EXHIBIT B

Partial List of Studies and Reports Relevant to USMC Research on Women in Direct Ground Combat

1. ***LTC Philip* J. *Belmont Jr.*, MC *USA*; *CPT Gens* P. *Goodman*, MC *USA*; *CPT Brian Waterman*, MC *USA*; *LTC Kent DeZee*, Me *USA; COL Rob Burks*, QM *USAF; MAJ Brett* D. *Owens*, MC *USA***, *Military Medicine*, "Disease and Non-Battle Injuries Sustained by a U.S. Army Brigade Combat Team During Operation Iraqi Freedom," Vol. 175, July 2010.

> **Abstract Excerpt:** This is an analysis of disease non battle injuries (DNBI) sustained by a large combat-deployed maneuver unit in a U.S. Army Brigade Combat Team (BCT) during a counterinsurgency campaign of Operation Iraqi Freedom. *"The DNBI casualty rate for the BCT was 257.0/1,000 soldier combat-years. Females, compared with males, had a significantly increased incidence rate ratio for becoming a DNBI casualty . . . Of 47 female soldiers receiving MEDEVAC 35 (74%) were for pregnancy-related issues. Musculoskeletal injuries (50.4%) and psychiatric disorders . . .were the most common body systems involved with DNBI casualties . . . Conclusions: Musculoskeletal injuries and psychiatric disorders accounted for 74% of the total DNBI casualties, and 430/0 of the DNBI casualties requiring subsequent MEDEVAC."*

2. British Ministry of Defence (MOD), United Kingdom, "Women in the Armed Forces," May 2002. This report provided the rationale for the decision to retain women's exemption from direct ground combat. Also see CMR, Jan. 14, 2002: "British Study Finds Female Soldiers 'Too Weak' for Land Combat."

> **Excerpts:** *"The study concluded that only 0.1 percent of female applicants and 1 percent of trained female soldiers "would reach the required standards to meet the demands of these roles . . .The military viewpoint was that under the conditions of a high intensity close-quarter battle, group cohesion becomes of much greater significance to team performance and, in such an environment, the consequences of failure can have far-reaching and grave consequences. To admit women would, therefore, involve a risk with no gains in terms of combat effectiveness to offset it....[T]the Secretary of State for Defence concluded that the case for lifting the current restrictions on women serving in combat roles has not been made for any of the units in question. Taking the risk that the inclusion of women in close combat teams could adversely affect those units in the extraordinary circumstances of high intensity close combat cannot be justified."*

3. British Ministry of Defence, (MOD), United Kingdom, Report on the Review of the Exclusion of Women From Ground Close-Combat Roles, November, 2010. Eight years later, the MOD reviewed the issue again, and came to the same conclusion:

Excerpt: *"[Women's] capability in almost all areas is not in doubt...But these situations are not those typical of the small tactical teams in the combat arms which are required deliberately to close with and kill the enemy."*

4. **Kingsley Browne**, Professor of Law, *"The Report of the Military Leadership Diversity Commission: An Inadequate Basis for Lifting the Exclusion of Women from Direct Ground Combat,"* Wayne State University, April 2012

Excerpt: *"The recommendation of the Military Leadership Diversity Commission to lift the exclusion of women from ground combat is deeply irresponsible and cannot be taken seriously. The Commission's lodestar was diversity, not military effectiveness, and it failed to take into consideration a wealth of information bearing on its recommendation."*

5. Elaine Donnelly, President, Center for Military Readiness, Statement for the Record, House Armed Services Personnel Subcommittee, July 24, 2013. (Includes Appendix discussing policies of other nations with regard to women in combat.)

6. Ian M. M. Gemmell, *Journal of the Royal Society of Medicine*, "Injuries Among Female Army Recruits: A Conflict of Legislation," 2002 January.

Excerpt: *"[A] 'gender fair' policy was . . . changed to a 'gender free' policy, whereby identical physical fitness tests were used for selection of male and female recruits and the training programme made no allowances for gender differences.... The cross-gender (F/M) odds ratio for discharges because of overuse injury rose from 4.0...under the gender-fair system to 7.5... under the gender-free system. Despite reducing the number of women selected, the gender-free policy led to higher losses from overuse injuries."*

7. William J. Gregor, PhD, Professor of Social Sciences, School of Advanced Military Studies Fort Leavenworth, KS, Why Can't Anything Be Done? Measuring Physical Readiness of Women for Military Occupations, Paper on physiology presented at the 2011 International Biennial Conference of the Inter-University Seminar on Armed Forces and Society:

Excerpt: *"The data clearly reveals a very large gap between the physical strength, aerobic capacity and size of Army men and women. Training men and women correctly improves the performance of both groups but it also widens the gap in performance."*

Additional Comment by Dr. Gregor: **"***There is no study that indicates that training can overcome the large physical differences between men and women. Additionally, training women to perform heavy work jobs increases dramatically the skeletal-muscular injury rate among women which is already far greater than men. Attempting to train women with men will require either training men less well or accepting a high attrition rate among the very few women who will meet the nominal qualifications for heavy work jobs. In units, it can be expected that commanders will shift tasks from women to men to avoid attrition from non-battle injury. It is a matter of speculation whether such task shifting is tolerable in actual*

combat. Given the non-battle injury rate of Army women in Operation Iraqi Freedom, increasing the presence of women below the brigade level may result in even greater losses."

