government is sometimes on the opposing side. Whether Laporte works those particular cases or not, as a partner/owner he and his firm most certainly profits from them. In my opinion, he has placed himself and his federal agency in a position of perpetual conflict of interest.

342. Laporte's Use of an Unvalidated and Unsupported Technique for the Analysis of the Ink is Wrong:

343. The 2-phenoxyethanol (PE) test itself is a source of much controversy among peers.

344. In 1985, I published a preliminary study of volatile ink components and their use when determining how long ballpoint pen ink had actually been on a piece of paper (Stewart, L.F., "Ballpoint Ink Age Determination by Volatile Component Comparison-A Preliminary Study." J. Forensic Science, 1985; 30:405-411). (See Exhibit 19)

345. This was the first study of its kind and the real beginnings of the idea that if we could accurately measure volatile components in ink we could possibly determine how long the ink had been on a piece of paper.

346. Gas chromatography (GC) was used and with some inks, I noted changes detectable for up to one and a half years after the ink was placed on paper.

347. One disadvantage of the approach that I developed was that it used ratios of multiple components so it required at least two volatile components within the ink.

348. Nine years later, Aginsky was the first to modify the approach to a method that allowed analysis when only one volatile component was present (Aginsky, V.N., "Determination of the Age of Ballpoint Pen Ink by Gas and

Densitometric Thin-Layer Chromatography," J Chromatography, A, 1994; 678: 119-125). (See Exhibit 20)

349. Aginsky began using PE as the volatile component he would seek within an ink's composition in order to determine its age.

350. Before looking for the PE Aginsky would identify the ink by comparing its' formula against a library of known standards (Aginsky, V.N., "Some New Ideas for Dating Ballpoint Inks - A Feasibility Study," J. Forensic Science, 1993; 38: 1134-1150). (See Exhibit 21)

351. This approach required a substantial amount of ink and thusly caused more damage than would be typically desirable.

352. In 1996, I warned "the need to routinely determine the age of a document appears to have been a driving force in development of new ink analysis techniques. This could be dangerous, in that the field may be driven to advance faster than the stage of development of some of the techniques should allow." ("Distinguishing Between Relative Ink Age Determination and the Accelerated Aging Technique," L.F. Stewart and S.L. Fortunato, International Journal of Forensic Document Examiners, January/March, 1996.) (See Exhibit 22)

353. In 2004, Laporte, et al. also reported about detection of PE in inks utilizing GC-MS. (Laporte, G.M., Wilson, J.D., Cantu, A.A., et. al., "The Identification of 2-Phenoxyethanol in Ballpoint Inks Using Gas Chromatography/Mass Spectrometry-Relevance to Ink Dating," J. Forensic Science, Jan. 2004, Vol. 49, No. 1) (See Exhibit 23)

354. In that article, Laporte reports that there are known contamination sources for PE to include "perfumes." He concludes that future researchers

should be able to concentrate "their efforts on the development and implementation of a *generally accepted* procedure for a dynamic approach to ink dating." He fails to list the many other sources of contamination that contain PE, to include insecticides.

355. In 2007, the Canadian team of Brazeau and Gaudreau developed a new approach that would avoid damaging the document, as no sample would be removed. (Brazeau, L. and Gaudreau, M., "Ballpoint Pen Inks: The Quantitative Analysis of Ink Solvents on Paper by Solid-Phase Microextraction," J. Forensic Science, 2007; 52: 209-215) (See Exhibit 24)

356. This work represented the use of Gas Chromatography-Mass Spectrometry (GC-MS) and targeted three different volatile components; PE, benzyl alcohol and 1-methyl-2-pyrrolidineone. Through their work, they reported being able to detect ink solvents up to 2 years after the ink was placed on the paper.

357. In 2009, Weyermann, et al. noted that the concept and use of artificial aging techniques for the dating of ballpoint pen inks is "a very difficult and controversial topic." (Weyermann, C., Williams, M., and Margot, P., Commentary on Berger-Karin, et al. "Comparison of Natural and Artificial Aging of Ballpoint Inks," JFS, 2008) (See Exhibit 25)

358. They concluded by emphasizing that "forensic scientists should not attempt to examine actual criminal or civil cases until they (the methods to include unvalidated PE methods, e.g. Laporte's) have been tested."

