



## Historic Human Remains Detection Dog's: Use and Application for Unmarked Graves Searches.

### Introduction

Historic Human Remains Detection Dogs (HHRDD's) have skills that are similar to the better-known cadaver dogs used in police work, from whom their specialized training is derived. Both search for the specific scent of human remains; they will not alert on animal remains, either buried or on the surface. However, cadaver dogs search for recently deceased people, whereas HHRDD's are specifically trained to locate old human bones and teeth and can detect the much lower scent levels emanating from hundred- or even thousand-year-old graves. These dogs have been used in the United States and in Europe to identify old human remains in archaeological and historic contexts, with studies published on their efficacy and accuracy. In addition to Cadaver and HHRDD's, there is a third subset of detection dogs that specializes in cremated (burnt) human remains. This type of dog focuses on human remains that have been cremated to ashes (sometimes referred to as cremains), where no body or bones may remain.

More recently, they have been used in conjunction with geophysical techniques such as GPR as a way to speed up the process of locating unmarked burials in various contexts ([see report here](#)). HHRDD's cannot identify exact locations of graves, but they are able to determine whether human remains are present in an area with reasonable confidence. **The best use of a HHRDD team would be in the case where there is an area many acres in size that is suspected to contain an unmarked grave or cemetery.** HHRDD's can cover much more ground in much less time than a geophysical survey, making it a great option to narrow down areas for investigation. A set of HHRDD teams may be used prior to geophysical survey to provide information on which portion of the landscape geophysical techniques need to be focused on. After the HHRDD survey, a geophysical survey, such as GPR, could be conducted on the smaller area identified by the HHRDD's to reduce overall cost and increase confidence.



# INSTITUTE OF PRAIRIE AND INDIGENOUS ARCHAEOLOGY

Contact: [ipiafoa@ualberta.ca](mailto:ipiafoa@ualberta.ca)

## FAQ on HHRDD's

- **Are detection dogs useful in locating unmarked graves within the context of residential school sites?**
  - Yes, the use of such dog teams is effective when looking for unmarked graves around residential schools. However, there are **three types of trained dogs that can be used**. The first is Cadaver Dogs which are useful with recent (or fresh remains). These types of trained dogs are not useful in the context of residential schools since the burials will be much older than what these dogs are trained to detect. The second type is Historical Human Remains Detection Dogs (HHRDD). These dogs are trained in the detection of older remains primarily through the scent of old bones and teeth. The third type of dog is one that is specialized in detecting burned/cremated remains. We recommend you check with the organization which type of training they are specialized in.
  - Each of these types of dogs are trained to alert on different types of scents that are emitted from human remains. When searching for buried remains, the dogs alert on the decomposition odour as it travels to the surface and do not alert on the body itself. However, there are many factors that might influence where and when a dog may alert, including weather conditions, the type of training a dog has had, the presence of vegetation, condition of the burial and the location of a burial (whether it is in a cemetery or an isolated burial).
- **Can detection dogs scent burnt (or otherwise damaged or affected) remains?**
  - There is a subset of specialized dogs that can detect cremated remains. Dogs trained for burnt or cremated remains may be useful if archival or oral histories indicate these types of remains are likely contained within residential school buildings or cellars. This is dependent again on a number of factors. The most important thing to note is if the fire was hot enough that the body was cremated entirely. If not, the dogs may not alert as they are trained to identify ashes and not partially cremated remains.



## INSTITUTE OF PRAIRIE AND INDIGENOUS ARCHAEOLOGY

Contact: [ipiafoa@ualberta.ca](mailto:ipiafoa@ualberta.ca)

Similar to HHRD dogs the teams that specialize in detecting burnt remains undergo extensive training.

- **What are the potential limitations of using a trained dog team in this context?**
  - The three types of dogs outlined above have their own unique limitations. HHRD dogs cannot provide exact locations of burials, but may alert in the general area of a burial. Additionally, in an area where there are multiple graves, a HHRDD may only alert once, or have trouble in alerting for each individual grave. The dogs may be able to determine the presence/absence of human remains, but not always how many.
  - The main limitation for each of these types of teams is weather conditions. Hot, cold, or wet weather can make it very difficult for scent to rise so the dogs can locate it. Heavy vegetation can also prevent the scent from rising. As long as the remains have been protected from the elements (buried), there should be scent.
  
- **How do we know that detection dogs are qualified?**
  - HHRD, Cadaver, burnt remains dogs are usually trained over a period of approximately 2 years and undergo 2,000 hours of training. Before receiving certification most dog teams are required to pass a skills test and obtain field experience. However, this can vary with the organization a dog is associated with. **We recommend asking questions around what kind of certification and type of training a team might have.**
  - In addition to the canine training, handlers also undergo training in order to ensure that they have the skills and abilities to maintain the dogs training and recognize how the dog alerts (each dog is trained to alert in a different way which can range from barking, scratching or whining).
  - To confirm the accuracy of the dog, further follow up of the site would be recommended. HHRD dogs will narrow down an area to the point that a set of remains could be recovered. Secondary exploration, such as ground penetrating radar or other remote sensing techniques can act as a secondary guarantee on the accuracy of the dog.



## INSTITUTE OF PRAIRIE AND INDIGENOUS ARCHAEOLOGY

Contact: [ipiafoa@ualberta.ca](mailto:ipiafoa@ualberta.ca)

- **Can detection dogs' scent remains older than 50 years? Is there a decrease in the efficacy the longer someone has been buried?**
  - HHRD dogs are trained to detect the decomposition scent from a set of remains where the scent may be deteriorated. Over time the odour changes as the decomposition stage advances. The period of time that a body has been buried has an impact on the effectiveness of the dog team. One of the main factors is how the dog was trained. HHRDD's are trained with older remains and therefore are better equipped to detect older remains. The best option for older remains would be HHRDDs.

### **Alberta-Based Contact Information**

- [Canadian Canine Search Corps](#)
  - [caninerearchcorps@gmail.com](mailto:caninerearchcorps@gmail.com)
  - (403) 984-7599
- [Search and Rescue Dog Association of Alberta](#)
  - Mary Ann Warren
  - Training Director/Instructor/Author/Coordinator
  - [mwtracks@telus.net](mailto:mwtracks@telus.net)

### **International Contact Information**

- [Institute of Canine Forensics](#)
  - (650)-503-4473
- [Martin Archaeology Consulting](#)
  - (662)-394-0890