



TRACKER I FOR SEARCH AND RESCUE



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TRACKER I LEVEL



OBJECTIVES

- ▣ MENTAL PREPAREDNESS
- ▣ UNDERSTANDING YOUR LOST PERSON
- ▣ CONTAMINATION
- ▣ SIGN CUTTING
- ▣ FUNNELING
- ▣ INDEXING (AGING) SIGN
- ▣ TRACKING IN THE PINES
- ▣ CONTAINING, PRESERVING A CRIME SCENE

MENTAL PREPAREDNESS

MENTAL PREPAREDNESS

- ▣ There are different outcomes of searches.
 - I. Who is the subject of the search?
 - II. Is this a search or recovery?
 - III. There might be a victim or a body...
 - ▣ It is possible to internalize the subject of the search.
 - I. Might be the same age as a family member especially children.

MENTAL PREPAREDNESS

- ▣ Preparing for the search.
 - I. Are you fully invested?
 - II. If the subject of the search is going to be of difficulty for you there are other ways to help.
- ▣ You will never be asked to do something you are not trained or comfortable doing.
- ▣ Resources available.

UNDERSTANDING THE LOST PERSON

UNDERSTANDING YOUR LOST PERSON

- ▣ Before you leave home you already are acquiring information on your lost person this does not stop until the person is found or the search is suspended.
- ▣ When you arrive at IC and get briefed you gather as much information on the lost person that you can. It's ok to ask questions related to your lost person as to better understand their personality, physical condition, medical issues, supplies etc.

UNDERSTANDING YOUR LOST PERSON

- ▣ Each situation is different depending on the state of mind your lost person may be in. Such as being suicidal or just having a bad day.
- ▣ Ask who, what, when, where, and why. Knowing about your lost person helps to understand where they might end up.
- ▣ Are they a seasoned hiker, hunter, or **day users unprepared for what's in store for them.**
- ▣ Obviously the lost persons foot wear would be important information to get.

UNDERSTANDING YOUR LOST PERSON

- ▣ Information obtained can increase once you locate a track in the field.
- ▣ If you were looking for someone that had an injury to the right leg you should see it in their stride and possible right foot drag marks.
- ▣ This would also limit them traversing the terrain.
- ▣ Weather is going to play a big part in how our lost person is going to react.

UNDERSTANDING YOUR LOST PERSON

- ▣ Humans have similar characteristics. A right hand dominate person walking a long distance, will without knowing it bear to the left if no bearing is in sight
- ▣ When given a choice will go right around a bush or other obstacles.
- ▣ When out of water or food may eat cactus and drink from streams or pools of water.
- ▣ When sign cutting assumptions are made, make a point of verification of at least two clues or you can not go on that assumption.

UNDERSTANDING YOUR LOST PERSON

- ▣ The longer the lost person is out there the elements are taking a toll on them. At some point they may be down and immobile.
- ▣ This lost person will not be walking out on their own, sign cutters will have to step it up and locate a track and track right to our lost person.
- ▣ Tracking a lost person is not rocket science. The task is reading the sign correctly so that an out bound track can be found.

UNDERSTANDING YOUR LOST PERSON

- ▣ The more you know about your lost person the better equipped you are in finding them.
- ▣ What would you do? Thinking like your lost person can lead you to a clue.
- ▣ A good reference is a Search and Rescue Operations Field Guide that shows statistics categorizing different groups of lost persons.
- ▣ Stay mentally strong know your assignment and complete it. Find that outbound track!

CONTAMINATION

CONTAMINATION

- ▣ A Tracker 1 should have the skills to work a Contaminated Scene
- ▣ If you have not had some experience working contamination, it can be very intimidating.
- ▣ More often than not the searcher will be confronted with a contaminated scene.
- ▣ More often than not a searcher will find a track only to lose it, in a contaminated area, or an area that the terrain changes.
- ▣ Searching for lost persons in urban areas which lead to more rural open areas are common in searches today.

CONTAMINATION

“Definition”

- ❑ Contaminate comes from the Latin word contaminate-meaning “made impure”. <http://www.dictionary.com>
- ❑ Contamination is the presence of an unwanted constituent.
- ❑ Most definitions of contamination refer to such things as air, water, land, etc.
- ❑ In search and rescue and even law enforcement crime scene contamination refers to something introduced to the scene that jeopardizes the collection of evidence crucial to the outcome and conclusion.

CONTAMINATION

- ▣ When working a contaminated scene it's important to focus on detail.
- ▣ Mentally block out the distractions around you.
- ▣ The searcher must be disciplined to stay calm.
- ▣ Too many times well intentioned searchers get into trouble by rushing in and adding to the contamination .
- ▣ If you, or your team come across something that's beyond your skill level it's always better to step back, contain , and call in reinforcements.

