitzgerald, J. W.*, Teh, S. H.*, Oliveria, F. L., Drummond, D. B., and Nettleton, W. A., "Computer-based Planning, Problem Solving, and Decision Making in Forest Health Management: An Implementation of the Knowledge System Environment for the Southern Pine Beetle, ISPBEX-II," *Proceedings of the IUFRO Symposium on Current Topics in Forest Entomology* (Maui, Hawaii), 1995.

Yen, J., Daugherity, W. C., Wang, H.*, and Rathakrishnan, B.*, "Self-Tuning and Self-Learning Fuzzy Systems," book chapter in Yen, J., Langari, R., and Zadeh, L. (eds.), *Industrial Applications of Fuzzy Logic and Intelligent Systems*, IEEE Press, 1995.

* Graduate Research Assistant I funded

Daugherity, W. C., Video review of *Introduction to Biological and Artificial Neural Networks for Pattern Recognition,* by Steven K. Rogers, in *IEEE Transactions on Neural Networks*, Vol. 5, No. 5, 1994.

Teh, S. H.*, Daugherity, W. C., and Coulson, R. N., "A User-Centric Methodology for Building Usable Expert Systems," *Proceedings of the 7th International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems* (Austin, Texas, May-June 1994), 45-48, 1994.

Daugherity, W. C., "A Neural-Fuzzy System for the Protein Folding Problem," *Proceedings of the Third International Workshop on Industrial Fuzzy Control & Intelligent Systems (IFIS `93)* (Houston, Texas, December 1993), 47-49, 1993.

Daugherity, W. C., "A Partially Self-Training System for the Protein Folding Problem," *Proceedings of the World Congress on Neural Networks (WCNN `93)*, (Portland, Oregon, July 1993). Invited paper.

Yen, J., Wang, H.*, and Daugherity, W. C., "Design Issues of Reinforcement-Based Self-Learning Fuzzy Control," *Proceedings of the World Congress on Neural Networks (WCNN `93)*, (Portland, Oregon, July 1993).

Daugherity, W. C., "Characterizations of Fuzzy Operations," *Proceedings of the Second International Workshop on Industrial Fuzzy Control & Intelligent Systems* (College Station, Texas, December 1992), 234, 1992.

Yen, J., Wang, H.*, and Daugherity, W. C., "Design Issues of a Reinforcement-Based Self-Learning Fuzzy Controller for Petrochemical Process Control," *Proceedings of North American Fuzzy Information Processing Society* (Puerto Vallarta, December 1992), 1992.

Yen, J., Wang, H.*, and Daugherity, W. C., "An Adaptive Fuzzy Controller with Application to Petroleum Processing," *Proceedings of IFAC Workshop on Intelligent Manufacturing Systems* (Dearborn, October 1992), 1992.

Yen, J., Daugherity, W. C., and Rathakrishnan, B.*, "Fuzzy Logic and Its Application to Process Control," *Proceedings of CAPA Technology Conference* (Houston, May 1992), 78-86, 1992.

* Graduate Research Assistant I funded

Daugherity, W. C., Rathakrishnan, B.*, and Yen, J., "Performance Evaluation of a Self-Tuning Fuzzy Controller," *Proceedings of the IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)* (San Diego, March 1992), 1992.

Daugherity, W. C., "An Application of Geometrical Reasoning to a Combinatorial Problem," *Proceedings of the Seventh Annual Conference on Applied Mathematics* (Edmond, Oklahoma, April 1991), pp. 226-232, 1991.

Daugherity, W. C., Review of *Data Communications Dictionary*, by Charles J. Sippl, in *Computing Reviews*, Vol. 17, No. 9, pp. 335-336, 1976.

Daugherity, W. C., "Circuits for Dial-up and Local Use of a Stand-alone PDP-8," *Proceedings of the Digital Equipment Computer Users Society*, Vol. 2, No. 2 (Los Angeles, December 1975), pp. 413-414, 1976.

Daugherity, W. C., Review of *Effective Use of ANS COBOL Computer Programming Language*, by Laurence S. Cohn, in *Computing Reviews*, Vol. 16, No. 10, p. 441, 1975.

Manwell, T., Daugherity, W., Desch, S., and Stolurow, L., "Tom Swift and His Electric Bilingual Grandmother," *ACM SIGCUE Bulletin*, Vol. 7, No. 1, pp. 5-17, 1973.

Daugherity, W. C., "A Telephone Amplifier," *Transactions of the Oklahoma Junior Academy of Science*, Vol. IV, pp. 130-132, 1961.

* Graduate Research Assistant I funded

2. Other Publications

Daugherity, W. C., "Honors Section," in Rabins, M. J., and Harris, C. E. Jr. (eds.), *Engineering Ethics Teaching Manual*, 1997.

Daugherity, W. C., "Honors Section," in Rabins, M. J., and Harris, C. E. Jr. (eds.), *Engineering Ethics Teaching Manual*, 1996.

Allen, G. D., Nelson, P., Jarvis, R. D., and Daugherity, W. C., "System Impact of Hit Assessment Capability for NPB Discrimination: Analysis of the Case of No-Hit Assessment," *Weapons Lab/TALN Technical Report*, Kirtland Air Force Base, May, 1990.

3. Other Conference Papers and Presentations

Coulson, R. N., and Daugherity, W. C., "A Knowledge Engineering Approach for Ecosystem Management," 11th Annual Landscape Ecology Symposium, International Association for Landscape Ecology - Integration of Cultural and Natural Ecosystems Across Landscapes: Applications of the Science, Galveston, Texas, 1996.

Coulson, R. N., and Daugherity, W. C., "Decision Support Systems for Forest Pests: Where Do All the Knowledge-Based Systems Go?", North American Forest Insect Work Conference, San Antonio, Texas, 1996.

Daugherity, W. C. and Coulson, R. N., SPBEBE (Economic and Environmental Impact Assessment for Southern Pine Beetle Suppression Projects), computer code, developed for the USDA Forest Service, Forest Health Protection, 1996-1997.

Coulson, R. N., and Daugherity, W. C., "Knowledge System Environment for Ecosystem Management," Global Studies Seminar, Battelle Pacific Northwest Laboratories, Richland, Washington, 1995.

Daugherity, W. C. and Coulson, R. N., ISPBEX-II (Integrated Southern Pine Beetle Expert System), computer code, developed for the USDA Forest Service, Forest Health Protection, 1994.

Daugherity, W. C., and Yen, J., "Tutorial on Neuro-Fuzzy Systems," Third International Workshop on Industrial Fuzzy Control & Intelligent Systems Houston, Texas, December 1993.

Daugherity, W. C., "Introduction to LISP with an On-line Demonstration," Houston Geotech '91, Houston, Texas, 1991.

Daugherity, W. C., "The Universal Classification Problem," South Central Regional Conference of the Association for Computing Machinery, Austin, Texas, 1984.

4. Research Projects

"Remote Laboratory Data Entry and Retrieval System," Texas Department of Agriculture, Walter C. Daugherity, 1986, $3,000 (Daugherity 100%).

"Electrochemical Modeling of a Sinter Plate, Sealed Design Nickel-Cadmium (Ni-Cd) Battery Cell," National Aeronautics and Space Administration, Ralph E. White, Walter C. Daugherity, 1 graduate student, 1989, 25% of my salary 1989-90 (Daugherity 100%).

"Application of Reasoning under Uncertainty to Process Control," Texaco, Walter C. Daugherity and John Yen, 1 graduate student; competitive and peer-reviewed, September 1990, $18,000.

