



**Submission of Documents to
Department Of Veterans Affairs**

**Board of Veterans' Appeals
Outside Medical Opinion Section
P.O. Box 27063
Washington, DC 20038**

FAX 1-202-495-6808

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|--------------------------|------------|
| Veteran: | [REDACTED] |
| C-File or SSN: | [REDACTED] |
| Street Address: | [REDACTED] |
| City, State, Zip: | [REDACTED] |

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| Date: January 8th, 2018 | ATTN: VLJ Kimberly Osborne | 01C2-56 |
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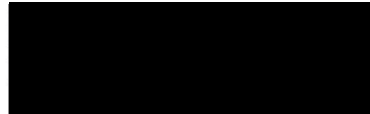
Type of Document Submitted:

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| <input type="checkbox"/> Claim on Behalf of Veteran/Dependent(s) named above |
| <input type="checkbox"/> VAF 21-8940/VAF 21-4192 FOR TDIU |
| <input type="checkbox"/> VAF 9 APPEAL TO BOARD OF VETERANS' APPEALS |
| <input type="checkbox"/> VAF 21-526EZ CLAIM FOR COMPENSATION |
| <input type="checkbox"/> VAF 21-0958 NOTICE OF DISAGREEMENT |
| <input type="checkbox"/> Privacy Act / Freedom of Information Act (VAF 3288) |
| <input checked="" type="checkbox"/> Other New and Material Evidence (Independent Medical Opinion and Waiver of AOJ review in the first instance) |

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| Number of Pages Submitted (NOT including this cover sheet): Fifteen (15) pages |
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VA Directive 6609, NOVEMBER 9, 2007: NOTICE! Access to Veterans records is limited to Authorized Personnel Only. Information may not be disclosed unless permitted pursuant to 38 CFR 1.500-1.599. The Privacy Act contains provisions for criminal penalties for knowingly and willingly disclosing information from the file unless properly authorized to do so.

Dept. Of Vet Affairs
Board of Veterans Appeals
810 Vermont Ave. NW
Washington, D.C.



Attn: VLJ Kimberly Osborne
re: New and Material Evidence

January 7, 2018

Dear Judge Osborne,

Mrs. [REDACTED] hereby submits an Independent Medical Opinion (IMO) in support of her husband's appeal (see Exhibit A-[REDACTED] MD). Please also consider this a waiver of AOJ review of the new IMO in the first instance as new and material evidence.

In addition, counsel wishes to amend the record. As Mr. [REDACTED] had no effective legal counsel prior to his demise, it appears the Agency of Original Jurisdiction might not have considered nor developed the claim for glioblastoma on a direct basis (see *Combee v. Brown* 34 F.3d 1039, 1043-44 (Fed. Cir. 1994)). As noted on Mr. [REDACTED] DD 214, his MOS was motor vehicle operator. This exposed him to gasoline, petroleum products, numerous solvents and cleaning agents throughout his four-year enlistment-irrespective of his presumptive exposure to Camp LeJeune's water supply.

The list of cancerous contaminants published in the Federal Register (81 Fed. Reg. At 62,914) in 1982 included Trichloroethylene (TCE), Perchloroethylene (PCE), benzene and vinyl chloride. One ingredient common to both exposures (i.e. presumptive for Camp LeJeune water and motor pool operators) on the list of the chemicals is benzene. Benzene is a natural ingredient of crude oil and a major part of gasoline. See <https://www.cancer.org/cancer/cancer-causes/benzene.html> (last visited 1/07/2018). The American Cancer site also notes that vehicle exhaust is laden with it.

Independent Medical Opinion of
[REDACTED] MD, MPH

On 10/21/2016, [REDACTED] was asked to opine on Mr. [REDACTED] service connection for glioblastoma multiforme, secondary to exposure to CLCW (Camp LeJeune Contaminated Water). The Independent Medical Evaluation (IME) conducted by Dr. [REDACTED] cited many pre- and post-service risk factors.

