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**Crime Scene/Death Investigation – Dogs and Sensors  
Pre-Scented Canines – Location Check**

DRAFT



## Crime Scene/Death Investigation – Dogs and Sensors Pre-Scented Canines – Location Check

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## Foreword

Since there are no consensus standards for canine teams (canine and handler), this document is specifically dedicated to specialized protocols for trailing canines to conduct location checks. This standard promotes consistency across agencies, departments and organizations utilizing Pre-Scented Canines – Location Check search and relieve the judicial system of conflicting protocol.

This document provides recommended guidelines for training, certification and documentation pertaining to Pre-Scented Canines – Location Check within the detector dog community. This document serves as the progression of that effort.

This standard was revised, prepared, and finalized by the Dogs and Sensors Consensus Body of the AAFCO ASB. The Dogs and Sensors Subcommittee of the Organization of Scientific Area Committee (OSAC) determined that initial training, certification, and documentation standards should be established for Pre-Scented Canines – Location Check as no industry standards currently exist. Canines not trained specifically for Pre-Scented Canines – Location Check and detection may result in inaccurate and inconsistent results. The Scientific Working Group on Dog and Orthogonal Detector Guidelines (SWGDOG) approved document SWGDOG SC 9 – Human Scent Dogs – Pre-Scented Canines – Location Check<sup>1</sup>.

All hyperlinks and web addresses shown in this document are current as the publication date of this standard.

**Keywords:** *initial training, canine team assessments, canine certification, maintenance training, record keeping and document management, terms and definitions, references, cases and legal references, alert, change of behavior, disclosure, certifying official, scent article, olfactory.*

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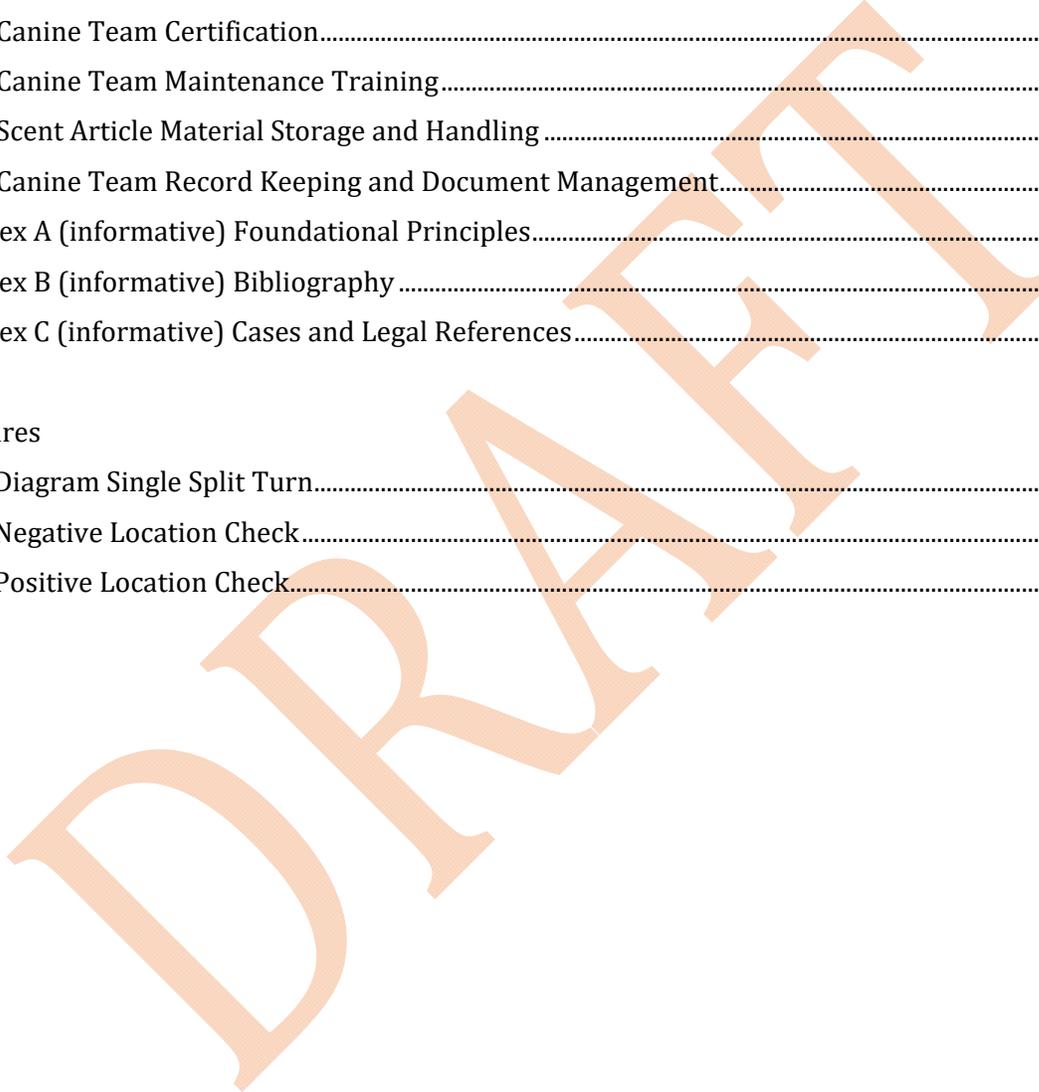
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# Crime Scene/Death Investigation – Dogs and Sensors

## Pre-Scented Canines – Location Check

### 1 Scope

This document provides the requirements for pre-scented canine - location check search using a canine team to search for and identify a specific person's (target) scent at a given location. This standard promotes consistency across agencies, departments, and organizations utilizing pre-scented canines – location check search and provide the judicial system optimized protocol.

### 2 Normative References

There are no normative reference documents. Annex B, Bibliography, contains informative references.

### 3 Terms and Definitions

#### 3.1

##### **accreditation**

The process by which an organization (or, in some cases, an individual or canine team) is formally recognized by an accreditation body as competent and able to plan, manage and operationally conduct their actions safely, effectively and efficiently. This is an ongoing process that must be renewed within the accreditation body's compliance timeframe. (See **3.2 accreditation body**.)

#### 3.2

##### **accreditation body**

An organization responsible for management and implementation of the system to set standards or guidelines within the relevant field.

#### 3.3

##### **accredited**

The designation given to those who are able to demonstrate they meet or exceed the standards or guidelines set by the appropriate accreditation body.

#### 3.4

##### **active alert**

A type of response that the canine displays/indicates in a manner that may disturb the environment and or forensic evidence (i.e., dig, bark, scratch, paw, jump, and bite after the detector canine has detected a trained odor/scent).

