EXECUTIVE SUMMARY (TETRA TECH STUDY)

This Technical Memorandum presents the results of an environmental and radiological investigation and health risk evaluation performed by Tetra Tech, Inc. (Tetra Tech) at the Brandeis-Bardin Campus (BBC) located in the Simi Valley, California. The BBC is situated in close proximity to the Santa Susana Field Laboratory (SSFL), a former nuclear and rocket testing facility. Operations at the SSFL are known to have released chemical and radiological contaminants into the environment, and the SSFL has been undergoing extensive investigation and remediation for several decades under the oversight of both the Environmental Protection Agency (EPA) and the California Department of Toxic Substances Control (DTSC). The SSFL investigation has assessed contamination both on and off-site, and investigations to date have uniformly found that contaminants originating from the SSFL have not migrated to the BBC in a manner that creates a health risk for campers, residents, or other BBC visitors.

Tetra Tech was retained as a third party consultant to (1) perform a detailed review of existing environmental, chemical and radiological studies conducted within and outside the BBC property boundary; (2) determine if any additional testing or improved technologies should be utilized to enhance the study of the BBC (data gap analysis); (3) develop a strategy for further site testing; (4) execute the further site testing; and (5) evaluate the risk posed to campers, residents, and visitors of the BBC using newly-collected data.

Tetra Tech conducted a comprehensive literature review on all available relevant information and environmental investigations which have been conducted at the SSFL and associated off-site areas, including those conducted by EPA, Cal EPA, DTSC, Brandeis-Bardin and others at the BBC since 1992. This, and all other studies consistently concluded that environmental conditions at the BBC posed no risk to users of the site. Tetra Tech then conducted a critical evaluation of the existing studies to identify any additional testing protocols that might augment the work that had already done. While these studies presented no data gaps of concern, as a matter of assurance, Tetra Tech recommended, and subsequently performed, both a continuous GPS-based gamma radiation survey and soil sampling on the BBC property.

The mobile GPS-based gamma radiation survey, a technology not available when previous investigations were conducted, was performed over the entirety of the camp area as well as in the drainage areas leading from the Northern Buffer Zone toward the center of the BBC property. This survey showed no statistically significant difference in gamma radiation readings compared with background levels (or naturally occurring levels). Soil samples taken from the primary usage areas and the drainage areas were also tested for a suite of radiological and chemical analytes. Strontium-90 (Sr-90), a radionuclide that has become ubiquitous in soil globally due to atmospheric nuclear weapons testing fallout, was detected at an average concentration of 0.0817 pCi/g, with a range from non-detect (<0.075 pCi/g) to 0.182 pCi/g. Tetra Tech evaluated the risk to campers and other site users based on a series of highly conservative assumptions, including that the highest detected concentration of Sr-90 represented all soil on the property. This analysis concluded that the risk to human health caused by Sr-90 (.043 in 1,000,000 excess cancer risk) is less than one-twentieth the risk level that DTSC and EPA consider acceptable (1 in 1,000,000 excess cancer risk). All other analytes tested were found to be below background levels.

Tetra Tech's risk evaluation is consistent with prior risk assessments for off-site areas that found no appreciable risks at the BBC through soil exposure pathways. It demonstrates that human health risks associated with BBC soils are well below levels of concern and are consistent with background levels. Tetra Tech's risk evaluation, literature review, and background comparison analysis of all available site data indicate that the environmental and radiological conditions at the BBC pose no unacceptable human health risk to campers, camp counselors, visitors, or residents at the site.