Mrs. [REDACTED] attests, under penalty of perjury per 28 USC §1746, and avers the following facts are true:

1) Mr. [REDACTED] preservice risk factor of "Service Station Operator" consisted of three months employment in [REDACTED] Georgia as a tow truck driver for the [REDACTED] Service Center (gas station) and changed customer's tires.

2) Mr. [REDACTED] second preservice risk factor as "Service Station Operator" subsequent to his employment at [REDACTED] consisted of two months employment at [REDACTED] Georgia's [REDACTED] Service Center (gas station) in a similar role. Both employers had other personnel assigned to pump gasoline which severely discounts Dr. [REDACTED]'s conception of preservice exposure to benzene.

3) Mr. [REDACTED]'s post-service risk factor for "metalworker" is unfounded. Structural engineers and their technicians x-ray weld joints and have risk factors for exposure to ionizing radiation. Mr. [REDACTED] was a structural worker who bolted together steel beams on high-rise apartments. He was never within any risk vicinity for ionizing radiation.

4) Dr. [REDACTED] notes construction workers, to include "metalworkers" are exposed to far higher dosages of "polyvinyl chloride" (emphasis added) than the trace levels found at Camp LeJeune. Appellant would point out that there were no trace levels of *polyvinyl chloride* mentioned in 81 Fed. Reg. At 62,914 but rather "vinyl chloride" - a completely different chemical and one not involved specifically with contaminated water at Camp LeJeune.

Appellant asks the Board to weigh the credibility of Dr. [REDACTED]'s Independent Medical Opinion if she is indeed opining on a chemical which is *not* on the list of Camp LeJeune's carcinogenic chemicals.

5) While Mr. [REDACTED] might have smoked for several decades, Dr. [REDACTED] presents no correlation between tobacco usage and glioblastoma-and indeed denies it under "Disease Specific Discussion". Mr. [REDACTED] did not suffer from lung cancer or report pulmonary distress throughout his life.

6) Dr. [REDACTED] states alcohol consumption may be a risk factor but proffers no cite(s) to support this contention. Mr. [REDACTED] was a social drinker-at best-during his lifetime but never drank on a daily basis according to Mrs. [REDACTED]

7) Dr. [REDACTED] notes glioblastoma has been associated with the viruses SV40, HHV-6 and cytomegalovirus. Pathology for Simian Virus 40 (SV40) was not reported in the pathology report of Mr. [REDACTED] excised tumor.

(see <http://www.sv40foundation.org/cpv-link.html> last visited 1/7/2018)

Human Herpes 6 virus (HH-6A & HH6B) is the virus most commonly associated with the childhood disease Roseola. Mr. [REDACTED] had no history of Roseola infection nor was he ever diagnosed with it.

(see <https://emedicine.medscape.com/article/219019-overview>- last visited 1/5/2018)

Similarly Mr. [REDACTED] was never diagnosed nor exhibited any of the well-known symptoms of the cytomegalovirus.(see <https://www.cdc.gov/cmV/overview.html> last visited 1/7/2018). Absent proof of any diagnoses of the above-mentioned viruses, they can hardly be included in a short list of potential risk factors for contraction of Mr. [REDACTED] glioblastoma.

8) Mr. [REDACTED] has also never had leukemia or lymphomas or impaired immune responses prior to diagnosis and onset of glioblastoma.

9) Dr. [REDACTED] goes on to list diseases and risk factors too numerous to enumerate which are inapplicable to Mr. [REDACTED]. Additionally, the IME submitted to counsel by Mrs. [REDACTED] on bright yellow 8.5"x11" paper, beginning on pages 20-22 of 127, has no footnote numbers to correlate to opinion expressed in the body of the **Disease Specific Discussion**. The absence of the cite number to footnote prevents other peer-situated medical specialists from opining on the validity of Dr. [REDACTED]'s reasoning and her belief that the glioblastoma was "less likely than not (less than 50% probability) caused by or the result of exposure to water contaminants at Camp LeJeune." This deficiency severely depreciates the probative value of the IMO and the power to convince others.