#### 3.5

##### **aged scent**

Specific human scent that has been present for a period longer than 24 hours.

#### 3.6

##### **aged trail**

A specific human scent pathway that has been present for a period longer than 24 hours.

**3.7  
alert**

A characteristic change in ongoing behavior in response to a trained odor/scent, as interpreted by the canine handler. The components of the alert may include: change of behavior (COB), interest, and final response or indication. (See **3.61 final response**, **3.71 indication**.)

**3.8  
article**

(1) A particular item or object, typically one of a specified type used to present to the canine for scent discrimination.

(2) Scented objects left on the track or in a search area at various intervals to which the canine is expected to indicate.

**3.9  
article search**

The process of locating and indicating items that contain non-specific or targeted human scent. (See **3.54 evidence search**.)

**3.10  
assessment record**

A record of the assessments of the canine team, i.e., evaluations during either the training or certification to assess the canine team's ability and proficiency. The assessment records may be combined with training and certification records or maintained separately. A record documenting the performance of the canine team, especially an account of an act or occurrence kept in writing or some other permanent form, i.e., digital format, which is discoverable.

**3.11  
assessments**

An evaluation during training and/or certification process; a tool to assess canine team ability.

**3.12  
assessor**

(See **3.27 certifying official**).

**3.13  
behavior**

Any measurable, physical response of a canine. Can be voluntary (goal directed) or involuntary (reflexive).

**3.14  
blank**

Any area or container where target odor/scent is not present. (See **3.15 blank search**.)

**3.15  
blank search**

A training or certification exercise in which the target odor/scent is not present.

**3.16  
blind experiments**

The person(s) obtaining the measurements does not know the treatments.

**3.17**

**canine**

A dog, *Canis familiaris*, more commonly used to denote a working dog and sometimes abbreviated as K-9.

**3.18**

**canine handler**

A person who has successfully completed a recognized course of canine handling in a specific discipline and maintains those abilities through field applications, maintenance training, certification, recertification and agency or program required continuing canine education.

**3.19**

**canine handler error**

Any action or cue by the handler that causes the canine team to perform incorrectly.

**3.20**

**canine team**

A human and working canine that train and work together as an operational unit.

**3.21**

**canine team assessment record**

The documentation of an evaluation conducted during training.

**3.22**

**canine trainer**

A person providing training/instruction who has demonstrated, through education, training and operational experience, extensive skill and knowledge in the subject field or discipline. This person would normally perform the maintenance training and proficiency training in the field and may train canines in preparation for a formal course of instruction.

**3.23**

**certification**

A process that attests to the successful completion of an examination of relevant skills for the canine team.

**3.24**

**certification component**

An element of the canine team odor/scent recognition or operational assessment.

**3.25**

**certification record**

A record of the certification achieved by a competent canine team, maintained separately from other records, i.e., training, assessments or discipline-related deployment records. A record documenting the performance of the canine team, especially an account of an act or occurrence kept in writing or some other permanent form, i.e. digital format, which is discoverable.

**3.26**

**certifying authority**

The organization authorizing the certification of a canine team.

**3.27**  
**certifying official**  
**assessor**

A person who has been delegated the authority to conduct an evaluation (assessment and/or certification) and/or sign certificates on behalf of an organization or entity, that recognizes a canine team has been trained to a particular standard within the organization.

**3.28**  
**Change of Behavior**  
**COB**

A characteristic pattern of behaviors, as interpreted by the canine handler that occurs when the canine detects a trained odor/scent. This differs from other olfactory interest that otherwise are exhibited by the canine in response to the daily environment. The initial change of behavior typically leads to following the odor/scent to its source/target. The pattern of behavior may be unique to each canine. (See **3.73 interest**.)

**3.29**  
**cognitive bias**

A set of influences that may affect the reliability and validity of one's observations and conclusions.

**3.30**  
**competent canine trainer**

A person having suitable or sufficient skill, knowledge, experience to train canines and canine handlers.

**3.31**  
**comprehensive assessment**

An extended single-blind exercise.

**3.32**  
**confirmed alert**

An alert for which the presence of a trained odor/scent can be verified or corroborated. Also referred to as a "hit", "find" and/or "positive response".

**3.33**  
**confirmed operational outcome**

Verification of search results following a deployment of a canine team(s).

**3.34**  
**consistency**

Consistent measures are those where repeated measurements of the same thing produce the same results. (See **3.112 reliability**.)

**3.35**  
**contaminating odor/scent**

Of target: any odor/scent not ordinarily part of a target odor/scent signature. Of area: any odor/scent not normally part of the context of that area.

**3.36****contamination**

When an odor/scent is inadvertently introduced. Contamination can include the following: contamination of a search area with a target odor/scent or contamination of a target aid with competing odor/scent.

**3.37****controlled search**

An experiment/training/testing exercise in which any defined variable(s) is consistent within specific parameters.

**3.38****deployment**

Assignment of a canine team in an operational environment.

**3.39****deployment record or utilization record**

A record of the deployment and/or utilization of a trained canine team, maintained separately from other records, i.e., training, assessments or certifications. A record documenting the deployment and/or utilization of the canine team, especially an account of an act or occurrence kept in writing or some other permanent form, i.e., electronic format, which is discoverable. (See [3.111 record](#), [3.41 discipline-related deployment record](#).)

**3.40****direction of travel**

The route in which a subject laid a trail as indicated by the canine.

**3.41****discipline-related deployment record**

A record of the deployment and/or utilization of a trained canine team, maintained separately from other records, i.e., training, assessments or certifications. A record documenting the deployment and/or utilization of the canine team, especially an account of an act or occurrence kept in writing or some other permanent form, i.e., electronic format, which is discoverable. (See [3.111 record](#), [3.39 deployment record or utilization record](#).)

**3.42****discoverable**

Documentation that pertains to an investigation that can be requested and must be produced by the prosecution or the defense for trial purposes. For example, notes, records, certifications, photographs or digital media.

**3.43****discrimination**

The ability to recognize differences between two or more stimuli. Operational usage: The ability to recognize differences between two or more odors/scents.

**3.44****discriminative stimulus**

A stimulus that signals when a particular response produces specific consequences. For example, sitting in the presence of a particular odor/scent leads to a reward. The odor/scent in this case is the discriminative stimulus.

**3.45****distractibility**

The tendency to be easily diverted from task.

**3.46****distractor**

Non-target stimuli placed within a search area. These can include: humans, toys, food, animal odor, etc.

**3.47****distractor odors/scents**

Non-target stimuli placed within a search area. These can include: humans, toys, food, animal odors or other blank-target odors/scents.