"Design of a Computational Classroom," Texas A & M University, Walter C. Daugherity, September 1990-May 1991, $60,000 (Daugherity 100%).

"Design of a Second Computational Classroom," Texas A & M University, Walter C. Daugherity, January 1991-December 1992, $153,000 (Daugherity 100%).

"Development of Honors Courses in Artificial Intelligence and Analysis of Algorithms," Texas A & M University, Walter C. Daugherity, James Abello and Arkady Kanevsky, 2 graduate students, competitive, September 1991-May 1991, $11,000 (Daugherity 50%).

"Integrated Southern Pine Beetle Expert System"; USDA Forest Service; Robert N. Coulson, Walter C. Daugherity, and Jeffrey W. Fitzgerald; 5 graduate students; competitive and peer-reviewed; 1985-1992, $974,120.

"Distributed Data-Base Support for the ISPBEX Expert System"; USDA Forest Service; Robert N. Coulson, Walter C. Daugherity, and Jeffrey W. Fitzgerald; 1 graduate student; competitive and peer-reviewed; 1992-93; $35,000.

"Integrated Southern Pine Beetle Expert System II"; USDA Forest Service; Robert N. Coulson, Walter C. Daugherity, and Jeffrey W. Fitzgerald; competitive and peer-reviewed; March 1993-February 1994; competitive and peer-reviewed; $170,000.

"Ecological Modelling of Regional Responses to Global Changes: A Knowledge System Environment for Planning, Problem-Solving and Decision Making"; Battelle Pacific Northwest Laboratory; Robert N. Coulson and Walter C. Daugherity; competitive and peer-reviewed; June-December 1995; $39,996.

"Fitness of a Genetically Modified *Gliocladium virens* in Soil and Rhizosphere"; USDA Cooperative State Research Service; Charles M. Kenerley and Walter C. Daugherity; 1 senior associate, 2 graduate students, and 1 undergraduate student; competitive and peer-reviewed; September 1996-August 2001; $254,450 (Daugherity 50%).

"Southern Pine Beetle Biological Evaluation and Economic Evaluation Program Conversion"; USDA Forest Service, Forest Health Protection; Robert N. Coulson (PI) and Walter C. Daugherity (Co-PI); competitive and peer-reviewed; 1996-1997; $16,421.

"The Texas Imported Fire Ant Survey: The Fire Ant Spatial Information Management System (FASIMS)"; Texas Agricultural Experiment Station; Robert N. Coulson (PI) and S. Bradleigh Vinson, Maria D. Guzman, Douglas F. Wunneburger, and Walter C. Daugherity (Co-PI's); competitive and peer-reviewed; January 1998-December 1998; $50,000.

"Special Topics in Computer Science Concepts and Programming"; Academy for Advanced Telecommunications and Learning Technologies; Walter C. Daugherity; competitive and peer-reviewed; June 1998-May 1999; $5,000 (Daugherity 100%).

"Object Modeling Techniques Support for National Simulation Center Tactical Directorate"; U. S. Army through prime contractor Cubic Applications, Inc.; Walter C. Daugherity, James A. Wall, and José Salinas; competitive; September 1998-April 1999; $74,498 (Daugherity 20%).

"The Fire Ant Spatial Information Management System (FASIMS)"; Texas Department of Agriculture, Texas Imported Fire Ant Research and Management Plan; Robert N. Coulson (PI) and Douglas F. Wunneburger, S. Bradleigh Vinson, and Walter C. Daugherity (Co-PI's); competitive and peer-reviewed; 1999-2001; $220,000.

"Evaluating the Impact of Southern Pine Beetle on Ecologically Sustainable Forest Management"; USDA Forest Service; Robert N. Coulson and Walter C. Daugherity; 1 graduate student and 1 undergraduate student; competitive and peer-reviewed; 2000-2003, $90,000.

"Honey Bee Initiative"; State of Texas; Robert N. Coulson (PI), Walter C. Daugherity (Consultant); 2 graduate students; competitive; September 2001-August 2002; $40,000.

"Increasing Computer Science Retention by Developing and Deploying Self-Paced Learning Modules"; State of Texas; Jennifer Welch and Frank Shipman (Co-PI's), Lawrence Petersen, Walter C. Daugherity, and Lauren Cifuentes (Key Personnel); 10 undergraduate students; competitive; June 2002-August 2004; $422,692.

"Facilitating the Transition to Java in High School Computer Programming Classes"; Texas A&M University System Academy for Educator Development; Walter C. Daugherity; 1 graduate student; competitive and peer-reviewed; December 2003-September 2004; $2,966 (Daugherity 100%).

"Instructional Technology Enhancements for Computer Teaching Labs," Texas A&M University, Walter C. Daugherity, competitive, January 2004-August 2004, $20,000 (Daugherity 100%).

"Increasing Computer Science Retention with Peer Teachers and Learning Modules"; State of Texas; Valerie Taylor and Jennifer Welch (Co-PI's), Lawrence Petersen, Walter C. Daugherity, and Joseph Hurley (Key Personnel); undergraduate students; competitive; September 2004-August 2005; $173,158.

Cumulative total: $2,845,801

5. Research Proposals

Note: Funded proposals are listed in section 4 above.

"Automated Support for VLSI Standard Cell Optimization," Texas Advanced Technology Program, Walter C. Daugherity, competitive and peer-reviewed, July 1989, not funded, $233,887.

"Integration of Computer Software Models for NiCd Battery Design," National Aeronautics and Space Administration, Ralph E. White and Walter C. Daugherity, competitive and peer-reviewed, 1990, not funded, $125,000.

"Innovative Use of Supercomputers and Parallel Computers in Grades K-8," Department of Energy, Paul Nelson, Walter C. Daugherity and Bahram Nassersharif, competitive and peer-reviewed, December 1990, preproposal submitted, $885,000.

"Integration of Texas Junior Colleges into State and National Computer Networks," Texas Advanced Technology Program, Walter C. Daugherity and Charles H. Beard, competitive and peer-reviewed, July 1991, not funded, $174,219.

"Adaptive Fuzzy Control for Industrial Processes," Texas Advanced Research Program, John Yen and Walter C. Daugherity, competitive and peer-reviewed, July 1991, not funded, $177,064.

"Development of a Fuzzy Logic Tuner for a PID Controller," Texaco, John Yen and Walter C. Daugherity, 1992-93, not funded, $200,000.

"National Center For Ecological Analysis and Synthesis," National Science Foundation; Robert N. Coulson, Walter C. Daugherity *et al.*, competitive and peer-reviewed, July 1994, not funded, $10,000,000.

"Development of a Fungal Growth Model for Risk Assessment," Texas Advanced Research Program, Charles M. Kenerley and Walter C. Daugherity, competitive and peer-reviewed, July 1995, not funded, $203,792.

"Intelligent Vehicle Navigation System," Texas Advanced Technology Program, Walter C. Daugherity and Jeffrey W. Fitzgerald, competitive and peer-reviewed, July 1995, not funded, $195,058.

"Innovative Programs to Increase the Enrollment in Computer Science," Texas Technology Workforce Development Grant Program, Valerie Taylor and Frank Shipman (co-PI's), Lawrence Petersen, Walter C. Daugherity, and Joseph Hurley (Key Personnel), competitive and peer-reviewed, March 2005, pending, $69,760.

6. New Design Methods, Techniques, or Concepts Developed

Null Modem

I independently invented the null modem in 1969 and constructed one for Harvard University (which is still operational!).