359. In 2010, Giebink and Speckin discussed the use of GC-MS to analyze the PE and described the techniques limitations and pitfalls. (Giebink, P.J., Speckin, E.J. and Harner, J., "The Dating of Writing Inks

Through 2-Phenoxyethanol Using Gas Chromatography-Mass Spectrometry, Advantages, Interpretation, and Limitations," 2010, AFDE) (See Exhibit 26)

360. In that article, the writers determined that detection of 1.6 parts per million (ppm) or more of PE in a ballpoint ink indicates that the ink is not completely dry. This detection level is limited to use of their procedure, solvents and equipment and is not universal for other labs. The writers indicated that the samples should be run in "triplicate" in order to take into account possible errors, anomalies in the testing process, and for a better confidence in the results. They continue, "... no conclusions should be drawn based on a single test run for a sample as to its age."

361. In the most recently reported study, Weyermann, et al. discusses the currently utilized approaches for ink dating. (Weyermann, C., Almog, J., Bugler, J., and Cantu, A. A., "Minimum Requirements for Application of Ink Dating Methods Based on Solvent Analysis in Casework," Forensic Science International, March 2011) (See Exhibit 27)

362. When discussing the ink dating methods, they state, "…several questions arose over the last few years among questioned document examiners regarding the transparency and reproducibility of the proposed techniques."

363. Other important quotes from this most recent article include:

> "... ink aging pathways and rates are significantly influenced by a number of factors that may slow down or accelerate the phenomenon."
>
> "These parameters must therefore be extensively studied before a conclusion can be drawn on the absolute age of an ink entry."

"The influence of substrate structure (paper type) on the drying process should not be underestimated..."

" In fact, to the present date, no two laboratories that do ink dating via solvent analysis use the same method,..."

364. Moreover, the time span that can be considered to date inks through solvent analysis using GC/MS is seriously questioned in the forensic community.

365. Brunelle and Crawford stated that the ink dating technology, which is based on GC/MS analysis cannot be used to date inks over six months old and Bugler et al. recommended to analyze ink with a maximum age of 3–4 months. The feasibility of such dating techniques on ink older than that must therefore be demonstrated." (Brunelle R, Crawford K., Advances in the Forensic Analysis and Dating of Writing Ink, Springfield (IL): Charles C. Thomas, 2003)

366. The U.S. Secret Service (USSS) did not allow the use of the Laporte PE testing method in casework during the period that I was the Laboratory Director and Chief Forensic Scientist.

367. During that time, I was also the National Expert (the only one at the agency) on matters concerning the forensic analysis of ink (Note: Laporte has never been the National Expert on matters concerning the forensic analysis of ink). The USSS produced and abided by Standard Operating Procedures (SOP) for the various areas of forensic analysis to include "ink."

368. Laporte was allowed to perform research on new techniques, e.g. his PE test, however new techniques were not allowed to be used in casework until authorized by the Laboratory Director. The only issue preventing that authorization was the proven unreliability of Laporte's PE test.

369. Even as recently as October 8, 2009 (the last edition that I possess) the Standard Operating Procedures for Ink Analysis at the U.S. Secret Service clearly state that "Before "new" approaches are authorized for use in USSS casework, appropriate reliability and validity studies must be conducted, with the results reviewed by the Laboratory Director." (See Exhibit 28)

370. The Standard Operating Procedures also indicate, "A listing of the acceptable procedural approaches is referred to in the "Comments" section of this guide." Reference to that section of the USSS SOP, shows ***no*** mention of the PE procedures utilized by Laporte.

371. Since Laporte left the agency in March of 2009 (the SOP date postdates his departure by 7 months), it is clear that the Secret Service had not adopted his ink age determination approach into their accepted casework protocol.

372. During 2009, Laporte was preparing to testify in a case where I was the expert for the opposing side. The case was U.S. v. Longshoremen's Local 1604. Laporte had issued his report in the matter on June 7, 2006 while working at the USSS. It is my understanding the case resolved without trial.

373. That 2006 case represents the only time that I am aware of wherein Laporte utilized his PE testing procedures in a Government case. Based on para 327 above, the use of the Laporte PE technique may not have been authorized by his agency, which he was representing (the US Secret Service), at the time when he used it on the 2006 case.

374. When preparing for the trial, Laporte and the USSS submitted documents for review. Those included worksheets and results, notes, copies of records and his report.

