



Ensuring Seafood is Safe: Trident Seafoods Relies on InSite™ *Listeria* for Environmental Testing



The story of Trident Seafoods begins back in the 1960s when Chuck Bundrant pursued his dream of a great adventure at sea. He moved to Alaska where he began his fishing and crabbing adventure, eventually partnering with others to build an innovative fishing boat which would soon change the seafood industry dramatically. This boat, the Billikin, was the first vessel to feature crab cookers and freezing equipment onboard, allowing processing of fresh catches as soon as they came out of the water.

This is the basis of the success of Trident Seafoods. It still processes seafood on board but has expanded beyond that. Today, they have several remote shore sites, a catcher/processor vessel, and a processing vessel which carry high risk RTE products. As a result, they need rigid sanitation and verification processes to ensure foods exposed to these remote processing environments after interventions and prior to packaging are safe. In addition, as Trident Seafoods grows and expands, they need consistent standardized processes across the full range of high risk RTE food sites.

Especially important for exposed RTE foods is testing the environment for the presence of *Listeria* spp. This includes the need for initial positive and negative control tests to be conducted by an external laboratory as part of any investigation, product review, and disposition.

Trident sites are remote and include a catcher/processor that remains at sea for up to 14 days, posing challenges in collecting samples and shipping

The Bountiful





The big question was: could the InSite™ *Listeria* swab tests be held under refrigerated conditions until catchers returned to shore, in the event additional external lab confirmation was needed? Trident worked with Hygiena™ to test this possibility. Our R&D/applications team designed and completed a refrigerated storage viability study using *Listeria* spp. presumptive positive cultures stored in InSite™ *Listeria* swab devices. The 14 day viability validation was prepared and executed by Hygiena™* and not at a Trident site. The samples were not from Trident products or environments but were sourced Hygiena™ prepared cultures. The results of this study demonstrate that Insite™ *Listeria* swabs will work for use on vessels out to sea for up to 14 days when refrigerated.

them to an external laboratory for testing (If only they could hold samples for testing until the ships returned to shore). In fact, they prefer internal testing (shipping out samples would be a logistically nightmare and costly – both in time and expense) but the test needed to be simple, reliable, have a low cross contamination risk and take up a small footprint due to limited space for sample storage and testing. They also had to consider other sampling and testing factors including rapid turnaround time, internal lab design and cost, employee qualification and training, and self-contained vs. environmentally exposed tests.

One solution they considered was InSite™ *Listeria*. These test kits were advantageous as they were self-contained (addressing the need for low cross contamination risk and limited storage and lab space). InSite™ was also easy to use, provided results in 48 hours or less, and sampling, storage, incubation, and interpretation were simple. In addition, minimal equipment was needed (only an incubator for growth and refrigerator for storage).

According to Scott Thacker, Food Safety & Quality Assurance Director for Trident Seafood, samples are collected every day during production hours, even for crab. Since some high risk RTE foods are processed on board, we implemented an environmental monitoring program prior to packaging to ensure no *Listeria* was present. We had to consider the fact that we had very remote locations without established labs or qualified testers on staff, so we needed a simple, inexpensive solution for testing. “Hygiena’s InSite™ test provided a simple, self-contained, cost effective, reliable and viable under refrigerated conditions test kit. In our remote processing environments, it is difficult to meet one or more of these conditions. Hygiena’s InSite™ was able to meet all these conditions.”

To learn more about InSite™ *Listeria*, please visit <https://www.hygiena.com/listeria>

To learn more about Trident Seafoods, please visit <https://www.tridentseafoods.com>

**The 14 day viability validation conducted by Hygiena™ was as follows: Low levels of Listeria monocytogenes were added to InSite™ Listeria swabs that were then stored refrigerated for up to 14 days. Listeria cultures were diluted in BHI broth to very low levels (to result in 1 – 10 CFUs per swab) for inoculation into the InSite™ swabs. Swab devices were then refrigerated and tested over time. At each time point, organism viability in the swab devices was confirmed using 3 methods: InSite™ Listeria testing, culture plating, and PCR (using the BAX® system). Results indicated, in all cases, that Listeria was present in the presumptive positive samples as visualized by a positive color change in the InSite™ Listeria swabs, culture growth, and a positive PCR result on the BAX® system. All negative samples remained negative.*