Computer Keyboard National Standard

As a member of the Harvard-MIT Terminal Committee, I participated in the development of the national standard for computer keyboards (*e.g.*, putting braces above brackets for the benefit of programming languages). Nearly every computer terminal and keyboard since then (*e.g.*, VT100, PC) uses this layout.

Integrated User Training

I invented the method of training users about additional features of an application program by integrating the information with the operation of the program (see Manwell, Daugherity, *et al.* under Publications, above). This is now widely adopted, *e.g.*, by Microsoft for its Windows operating systems in the "Getting Started" panel.

Object-Oriented Database

I independently invented and implemented an object-oriented database to support arbitrary combinations of data types.

Self-Organizing Fuzzy Controller

In collaboration with Balaji Rathakrishnan (a Graduate Research Assistant I funded) and John Yen, I developed a new systematic methodology for constructing and tuning fuzzy logic controllers. The research project was funded by Texaco (see the preceding section for details) for use in its refineries.

TEACHING

1. New Courses Developed

CPSC 111/211/311 Java and C-based sequence - Member of curriculum subcommittee, taught 111 and 211
CPSC 210 (Honors) - Data Structures
CPSC 320 (Honors) - Artificial Intelligence
CPSC 489 - Object-Oriented Programming, Systems, and Languages
CPSC 635 - Natural Language Processing (taught by Dr. P. Mayer)
CPSC 689 - Symbolic and Algebraic Computation (not taught)
CSCE 489/PHIL 382 (with Glen Miller [PHIL]) - Ethics and Cybertechnology
ENGR/PHIL 482 (Honors) - Ethics and Engineering
PHIL 282 (with Glen Miller [PHIL]) – Ethics in a Digital Age
PHYS/ELEN 674 (with David Church [PHYS]) - Special Topics in Quantum Computing (the first course at Texas A&M in quantum computing, and, to the best of my knowledge, the first course in quantum computing anywhere in Texas), taught Spring, 2005, for the fifth time.
A Distance Learning section of CPSC 601 - Programming in C and Java, taught Spring, 2003.
Two sections of CPSC 111 - Computer Science Concepts and Programming taught with student peer teachers as assistants, Fall, 2002.
Honors section of CPSC 111 - Computer Science Concepts and Programming taught with student peer teachers as assistants, Fall, 2004.
Developed (with Lawrence Petersen) an intensive summer training program in Java and Software Engineering for high-school computer science teachers, taught Summer, 2003.
Developing an intensive summer training program in Data Structures for high-school computer science teachers, taught Summer, 2004; I was also completely responsible for recruiting teachers, getting them admitted, arranging for housing, and so on.

2. Courses Taught

A. Graduate

CPSC 601	Programming in C and Java
CPSC 602	Object-Oriented Programming, Development, and Software Engineering
CPSC 614	Computer Architecture
CPSC 625	Artificial Intelligence
CPSC 632	Expert Systems
CPSC 681	Graduate Seminar
CPSC 685	Problems

CPSC 691 Research
PHYS/ELEN 674 Quantum Computing (co-teacher)

B. Undergraduate

CPSC 111 Computer Science Concepts and Programming
CPSC 111H Computer Science Concepts and Programming (Honors)
CPSC 120 Programming II
CPSC 120H Programming II (Honors)
CPSC 203 Introduction to Computing
CPSC 206 Structured Programming in C
CPSC 210 Data Structures
CPSC 210H Data Structures (Honors)
CPSC 211 Data Structures and Implementations
CPSC 211H Data Structures and Implementations (Honors)
CPSC 285 Special Topics - Data Structures for Teachers
CPSC 289 Special Topics - Java and Software Engineering for Teachers
CPSC 311 Analysis of Algorithms
CPSC 320/420 Artificial Intelligence
CPSC 320H/420H Artificial Intelligence (Honors)
CPSC 321 Computer Architecture
CPSC 464 Integrated Systems Design Automation
CPSC 485 Problems
CPSC/ELEN 485H Problems (Honors theses)
CPSC 489 Object-Oriented Programming, Systems, and Languages
CSCE 113 Intermediate Programming and Design
CSCE 121 Introduction to Program Design and Concepts
CSCE 121H Introduction to Program Design and Concepts (Honors)
CSCE 315 Programming Studio
CSCE 410 Operating Systems
CSCE 489 Cyberethics (co-teacher)
ENGR 112 Foundations of Engineering II
ENGR 112H Foundations of Engineering II (Honors)
ENGR/PHIL 482H Ethics and Engineering (Honors)

PROFESSIONAL OUTREACH

1. Director, Knowledge Systems Research Center

2. Invited Significant Seminars or Lectures

Daugherity, W. C., "Computers and Privacy," Phi Theta Kappa Honor Society State Convention, Blinn College, Brenham, Texas, 1985.

Daugherity, W. C., and DeSoi, J. F., "Objected-Oriented Programming," Second Annual Texaco Artificial Intelligence Symposium, Houston, Texas, 1989.

Daugherity, W. C., "A Self-Tuning Fuzzy Controller," ARRI Conference on Fuzzy Logic, Arlington, Texas, March 1992.

Daugherity, W. C., Yen, J., and Langari, R., "Tutorial on Fuzzy Logic," Second International Workshop on Industrial Fuzzy Control & Intelligent Systems, College Station, Texas, December 1992.

Daugherity, W.C., "A Partially Self-Training System for the Protein Folding Problem," World Congress on Neural Networks, Portland, Oregon, July 1993.

Daugherity, W.C., "Neuro-fuzzy Systems," Third International Workshop on Industrial Fuzzy Control & Intelligent Systems, Houston, Texas, December 1993.

Daugherity, W.C. and Harris, C.E., "Ethics and Engineering," NSF Research Experience for Undergraduates, College Station, Texas, Summer 1994.

Daugherity, W.C. and Harris, C.E., "Ethics and Engineering," NSF Research Experience for Undergraduates, Austin, Texas, Summer 1994.

Daugherity, W.C. and Harris, C.E., "Ethics and Engineering," NSF Research Experience for Undergraduates, College Station, Texas, Summer 1995.

Daugherity, W.C. and Harris, C.E., "Ethics and Engineering," NSF Research Experience for Undergraduates, Austin, Texas, Summer 1995.

Daugherity, W.C., "Public-Key Cryptography Meets Quantum Computing: Why Secret Agencies are Quaking in their Boots." Quantum Computing Seminar, Texas A&M University, April 9, 2001.

Daugherity, W.C., "Quantum Computing 101: How to Crack RSA." DefCon X, Las Vegas, NV, August 4, 2002.

Daugherity, W.C., "Computer Ethics." ENGR 482 Ethics and Engineering, Texas A&M University, April 14-16, 2003.

Daugherity, W.C., "Incorporating Computer Ethics into an Engineering Ethics Course." University of Texas Ethics Conference, Austin, Texas, April 16, 2004.

Daugherity, W.C., "Computer Ethics." ENGR 482 Ethics and Engineering, Texas A&M University, November 8-10, 2004.

Daugherity, W.C., "[My] 53 Years of Computing History," CSCE 681 Open Graduate Seminar, Texas A&M University, November 18, 2015.

3. Consulting

St. Joseph's Hospital, Bryan, Fall 1990, at no charge.
Other clients include IBM Federal Systems Division, New York Times, Washington Post, Los Angeles Times, Cheyenne and Arapaho Tribes of Oklahoma, Southwestern Bell Telephone, Fulbright & Jaworski (Houston), Texas Department of Agriculture, Phonogram B.V. (Amsterdam), and U. S. Department of the Treasury.

