December 17, 2021 Eric Lefkofsky Chief Executive Officer Tempus Labs, Inc. 600 West Chicago Avenue, Suite 510 Chicago, Illinois 60654 Re: Tempus Labs, Inc. Amendment No. 2 to Draft Registration Statement on Form S-1 Submitted December 3, 2021 CIK No. 0001717115 Dear Mr. Lefkofsky: We have reviewed your amended draft registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. Please respond to this letter by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response. After reviewing the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments. Amendment No 2 to Draft Registration Statement Management's Discussion and Analysis Comparison of the Nine Months Ended September 30, 2020 and 2021, page 114 1 In the discussion of changes in cost of revenues, you indicate that a portion of the increase was due to \$11.3 million in service fees related to COVID-19 PCR testing arrangements. In the discussion of cost of revenues, genomics, you refer to an increase of \$11.3 million in marketing expenses. If these increases refer to the same issue, please revise your MD&A to describe them consistently. Eric Lefkofsky FirstName LastNameEric Lefkofsky Tempus Labs, Inc. Comapany17, December NameTempus 2021 Labs, Inc. December 17, 2021 Page 2 Page 2 FirstName LastName You disclose on page F-33 that you have RSUs and PSUs subject to both 2. a time based vesting condition and the occurrence of a liquidity event. If the successful completion of this IPO would be considered a liquidity event, please revise your MD&A to quantify the amount of stock based compensation that you expect to recognize in the next 12 months related to the vesting of any RSUs and PSUs that would meet both conditions upon

completion of an IPO.

Liquidity and Capital Resources

Operating Activities, page 119

3. You disclose that one of the reasons for the net change in operating assets and liabilities for the nine months ended September 30, 2020 was a \$4.2 million increase in accrued data licensing fees. You also indicate that \$13.1 million of that increase is the result of extending the term of licensed data intangible. It's unclear if this discussion of the \$13.1 million increase contains a typo or if there are other offsetting factors affecting the increase in accrued data licensing fees. Please revise accordingly. You may contact Lisa Etheredge, Senior Staff Accountant, at 202-551-3424 or Robert Littlepage, Accounting Branch Chief, at 202-551-3361 if you have questions regarding comments on the financial statements and related matters. Please contact Kyle Wiley, Staff Attorney, at 202-344-5791 or Jan Woo, Legal Branch Chief, at 202-551-3453 with any other questions.

Sincerely,

Division of

Corporation Finance

Office of

Technology cc: Courtney Tygesson