CONTAMINATION

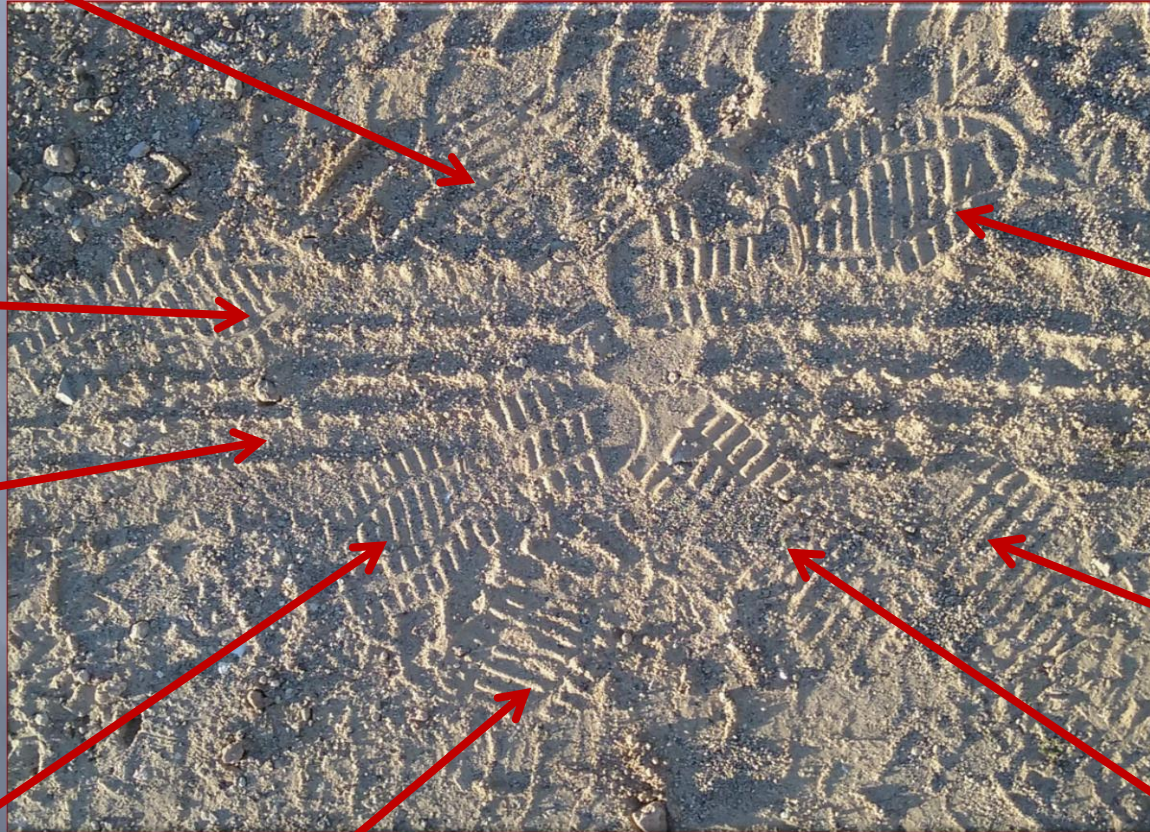
- ▣ To help better understand how to track through areas of contamination or begin at a contaminated scene, let us break down what it is.
- ▣ Obviously , we have all seen a scene with foot tracks or vehicle tracks all about.
- ▣ The trackers assignment is to find the lost persons track and a direction of travel.
- ▣ In this scenario it might be a child that has walked away from their home, with adult tracks all around the scene looking for the child.

CONTAMINATION

- ▣ Not only is there contamination at the home but outside the perimeter of the home.
- ▣ The layering of tracks made in and outside the perimeter were put there at different times of the day or night.
- ▣ This is where the skill of indexing (aging) your tracks is needed.
- ▣ Eliminating all the adult tracks and focusing on a child's track.

This picture shows 6 tracks total can you list the first to the last?

If were trying to get a direction of travel which track are we going to single out? Find last track.



CONTAMINATION

- ▣ So imagine this scene with hundred more tracks layering each other.
- ▣ Remembering our lost person needs our help with speed.
- ▣ Are we going to try and locate tracks within the contaminated area or locate one outside the contaminated area?
- ▣ We're going to start on the outside of the contamination, where the least amount is, and work in a circular motion around the scene.