HONORS AND AWARDS

Oklahoma Junior Academy of Science, elected to membership, 1961, Oklahoma State University
National Science Foundation, Institute for High Ability Secondary School Students, 1962, University of Oklahoma
Westinghouse, Science Talent Search national finalist, 1963
National Merit Scholarship test, highest score in Oklahoma,
1963 Frontiers of Science, scholarship, 1963, Oklahoma City, Oklahoma
Engineering Club of Oklahoma City, award, 1963, Oklahoma City, Oklahoma Oklahoma Christian College, full scholarship (top entering freshman), 1963,
Oklahoma City, Oklahoma
National Science Foundation, Undergraduate Research Participation Program, 1965, University of Oklahoma, Norman, Oklahoma
Alpha Delta Tau, National Honor Society, 1966
Who's Who in American Colleges and Universities, 1966 Graduate Record Exam in Mathematics, scored 800, 1966 Harvard University, Prize Fellowship, 1966
National Science Foundation, Academic Year Institute, 1967 Phi Delta Kappa, National Honor Society, 1967
Harvard University, Class Marshal for the Graduate School of Education, 1967 Harvard University, Bowdoin Prize, bronze medal and cash award for outstanding writing, 1973

Association for Computing Machinery, selected as a reviewer for *Computing Reviews*, 1975

Association for Computing Machinery, Outstanding Regional Intercollegiate Programming Contest Director Award, 1993, Indianapolis, Indiana

World Congress on Neural Networks, Neural Systems Session Co-chair, 1993, Portland, Oregon

Graduate Student Council, 1997 Outstanding Graduate Faculty Award citation: "For your time and dedication to graduate students at Texas A&M."

Named by the TAMU System to The Academy for Educator Development, a major component of The Texas A&M University System's Regents' Initiative for Excellence in Education, 2003 (one of only two faculty members selected from the entire College of Engineering).

Winner, $500 cash prize, Texas A&M University Academic Integrity Week Essay Competition (Faculty Category), 2004.

Texas A&M University, Department of Computer Science & Engineering, 2009 Undergraduate Faculty Award citation: "In grateful appreciation of dedicated service, exemplary attitude, and significant contribution."

Qualified for American MENSA, 2015.

Oklahoma Christian University, Department of Mathematics and Computer Science, 2015

Distinguished Alumnus Award citation: "For outstanding vision, dedication, and commitment to excellence."

EXHIBIT B

EXPERT DISCLOSURE FOR WALTER C. DAUGHERITY, ED.D.

1. My name is Walter C. Daugherity, Ed.D. I am a Senior Lecturer Emeritus in the Department of Computer Science and Engineering at Texas A&M University in College Station, Texas.
2. My opinions are as set forth in the attached Declarations and Report #3, Election Database and Data Process Analysis. In addition, I will testify (a) that the mathematical and statistical analyses I have performed on November 2020 election data clearly and convincingly demonstrate manipulation, and (b) that computerized voting systems are highly vulnerable in their hardware, software, and network connections.
3. The facts or data that I considered are set forth in the attached declarations and Report #3 in light of my background, education, training and experience in the field of computer science as described in my declarations. I have read very widely on investigations and analyses of the November 2020 election, including but not limited to the following:
    i. Expert reports of J. Alex Halderman
    ii. Expert reports of Andrew Appell
4. Exhibits to summarize the data are included in the declarations and Report #3.
5. Qualifications are in the declarations.
6. List of Cases in which I have testified as an expert in the last four years (i) as an expert at trial or in deposition, and also (ii) by declaration or affidavit:

    a. Alabama: (August 17, 2022) Hanes *et al.* v. Merrill *et al.*, Montgomery County Circuit Court, CV-2022-9000595.00
    b. Arizona: (January 22, 2023) Lake *et al.* v. Hobbs *et al.,* Maricopa County Superior Court, CV2022-095403
    c. Arizona: (June 8, 2022) Lake *et al.* v. Hobbs *et al.,* U.S. District Court (Arizona), No. 2:22-cv-00677-JJT
    d. California: (December 19, 2022) Young v. Diaz *et al.*, Nevada County Superior Court, CU0000261 (First Declaration)
    e. California: (March 17, 2023) Young v. Diaz *et al.*, Nevada County Superior Court, CU0000261 (Second Declaration)
    f. Colorado: (December 19, 2022) Kirkwood v. Griswold, District Court (City and County of Denver), 22CV32954
    g. Colorado: (November 8, 2023) Peters v. United States *et al.*, U.S. District Court (Colorado), 1:23-cv-3014-NYW
    h. Illinois: (December 26, 2022) Fritz v. Ferry, 12th Circuit Court, 2022 MR 421 (Declaration)

i. Illinois: (May 22, 2023) Fritz v. Ferry, 12th Circuit Court, 2022 MR 421 (Affidavit)
j. Nevada: (July 25, 2022) Gilbert v. Sisolak, 1st Judicial District Court, 22 OC 000851B (First Amended Declaration)
k. South Carolina: (January 18, 2023) SC Safe Elections *et al.* v. Boards of Elections *et al.*, Richland County Court of Common Pleas, 2022-CP-4004438

7. Compensation: I am being reimbursed for my expenses.
8. Certification: I hereby certify that this report is a complete and accurate statement of all of my opinions, and the basis and reasons for them, to which I will testify under oath.

/s/ Walter C. Daugherity
Walter C. Daugherity, Ed.D.

December 5, 2023

EXHIBIT C

From: Brian Watson <brianwatson70002@gmail.com>
Sent: Thursday, November 12, 2020 2:33 PM
To: Sylvia Allen; Sonny Borrelli; Paul Boyer; Kate Brophy McGee; Heather Carter; Karen Fann; David Farnsworth; Eddie Farnsworth; David Gowan; Rick Gray; Sine Kerr; Vince Leach; David Livingston; J.D. Mesnard; Tyler Pace; Frank Pratt; Michelle Ugenti-Rita; John Allen; Nancy Barto; Leo Biasiucci; Walter Blackman; Shawnna Bolick; Russell Bowers; Noel Campbell; Frank Carroll; Regina Cobb; David Cook; Tim Dunn; John Fillmore; Mark Finchem; Travis Grantham; Gail Griffin; John Kavanagh; Anthony Kern; Jay Lawrence; Becky Nutt; Joanne Osborne; Kevin Payne; Warren Petersen; Steve Pierce; Tony Rivero; Bret Roberts; Thomas T.J. Shope; Bob Thorpe; Ben Toma; Kelly Townsend; Michelle Udall; Jeff Weninger
Subject: Fwd: Meeting held by Pima County Democrats (Voter Fraud Planning meeting)

asking you to void all elections in the state! This includes local, county, state and federal elections! Each ballot contains all these races in it!

The State Legislature has the power to null and void all Nov 3rd election results if AZSOS and the county recorder and elections office will not provide full transparency.
See forwarded message!

---------- Forwarded message ---------
From: **Brian Watson** <brianwatson70002@gmail.com>
Date: Tue, Nov 10, 2020 at 9:38 AM
Subject: Meeting held by Pima County Democrats (Voter Fraud Planning meeting)
To: <Criminal.Division@usdoj.gov>

US Department of Justice,

This is anonymous reporting and do not want to be included in this investigation! Thank you!