**3.48****dog handler**

The trained person who works the canine. (See **3.18 canine handler**.)

**3.49****double-blind assessment/double-blind testing**

Scientific usage: This condition occurs when neither the experimenter/canine handler, nor the observer/evaluator, knows which treatments/manipulations are given to which subjects.

Operational usage: In the evaluation of a canine neither the assessor nor the canine handler knows the location of the target odor/scent or whether target odor/scent is present (i.e., a blank/null search).

**3.50****dual-purpose dog**

A canine trained in two disciplines. For example, a canine trained for narcotics and criminal apprehension.

**3.51****environmental training/testing**

Instruction and evaluation procedures used to teach a canine to work, and determine whether a canine can work, in a variety of operational environments with increasing biological and physical complexity, which may distract or inhibit the canine from work. The training and testing, respectively, are designed to teach the canine to work, and assure that the canine can work, in a variety of operational environments, some of which may be extreme.

**3.52****evaluator**

An individual with relevant training and experience in the discipline being evaluated, who assesses the performance of canine, canine handler, or canine team while showing no bias or partiality. (See **3.27 certifying official/assessor**.)

**3.53  
evidence**

A body of facts, information, or material objects indicating whether a belief or proposition is true or valid.

**3.54  
evidence search**

The process of a canine locating and indicating items that contain a trained odor/human scent. This may be non-specific or targeted based on the discipline. (See **3.9 article search**.)

**3.55  
evidence search dog**

A canine trained to locate and indicate items in question by means of detecting a trained odor/human scent.

**3.56  
exclusion scent check**

A type of location search in which a scent match is not indicated by the canine thereby excluding an individual as the scent contributor.

**3.57  
false alert**

An indication/trained final response demonstrated by the canine in the absence of the target odor/scent; a situation in which the canine exhibits the trained final response in the absence of the odor/scent on which he/she was trained to find.

**3.58  
false indication**

Any location, person, or item incorrectly identified by the canine handler. (See **3.57 false alert**)

**3.59  
false negative**

Operational usage: A response indicating that something is not true or not present when it is true or present. Scientific usage: Type II error.

**3.60  
false positive**

A response indicating that something is true or present when it is not true or absent. Scientific usage: Type I error.

**3.61  
false response**

In a controlled environment, the canine responds as if a trained substance was present when it is known that it is not. (See **3.60 false positive**.)

**3.62  
final response**

A behavior that a canine has been trained to exhibit in the presence of a target odor/scent source. This behavior may be either passive (sit, stare, down, point, etc.) or active (bite, bark, scratch, jump, etc.). Also known as a trained final response. (See **3.7 alert**, **3.71 indication**.)

**3.63**

**handler**

(See **3.18 canine handler**.)

**3.64**

**handler error**

Any action or cue made by the handler that causes the canine to perform incorrectly. (See **3.19 canine handler error**.)

**3.65**

**human distractor**

Non-target person placed within a search area.

**3.66**

**human scent behavior**

The way in which human scent moves or reacts in a given environment. Factors that influence the dispersion of scent may include wind, temperature, air currents, and topography. An example would be a plume of scent that a canine has been trained to follow to its target.

**3.67**

**human scent evidence**

A particular person's scent collected for use for investigative purposes.

**3.68**

**human scent evidence canine**

A canine trained to locate and indicate items in question by means of detecting human scent.

**3.69**

**human target**

Individual that laid a track/trail for a canine to follow to the exclusion of all other trails.

**3.70**

**inclusion scent check**

A type location check in which a scent match is indicated by the canine thereby including an individual as the scent contributor.

**3.71**

**indication**

The canine's response to the odor/scent in the manner in which it has been trained, independently and without distraction. (See **3.7 alert**, **3.62 final response**.)

**3.72**

**initial training**

The fundamental training associated with detector canine training which consists of, but not limited to: bonding/relationship building, obedience, basic odor/scent discrimination, and basic search techniques.

**3.73****interest**

Any reaction to an odor/scent, which may include:

(1) A noticeable, readable, physical change in behavior in a detector canine during the search when the canine reacts to (i.e., is interested in) an odor/scent.

(2) Pattern of behavior following the canine's initial reaction to a trained odor/scent when the canine displays motivation to remain at or trace the trained odor/scent to its source. (See **3.28 change of behavior.**)

**3.74****location check**

Utilization of a trailing canine to determine if a matching scent is located at a specific site or not by using a scent article.

**3.75****maintenance training**

Continuing training conducted beyond the initial training of a discipline, designed to maintain a level of proficiency by ensuring the canine team's capability to perform desired tasks.

**3.76****matching scent trail**

A pathway laid by a human subject whose scent matches the scent on the article presented to the canine.

**3.77****matching-to-sample****MTS**

A procedure where upon presentation of a comparison stimulus, an animal chooses the same stimulus amongst an array of stimuli. For example, a canine is presented with scent of Person X and then identifies the scent contributor amongst an array of persons.

**3.78****mission requirement**

Performance demanded of a person or canine team in accordance with certain fixed regulations, needs of the department or agency. Compulsory pre-requisites needed before deployment.

**3.79****National Institute of Standards and Technology****NIST**

A non-regulatory federal agency within the U.S. Department of Commerce. NIST's mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve quality of life. The Dogs and Sensors Subcommittee of the Organization of Scientific Area Committees (managed by NIST) focuses on standards and guidelines related to performance of deployed canines, canine handlers and canine teams, and optimization of their integration with electronic detection devices.

**3.80****negative control**

A known odor/scent sample that is used to assess the canine's proficiency in a non-matching odor/scent scenario. The canine is expected to give a negative response.

**3.81****negative location check**

A type of site check in which no existing scent matches the human scent on the article presented to the canine.

**3.82****negative response**

An alert/indication given by a canine showing no match to odor/scent, i.e., no matching trail, no substance present, etc.

**3.83****non-matching scent trail**

A pathway laid by a human subject whose scent does not match the scent on the article presented to the canine, or the absence of a matching scent pathway.

**3.84****non-productive response**

A change of behavior of the canine followed by a positive indication which cannot be confirmed by the canine handler. This may be the result of residual odor/scent that the canine can detect but which cannot be confirmed by technology or direct observation. A non-productive response may also be an error—a false positive—but these outcomes cannot be distinguished in an operational environment.

**3.85****obedience training**

The training of an animal, especially a canine, to obey certain commands.

**3.86****odor**

Volatile chemicals emitted from a substance that are able to be perceived by olfaction. "Odor" has traditionally referred to canine detection of a substance. "Scent" has traditionally referred to canine detection of humans. (See [3.117 scent](#).)

**3.87****odor dispersion**

Environmental conditions/factors/influences affecting the movement of odor. (See [3.88 odor plume](#).)