375. In that 2006 case, Laporte used his PE test to compare the "relative age" of various entries. In other words, he compared the age results for various entries on a page to see how they compared relative to each other. In the documents he submitted for review he included a printed sheet outlining the PE testing procedures, entitled "The Analysis of Inks Using GC/MS." (See Exhibit 29)

376. Those procedures clearly indicate that the "Further research and validation is needed, to state with any certainty, that a written entry was created in a certain time interval."

377. Those procedures also describe that the approach can only be used to "indicate that a written entry was created within ***one year*** from the time of analysis."

378. Whether those procedures were supplied by Laporte or the USSS is unclear, but based on the USSS SOP provided in 2009 (See para 371 above), there was no allowance for the use of Laporte's PE test in casework.

379. In the Ceglia v. Facebook action, Laporte has doubled the amount of time (***to 2 years***) that he believes the PE test works (Document 326, page 16 of 67, para 4). (Note: If Laporte had continued using his previously reported one year "cut-off" number, then he accordingly could not have utilized the technique in this case as the Facebook Contract document was known to have existed for over one year at the point Laporte conducted his analysis.)

380. The ethical choices made during the examination and reporting by Facebook's experts should be examined.

381. "Brunelle and Cantu underlined earlier the ethical responsibilities of forensic scientists performing ink dating examinations by stating that 'Testimony involving ink dating that does not clearly state the significance of results obtained and the limitations of what can be concluded from the

results of examination would be unethical according to AAFS (American Academy of Forensic Sciences) guidelines because it would be misleading.'" (R.L. Brunelle, A.A. Cantu, Training Requirements and Ethical Responsibilities of Forensic Scientists Performing Ink Dating Examinations, Journal of Forensic Sciences 32 (6) (1987) 1502–1508) (See Exhibit 30)

382. Discussion Regarding Laporte's Use of an Undeveloped Approach For Ink Age Determination:

383. Laporte uses a method he developed that has not been independently evaluated and properly peer reviewed. His approach is not used in any state or federal forensic laboratory. Likewise, his approach is not used in any foreign laboratory.

384. The only laboratory that I am aware of utilizing Laporte's method is the private sector laboratory, which he is an owner; Riley, Welch, Laporte & Associates Forensic Laboratories.

385. While I was Laboratory Director and Chief Forensic Scientist for the Secret Service, Laporte was allowed to conduct research in alternative methods, e.g. the PE test, however the PE test was ***not*** allowed to be used in casework. When I left the agency in 2005, it is my understanding that Laporte used his own method one time on a case (I happened to be the expert on the opposing side). It is my understanding, that the case never went to trial (See para 372 above).

386. Since leaving that agency, Laporte has used his own method in his private practice. There have been ***no*** independent verifications which meet peer review standards on his approach, nor have there been any reliability studies concerning his methodology.

387. There is ***no*** proficiency test for ink age determination available from any recognized group that has tested his reliability and accuracy.

388. Although there are two ASTM forensic standards for the analysis of writing inks, there is ***none*** for ink age determination and certainly ***none*** for Laporte's singularly used method (ASTM Standard Guide for Test Methods for Forensic Writing Ink Comparison, E1422-05 and ASTM Standard Guide for Writing Ink Identification, E 1789-04). (See Exhibit 12)

389. The most telling observation is that ***no*** other government or even private forensic laboratory or expert appears to be using his method except for Laporte, in his own private practice.

390. Laporte has attempted to prescribe a level of reliability to his technique by discussing the reliability of the instrument he is using, i.e. GC-MS.

391. Although, forensic scientists agree that the GC-MS instrument is reliable, its use here is what is in question.

392. There are ***no*** peers that even use Laporte's approach, in fact Cantu who worked on some aspects of Laporte's research with him, does not even mention Laporte's method as a viable method in his latest article on the subject (Weyermann, C., Almog, J., Bugler, J., and Cantu, A. A., "Minimum Requirements for Application of Ink Dating Methods Based on Solvent Analysis in Casework," Forensic Science International, March 2011). (See Exhibit 27)

393. To meet the Daubert standard, a proposed expert's testimony must pass through two separate tests or gates.

394. The first deals with whether the underlying methodology is scientifically reliable.

395. The second requires the Court to determine whether the expert is qualified to provide an opinion based on that methodology, and even more

critically, that the proposed expert testimony applies the methodology to the particular facts of the case on trial in a scientifically reliable manner.

396. Neither of the tests or gates is passed in this case.

397. Not only does Laporte use a non-peer reviewed, method, he performs it without being proficiency tested and he utilizes an approach that no one else uses.