Please be advised that Pima County Recorder, located at 240 N Stone Ave, Tucson, AZ 85701 in Pima County Arizona and the Democratic Party added "fraud votes" in the initial count to the Vote-By-Mail (VBM) totals released at 8pm on Nov 3rd 2020.

There were approximately 35,000 fraud votes added to each democrat candidate's vote totals. Candidates impacted include county, state and federal election candidates. Through the utilization of the automated ballot count machines in Pima County Elections, my understanding is that 35,000 was embedded into each democrat candidate's total votes.

Below are the meeting notes:

In a meeting I was invited to by the democrat party in Pima County Arizona on Sept 10th 2020, no phones or recording devices were allowed, a presentation was given including detailed plans to embed 35,000 in a "spread configured distribution" to each democrat candidate's vote totals.

When I asked "how in the world will 35,000 be kept hidden or from being discovered", it was stated that "spread distribution will be embedded across the total registered voter range and will not exceed the registered voter count, and the 35,000 was determined allowable for pima county based on our county registered voter count". It was also stated that "total voter turnout versus total registered voters determine how many votes we can embed. The embedding will auto adjust based on voter turn-out." Because the "embed votes are distributed sporadically all embedded votes will not be found, if audited, because the embeds are in groups of approximately 1,000. This is so the county recorder can declare an orversite issue or error as a group of 1,000 is a normal and acceptable error." "Maricopa County's embed totals will be substantially higher than Pima due to embeds being calculated based on the total number of registered voters."

When I asked "has this ever been tested? and how do we know it works?" The response was "Yes, this has been testing and has shown significant success in Arizona Judicial Retention Elections since 2014 even undetectable in post audits because no candidate will spend the kind of funds needed to audit and contact voters to verify votes in the full potential of total registered voters which is more then 500,000 registered voter. This year our Secretary of State has removed precinct level detail for election night releases so canidates can't see precinct over-votes".

This is what I have from this meeting.
Just thought I'd report this. Not sure if you can do anything since I was unable to have a recording device at this meeting...

Thank you!
B.Watson

EXHIBIT D

DECLARATION OF WALTER C. DAUGHERITY

WALTER C. DAUGHERITY declares, under penalty of perjury, pursuant to 28 U.S.C. § 1746, that the following is true and correct.

Qualifications

1. My full name is Walter Chisholm Daugherity. I am a Senior Lecturer Emeritus in the Department of Computer Science and Engineering at Texas A&M University and also a computer consultant to major national and international firms, as well as to government agencies, including classified work.

2. Prior to my retirement in 2019, I taught computer science and engineering at both the undergraduate and graduate levels for 37 years, the last 32 years being at Texas A&M University. Courses I developed and taught include courses in artificial intelligence, expert systems, programming and software design, quantum computing, and cyberethics.

3. I have published 26 research articles related to expert systems, fuzzy logic, noise-based logic, and quantum computing from over $2.8 million in funded research projects, plus conference papers and other publications.

4. As a computer expert I have consulted for major national and international firms, including IBM Federal Systems Division, *New York Times*, *Washington Post*, *Los Angeles Times*, Southwestern Bell Telephone, Fulbright & Jaworski (Houston), and

Phonogram B.V. (Amsterdam), and also for government agencies such as Cheyenne and Arapaho Tribes of Oklahoma, Texas Department of Agriculture, U. S. Customs Service, and classified work.

5. Further details about my qualifications are included in my Curriculum Vitae attached as Exhibit A.

6. I have qualified as an expert witness in court cases related to elections, electronic voting machines, and election data.

Ballot Tabulation Failures

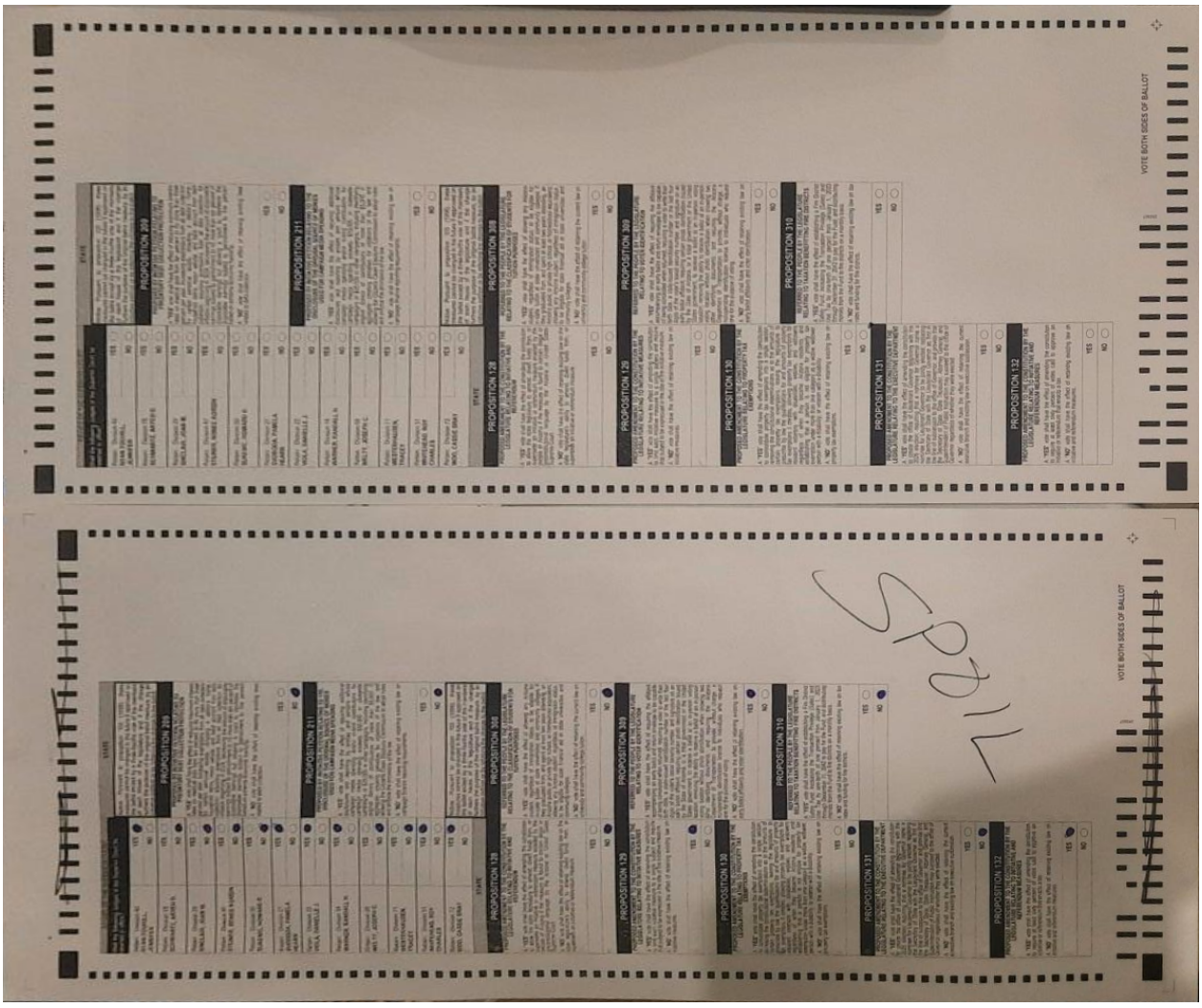
7. I have been provided the tabulator System Log files by Tim LaSota, counsel for Kari Lake, who obtained them from Maricopa County pursuant to a Public Records Act Request.