**3.88****odor plume**

Dispersion of odor in a given environment. (See [3.87 odor dispersion](#).)

**3.89****odor recognition**

Demonstration of the canine's olfactory ability to alert to a target odor(s).

**3.90**

**odor recognition assessment**

A test of the canine's olfactory ability to alert to target odor(s) in a controlled environment.

**3.91**

**odor/scent pool**

Area of concentrated target odor/scent.

**3.92**

**odor signature**

The chemical profile of an odor produced by a substance.

**3.93**

**odorant**

Molecules that are properties of the external world objectively defined in terms of their physical and chemical characteristics and capable of being transposed by particular nervous systems into odors.

**3.94**

**olfaction**

**olfactory**

Of, relating to, or connected with the sense of smell.

**3.95**

**operational assessment**

A test conducted (single- or double-blind) in an operational environment in which the canine team will be deployed or utilized.

**3.96**

**operational certification**

A process that attests to the successful completion of an examination of relevant skills for the canine team to be deployed on operations.

**3.97**

**operational experience**

A person's years of training and experience related to mission specific objectives.

**3.98**

**operational proficiency**

Training conducted beyond the initial training of a discipline, designed to maintain a high level of competence or skill by ensuring the canine team's capability to perform desired tasks.

**3.99**

**operational requirement**

(See **3.78 mission requirements**.)

**3.100**

**operational search**

(See **3.38 deployment**.)

**3.101****passive alert**

A trained final response given by the canine that requires an inactive behavior such as sitting, staring or lying down. These types of behaviors are typically trained so as not to disturb the environment and/or forensic evidence. (See **3.102 passive response**, **3.114 response**.)

**3.102****passive response**

A type of response that the canine displays/indicates in a manner that does not disturb the environment (i.e., sit, stand, lie quietly, or focus/stare after the detector canine has detected a trained odor). (See **3.101 passive alert**.)

**3.103****positive alert**

A trained detection alert in the presence of the target odor/scent.

**3.104****positive location check**

A type of search conducted in a specific area in which an existing human scent in the environment matches that of the scent article presented to the canine.

**3.105****positive reinforcement**

A reward given after a response or as the response occurs that increases the probability of that response recurring. For example, if a canine is rewarded for sitting by being given a treat the canine is more likely to sit again.

**3.106****pre-scenting**

A sample target scent that is presented to the canine prior to deployment. The canine's objective is to match the scent article to the target scent. This is commonly used in tracking/trailing/location checks and/or scent discrimination line ups.

**3.107****pre-scenting canines**

A type of canine that smells a sample target odor pad (scent article) prior to deployment. The canine's objective is to match the pre-scented pad to the target scent. This is commonly used in tracking/trailing and/or scent discrimination line ups.

**3.108****probable cause**

Exists when the facts and circumstances known to the officer would warrant a prudent person to believe a crime had been committed and the accused had committed it or that the evidence will be found in the place to be searched.

**3.109****productive response**

A change of behavior of the canine followed by a positive indication that can be confirmed by the canine handler.

**3.110****proficiency assessment/testing**

An evaluation during training; a tool to assess a canine team's ability.

**3.111****record****record/utilization log**

A record/log in the use of a trained canine team in an operational environment, as opposed to training records. A log constituting a piece of evidence about the past, especially an account of an act or occurrence kept in writing or some other permanent form, i.e., electronic format. (See **3.39 deployment record or utilization record.**)

**3.112****reliability**

The extent to which an experiment, test or measuring procedure yields the same results on repeated trials. Low probability of alerting to anything other than a target odor/scent and a high probability of alerting to a target odor/scent. Evidence that establishes a fair probability that a target odor/scent is present. The extent to which a measurement is repeatable and consistent and free from random errors. (See **3.34 consistency.**)

**3.113****residual odor/scent:**

Odor/scent that originated from any substance/subject that may or may not be physically recoverable or detectable by other means. The odor/scent that originated from a target substance/subject and lingers after the target substance/subject has been removed or has totally decomposed (as in the case of human remains).

**3.114****response**

A behavior that a canine has been trained to exhibit upon locating the source of a target odor/scent. This behavior may be either passive (sit, stare, down, point) or active (bite, bark, scratch, jump, etc.). (See **3.71 indication.**)

**3.115****reward**

The presentation of an article, toy, food, or praise given to the canine once the detector canine has alerted and responded to the odor(s)/scent(s) for which the canine is trained to detect/locate.

**3.116****routine training**

Canine training conducted with regularity that maintains the canine's operational capabilities.

**3.117****scent**

Volatile chemicals emitted from a live human that are perceived by the canine through olfaction. "Scent" has traditionally referred to canine detection of humans. "Odor" has traditionally referred to canine detection of a substance. (See **3.86 odor.**)

**3.118****scent article**

An item that has been exposed to the target scent source that is used to put the canine on task.

**3.119****scent association**

When a canine learns to identify a trained scent with a specific reward.

**3.120****scent cone**

A funnel-shaped scent pathway, which extends down-wind from the target, becoming wider the farther away from the target. The canine is able to locate the target by moving upwind.

**3.121****scent dispersion**

Environmental conditions/factors/influences affecting the movement of scent from a fixed scent source. Movement of the source creates a separate scent cone at the new location.

**3.122****scent discrimination**

The ability of the canine to use olfactory capabilities to differentiate one scent from another.

**3.123****scent match**

(See [3.77 matching-to-sample](#).)

**3.124****scent/odor association**

When a canine learns to identify a trained odor/scent with a specific reward.

**3.125****scent/odor picture**

The combination of odors/scents that are present when a detector canine responds to a trained odor/scent.

**3.126****scent pad**

A material used to collect target scent from a person, object, or location for subsequent presentation to the canine.

**3.127****scent plume**

Dispersion of scent in a given environment. (See [3.120 scent cone](#), [3.121 scent dispersion](#).)

**3.128****scent recognition**

Demonstration of the canine's olfactory ability to alert on a target scent(s).

**3.129****scent recognition assessment**

A test of the canine's olfactory ability to alert to target scent(s) in a controlled environment.

**3.130**

**scent trail**

Scent pathway left by a person.

**3.131**

**set time**

The length of time between the target placement and when the canine is deployed to detect the target odor/scent.

**3.132**

**single-blind assessment/testing**

An evaluation of the canine team's ability to complete an exercise where the evaluator knows the outcome and the handler does not.

**3.133**

**single split trail/turn**

Refers to a training exercise in which two subjects walk a straight line and then split into two different directions. When the canine is presented with a scent article from one of the subjects, the canine commences to trail and match the correct person to the scent article. Despite the contamination of scent from the other person on the trail the canine is still able to discriminate between scents and identify the correct subject.