398. His approach is not used in any state, federal or foreign public forensic laboratory. The method is only used by Laporte in his private practice.

399. Laporte is not a scientifically dispassionate and objective employee of a federal law enforcement agency. Laporte is a questioned document examiner who was formerly employed by the U.S. Secret Service Laboratory. However, as of March 2009, Laporte became employed as a Forensic Policy Manager in the National Institute of Justice, Investigative and Forensic Services Department.

400. Apparently, Laporte's new federal government job allows him to "moonlight" and offer his "ink dating" services for private profit to the general public as a forensic document examiner and chemist.

401. A website currently operated by Riley Welch Laporte & Associates Forensic Laboratory, a private sector business based in Lansing, Michigan, lists Laporte as a "staff" member and as a "forensic ink chemist & document analyst." Laporte is touted by the Riley Welch Laporte & Associates website as follows:

> "Also employed full-time as "Chief Forensic Chemist" for a major Federal Governement [sic] Laboratory."

402. It is quite evident Laporte and Riley, Welch, Laporte & Associates hope to commercially promote and profit from his PE methodology, the one that only Laporte uses.

403. For this reason, Laporte and his proposed testimony cannot and should not be viewed by this Court as that of a scientifically objective and dispassionate employee of a federal law enforcement laboratory.

404. The federal agency Laporte currently works for is the National Institute of Justice (NIJ). They do not perform any forensic science or forensic laboratory functions at the agency. Instead, they act as a research, development and evaluation arm of the U.S. Department of Justice.

405. The main forensic laboratory for the U.S. Department of Justice is the Federal Bureau of Investigations (FBI). ***The FBI does not use the Laporte PE test.*** In fact, in the FBI's Handbook of Forensic Services, they specifically state, "Examinations ***cannot*** determine how long ink has been on a document." (See Exhibit 31)

406. Research discloses no reported decision that an opinion concerning the age of ballpoint ink writing on paper, purportedly based on the rate of evaporation of a solvent used as a component of ballpoint ink (2-phenoxyethanol), satisfies Daubert's scientific reliability standards.

407. To the contrary, there are reported decisions excluding, for failure to satisfy Daubert standards, expert opinions purporting to date ballpoint ink writing, using various techniques and in various circumstances. EEOC v. Ethan Allen, Inc., 259 F. Supp. 2d 625 (N.D. Ohio 2003); Learning Curve Toys, L.P. v. PlayWood Toys, Inc., 2000 U.S. Dist. LEXIS 5135 (N.D. Ill. 2000).

408. In the latter case, the court applied Daubert to the ink dating technique proffered in that case as follows:

> To determine whether expert testimony can be properly admitted as an expert conclusion, a court considers whether the conclusion (1) can be tested; (2) is based on methodology subject to peer review and publication; (3) has been evaluated in light of a known or potential rate of error and (4) has achieved general acceptance in the relevant scientific community. Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 593-94, 125 L. Ed. 2d 469, 113 S. Ct. 2786 (1993).

409. So far, to the best of my knowledge, there have been no unreported federal decisions that ruled on a Daubert challenge to Laporte's supposed method of estimating the age or date of ballpoint ink writing.

410. The scientific literature includes substantial evidence that the dating method based on the rate of evaporation of 2-phenoxyethanol fails to satisfy all four Daubert criteria cited in Learning Curve Toys and Monteiro.

411. There are several significant reasons for this failure including, but not limited to, the following:

> There has been a failure to validate the Laporte PE ink dating methodology to determine its reliability so as to exclude factors other than the passage of time and to ascertain an actual and potential rate of error.

412. The National Research Council of the National Academy of Science published in August 2009, a book entitled Strengthening Forensic Science in the United States: A Path Forward. (See Exhibit 32)

413. The book's study of forensic science was supported by a contract between the National Academy of Science and the National Institute of Justice, which employs Laporte.

414. The report in Chapter Three entitled "The Admission of Forensic Science Evidence in Litigation" includes an extensive review of post-Daubert developments.

415. For present purposes, the most important portion is Chapter Four entitled, "The Principles of Science and Interpreting Scientific Data."