8. As has been widely reported, there was an extremely large number of ballot tabulation failures at the 223 voting centers in Maricopa County on Election Day, November 8, 2022. By examining the System Log file messages for each tabulator used at Maricopa County's 223 vote centers, as well as the tabulators used at the Maricopa County Tabulation and Election Center (MCTEC), the various types of "insertion error" messages were identified and categorized.

9. However, some of these "insertion error" System Log messages are not "failures" in the sense that the tabulator failed to scan the inserted ballot due to an inability to scan the ballot because of a configuration issue or print quality error, so such error messages must thus

be counted separately. For example, if the tabulator scanned a ballot correctly, sensed an overvote (*e.g.*, voting for more candidates than allowed for a race), informed the voter, and the voter chose not to cast that ballot but to first correct it, the ballot would be ejected.

10. To understand the types of "insertion errors" which ***are*** failures, here is a photograph of the back side of two 20-inch ballots, a good ballot (top) alongside a bad ballot (bottom), which was spoiled:



11. The large black rectangles at three of the four corners enable detection of which end of the ballot is the top, since ballots may be inserted into the tabulator in either direction.

Then around the outer border of the ballot is a series of uniformly-spaced timing synchronization marks which enable the tabulator to determine the row and column of each filled-in bubble and look up the corresponding candidate, contest proposition, etc., in the ballot definition file and tally the vote. The tabulator software scrupulously checks that all these marks are exactly the right size and in exactly the right position, to ensure that the ballot is genuine and that the correct candidate or proposition is tallied for properly filled-in bubbles.

12. Careful inspection of the bottom (bad) ballot reveals that there is a half-inch extra white space at both the top and the bottom, which means that the total distance from the top timing mark row to the bottom timing mark row is one inch less than on the top (good) ballot. The side margins are similarly wider on the bad ballot, and measurements verify that the good 8.5-inch by 20-inch image (top) has been shrunk by 5% to make an 8.075-inch by 19-inch image, which is then centered and printed on 8.5-inch by 20-inch paper. In other words, the good ballot image has been reduced to 95% of its proper size.

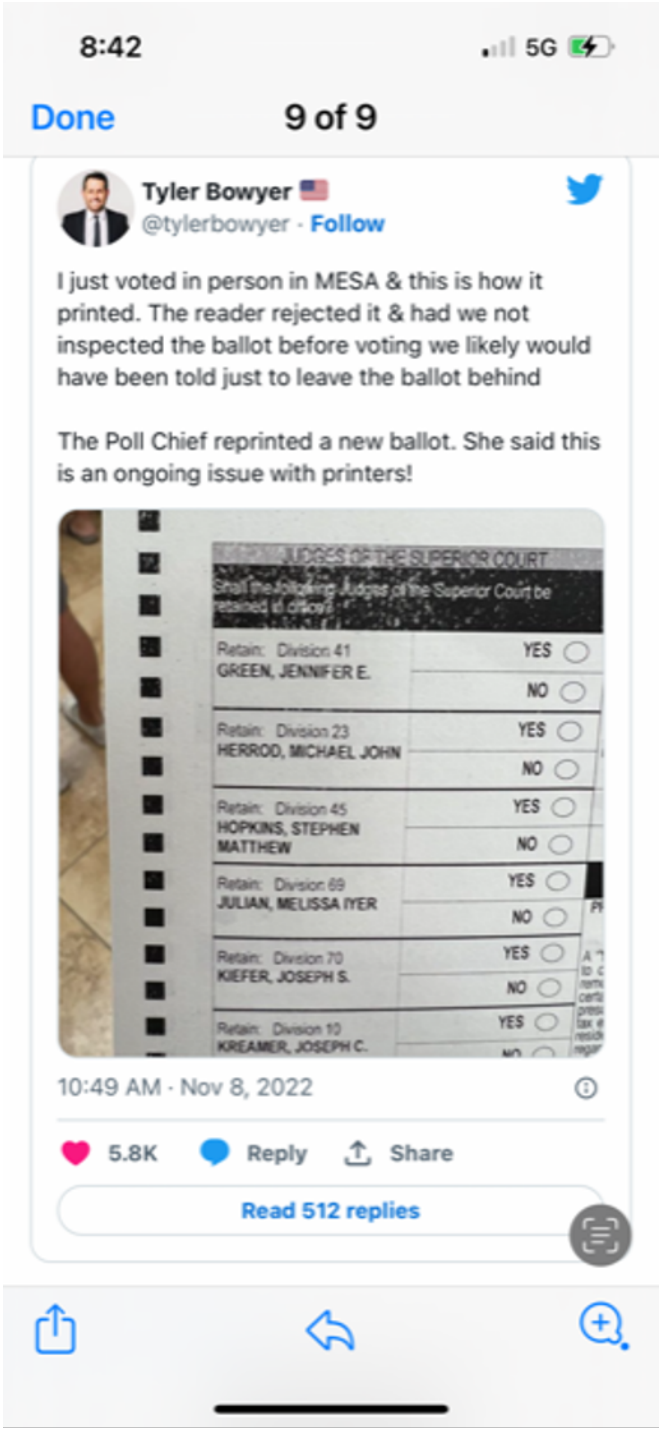
13. This results in all the edge markers and frame timing synchronization marks' being too small, which makes the ballot invalid. Multiple detailed error messages are then generated in the System Log file, such as:

```
08 Nov 2022 06:28:03 [ImageProcessing] ERROR : [Pixel Count] left edge marker #39 not found.
08 Nov 2022 06:28:03 [ImageProcessing] ERROR : [Pixel Count] Determine Vertical edge markers failed
08 Nov 2022 06:28:03 [ImageProcessing] ERROR : [Pixel Count] Ballot misread.

…

08 Nov 2022 06:28:05 [CentralManager] INFO : [CentralManager] Ballot returned to a voter
```

since the ballot is unscannable.

14. Another cause of failure, which likewise affects the edge markers and timing

synchronization marks, is when the ink printed on the ballot is not dark enough or is not uniform, as in this photograph:



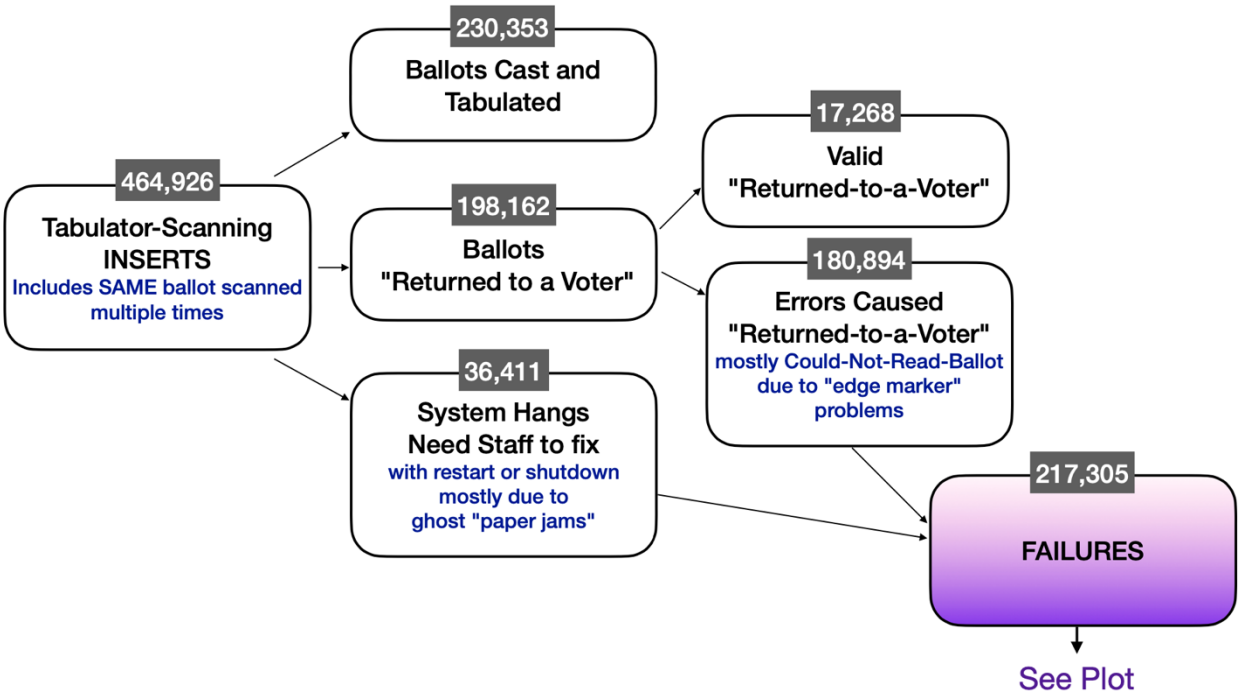
As a result, the ballot is again rejected, since (in layman's terms) the marks are not perfectly

sized, completely black rectangles. I am informed that once this particular problem was identified on Election Day, some enterprising poll workers or voters spread the word at their voting center to laboriously blacken all the edge markers and timing marks by hand in order to get a rejected blotchy ballot to scan.

15. Possible causes of blotchy printing include (1) insufficient toner (ink cartridge is low and needs replacing) and (2) too low a print fuser temperature. The latter is especially important for heavy media such as the 80 or 100-pound ballot paper specified by the tabulator vendor. I am informed that some technicians discovered the misprinting printers were not set to "heavy media" as they should have been, and when they changed the printers to this correct setting, the print quality improved.

16. All of the "insertion error" System Log messages described in ¶¶ 8-15 above were then categorized by type and counted, as depicted in the following graphic:

Ballot-Insert Counts and Flow from Voting Center (Election Day) Tabulator System Logs



17. Of 464,926 tabulator-scanning ballot insertions, 230,353 ballots were cast, 198,162 ballots were returned to the voter, and 36,411 times there was a "system hang" or ghost "paper jam" requiring operator intervention. Of the 198,162 ballots returned to the voter, 17,268 were proper since they were at the request of the voter (see ¶ 9 above), leaving 180,894 which were errors.

18. Attached as Exhibit B is a chart showing the number of ballot rejections due to configuration and/or print quality issues by vote center. These resulted from bad edge markers (corner alignment marks and timing synchronization marks around the "frame" of the ballot image) due to (1) the marks' being too small due to shrinking the 20-inch ballot image to 19 inches and then centering and printing it on 20-inch paper, (2) blotchy printing

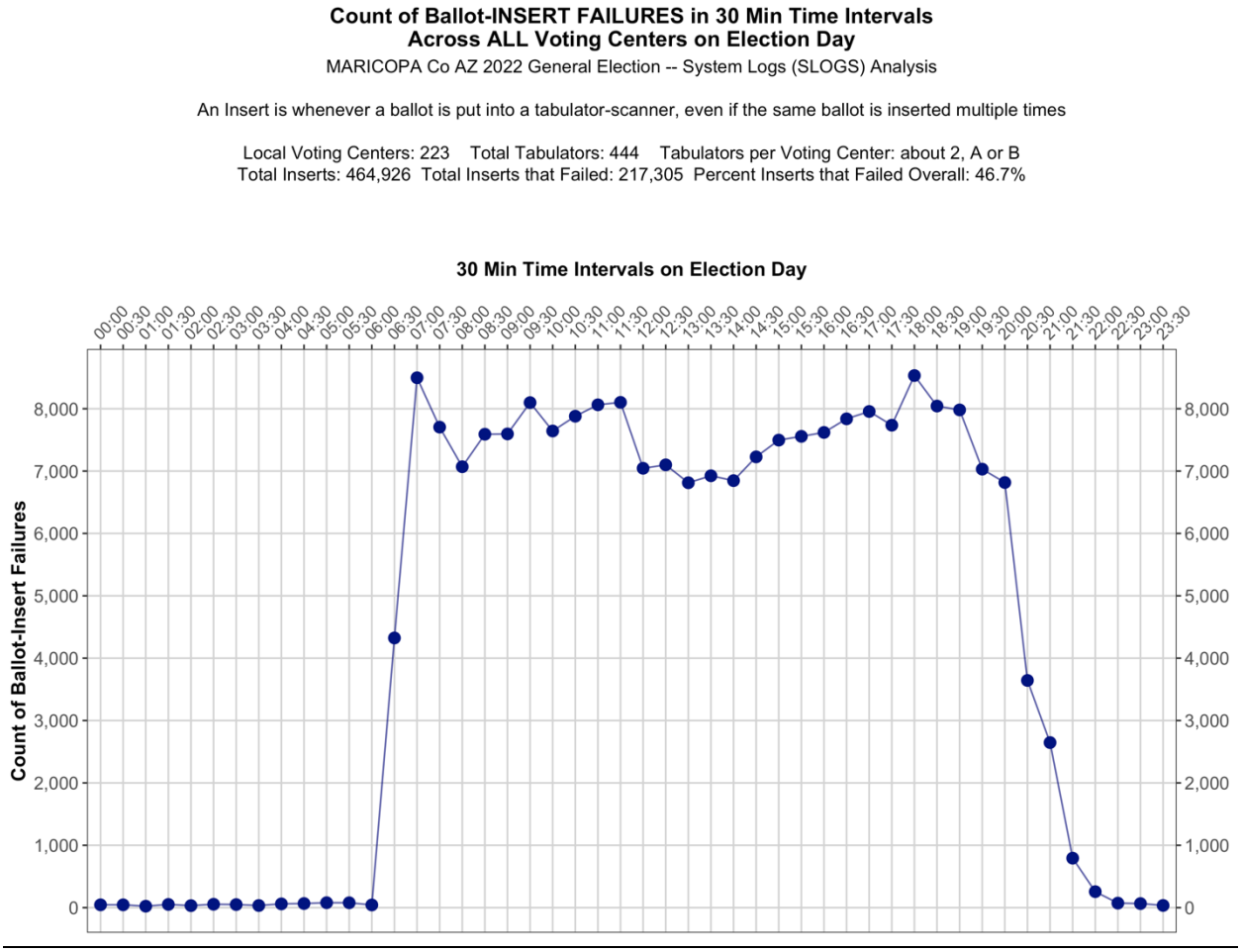
due to improper printer media weight setting, or (3) blotchy printing due to insufficient toner. In case (1), improperly shrinking the ballot image from 20 inches to 19 inches shrank the edge markers by 5% (19 is 5% less than 20) and the tabulator correctly identified them as too small to be a valid ballot. In cases (2) and (3) the timing marks were not completely black.