**3.134**

**standard**

An established or widely recognized model of authority or excellence as a reference point against which other things can be evaluated or the ideal in terms of which something can be judged.

**3.135**

**target**

The odor/scent for which the canine is trained to respond.

**3.136**

**target trail**

A pathway that was laid by a target subject that matches the scent article presented to the canine. (See **3.76 matching scent trail**.)

**3.137**

**track/trail**

The scent pathway left by an individual moving.

**3.138**

**tracking**

The propensity or learned ability of a canine to methodically follow odor/scent on the ground (human/ground disturbance) by working the canine close to the pathway. Canines are not typically pre-scented on an object.

**3.139  
trailing**

The propensity or learned ability of a canine to methodically follow the target scent. The canine may follow a scent plume which could be either air borne or settled on the ground/vegetation. The canine will use whichever technique will get them to the target the most efficiently. Canines are typically pre-scented on an object.

**3.140  
trainer/instructor**

Any member of a specific discipline who is in a situation of instructing any part of the canine team using established methods and validated training guidelines.

**3.141  
training**

Goal oriented task designed to teach, correct, expand, improve, and maintain detection capabilities.

**3.142  
training aid**

Target odor/scent sources used for training.

**3.143  
training log  
training record**

A record used to document the training of a canine, canine handler or canine team, maintained separately from other records, i.e., assessments, certifications or discipline-related deployment records. A record documenting the performance of the canine team, especially an account of an act or occurrence kept in writing or some other permanent form, i.e. electronic format which is discoverable.

**3.144  
type I error**

This is the mistake when one rejects the null hypothesis (one states that there is an effect) and it is true (there is really NO effect). This is also called a false positive—detecting an effect where none exist. (see **3.60 false positive**.)

**3.145  
type II error**

This is the mistake when one accepts the null hypothesis (there is no effect) when it is false (there really IS an effect). This is also called a false negative—failure to detect a real effect. (see **3.59 false negative**.)

**3.146  
unconfirmed alert**

An alert for which the presence of a trained odor/scent cannot be confirmed. This may be the result of residual or lingering odor/scent that the canine can detect but which has not been confirmed by technology or direct observation. (See **3.84 non-productive response**.)

**3.147****unconfirmed operational outcome**

Lack of verification of search results following a deployment of a canine team(s).

**3.148****urban search**

To locate target odor/scent sources in a city type of environment.

**4 Canine Team Requirements****4.1 Initial Training of Canine Handler**

**4.1.1** The canine handler training shall be conducted by a competent trainer from an entity that utilizes a structured curriculum with specific training and learning objectives.

**4.1.2** Canine handler training shall include, but not limited to the following:

- a) the ability to “read the canine” (interpreting the canine’s change of behavior to particular stimuli);
- b) the acquisition and processing of odor/scent by the canine;
- c) education on the various environmental conditions affecting scent dispersion;
- d) canine handling techniques (e.g. voice inflection and lead handling);
- e) rewarding the canine;
- f) education on the aspects of cognitive bias;
- g) first aid for canine and handler;
- h) fitness for canine and handler; and
- i) relevant legal aspects to include:
  - effect of human scent dispersion;
  - relevant case law (See Annex C);
  - preparation of legal documentation; and
  - preparation for courtroom testimony.

**4.1.3** The training shall be structured to meet the typical mission requirements of the canine team’s department, agency or organization, herein referred to as organization.

**4.1.4** The canine team’s training shall continue to maintain a level of operational proficiency and obtain and maintain organizational certification requirements (see Sections 5, 6, and 7).

**4.1.5** Canine handler training may include techniques for collecting, handling, storing and disposing of articles and human scent evidence as required by the canine handler's organization.

**4.1.6** In order to maximize search efficiency, canine handler training shall include search techniques.

## **4.2 Initial Training of the Canine**

**4.2.1** The canine training shall be conducted by a competent canine trainer from an entity that utilizes a structured curriculum with specific training and learning objectives. The training shall include, but not be restricted to the following.

**4.2.1.1** Initial training shall include sufficient obedience training to ensure the canine will operate safely and effectively based on mission requirements. Obedience training should include on- and/or off-lead control and responsiveness to verbal commands.

**4.2.1.2** The canine shall be trained to perform a pre-determined specific final response (active or passive alert) upon locating the trained scent (positive alert).

**4.2.1.3** The canine shall be trained to perform a pre-determined specific final negative response when no trained scent(s) are located.

**4.2.1.4** Initial training shall include exposing the canine team to a variety of locations, expected situations, and searches.

**4.2.1.5** Training shall progressively include scent articles, aged scent, trail distances, locations and environmental conditions typically expected in an operational search.

**4.2.1.6** The canine shall be exposed to varying concentration/amounts of available scent.

**4.2.1.7** Training shall include exposing the canine to a variety of different noise, visual, and odor/scent distractors.

**4.2.1.8** The canine shall be trained to perform a safe, effective, and controlled search.

**4.2.1.9** The training shall be structured to meet the typical mission requirements of the canine team's organization.

**4.2.1.10** The canine team's initial training shall be continued until the required level of operational proficiency is achieved and the canine team is certified. (See Sections 5, 6, and 7)

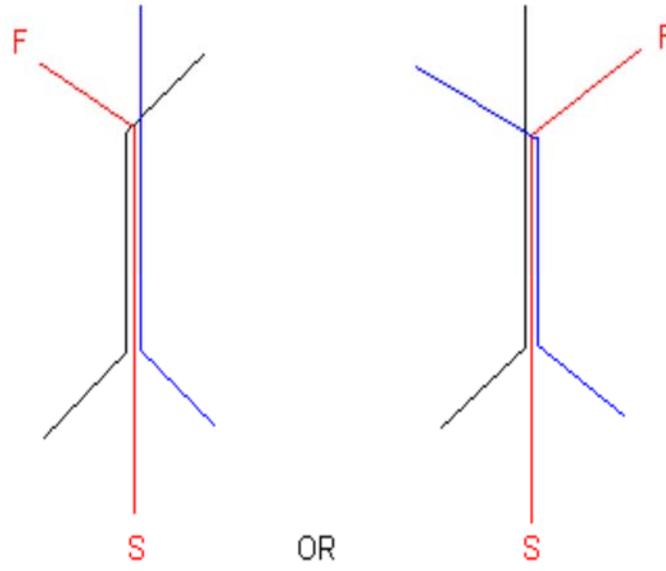
## **5 Canine Team Assessments**

**5.1** Assessments are part of certification, maintenance training, and proficiency testing.

**5.2** Each assessment is the evaluation of a search.

**5.3** The canine handler shall articulate the canine's final response prior to the start of the assessment. The canine may not be able to make a final response due to the components and parameters of the assessment. Reasonable consideration by the assessor shall be given in these instances (e.g., the target is inaccessible for the canine to make a final response).