416. In the pertinent part, that chapter reads as follows on pg 112:

Evidence is obtained through observations and measurements conducted in the natural setting or in the laboratory. In the laboratory, scientists can control and vary the conditions in order to isolate exclusive effects and thus better understand the factors that influence certain outcomes. Typically, experiments or observations must be conducted over a broad range of conditions before the roles of specific factors, patterns, or variables can be understood. Methods to reduce errors are part of the study design, so that, for example, the size of the study is chosen to provide sufficient statistical power to draw conclusions with a high level of confidence or to understand factors that might confound results. Throughout scientific investigations, the investigator must be as free from bias as possible, and practices are put in place to detect biases (such as those from measurements, human interpretation) and to minimize their effects on conclusions.

417. At page 113, the National Research Council of the National Academy of Science book states:

Validation of New Methods

One particular task of science is the validation of new methods to determine their reliability under different conditions and their limitations. Such studies begin with a clear hypothesis (e.g., "new method X can reliably associate biological evidence with its source"). An unbiased experiment is designed to provide useful data about the hypothesis. Those data—measurements collected through methodical prescribed observations under well-specified and controlled conditions—are then analyzed to support or refute the hypothesis. The thresholds for supporting or refuting the hypothesis are clearly articulated before the experiment is run. The most important outcomes from such a validation study are (1) information about whether or not the method can discriminate the hypothesis from an alternative, and (2) assessments of the sources of errors and their consequences on the decisions returned by the method. These two outcomes combine to provide precision and clarity about what is meant by "reliably associate."

418. In this case, there is no scientific evidence that the supposed rate of evaporation of a solvent component of ink placed on paper is independently and exclusively attributable to the passage of determinable periods of time to the exclusion of other factors and variables including, but not limited to:

1. the characteristics of the paper(s) on which the ink is placed;
2. the storage and environmental conditions to which the ink on paper was subjected prior to the extraction of the sample being tested;
3. variations in the composition of the ink; and
4. the thickness and amount of ink, including its solvent component that was placed on the paper before evaporation commences.

419. The National Academy's book at page 116 also states under the heading, "Uncertainty and Error," the following:

Uncertainty and Error

Scientific data and processes are subject to a variety of sources of error. For example, laboratory results and data from questionnaires are subject to measurement error, and interpretations of evidence by human observers are subject to potential biases. A key task for the scientific investigator designing and conducting a scientific study, as well as for the analyst applying a scientific method to conduct a particular analysis, is to identify as many sources of error as possible, to control or to eliminate as many as possible, and to estimate the magnitude of remaining errors so that the conclusions drawn from the study are valid. Numerical data reported in a scientific paper include not just a single value (point estimate) but also a range of plausible values (e.g., a confidence interval, or interval of uncertainty).

420. There is no scientific evidence that has determined the rate of error or confidence interval that purportedly relates the rate of evaporation of the 2-phenoxyethanol component of ink written on paper and the passage of period of time after the ink is place on paper.

421. The National Academy has included in the exclusion of alternative explanations for results other than the tested hypothesis and establishing a rate of error or confidence interval as essential to implement Daubert reliability standards.

422. In this case, Laporte discounts the views of his own employing agency when moonlighting as an expert.

423. As applied in this case, the Daubert standards have not been met at least in the following respects:

1. There has been a failure to publish the details of the technique in the scientific literature to enable the scientific community to independently validate or invalidate it by attempting to replicate

results.

2. The hypothesis has not been properly tested.

3. No rate of error has been determined.

4. External factors known to affect ink-aging rates, e.g. storage temperature and humidity have not been properly addressed.

424. On page 112, the National Academy of Science states:

> Ultimately, the goal is to construct explanations ("theories") of phenomena that are consistent with broad scientific principles, such as the laws of thermodynamics or of natural selection. These theories, and investigations of them through experiments and observed data, are shared through conferences, publications, and collegial interactions, which push the scientist to explain his or her work clearly and which raise questions that might not have been considered. The process of sharing data and results requires careful recordkeeping, reviewed by others. In addition, the need for credibility among peers drives investigators to avoid conflicts of interest. Acceptance of the work comes as results and theories continue to hold, even under the scrutiny of peers, in an environment that encourages healthy skepticism. That scrutiny might extend to independent reproduction of the results or experiments designed to test the theory under different conditions. As credibility accrues to data and theories, they become accepted as established fact and become the "scaffolding" upon which other investigations are constructed.

425. On the Riley, Welch, Laporte and Associates website, the ink dating method used by Laporte is described as having been developed by Valery Aginsky.

