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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION

VIETNAM VETERANS OF AMERICA, *et al.*,
Plaintiffs,
v.
CENTRAL INTELLIGENCE AGENCY, *et al.*,
Defendants.

Case No. CV 09-0037-CW

**SECOND DECLARATION OF JULIE
PARRISH**

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I, Julie Parrish, declare as follows:

- 1. I am employed by the Pensacola Office Group of the Defense Logistics Agency’s Document Services (DLA Document Services) as an IT Specialist GS-2210-13, Information Technology (IT) Officer and Information Assurance (IA) Officer. I provide IT and IA support to 12 facilities, perform threat remediation and incident response, administer Microsoft and Solaris servers, perform digital conversion and document management needs assessments, and provide production system design and support. I am a CompTIA Certified Document Imaging Architect (CDIA+), am CompTIA Security+ certified, and am a Microsoft Certified Professional (MCP).
- 2. I provide this declaration to supplement my prior declaration [Dkt. 400-1] and to respond to certain assertions made in the declaration of John Ashley regarding my qualifications to access the data that may be contained on six approximately 40-year-old magnetic tapes and regarding the efforts I undertook to access that data. [Dkt. 425-1].

QUALIFICATIONS TO ACCESS DATA ON THE MAGNETIC TAPES

- 3. Mr. Ashley devotes much of his supplemental declaration to my qualifications to access information contained on six magnetic tapes that I understand are approximately 40 years old. In addition to my qualifications set forth in my prior declaration, I note further that I have received training in and have applied experience using forensic information analysis tools, including the CERT suite of forensic tools utilized by DLA. Among other related tasks over many years of experience, I have conducted several forensics investigations which have required familiarity with a range of computer, data, and information systems technologies. Information and data forensics involves a broad spectrum of research tasks, of which data retrieval from removable media is but a part. Data retrieval is not a daily

1 aspect of my work, but it arises frequently enough in the course of our other forensics
2 work that I would refer to it as routine.

3 4. Mr. Ashley further suggests that my experience with Solaris/UNIX systems somehow is
4 irrelevant for purposes of assessing the tapes, and seems to imply that specific experience
5 with ADEPT, FORTRAN, and/or UNIVAC mainframe systems is somehow required to
6 retrieve data from the tapes at issue here. I disagree. UNIX is used to bypass any
7 software interface incompatibilities/deficiencies and access tape data at the block level.
8 Knowledge of source mainframe programming languages or mainframe operating systems
9 is unnecessary for reading raw data off 9-track tape, which was the task at issue here.
10 However, block size, tape density, character set, and track format — information that I do
11 utilize in my retrieval efforts — would be beneficial in determining what tape device
12 equipment and UNIX command parameters are necessary. I further observe that, contrary
13 to Mr. Ashley's opinion, specialized software tools cannot be engaged and interact with
14 the tape drive unless the tape drive is able to identify and successfully load the tape. And,
15 as discussed in my earlier declaration, despite my best efforts, the tape drives I utilized
16 could not load four of the six magnetic tapes.

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19 5. To the extent Mr. Ashley takes issue with the expertise of my organization, I note that, as
20 a field component of DLA, DLA Document Services has been serving the Department of
21 Defense for over 60 years. DLA Document Services currently manages more than 150
22 service facilities, primarily located on U.S. military bases world-wide in seven countries.
23 We provide a full portfolio of best value document services ranging from traditional offset
24 printing, through on-demand output, to online document services. DLA Document
25 Services is the catalyst for document automation in DOD by actively functioning as a
26 transformation agent to move the Department toward the use of online documents and
27 services. The multitude of services DLA Document Services provides include the
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1 building of libraries of digital documents allowing for online access, the provision of
2 multifunctional devices (that print from networks, copy, fax, and scan) in customer
3 workspaces, and the conversion of paper documents to standard digital formats.

- 4 6. As to my applied experience, as well as that of my office, my organization has read and
5 converted 9-track mainframe tape data on a monthly basis from 1999 through 2006 for
6 one client, and has performed similar services on 9-track and similar technologies on a
7 periodic basis throughout my tenure. I have been involved in and familiar with our
8 office's tape technology data retrieval activities since the mid-nineties.
9

