

Marine Corps Air Station Beaufort



Laurel Bay Questions and Answers

Q1. What criteria is used to analyze the soil, groundwater, or air samples taken from my house?

A1. Samples were compared to screening levels (SLs) which are based on US Environmental Protection Agency (EPA) and South Carolina Department of Health and Environmental Control (SCDHEC) guidance. The purpose of the comparison was to determine if further action or study is warranted. Generally, at sites where contaminant concentrations fall below SLs, no further action or study is warranted, so long as the exposure assumptions at a site (e.g., exposure duration, frequency and contact rate) match those taken into account by the SL calculations. Chemical concentrations above the SL would not automatically designate a response action; however, exceeding a SL suggests that further evaluation of the potential risks by site contaminants is appropriate.

Q2. How can I be sure there has been adequate testing done at my house?

A2. Neither South Carolina nor the Federal Government regulate underground storage tanks (USTs) for residential heating oil; therefore, no process existed to govern MCAS Beaufort's voluntary underground storage tank (UST) removal program. Nonetheless, in coordination with South Carolina Department of Health and Environmental Control (SCDHEC), Naval Facilities Command, (NAVFAC), and environmental experts, MCAS Beaufort developed a UST removal and testing process that follows the process used for regulated USTs (which include large commercial chemical and petroleum product storage tanks). The process recommended by EPA is a stepwise approach that begins with sampling soil, then proceeds to groundwater and to soil gas as needed in order to determine the existence and extent of contamination and identify potential exposure pathways. The process was reviewed and approved by SCDHEC. Furthermore, SCDHEC has been actively overseeing the MCAS Beaufort UST removal and testing process from the beginning.

Q3. Are EPA designated superfund sites impacting Laurel Bay?

A3. The EPA has identified four sites in Beaufort County (one was corrected and delisted) that meet EPA criteria to require immediate cleanup, and qualify for federal funding if the responsible party cannot or will not pay – these are known as superfund sites. The closest to Laurel Bay is approximately three miles away, and none of the superfund sites impact Laurel Bay. This is based on the EPA process, which delineates boundaries of the superfund site by sampling of groundwater monitoring wells, and is typically an ongoing activity. Groundwater monitoring allows the size and movement of contamination to be tracked. None of the superfund sites impact Laurel Bay, and there are no Superfund sites at the Air Station.

Q4. If I have questions about the Public Health Review, whom should I contact?

A4. For questions regarding the PHR report, please contact MCAS Beaufort at LaurelBayHealthStudy@usmc.mil or leave a message at the MCAS Beaufort community response line: 843-228-6229. The question will be referred to appropriate subject matter experts to include medical and environmental personnel.

Q.5 What should I do about mold if I find it in my house?

Marine Corps Air Station Beaufort



A5. If you discover mold or any condition of water intrusion that may lead to mold, such as leaking pipes or roof, please call the AMCC maintenance line at 877-509-2424. The Military Housing Office, 843-228-6004, is also an available resource to advocate for you with AMCC if you are dissatisfied with the maintenance response.

Q.6 Why weren't heating oil tanks removed earlier than 2007?

A6. Residential heating oil USTs are not regulated in South Carolina and there is no requirement to remove tanks that are no longer in use. As such, there are no processes, limits, removal standards, or required testing during removal. As a matter of good environmental stewardship rather than in response to any legal or regulatory mandate, MCAS Beaufort approached South Carolina Department of Health and Environmental Control (SCDHEC) in 2004 to request guidance on UST removal. MCAS Beaufort coordinated with SCDHEC and Naval Facilities Engineering Command (responsible for facilities within the Department of the Navy) experts and developed a UST removal process. The removal process was approved by SCDHEC.

Q.7 Why isn't indoor air testing done for every house?

A7. EPA recommends that indoor air testing be done only when evidence shows a potential for vapor intrusion.

Section 6.4.1 of EPA's Vapor Intrusion Guidance (EPA 2015) states that the "EPA recommends the decision to collect indoor air data be supported by lines of site or building-specific evidence (e.g., characterization of subsurface vapor source(s) strength and proximity to building(s), vadose zone conditions, and building conditions) which demonstrate that vapor intrusion has the potential to pose a significant human exposure." It further states that a potential shortcoming of indoor air testing is that indoor sources and outdoor sources, unrelated to subsurface contamination and to releases from the subject site – "background" – may contribute to the presence of volatile chemicals in occupied buildings (see Section 2.7), particularly if these sources cannot be removed from the building prior to and throughout the duration of sampling indoors. This shortcoming of indoor air testing is unavoidable when the subsurface environment contains the very same volatile chemicals that contemporaneously arise in indoor air due to background sources, which is common for some chemicals and relatively rare for others.

Based on this EPA 2015 Petroleum Vapor Intrusion (PVI) guidance, the fact that petroleum constituents are widely used in household applications and the fact that resident activities and lifestyles can introduce background contamination, the most prudent procedure to follow was a step by step process testing other media first (soil, groundwater, and soil gas), then proceed to indoor air sampling if it is determined that a potential pathway exists.

EPA vapor intrusion guidance can be found at <https://www.epa.gov/sites/production/files/2015-09/documents/oswer-vapor-intrusion-technical-guide-final.pdf>.

Q.8 Is encapsulation an effective remediation method for lead based paint?

A8. Encapsulation remains an effective remediation method per USEPA guidance.

Q.9 Given the number of tanks that have been removed, is it the Marine Corps' contention that there is not enough contamination to cause a health risk?

Marine Corps Air Station Beaufort



A9. The investigation to address potential health concerns related to home heating oil USTs is ongoing. The SC DHEC has been, and continues to be involved in the review and approval of data provided on the approximately 1,100 LBMH residences with historical use of heating oil used in former USTs. While the

VI investigation is continuing, the results of UST tank removal and subsequent investigations (soil, groundwater and VI) to-date, and oversight by the SC DHEC for each step of the process, indicate that exposure to indoor air concentrations of the constituents of home heating oil (e.g., benzene), is not a pathway of concern for residents at the properties in LBMH. Groundwater is not used as a drinking water source for LBMH; therefore, exposure to contaminants in groundwater via drinking water is not a complete exposure pathway.

Q.10 I've heard there were as many as 1,400 tanks in Laurel Bay. The Marine Corps says they have removed 1,252. What happened to the others?

A10. 1,400 tanks was an estimated number from a contractor based on the number of tanks found early in the UST removal process. During the removal process, thorough measures were taken to locate USTs, including "as built" documentation, ground penetrating radar, metal detectors, and probes. Fortunately, there were fewer USTs than estimated.

Q.11 Did Freedom Sound use heating oil?

A11. No, houses in Freedom Sound were built after heating oil was discontinued. Freedom Sound never had USTs.