- 5.4** Each trail should be used by only one canine team.
- 5.5** Each non-matching trail should be used by only one canine team.
- 5.6** The canine team shall be assessed in the following ways.
- 5.6.1** The assessments in this section are intended for *single-blind assessments*.
- 5.6.1.1** *Scent recognition assessments* shall test the following.
- 5.6.1.1.1** The ability of the canine to detect and use a specific person's scent on a scent article to follow the matching scent trail while discriminating from non-matching scent track/trails.
- 5.6.1.1.2** The ability of the canine to demonstrate the absence of a matching scent track/trail.
- 5.6.1.1.3** The canine handler's interpretation of the canine's behavior while searching.
- 5.6.1.1.4** The canine's final response.
- 5.6.1.1.5** The canine handler's interpretation of the canine's final response.
- 5.6.1.1.6** The scent recognition assessment shall consist of four individual assessments with the following components and parameters.
- 5.6.1.1.6.1** For each scent recognition assessment, one human target and two human distractors are utilized to lay human scent track/trails in an environment similar to where the canine usually works (e.g., urban, suburban, or rural environment). Both target and human distractors shall not be visible.
- 5.6.1.1.6.2** Each scent recognition assessment shall be between 90 m - 183 m ( $\approx$ 100 - 200 yds.) in length with a single split turn involving one human target and two human distractors (see Figure 1).
- 5.6.1.1.6.3** Target track/trails shall be laid on a minimum of two surfaces (dirt, grass, concrete, asphalt, etc.).
- 5.6.1.1.6.4** The target track/trail and one human distractor track/trail shall be aged a minimum of 30 minutes, and one distractor track/trail shall be aged a maximum of 15 minutes.
- 5.6.1.1.6.5** At least half, but not all of the scent recognition assessments shall be conducted with non-matching scents to demonstrate the absence of a matching scent track/trail (see Figure 2). The order of the matching and non-matching scent recognition assessments shall be randomized.
- 5.6.1.1.6.6** Prior to the assessment, the start of the scent track/trail shall be marked by the assessing agency.
- 5.6.1.1.6.7** The canine handler shall be directed to the start marker, but not given the target's direction of travel.
- 5.6.1.1.6.8** The canine handler shall be provided a scent article from the target or a nonmatching scent article as a negative control.



S is starting point human target, F is finishing point

FIGURE NOTE The target track/trail is indicated by the red, the distractor track/trails are indicated by the blue and black.

**Figure 1—Diagram Single Split Turn**



Scent or a scent track/trail present, but the human scent traces on the pre-scenting article does not match the scent track/trail.

**Figure 2—Negative Location Check**

**5.6.1.1.6.9** The assessor shall know the correct outcome of each assessment.

**5.6.1.1.6.10** The canine handler shall not know the correct outcome of any assessment.

**5.6.1.1.6.11** The assessor shall observe the canine team. At the conclusion of the assessment, the assessor shall compare the search results with the parameters of the search. This comparison may be done immediately after the handler determines the canine has made its final response, or at the conclusion of the entire assessment.

**5.6.1.1.6.12** The assessing agency may take into consideration the environmental influences on the scent in determining whether or not the canine team has successfully completed the scent recognition assessment.

**5.6.1.1.6.13** A successful completion of the scent recognition assessment shall be the ability to find the correct direction of travel and follow the scent track/trail and correctly demonstrate the final response at the target or demonstrate the absence of a matching scent track/trail.

**5.6.1.1.6.14** The canine team shall properly scent discriminate in at least 75 % of the assessments.

**5.6.1.1.6.15** The assessor can fail the canine handler team if it is determined that the canine is no longer actively searching.

**5.6.1.1.7** *Operational assessments* shall test the following.

**5.6.1.1.7.1** The ability of the canine to indicate the presence or absence of the human scent target.

**5.6.1.1.7.2** Demonstration of the canine's ability to perform a systematic search.

**5.6.1.1.7.3** Demonstration of the canine handler's control of the canine during the execution of a systematic search.

**5.6.1.1.7.4** The canine's final response.

**5.6.1.1.7.5** The canine handler's interpretation of the canine's behavior while searching and including the canine's final response.

**5.6.1.1.7.6** The operational assessment shall consist of the following components and parameters.

**5.6.1.1.7.6.1** A mission-oriented assessment environment shall be used.

**5.6.1.1.7.6.2** At least six location checks, with the scent of at least two different human targets, in at least three different areas, with different human distractors shall be performed in this assessment.

**5.6.1.1.7.6.2.1** At least half of the location checks shall be negative.

**5.6.1.1.7.6.2.2** The remaining portion of the location checks shall be split between fresh tracks and aged trails.

**5.6.1.1.7.6.3** A negative location check shall have scent or a scent track/trail present, but the human scent traces on the pre-scenting article will not match the scent track/trail (see Figure 2).

**5.6.1.1.7.6.4** A positive location check shall have scent or a scent track/trail present that matches the human scent traces on the pre-scenting article (see Figure 3).

**5.6.1.1.7.6.5** Each target trail shall be aged in accordance with mission requirements for 30 minutes to 24 hours for location checks representing fresh tracks and greater than 24 hours for location checks representing aged trails.

**5.6.1.1.7.6.6** If a track/trail is used, it shall be a minimum of 45 meters ( $\approx$  50 yards) in length.

**5.6.1.1.7.6.7** The canine handler shall be informed of the start location.

**5.6.1.1.7.6.8** The canine handler shall be provided with a new scent sample from a matching target or a non-matching target at each location check.

**5.6.1.1.7.6.9** Each location check shall be completed in less than 5 minutes.

**5.6.1.1.7.6.10** The assessing agency shall know the correct outcome of location check assessment.



Scent or a scent track/trail present that matches the human scent traces on the pre-scenting article.

**Figure 3—Positive Location Check**

**5.6.1.1.7.6.11** The canine handler shall not know the correct outcome of each location check, nor the number of checks to be conducted.

**5.6.1.1.7.6.12** The canine handler must be able to discern the canine's final response and communicate this to the assessing agency.

**5.6.1.1.7.6.13** The conclusion of the assessment shall be defined by the assessing agency.

**5.6.1.1.7.6.14** Successful completion of the assessment includes the following.

**5.6.1.1.7.6.14.1** The canine shall be required to correctly indicate the presence or absence of the matching scent at each start location.

