

Sampling and DNA Identification

Specialized Sampling Techniques

Bode has unsurpassed experience testing various types of forensic cases for over 25 years and has specialized protocols for handling difficult sample types, starting at the sampling step.



Touch DNA: Improved Sampling and Extractions

For touch evidence, Bode has validated and implemented more sensitive sampling methods utilizing tape lifts, Post-It Notes, and scraping techniques. In conjunction with these sampling methods, a touch evidence protocol has been developed to optimize the DNA extraction efficiency from trace evidence and touch DNA associated with some cold cases.

Validated Touch DNA Collection Methods

Obtaining successful Touch DNA results depends on recognizing items/ areas on items which may be suitable for Touch DNA analysis, and using the sampling technique that will recover the highest number of skin cells:

Sampling Method	Evidence Type
Swabbing	Non-porous surfaces
Cutting	Identified stain areas
Scraping	Clothing, carpets, car floor mats, ligatures
Tape Lift/ Post-It	

Body Fluid Detection

While Bode has pioneered the direct-to-DNA workflow for sexual assault cases, Bode still offers traditional serology services as it has since 2001. Where appropriate, Bode will assess evidence items by Alternate Light Source (ALS) or visual examination in order to isolate potential body fluid stains. Bode recently implemented a new and more powerful ALS with infrared camera to detect blood on patterned or dark/black clothing in which blood stains would otherwise be difficult to visualize.



Screening methods for the presence of biological fluids:

- Phenolphthalein (Kastle-Meyer) presumptive test for blood
- Acid Phosphatase presumptive test for semen
- Phadebas® presumptive test for saliva
- ABACard® Hematrace® test is validated as a presumptive test for the presence of the hemoglobin found in human blood
- OneStep ABACard® p30 test can be used to confirm the presence of prostate-specific antigen (PSA or p30)

Bode recently introduced the Crime Lite 82s to identify stains on darker items.

Identifying the Missing and Bone Extractions

Bone Extractions

Bode has a world-renowned proprietary bone extraction which has been optimized over several years to obtain DNA from highly challenged and degraded human remains. This method was first developed during testing of samples from the World Trade Center and has been continually improved over the years on projects worldwide.

- Bode has tested over 50,000 human remains samples with an unsurpassed success rate.
- Bode tests more than 2,000 bones per year.

Bode Technology utilizes advanced proprietary extraction techniques along with cutting edge technology to provide DNA analysis on unidentified and challenging remains. In efforts worldwide, Bode has processed more than 30,000 unidentified remains to using a variety of technologies including STRs, Y-STRs, mini-STRs, and mitochondrial DNA profiling.

Unidentified Remains

Bode has worked with medical examiners, coroners, law enforcement, crime labs and governments to support the identification of unidentified human remains through DNA. Support efforts include:

- Unidentified victims of crimes
- Victims of mass disasters
- Mass casualty situations including the World Trade Center bombings and airplane crashes
- Victims of conflict

Proprietary sampling and extraction techniques have been developed to support the generation STR profiles from bones, including those that are highly degraded and environmentally challenged.

Forensic Genealogy

Bode FGS - Forensic Genealogy Service combines advanced DNA analysis and genealogy to develop ancestral relationships between samples to help solve or support violent crimes against individuals or for identifying human remains. Utilizing forensic genealogy may help identify unknown when traditional DNA analysis does not result in matches.

Mass Disaster Support/ Disaster Victim Identification

Bode has performed work on compromised samples to assist in the identification of victims of mass disasters. Some examples of processing skeletal remains include the following:

- Supports the post-conflict identification of the missing from international events
- Successfully profiled over 200 skeletal samples, several hundred buccal samples, and many personal effects to help identify the victims of Hurricane Katrina
- Analysis of victim and reference samples from the Alaska Airlines Flight 261 and American Airlines Flight 587 aircraft disasters
- Successful identification of numerous individuals who went missing in Mexico
- Identification of severely degraded remains from a WWII victim