What appears missing from the above IMO is an accurate, probative analysis of the actual risk factors Mr. [REDACTED] was exposed to rather than a litany of all the risk factors he most certainly was not exposed to. Reasonable minds can agree the most extensive exposure was to *known carcinogenic substances* including above-average exposure to benzene. When the VA sets out to provide an examination, it must be a thorough and contemporaneous examination (see *Proscelle v. Derwinski*, 2 Vet. App. 629,632 (1992); *Green v. Derwinski*, 1 Vet. App. 121,124 (1991)). Dr. [REDACTED]'s opinion is lacking in discussion of Mr. Medders' possible direct service connection risk factors and thus is not probative.

The United States Court of Appeals for the Federal Circuit has emphasized that VA has a duty to fully and sympathetically develop a Veteran's claim to its optimum. *Hodge v. West*, 155 F.3d 1356, 1362 (Fed. Cir. 1998). This duty requires VA to "determine all potential claims raised by the evidence, applying all relevant laws and regulations," (see also *Roberson v. West*, 251 F.3d 1378, 1384 (Fed. Cir. 2001)), and extends to giving a sympathetic reading to all pro se pleadings of record. *Szemraj v. Principi*, 357 F.3d 1370, 1373 (Fed. Cir. 2004).

In *Combee v. Brown* 34 F.3d 1039, 1043-44 (Fed. Cir. 1994), the Federal Circuit Court of Appeals held that all claims for a presumptive disease are not so limited. Direct Service connection under 38 USC §1110 and 38 C.F.R. §3.303(d) is to be inferred and must be addressed in the first instance.

In Hodge v. West, 155 F.3d 1356, 1362-63 (Fed. Cir. 1998)) the Federal Circuit described the obligations of the Department of Veterans Affairs thusly:

[I]mplicit in such a beneficial system has been an evolution of a completely ex-parte system of adjudication in which **Congress expects [the DVA] to fully and sympathetically develop the veteran's claim to its optimum before deciding it on the merits.** Even then, [the DVA] is expected to resolve all issues by giving the claimant the benefit of any reasonable doubt. In such a beneficial structure there is no room for such adversarial concepts as cross examination, **best evidence rule**, hearsay evidence exclusion, **or strict adherence to burden of proof.**
(emphasis added)

In addition, Norris v. West, 12 Vet. App. 413, 421 (1999), Roberson v. Principi, 251 F.3d 1378 (Fed.Cir.2001) and Moody v. Principi, 360 F.3d 1306 (Fed. Cir. 2004) are on point as well. Clearly, Mr. [REDACTED] a pro se Veteran, and now Mrs. [REDACTED], who was recently substituted following his demise, did not have the claim nor the appeal developed to its optimum yet to consider glioblastoma multiforme on a direct service connection basis. It is irrelevant now who might have overlooked 38 CFR §3.304(d) and failed to develop any evidence that might be material to a decision for direct service connection.

Independent Medical Evaluation
by [REDACTED] MD.

A requested opinion by Veterans Law Judge Osborne for an Independent Medical Evaluation (IME) dated November 2nd, 2017 was received by counsel on December 26th, 2017. Dr. [REDACTED] was asked to "provide a medical opinion as to whether it is at least as likely as not that the Veteran's glioblastoma is related to active service, to include exposure to contaminated water at Camp LeJeune."

Appellant notes that the Board's requested opinion includes not just the presumptive exposure appeal but also a more distinct request expanded to include direct service connection. In contrast, the prior opinion of Dr. [REDACTED] opined solely on the correlation to exposure to contaminated water. For this reason and others, Mrs. [REDACTED] respectfully requests the Board disregard her opinion as being speculative (see *Bloom v. West*, 12 Vet. App. 185, 187 (1999)) (speculative medical opinion cannot establish in-service medical nexus to service). Mrs. [REDACTED] feels the Independent Medical Opinion by Dr. [REDACTED] contains far more current scientific data and is more on point.