**5.6.1.1.7.6.14.2** Correctly following the target track/trail and correctly coming to a final response at the correct target or location (when target is not present).

**5.6.1.1.7.6.14.3** In the case of a negative location check, the canine team must indicate that there is no matching track/trail.

**5.6.1.1.7.6.14.4** At least 80% of the operational assessments shall be performed correctly. (Therefore, if only six location checks are performed, five must be done correctly).

**5.6.1.1.7.6.15** Failure of the assessment includes the following.

**5.6.1.1.7.6.15.1** Any canine team that is determined by the assessing agency to be more than 46 m (≈50yd) off the target's track/trail may be failed. However, the assessing agency may take into consideration environmental influences on the scent in determining whether or not a canine team is still on track/trail.

**5.6.1.1.7.6.15.2** Identifying a human distractor shall be considered a failure.

**5.6.1.1.7.6.15.3** A canine team taking longer than 5 minutes to complete the assessment shall be considered a failure.

**5.6.1.1.7.6.15.4** Following a track/trail on a negative location check shall be considered a failure.

**5.6.1.1.7.6.15.5** The assessor can fail the canine handler team if it is determined that the canine is no longer actively searching.

**5.6.1.1.7.6.15.6** If the canine fails to come to a final response, that constitutes a failure of the canine team in the assessment.

**5.6.2** The assessment in this section are intended for *double-blind assessments*. When a double-blind assessment is conducted, it shall be conducted with considerations for safety.

**5.6.2.1** Scent recognition and operational assessments can be conducted double-blind following the components and parameters described in Section 5.6.1

**5.6.2.2** Unlike the assessments described in Section 5.6.1, neither the canine handler, nor the assessor, nor any individual present with the canine team shall know the correct outcome of any portion of the assessment, including whether there is a scent match.

**5.6.2.3** The canine team shall be required to successfully complete the assessment as defined by the assessing agency.

**5.6.2.4** The assessor shall observe the canine team. At the conclusion of the assessment, the assessor shall compare the search results with the parameters of the search. This comparison may be done immediately after the handler determines the canine has made its final response, or at the conclusion of the entire assessment.

**5.6.2.5** The canine team shall be required to complete a double-blind assessment every six months unless there is a double-blind assessment as a component of the certification.

**5.6.2.6** Any double-blind assessment may be used for proficiency testing.

## **6 Canine Team Certification**

**6.1** Certification for the named canine team shall be valid for one year (365 days or 366 in a leap year).

**6.2** The canine team shall perform regular documented maintenance training, periodic proficiency assessments, double-blind assessments, and follow other recommended local, state and/or federal guidelines. Certification does not remove the requirement for continued training.

**6.3** The certifying official(s) shall not be routinely involved in the day to day training of the canine team being evaluated.

**6.4** The certifying authority may fail the canine team due to handler errors and breaches of safety, which may include, but are not limited to, the following.

- a) Not maintaining positive control of the canine, which may lead to safety issues.
- b) Allowing canine outside of search area.
- c) Not following directions of the assessor.

**6.5** Deliberate compromise of an evaluation will not be tolerated. Any communication concerning specifics of the evaluation will constitute a compromise and will lead to termination of the canine team's certification.

**6.6** A mission-oriented test environment shall be used.

**6.7** The certification shall be comprised of a scent recognition assessment together with an operational assessment (single- and/or double-blind assessment, or a combination of both). Certification parameters are outlined in Section 5, Canine Team Assessments.

**6.8** Targets used in the certification process shall not have been used in the day-to-day training activities of the canine team being certified.

**6.9** The canine team shall properly scent discriminate in at least 75% of the scent recognition assessments and 80% of the operational assessments for successful certification.

**6.10** A canine team that fails the certification process shall complete a documented corrective action plan before making another attempt to certify.

**6.11** Certifying official(s) should identify the performance deficiency to the canine handler so that the trainer can determine the minimum amount of time for that deficiency to be remediated before another certification attempt.

During this remediation time frame, documentation should be provided by the canine trainer/handler to demonstrate that efforts have been enacted to correct the deficiency.

**6.12** Organization(s) may enhance the recommended guidelines in order to make the requirements more stringent.

## **7 Canine Team Maintenance Training**

**7.1** The canine team shall conduct regular objective-oriented training sufficient to maintain and enhance operational proficiency that includes:

- a) enhancing the proficiency level of the canine team;
- b) correcting identified deficiencies or weak areas;
- c) a variety of search locations, environmental conditions, weather conditions, and search area sizes;
- d) a varied duration of search times at different times of day or night;
- e) a variety of blank searches;
- f) a variety of search areas that contain non-matching scent track/trails;
- g) a variety of odor/scent distractions and/or odor/scent distractors in the search area;
- h) a variety of set times;
- i) a variety of targets;
- j) a variety of articles used for pre-scenting the canine;
- k) a variety of degrees of concealment (behind a tree, behind a door, in a trunk of a car, above ground, in a tree, etc.); and
- l) a variety of noise distractors (traffic, sirens, children playing, verbiage over a PA system, etc.).

**7.2** Routine training conducted solely by the handler to maintain the canine's proficiency is acceptable, but not a best practice, and shall be combined with supervised training on a regular basis.

Supervised training by a competent trainer is required in order to improve performance, identify and correct training deficiencies, and perform proficiency assessments.

**7.3** A canine team shall conduct a minimum of 16 hours of training per month to maintain and improve the proficiency level of the canine team.

**7.4** Training is meant to sustain, enhance, and promote the performance of the canine team.

**7.5** The canine team shall perform periodic proficiency assessments throughout the certification period as outlined in Section 5 - the Canine Team Assessments, including a variety of scent recognition assessments, operational assessments, single- and double-blind assessments.

**7.6** Canine teams shall be challenged during the regular maintenance training sessions within the operational environments for which the canine team may be deployed.

## **8 Scent Article Material Storage and Handling**

**8.1** Handling and storage of scent article materials shall be conducted in a manner that prevents odor/scent contamination.

**8.2** Scent article materials shall be stored in separate, individual, and labeled containers.

**8.3** Scent article materials shall be stored individually and separately from non-target and masking odor/scent.

**8.4** Scent article materials shall be appropriately disposed of and replenished as required and necessary due to odor/scent contamination and/or the perishable nature of the material.

**8.5** Scent article materials shall be maintained in a manner to avoid loss or destruction.

**8.6** Scent article materials should be signed in and out.

**8.7** Scent article materials should be inventoried monthly.

**8.8** Documented training should take place on the acquisition, handling, storing and disposing of target scent.

## **9 Canine Team Records and Document Management**

**9.1** The canine handler/organization shall document training, certification, canine team assessments, and discipline - related deployment data as relevant.