8. Venerina Johnson, Julia Coyle , Rodney Pope and Robin M Orr, "Load Carriage and the Female Soldier," Review Article Issue, Volume 19, No. 3, *Journal of Military and Veterans' Health*, A peer reviewed journal, Australasian Military Medicine Association. July 2011, (p. 29)

Excerpt: *"Physiological factors such as fat mass, strength, and aerobic endurance, as well as biomechanical factors, like stride length and forward lean, have the propensity to increase both the energy cost of completing a load carriage task, and the potential for injury. The female athlete triad, which can be induced or worsened by intense physical activity (like load carriage), poor nutritional intake, and stressors within the combat environments, likewise raises injury potential concerns. Furthermore, iron deficiency, PFM dysfunction or fatigue, and military equipment issues can reduce performance, increase fatigue and increase the risk of injury in female soldiers."*

9. Report of the Presidential Commission on the Assignment of Women in the Armed Forces, November 15, 1992, Section II, Alternative Views: The Case Against Women in Combat, pp. 43-48, and Selected Findings of the Presidential Commission**,** compiled by CMR. Some of the commission's findings have been overtaken by events; e.g., repeal of the Defense Department Risk Rule and Collocation Rule in 1993 and 2012, respectively. Most are very relevant, however, especially findings and testimony regarding women in direct ground combat.

Excerpt: *"Civilian society forbids employment discrimination. But the military, in building fighting units, must be able to fight and win in battle. There is good reason for this. In a combat unit serving on land, at sea, or in the air, the inability of any member of the group to perform at levels demanded by the battlefield can present a direct risk to the lives of others and to the accomplishment of the infantry mission. This is one of several reasons why the Armed Forces differ in many important respects from civilian employers, including police forces that preserve order close to home. It is a separate society governed by a set of rules and regulations because its principal purpose is to fight and win wars. While civilian workers operate on a "9 to 5" schedule, units in combat operate 24-hours-a-day, seven-days-a-week. For the deployed fighting man, there is no home and family waiting at the end of the day. The home is where the soldier stands to face the enemy. Good order and discipline are crucial for morale, survival, and victory in battle."* (p. 44)

10. Rear Adm. Hugh P. Scott, MC, USN (Ret.), Letter to House Armed Services Committee Chairman **Howard P. "Buck" McKeon**, June 22, 2012.

Excerpt: *"While men and women have an equal number of muscles and muscle fibers, the strength difference relates exclusively to muscle size that is determined by testosterone levels. Because women have less testosterone than men, they have smaller muscle fibers that result in the development of small-size muscles; in effect, women have less muscle to*

activate. That also is the reason why women develop less muscle when training with weights and exercising."

11. Col. Barbara A. Springer, PhD, PT, OCS, SCS, and **Major Amy E. Ross, MD**, **Borden Institute** Monograph Series, "Musculoskeletal Injuries in Military Women," 2011.

Excerpt: *"Military women tend to suffer a higher incidence of injuries than military men. Several studies have identified female gender as a risk factor for injury in Army basic training programs in the United States and around the world. For example, one study shows the cumulative injury incidence in Basic Combat Training (BCT) was 52% for women versus 26% for men. . . Other studies showed a similar incidence for training injuries in BCT populations: approximately 50% for women and 25% for men."* (p. 3)

12. Daniel W. Trone, MA, *Military Medicine* magazine,: "*Negative First-Term Outcomes Associated with Lower Extremity Injury During Recruit Training Among Female Marine Corps Graduates,"* Jan 2007, 172, p. 83.

The Trone study, a four-year study of Marine Corps training graduates at Parris Island, focused on the career impacts of elevated injury rates among female trainees, reinforced questions about the short- and long-term consequences of training women and men with identical standards. In addition to the cost of early separations, negative outcomes included failure to complete first-term of service, failure to achieve rank of corporal, and failure to re-enlist.

13. US Army Research Institute of Environmental Medicine (USARIEM), "Effects of a Specifically Designed Physical Conditioning Program on the Load Carriage and Lifting Performance of Female Soldiers," **November 1997, and** "The Amazon Myth – Natick Study Stretches Science."

This USARIEM **Report**, often referred to as the **Natick Study**, has been cited in some misleading reports as evidence that special training can overcome physical differences between men and women in close combat. On closer examination, the study did not meet expectations of its sponsor, then-Representative **Patricia Schroeder**, D-CO.

14. Laurel Wentz, Pei-Yang, Liu, *Military Medicine*, "Females Have a Greater Incidence of Stress Fractures Than Males in Both Military and Athletic Populations: A Systemic Review," Apr. 1, 2011.

Abstract Excerpt: *"The purpose of this study was to review incidence and identify factors explaining causes and differences in the incidence among genders. . . Of several thousand studies . . .11 focusing on military populations and 10 on athletes are discussed. Results: In both populations, females had higher incidence of stress fractures, with incidence of ~3% and ~9.2% for males and females, respectively, in military populations and ~6."*