Dr. [REDACTED]'s opinion acknowledges that three of the five chemicals in the groundwater are known carcinogens and a fourth is "reasonably anticipated to be a human carcinogen". This statement embodies the crux of the problem-the uncertain knowledge about these chemicals and their carcinogenic properties. Reasonable minds can agree that the paucity of statistical data thwarts any ability to spot trends and predict who will or who will not develop tumors of the brain and under what set of circumstances. Absence of evidence is not negative evidence (see *McLendon v. Nicholson*, 20 Vet. App. 79, 84 (2006)). Ample proof of this ongoing increase in knowledge is the ever-continuing list of presumptive diseases being added to the list of herbicide-related disorders.

Dr. [REDACTED] opined on page two on the history of Mr. [REDACTED]' "reported occupation as an iron worker". The field of the construction of iron extends from the mine producing iron ore all the way to the foundry where the iron is extracted and turned into steel. The finished product is transported to construction sites and subsequently assembled. Dr. [REDACTED] focused myopically on one narrow facet of iron production-as an iron worker in a foundry exposed to smelting. However, as Mrs. [REDACTED] has attested, he was not involved in this particular occupation. Thus, the consideration of that as a positive or negative risk factor is not probative to the discussion. Weighing it as a potential risk factor detracts from the probity of his IME.

Dr. [REDACTED]'s summary is predicated on there being no evidence for the belief that glioblastoma is service connected on a presumptive basis. He bases this heavily on the absence of glioblastoma on the list of eight diseases recognized as presumptives. As for service connection on a direct basis, the evidence against is essentially absence of evidence as well. Nevertheless, one of the chemicals Dr. [REDACTED] points to that contaminated the water supply is one which is shortly to be confirmed as a carcinogen beyond a reasonable doubt. In addition, Dr. [REDACTED] fails to opine on the duration of Mr. [REDACTED] exposure (two years). Notably, there is no discussion as well of his vastly increased exposure simultaneously to benzene in the petroleum distillates he encountered daily in his assigned MOS in addition to the contaminated water supply he bathed in and drank from.

Given this development, direct connection for glioblastoma needs to be addressed in the first instance. Mrs. [REDACTED] would prefer to conserve scarce judicial resources and allow the Board of Appeals to make this decision. Therefore, in aid of this objective, Mrs. [REDACTED] obtained a truly Independent Medical Opinion to address all aspects of the risk factors- and their correlation to Mr. [REDACTED]' glioblastoma.

SUMMARY

As the Independent Medical Opinion authored by Dr. [REDACTED] is deficient in regard to a number of facts and even the correct identity of the chemicals involved, appellant feels its probative value has been rebutted. Dr. [REDACTED]'s IME is far more probative but narrowly focuses of the absence of evidence being negative evidence against the claim. However, Dr. [REDACTED]'s IMO discusses actual links between glioblastoma and exposure to the chemicals indicted in the CLCW exposure. This supplemental information also supports a valid reason why direct service connection might be for application as well as presumptive. The Board need not reach the argument as to which of the two risk factors (or both) is the etiologically causative agent. The standard of legal review merely ask for a determination based on the evidence as to whether either one is the culprit.

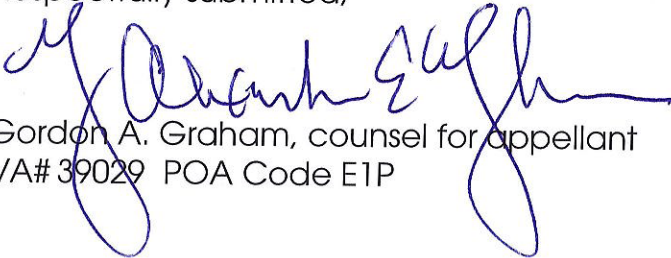
Based on two equally compelling medical opinions of record-both pro and con- and based on the evidence basically being in equipoise, appellant requests the benefit of the doubt.