**9.2** Proficiency assessments and training records may be combined or separate documents.

**9.3** Discipline-related deployment records shall be separated from training, proficiency assessment, and certification documentation.

**9.4** Training and discipline-related records should be standardized within the organization.

**9.5** Training records shall include, but are not limited to the following data.

- a) Name of canine handler and canine.
- b) Name(s) of individual(s) conducting or assisting with training.
- c) Time and date of training.
- d) Location, environment, and weather conditions of training (i.e., urban, rural, wilderness, etc.).
- e) Training design (non-blind, single-blind, or double-blind).
- f) Target descriptors and number of targets (e.g. gender, age, ethnicity, stature, etc.).

- g) Set time.
- h) Type of scent article/source (if applicable).
- i) Length of scent track/trail.
- j) Concealment of the target (if applicable).
- k) Location of target(s).
- l) Length of training session.
- m) Canine team search results.
- n) Deficiencies and corrective measures implemented during training regimen.
- o) Other information required by organization.

**9.6** Certification records shall be maintained by the certifying authority and the canine handler, and shall include, but are not limited to, the following data.

- a) Name of canine and canine handler.
- b) Name(s) of individual(s) conducting, assisting, or awarding certification.
- c) Date and time canine team certified.
- d) Location, environment, and weather conditions during certification (i.e., urban, rural, wilderness, etc.).
- e) Certification assessment design (non-blind, single-blind, or double-blind).
- f) Target descriptor(s) (e.g. gender, age, ethnicity, stature, etc.).
- g) Set time.
- h) Location of target(s).
- i) The concealment of the target(s) (if applicable).
- j) Length of scent track/trail.
- k) Type of scent article/source, i.e., leather, plastic, metal, textile (if applicable).
- l) Time taken to complete certification assessment.
- m) Canine team certification results.
- n) Deficiencies and corrective measures noted for future training.
- o) Other information required by canine team's organization.

- p) Certification authority (i.e., agency, professional organization, and/or individual(s)).
- q) The standard or guideline to which the canine team is certified.

**9.7** Canine team assessment records maintained by the canine handler/ organization should include, but are not limited to the following data.

- a) Name of canine and canine handler.
- b) Name(s) of individual(s) conducting, assisting, or awarding assessment.
- c) Date and time of canine team assessment.
- d) Location, environment, and weather conditions during assessment (i.e., urban, rural, wilderness, etc.).
- e) Assessment design (non-blind, single-blind, or double-blind).
- f) Target descriptor(s) (e.g. gender, age, ethnicity, stature, etc.).
- g) Location of target(s).
- h) The concealment of the target(s).
- i) Set time.
- j) Type of scent article/source, i.e., leather, plastic, metal, textile, etc. (if applicable).
- k) Time taken to complete assessment.
- l) Canine team assessment results.
- m) Deficiencies and corrective measures noted for future training.
- n) Other information required by canine team's organization.
- o) The standard or guideline to which the canine team is assessed.

**9.8** Deployment/utilization records maintained by the canine handler/ organization shall document the specifics of the deployment to include, but are not limited to the following data.

- a) Name of canine and canine handler.
- b) Name(s) of organization(s) conducting search.
- c) Date and time of deployment.
- d) Requestor of deployment.
- e) Location check address (GPS coordinates are recommended but are optional) of deployment.

- f) Environmental conditions at deployment.
- g) Search area type (i.e. urban, rural, wilderness, etc.).
- h) Point last seen (PLS) (date, time, environmental conditions).
- i) Name of target/suspect (if available).
- j) Description of target/suspect (e.g. gender, age, ethnicity, height, weight, dress, etc.) (if available).
- k) Medical conditions/medications.
- l) Type of search (i.e. missing person, criminal, run away, armed, etc.).
- m) Type of scent article/source (i.e., leather, plastic, metal, textile, etc.) (if applicable).
- n) Back-up names.
- o) Search results.
- p) Information regarding search and final response(s).
- q) Other information required by the canine team's organization.

**9.9** Confirmed operational outcomes can be used as a factor in determining canine team's capability.

**9.10** Unconfirmed operational outcomes shall not be used as a factor in determining a canine team's proficiency. Unconfirmed operational outcomes, including a non-productive response, may be relevant for investigative/testimony purposes because:

**9.10.1** Target scent or residual scent may be present below the measurable level of detection for laboratory instrumentation.

**9.10.2** There may be an environmental inability or external factors which prevent locating the scent source.

**9.11** Supervisory review of all records is recommended.

**9.12** Digitally formatted records (with appropriate back up), versus handwritten are recommended to facilitate compiling and analyzing data.

**9.13** All documented training, assessments, certification, and deployments shall be documented to include final response, any false positives, and any false negatives.

**9.14** Records may be discoverable in court proceedings and may become evidence of the canine team's reliability. Record retention policy shall be determined by the canine team's organization guidelines.

**9.15** Training records are necessary to illustrate the type and amount of training that the canine team has experienced before and after certification.

**9.16** Scent article material records.

**9.16.1** Scent article materials shall be clearly labeled in a manner to support accountability.

**9.16.2** Appropriate records shall be maintained by the canine handler/ organization in accordance with federal/state/local requirements.

**9.17** Veterinary Records.

**9.17.1** Veterinary records shall be maintained in a manner such as they are accessible to the handler/organization.

**9.17.2** Vaccinations required by state or local law should be documented in the veterinary record of the canine.

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## **Annex A** **(informative)**

### **Foundational Principles**

The use of canines to locate persons and objects that have a scent track/trail is a long-established practice. However, to ensure that the canines are properly trained and able to ‘communicate’ their tracking/trailing to their handlers in an efficient manner, proper training protocols are necessary. In addition, the canines need to be trained and evaluated based upon their ability to consistently follow established pre-scented tracks/trails. This is a discipline that requires periodic re-evaluation of the canines and of the handlers’ abilities to interpret the canine behavior.

This standard provides the critical foundation needed for the development and quality assurance for deployment of the use of the canine’s functioning within this discipline.

Many agencies, departments and canine organizations have established internal standards and standard operating procedures. The intent of this document is to provide a minimum standard which may be exceeded and provide consistency in training, assessments, documentation and terms and definitions.

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## Annex B (informative)

### Bibliography

This is not meant to be an all-inclusive list as the group recognizes other publications on this subject may exist. At the time this standard was drafted, these were the publications available for reference. Additionally, any mention of a particular software tool or vendor as part of this bibliography is purely incidental, and any inclusion does not imply endorsement.

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## Annex C (informative)

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