19. A total of 138 vote centers (out of 223) in Exhibit B show a ballot insertion rejection rate of 20% or more. This is 100 or more times the acceptable limit of 0.2% (1 in 500) specified in the Election Assistance Commission's (EAC's) Voting System Guidelines version 2.0; see section 1.2-G, which says:

> **1.2-G – Misfeed rate benchmark**
>
> The voting system misfeed rate must not exceed 0.002 (1 / 500).
>
> **Discussion**
>
> Multiple feeds, misfeeds (jams), and rejections of ballots that meet all manufacturer specifications are all treated collectively as "misfeeds" for benchmarking purposes; that is, only a single count is maintained.

Timing of Ballot Insertion Errors

20. All of the System Log messages are time-stamped, which makes it possible to see when the ballot insertion errors occurred throughout Election Day, as depicted in the following graph (which is the "Plot" referred to in the graphic in ¶ 16 above):



21. This shows that, across the county, over 7,000 ballot insertion failures occurred in almost every single 30-minute period for the entirety of Election Day, starting at 7:00 A.M. and continuing to 8:00 P.M., with a smaller number of failures prior to 7:00 A.M. and after 8:00 P.M. This was thus an enormous and continuous problem which did not get better overall during Election Day, despite numerous technicians' making adjustments throughout the day.

22. These facts belie Maricopa County's representations that the problems were minor and quickly remedied.

Inconsistencies in the Redacted Cast Vote Record

23. I have also been provided with the redacted Cast Vote Record (CVR) by Tim LaSota, counsel for Kari Lake, who obtained it from Maricopa County pursuant to a Public Records Act Request. Since it is labelled "redacted" it is not complete; however, the portions of the actual CVR remaining are represented by the County to be accurate, but this does not appear to be the case.

24. Although votes were cast in all voting centers, 43 voting centers do not appear at all in the redacted CVR. These are the same voting centers listed in the County's reconciliation report (attached as Exhibit C) as having been tabulated at Central Count ***instead of using the voting center results recorded on their memory cards***, with the exception of Journey Church, which both appears in the redacted CVR (indicating its memory cards were counted) and also in Exhibit C as counted at Central Count, so it may have been counted twice. As a result, there is no way to know what the true outcome of the votes in those voting centers are, nor the total votes for the entire election.

25. Note that only two voting centers are listed as having "Door 3" ballots (defective ballots rejected for printing failures as described in ¶¶ 10-18 above, or for other reasons) commingled with ballots that were successfully scanned and tabulated to the memory cards. To rectify this commingling error, the memory cards from these two voting centers were ignored and all the ballots tabulated at Central Count. ***This should not have been done for any other voting centers.***

26. Also note that defective ballots rejected for printing failures at a voting center would likewise be rejected by a Central Count scanner, since the same ballot

style definitions and format must be used.

Mismatched Signatures

27. I received a copy of Exhibit 12 in *Lake v. Hobbs*, the Declaration of Shelby Busch dated December 7, 2022, regarding mismatched signatures in Maricopa County, Arizona ("Busch Declaration"). From a large sample of mismatched signatures from the November 3, 2020, election, the Busch Declaration projects the expected number of "egregiously mismatched" signatures and "standard mismatched" signatures in the November 8, 2022, election. (Note: The terms "egregiously mismatched" and "standard mismatched" are defined in the Busch Declaration, *e.g.*, at ¶ 19. For example, a signature with a completely different name is termed an "egregious mismatch" and a signature which does not meet the Arizona Secretary of State standards is termed a "standard mismatch.")

28. I was asked to assess the accuracy and statistical significance of the mathematical calculations in the Busch Declaration, specifically in its ¶¶ 19-20.

29. I confirmed that the calculations performed therein are accurate to within rounding to two decimal places.

30. To determine confidence intervals for the projections to the 2022 election made in the Busch Declaration, the appropriate standard statistical method is the "Exact Binomial Test." The confidence intervals resulting from that statistical test were then used to determine the minimum and maximum range for the projections to the 2022 election.

31. The resulting spreadsheet is attached as Exhibit D. It is divided horizontally into two sections: the top half deals with projections of the number of "egregiously

mismatched" signatures, and the bottom half deals with projections of the number of "standard mismatched" signatures. Each half contains the upper and lower limits for five different confidence levels, 95%, 99%, 99.9%, 99.99%, and 99.999%.

32. In both halves the most compelling numbers are highlighted, namely:

(a) With 99.999% confidence, the projected number of ***egregiously mismatched*** signatures in 2022 is at least 184,224 out of 1.9 million ***ballot envelopes***.

(b) With 99.999% confidence, the projected number of ***egregiously mismatched*** signatures in 2022 is at least 127,186 out of 1,311,734 ***early votes***.

(c) With 99.999% confidence, the projected number of ***standard mismatched*** signatures in 2022 is at least 236,763 out of 1.9 million ***ballot envelopes***.

(d) With 99.999% confidence, the projected number of ***standard mismatched*** signatures in 2022 is at least 163,458 out of 1,311,734 ***early votes***.

33. Thus, in all four cases, with 99.999% confidence the projected number of mismatched signatures by either criterion is over seven times the 17,117-vote margin of victory reported in the race for governor.

34. The calculations I performed confirmed that the calculations in the Busch Declaration, specifically in its ¶¶ 19-20, are accurate to within rounding to two decimal places.

35. Using appropriate standard statistical methods, I calculated five sets of confidence intervals for the projected number of mismatched signatures in 2022, at two levels of stringency for what constitutes a mismatch.

36. Taking the lowest (most conservative) of these confidence intervals, and the

most conservative mismatch criterion, the results show that, with 99.999% confidence, the projected number of mismatched signatures in 2022 is at least 127,186 out of 1,311,734 early votes.

37. 127,186 mismatched signatures is over seven times the 17,117-vote margin of victory reported in the race for governor.

38. UPDATE: Yesterday (January 21, 2023) I received from Shelby Busch an update to the Busch declaration dated December 7, 2022, as follows:

Failed SOS Standards	47,366
Egregious Signature Mismatches	38,909

Total Amount of Signatures Reviewed is 380, 976

39. Since the percentage of ***egregiously mismatched*** signatures is now 10.21%, which is higher than the 9.97% in the original smaller sample of 230,339, the projected number of mismatched signatures in 2022, with 99.999% confidence, is even more than 127,186 out of 1,311,734 early votes.

Conclusions

40. **Ballot Tabulation Failures**: There was an extremely large number of ballot tabulation failures at the 223 voting centers in Maricopa County on Election Day, including 180,894 errors which were printer or system failures, as documented in the tabulator System Log files. A total of 138 of these 223 vote centers show a ballot insertion rejection rate of 20% or more, which is 100 or more times the EAC's acceptable

limit of 0.2%.

41. **Timing of Ballot Insertion Errors**: Across the county, over 7,000 ballot insertion failures occurred in almost every single 30-minute period for the entirety of Election Day, starting at 7:00 A.M. and continuing to 8:00 P.M., with a smaller number of failures prior to 7:00 A.M. and after 8:00 P.M. This was thus an enormous and continuous problem which did not get better overall during Election Day, despite numerous technicians' making adjustments throughout the day.

42. **Inconsistencies in the Redacted Cast Vote Record**: 43 voting centers do not appear at all in the redacted CVR, but are listed in the County's reconciliation report (attached as Exhibit C) as having been tabulated at Central Count ***instead of using the voting center results recorded on their memory cards***,

43. **Mismatched Signatures**: With 99.999% confidence, the projected number of mismatched signatures in 2022 is at least 127,186 out of 1,311,734 early votes.

44. I have personal knowledge of the foregoing and am fully competent to testify to it.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on January 22, 2023.

/s/*Walter C. Daugherity*

Walter C. Daugherity