Counsel for Appellant wishes to point out he is severely hamstrung by not having a current copy of the Record Before the Agency (RBA) and is unable to ascertain whether direct service connection was even considered at the AOJ level. Haste has been the primary objective. From review of the Statement of the Case, it would appear there was no development in this regard and indeed the Statement of the Case was devoid of discussion on the subject of direct service connection. The fact that the claim was developed at the AOJ solely based on a presumptive basis without any investigation on a direct basis of service connection for glioblastoma is fairly obvious from the evidence of record and Dr. [REDACTED]'s IMO instructions. If counsel is in error, he apologizes in advance.

Based on the new and material evidence submitted, Mrs. [REDACTED] feels the newer IMO places the appeal in equipoise and asks for the benefit of the doubt embodied in 38 CFR §3.102, 38 USC §501(2017).

Appellant appends the New IMO to the appeal with a waiver of review in the first instance at the AOJ. She respectfully requests the Board proceed to an immediate decision on the merits.

Respectfully submitted,



Gordon A. Graham, counsel for appellant
VA# 39029 POA Code E1P

Attached:

Exhibit A from [REDACTED] MD Internist and Medical oncologist Board Certified

EXHIBIT A

INDEPENDENT MEDICAL OPINION

CONCERNING MR. [REDACTED]

BY [REDACTED], MD DECEMBER 30TH, 2016

Dr. [REDACTED], MD
Internist & Medical Oncologist
Board Certified

Date: December 30, 2017

Re: [REDACTED]

With respect to the matter of [REDACTED] what follows are my opinions, rendered to a reasonable degree of medical certainty, regarding a potential relationship between carcinogen exposure during Mr. [REDACTED] service at Camp LeJeune.

Disclosure Statements

I am a licensed and board-certified physician with specialties in internal medicine, oncology and eligible in Hematology. In the course of my career I have been involved in clinical research and treatment of patients and I have been chief or director of divisions of Hematology in four institutions, including in a medical school. I've also developed clinical research programs in two institutions.

I am licensed in NY and NJ. I have been in practice since 1990, hold a worker Compensation number in the state of New York, and in my capacity as an oncologist, treating physician and consultant, I have treated, advised, or provided opinions on hundreds of cases of individuals with colon or prostate cancer and diabetes.

To the best of my recollection, I have had no contacts of any kind with Mr. [REDACTED]. This report is completely free from subjective bias of any kind and reflects entirely an objective review of the Mr. [REDACTED] records. I reviewed all the records provided to me, including Report of Transfer of Discharge, Reclamation of Government Payments, Review of Tetrachlorethylene by Jane Caldwell et al, IARC monographs 63, 1995 (with a statement that this compound had been associates the risk of brain cancer); Medders Fiduciary, communications form from the Board of Veterans' Appeals. Application for Disability, Notice of Disagreement and Statement of the

Case, Various documents from the VA. Handwritten Ophthalmology medical notes from 2003, Candler National Hospital and operative notes from 1986, Certificate of Eligibility for hearing loss and eye problems, Service Decision of 10/29/13 for hearing loss and tinnitus, STR Medicals form 1960-1964, Dental Health Record to 1961 to 1969. VA records for treatment of glioblastoma confirming with radiation and chemotherapy from 2014, other medical records from the VA. Report of Dr. [REDACTED], Report by [REDACTED] Report and Letter from Dr. [REDACTED]. I have provided my opinions, rendered to a reasonable degree of medical certainty. This report was generated only by me, with no help from any other parties.

The above analysis is based upon the available information at this time, e.g., medical records. It is assumed that the information provided to me is correct. If more information becomes available, an additional report may be requested. Such information may or may not change the opinions rendered in this evaluation.