426. The only book length literature on this subject, Brunelle and Crawford, Advances in the Forensic Analysis and Dating of Writing Ink, (Charles Thomas Publishers, Springfield, Ill. 2003) describes Aginsky's techniques that rely on measurement of the solvent component in inks and

includes the following statement:

> "It is also important to mention that researchers in the United States have not been able to reproduce Aginsky's techniques, primarily because Aginsky's published works do not contain all the parameters needed to apply his techniques."

427. The scientific literature indicates that the methods and techniques relied upon by Aginsky and Laporte have ***not*** been subjected to independent testing with the results of that independent testing published in the peer-reviewed literature.

428. In this case, Laporte's opinion also ***fails*** to satisfy several Daubert criteria in the following respects:

1. Failure to exclude the effect of factors other than the passage of time on the rate and results of evaporation of 2-Phenoxyethanol after ink has been written onto paper.

2. Failure to exclude the effect of the differences in paper on which the ballpoint ink is written on the evaporation rate, and the amount remaining, of 2-Phenoxyethanol.

3. Failure to exclude the conditions under which the questioned documents were stored as a factor that affects the evaporation rate, and amount remaining of 2- Phenoxyethanol.

4. Failure to exclude the variable composition of ballpoint ink.

429. In Learning Curve Toys, the age of the questioned handwriting was all written on a single piece of paper. Nonetheless, one of the reasons the court excluded the ink age opinion proffered in that case was the failure to account for the effect of the particular kind of paper as a factor in aging the

ink writings on it.

430. The scientific literature confirms that the paper's characteristics can substantially affect the ability of any technique to determine reliably the age of ballpoint ink writing.

431. Paper weight, thickness, porosity, fibers alignment, and coating all play a significant role in the aging processes, which are complicated by paper/ink matrix interactions.

432. None of these variances were addressed in Laporte's findings, when any one of them may have proven critical. (See Weyermann and Spengler, "The Potential of Artificial Aging For Modeling of Natural Aging Processes of Ballpoint Ink," 180 Forensic Science International 23 (2008) (See Exhibit 33)

433. Laporte has no information concerning the environmental conditions under which the Facebook Contract was written and stored before its production to the court in 2007. Laporte failed to learn about the storage conditions of the document that should have proven critical to any reported finding.

434. There is no scientific literature that demonstrates that storage conditions do not affect the rate of evaporation of solvents in ink or the amount of solvent remaining no matter what the storage conditions have been.

435. To the contrary, the scientific literature confirms the common experience that how quickly and completely ink dries on paper depends on how much light, heat, humidity, air circulation, etc. the writing was exposed to at, and at various times after, the ink is placed on the paper. (See Exhibits

19, 21, 22, 27 and 33)

436. Weyermann, et al. wrote,

> "Finally, ink and paper aging are most strongly influenced by storage conditions. Aging follows different pathways if it is provoked by light or heat. The kinetics will also depend on the amount of light or the temperature to which the documents are exposed. In fact, storage conditions are different from case to case, and even within a case. It is very difficult to reconstruct the amount of light and the temperatures to which documents were exposed, because they generally vary quite much along the days or years (sunny or cloudy, warm or cold weather duration, number of hours a lamp is turned on per day, position of the document in the office, adjacent documents, amount of ink on the paper, movement of the document, etc.)." (See Weyermann and Spengler, "The Potential of Artificial Aging For Modeling of Natural Aging Processes of Ballpoint Ink," 180 Forensic Science International 23 (2008)). (See Exhibit 33)

437. Laporte appears to rely on an evaporation rate of 2-phenoxyethanol in a one-size-fits-all ballpoint ink fashion, as if the evaporation rate is not affected by the composition of the particular ballpoint ink of which PE may be an ingredient.

438. There is no scientific literature that establishes that the variable of ink composition does not significantly influence how much of the PE solvent will evaporate over a given period of time or how much will remain after a period of time.

439. Weyermann, et al. wrote,

> "Firstly, aging is strongly influenced by ink composition. Each solvent or dye will age at a different pace. Likewise, diffusion and evaporation of solvents are dependent on their mixture. (See Miner Dec., Exhibit 4, Weyermann and Spengler, "The Potential of Artificial Aging For Modeling of Natural Aging Processes of Ballpoint Ink," 180 Forensic Science International 23 (2008)). (See Exhibit 33)

440. Any finding based on Laporte's PE testing should be excluded as the science nor methodology are proven.

441. Defendants' Experts Nondisclosure of Findings:

442. If Defendants' experts performed a complete forensic analysis of the document, then they undoubtedly would have performed a handwriting analysis to determine whether the writing on the contract belongs to Messrs. Ceglia and/or Zuckerberg.