10 **MY RETRIEVAL EFFORTS**

- 11 7. Mr. Ashley appears to take issue with my assessment that the tapes may contain corrupt
12 data due to the age of the tapes, claiming that tapes may survive in retrievable form for an
13 unspecified number of "decades." See Ashley Decl. at ¶ 9. Based on my experience with
14 tape technologies and aging tape media, it is my belief that the life span for tape media
15 such as that contained on the magnetic tapes, depending upon storage conditions, averages
16 approximately 10-to-30 years. I note that Dr. John W. C. Van Bogart of the National
17 Media Lab, a respected expert in the storage and handling of magnetic tapes has, as far
18 back as 1995, made a similar estimate. See Van Bogart, John W. C. "Letter to the Editors
19 of Scientific American," Scientific American (June 1995): 12, reproduced at
20 [http://palimpsest.stanford.edu/bytopic/electronic-records/electronic-storage-](http://palimpsest.stanford.edu/bytopic/electronic-records/electronic-storage-media/bogart.html)
21 [media/bogart.html](http://palimpsest.stanford.edu/bytopic/electronic-records/electronic-storage-media/bogart.html). I understand these tapes to be older than that expected life span by a
22 significant amount.
23
24 8. As to my efforts to retrieve data from the tapes, I disagree with a number of Mr. Ashley's
25 criticisms. In particular, I disagree with Mr. Ashley's assessment that "[t]he fact that [I]
26 called two unidentified vendors to inquire about retrieving the information on the tapes
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1 suggests that [I do] not in fact have any expertise in this area.” Ashley Decl. ¶ 31. To
2 clarify regarding the purpose of these consultations, none of the tapes were readable on
3 our existing equipment. One tape reported as “BLANK” and one tape would not fully
4 load. I had determined that the remaining four tapes would likely be readable on 800 BPI
5 equipment; however, I deemed it prudent to compare results with other service providers
6 who owned similar equipment. I contacted two vendors who advertised similar HP tape
7 drives for the purpose of validating my initial assessment. This was a prudent course of
8 action, and one I would hope any reasonable technician in this era would undertake. The
9 suggestion that such prudent collaboration for purposes of confirmation somehow
10 undermines my ability to access information on the tapes is misplaced, particularly given
11 the fact that I was successful in recovering data from two of the six tapes.
12

13 9. With respect to Mr. Ashley’s contention that my efforts to recover the data on the
14 magnetic tapes may have compromised the data, I further disagree. In the first instance, I
15 used a scratch tape to verify smooth operation of the take-up reel and path, and all tape
16 system parameters were verified before I loaded the first of the six tapes. The HP 88780
17 tape device that I used attempts to automatically identify the tape density and format
18 during the tape load process, either through the HP autoloader feature or after a manual tape
19 load. If it cannot identify the tape, the drive produces an error and will not allow further
20 tape control by the UNIX driver or the device’s front controls except to unload. Any
21 minute risk of damage to the tape that could have potentially been introduced by the brief
22 attempt by the hardware to identify the tape was inconsequential.
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24 10. Regarding block size, which is addressed in paragraph 32 of Mr. Ashley’s declaration, I
25 note that, because the tapes were not properly labeled with block size, there was no
26 method to determine appropriate input and output conversion block size other than
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1 sampling logical settings until finding the appropriate parameter for the data contained on
2 the tape. Block size can be variable and is determined at the time the tape is written.

3 11. To clarify further, one of the six tapes has a manufacturer sticker labeled "800 BPI."
4 Another tape has a handwritten note "800 BPI" which had been crossed through several
5 times. Beyond that, the tapes were not labeled with a density, block size, or tape format,
6 and the four tapes I was unable to access information from were of different reel size.
7
8 Mr. Ashley is therefore wrong to suggest that the tapes were "clearly labeled" such that
9 my methods of assessing them were inappropriate. And, for the reasons previously stated,
10 they were appropriate methods.

11 12. Finally, as to the output, the data retrieved from tapes 1-2 is a raw dump from the tapes
12 with an ASCII conversion and NEWLINE appended. Each file on a tape is separated by
13 one or more end-of-file markers. An end-of-tape marker is at the end of the data. When a
14 file is read, one can interact with the tape driver in UNIX to skip past the end-of-file
15 marker to read and save the next file. In addition, an end-of-file marker and an end-of-
16 tape marker are at the end of the tape data. When the end-of-tape mark is read, there are
17 no more files to be retrieved. Beginning-of-tape and end-of-tape markers are reflective
18 strips adhered to the tape. End-of-file markers are digital marks. Using this method, I
19 was able to retrieve multiple files from tape and was able to identify the logical end-of-
20 tape. I understood the task at hand was to restore the raw data from tape with ASCII and
21 PDF conversion and apply no additional manipulation to the data so as to preserve the
22 integrity of the data. It is also my understanding that no one has possession of the original
23 source hardware and software to read source data in, re-compile and run original Fortran
24 code to re-create the exact look and feel of the line printer output.
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13. I am confident that the efforts I undertook to retrieve data from the six tapes I received were reasonable and appropriate under the circumstances. While I do not discount the theoretical possibility that the tapes could contain data that could be retrieved by other means, my assessment remains that any such data is not likely retrievable absent significant further investment of time and cost.

I declare under penalty of perjury that the foregoing is true and correct. Executed in Pensacola, Florida, on June 6, 2012.



Digitally signed by
PARRISH, JULIE.D.1230077467
DN: c=US, o=U.S. Government,
ou=DoD, ou=P&A, ou=DIA,
cn=PARRISH, JULIE.D.1230077467
Date: 2012.06.06 12:26:52 -0500

Julie Parrish