My opinions to follow are to the reasonable degree of medical certainty or on the standard of as likely as not. Comments on appropriateness of care are professional opinions based upon the specifics of the case and should not be generalized, nor necessarily be considered supportive or critical of, the involved providers or disciplines.

Any medical recommendations offered are provided as guidance and not as medical orders. The opinions expressed do not constitute a recommendation that specific claims or administrative action be made or enforced.

I declare under penalty of perjury that the information contained in this report and its attachments is true and correct, to the best of my knowledge and belief, except as to information that I have received from others. As to that information, I further declare under penalty of perjury that the information accurately describes the information provided to me, and except as noted in this report, that I believe to be true. I also declare under penalty of perjury that to the best of my knowledge and belief, the contents of this report and bills are true and correct. The foregoing was signed on the date of this report.

Summary of Medical History and Pertinent Medical Facts

Mr. [REDACTED] served from [REDACTED]. He served at Camp LeJeune on the following dates: [REDACTED]

Mr. [REDACTED] served aboard a ship (USS [REDACTED]) from [REDACTED] (two years) following his basic training at Parris Island, SC in 1961. His ship was involved in the American quarantine of Cuba during the missile crisis. Following that, he was assigned to Camp Lejeune [REDACTED] where he remained for almost two years until his four-year enlistment expired [REDACTED].

Camp Lejeune timetable detail

[REDACTED] 2 months and 6 days
= 22 months and 24 days

Total time at Camp Lejeune of twenty five (25) months total, combining the two sums.

He suffered from [REDACTED]

[REDACTED] and was treated for left temporal glioblastoma in September of [REDACTED]. He underwent craniotomy and resection. His treating oncologist, Dr. [REDACTED] expressed the opinion that more likely than not, the glioblastoma was related to Camp LeJeune exposure in his letter of 11/15/2014.

My conclusion

The VA requires proof of a minimum of 30 days exposure in order to be sufficiently "exposed" in order to be eligible for a compensable disability (10% or more) by carcinogens. Mr. [REDACTED] was exposed at Camp LeJeune for twenty five months and also worked in the motor pool as well. His additional exposure in his assigned job as a United States Marine Corps Military Occupational Specialty (MOS) 3531 (Motor Vehicle Operator) could only increase exposure to more of the same.

It is my opinion that, more likely than not, exposure to the tetrachlorethylene at Camp LeJeune was a contributing cause of Mr. [REDACTED] cancer. I based this opinion on recent medical literature that draws this connection. The association of this

compound and brain cancer is not new and it has been raised by earlier studies, some as long ago as the 1980s and 1990s. A case-only study in Shanghai, China, assigned women with brain cancer a low or high level of exposure to organic solvents, based on occupation. Those with a high probability of high solvent exposure had a nearly two-fold risk.¹ A case-control study in Sweden found a greater than two-fold relative risk of glioma for men who self-reported exposure to 'solvents, degreasers or cleaning agents'.² There was no significant increase in risk for women. Three consecutive case-control studies of glioma and other cause deaths used occupational information from death certificates,³ next-of-kin interviews⁴ and job-exposure matrices⁵ to estimate solvent exposure with the strongest association for methylene chloride and risk of glioma with increasing probability of exposure and with increasing duration of exposure in high-exposed jobs. Using a different set of job-exposure matrices associating women's occupations on death certificates with estimated intensity and probability of exposure to chlorinated solvents, Cocco *et al*⁶ found an increased risk for solvents and, in particular, for methylene chloride by increasing probability of exposure, but not by intensity of exposure. It was noted, for example, in the paper by Heinemann *et al* in 1994⁷. It was identified as a carcinogen

¹ Heineman EF, Gao YT, Dosemeci M, et al. Occupational risk factors for brain tumors among women in Shanghai, China. *J Occup Environ Med.* 1995;37:288-93.