443. In addition, Defendants' experts should have conducted a paper analysis on the two pages, especially if they were trying to make a claim for a page 1 substitution that occurred at some later date.

444. If Defendants' experts performed these necessary examinations, then where are their results?

445. For undisclosed reasons, they chose not to report on them in their examination reports.

446. Peer or Technical Review of Work Conducted by Plaintiff's Forensic Experts:

447. As a result of my original tasking on this case, I reviewed technically the work conducted by James Blanco. I reviewed Mr. Blanco's declaration along with the supporting Exhibits.

448. Such a review process by a different expert in the field is common practice in federal or state government forensic laboratories if a body certifies the laboratory, e.g. the American Society of Crime Laboratory Directors (ASCLD).

449. I am a member of ASCLD as well as classified as an "Inspector" by them.

450. In my previous federal government position of Laboratory Director and Chief Forensic Scientist for the U.S. Secret Service, I was in charge of laboratory reviews, both administrative and technical as well as in charge of ensuring the facility remained accredited by following the guidelines and requirements of ASCLD.

451. As a result of my technical review, I am in agreement with Mr. Blanco's reported methodologies, and his resultant conclusions.

452. Conclusions:

453. After a thorough and exhaustive forensic testing of the Facebook Contract (Work For Hire) (Exhibit Q1), there is ***no*** indication to suggest the Contract is anything other than genuine. In addition, there is ***no*** evidence to support that the Facebook Contract is altered.

454. Based on the forensic analysis of the Facebook Contract, there is ***no*** justification or support for the Defendants' theory of a page 1 substitution,

forgery or fraud.

455. Plaintiff's forensic experts conducted our examinations of the evidence with a pre-thought plan designed to maximize results with minimal overlapping of tests. With our method we ensured that duplicate unnecessary tests were avoided in an effort to protect the Contract from unnecessary damage.

456. Defendants' experts displayed no concern over the Facebook Contract and did not treat it as an evidentiary document.

457. Defendants' experts repeated tests many times and exposed the Facebook Contract to many more potentially damaging intense lights than would be typically necessary in order to reach conclusions.

458. Defendants' experts also repeated indentation analysis with an Electrostatic Detection Apparatus (ESDA) many times, which repeatedly exposed the documents to humidity.

459. The yellow discoloration/damage now evident in the 2 pages of the Facebook Contract is, in my opinion, the result of repeated exposure of the document to high intensity and/or ultraviolet light as well as changes in humidity.

460. Defendants' Expert Peter Tytell did NOT immediately notice the yellowing during his, the first series of forensic tests conducted in Buffalo.

461. It is evident from Defendants' experts' own photographs and scans that they probably caused the damage.

462. This would explain why Tytell did not immediately notice the now very evident yellowing on one side only of each page of the Facebook Contract.

463. Through Plaintiff's experts' forensic examinations, it can be concluded that the 2 pages of the Facebook Contract were both printed with the same type of computer printer, using matching toner on paper that is consistent with coming from the same mill and production run.

464. The probable printer is one that was commercially available between 2000 and May of 2005. The Facebook Contract bears a date of "4/28/03."

465. Forensic evidence demonstrates that the Facebook Contract was stapled only one time.

466. It is not possible to perform "Ink age" determination on the Facebook Contract. This is due to the degradation of the ink and paper, the lack of knowledge of the storage conditions and their potential affect on aging characteristics and the failure to identify the formula of inks so as to have basic knowledge of the original compositions.

467. Both Plaintiff's and Defendants' ink experts chose not to perform "ink age" tests on the Facebook Contract with the exception of Gerald Laporte, the most junior and least experienced examiner on either side.

468. Laporte chose to perform ink age tests. He did the testing with no regard to storage conditions of the document or the damaged state of the ink and paper. Furthermore he used an approach that only he uses in his private practice.

469. No state or federal laboratory in America uses the Laporte technique.

470. I, myself, choose not to use the Laporte technique as it has ***not*** been properly tested and does not have peer support.

In accordance with 28 U.S.C. 1746 I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on: June 4, 12

Larry Stewart
Declarant