² Rodvall Y, Ahlbom A, Spännare B, et al. Glioma and occupational exposure in Sweden, a case-control study. *Occup Environ Med.* 1996;53:526-37.

³ Thomas TL, Fontham ET, Norman SA, et al. Occupational risk factors for brain tumors. A case-reference, death-certificate analysis. *Scand J Work Environ Health.* 1986;12:121-7.

⁴ Thomas TL, Stewart PA, Stemhagen A, et al. Risk of astrocytic brain tumors associated with occupational chemical exposures. A case-reference study. *Scand J Work Environ Health.* 1987;13:417-23.

⁵ Heineman EF, Cocco P, Gomez MR, et al. Occupational exposure to chlorinated aliphatic hydrocarbons and risk of astrocytic brain cancer. *Am J Ind Med.* 1994;26:155-69. [[PubMed](#)]
Gomez MR, Cocco P, Dosemeci M, et al. Occupational exposure to chlorinated aliphatic hydrocarbons: job exposure matrix. *Am J Ind Med.* 1994;26:171-83.

⁶ Cocco P, Heineman EF, Dosemeci M. Occupational risk factors for cancer of the central nervous system (CNS) among US women. *Am J Ind Med.* 1999;36:70-4.

⁷ Heineman EF, Cocco P, Gómez MR, Dosemeci M, Stewart PA, Hayes RB, Zahm SH, Thomas TL, Blair A, Occupational exposure to chlorinated aliphatic hydrocarbons and risk of astrocytic brain cancer. *Am J Ind Med.* 1994 Aug;26(2):155-69.

that may be implicated in the causation of glioblastoma by Jane Caldwell et al Review of Tetrachlorethylene, IARC monographs 63, 1995. Recent literature that had not been noted in previous assessments of the causative connection has become available. It includes the U.S. Environmental Protection Agency (EPA) toxicological review of tetrachlorethylene (perchloroethylene, PCE) in February 2012 that used new methodology, the Exposure Assessment Approach, which concluded that provided suggestive evidence of carcinogenicity of this compound, as well as confirmed that it is neurotoxic at even low exposure. Neurotoxic compounds are by definition able to get into the brain and to cause damage. It was noted to cause glioma, of which glioblastoma is a subtype, in rats. More importantly, this method did not reveal other explanations for brain tumors in rats.⁸ Persons chronically exposed to *tetrachlorethylene* may experience. ataxia; disorientation; irritability; peripheral *neuropathy*; short-term memory deficits; sleep disturbances. I find it interesting that Mr. [REDACTED] suffered from peripheral neuropathy as well, which was ascribed to his diabetes; however, his diabetes had always been well controlled and a connection to the exposure at Camp LeJeune is not far fetched.

Also in 2012, an epidemiological study of chlorinated compounds found that: “There was some suggestion of an association between carbon tetrachloride and glioma in analyses restricted to exposed subjects, with average weekly exposure above the median associated with increased risk compared to below-median exposure (OR=7.1, 95%CI: 1.1, 45.2).⁹” Exposure above the median is what happened to Mr. Medders in Camp LeJeune.

There were as well some studies that found no association between chlorinated solvents as a class and glioblastoma. However, there is sufficient evidence in the literature to support causation as well, there is a great deal of it, and to me, it rises at least to the level of as likely as not, and in my opinion is sufficient to implicate tetrachlorethylene as a glioblastoma-causing carcinogen with a more likely than not standard.

⁸ Kathryn Z. Guyton et al, Human Health Effects of Tetrachlorethylene: Key Findings and Scientific Issues. *Environ Health Perspect*; OI:10.1289/ehp.1307359

⁹ G, Neta et al, Occupational exposure to chlorinated solvents and risks of glioma and meningioma in adults. *Occup Environ Med*. 2012 Nov; 69(11): 10.1136/oemed-2012-100742.

Signed,

[REDACTED]

[REDACTED] MD