CONTAMINATION

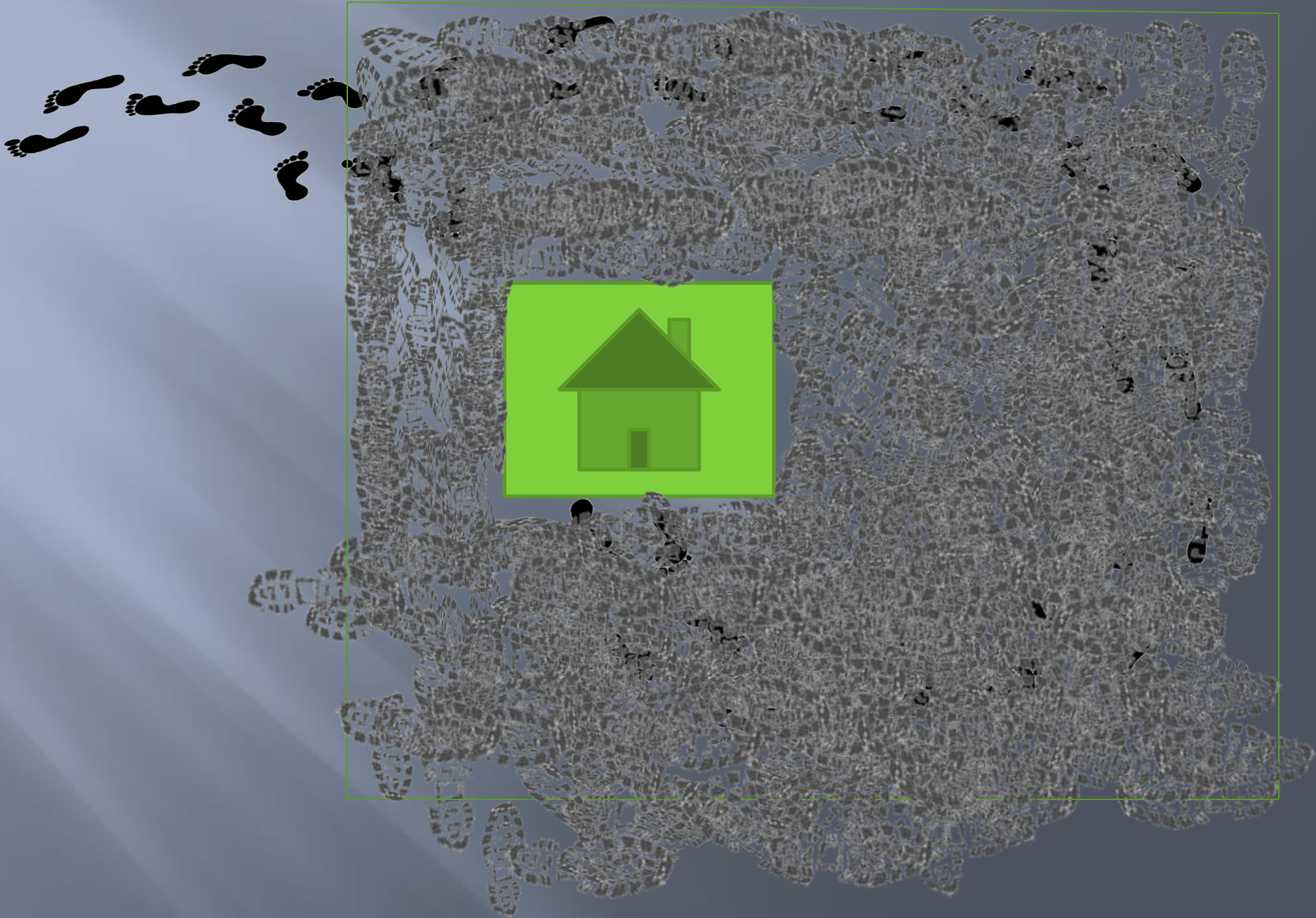
- ▣ The contaminated scene has a center point, imagine a straight line from that point out to the edge of the least contamination, this is where to start.
- ▣ We are looking for a child's tracks indexed (aged) earlier than the rest of the tracks in the contamination.
- ▣ Not only looking for those child's tracks but where they leave the contamination somewhere in that circular motion around the scene is the child's direction of travel.
- ▣ If on your first circular pass around the scene you don't locate your subject, continue the same pattern except expand it approximately five feet.

CONTAMINATION

- ▣ Try and think of contamination as being at the movies with someone is in front of you and every time you try to look around them , they move into your view.
- ▣ There's an object in your way and in order to see you must move around it.
- ▣ In relation to this analogy these objects blocking your view can be other people's tracks, bushes, trash, hard surfaces like solid rocks, pine needles on a forest floor.
- ▣ By no means are we stating we can track through these objects, just stating time is our enemy so why not work the perimeter, cut the track and go.

CONTAMINATION

- ▣ We have been learning perimeter tracking around contamination in order to locate out bound tracks or you could call it sign cutting.
- ▣ For the purpose of understanding contamination as it relates to (objects blocking your view) we will study about sign cutting later.



CONTAMINATION

- ❑ After working your perimeter several times wider and wider, until you have reached the point where very little contamination is present and you are satisfied that if the lost person had exited anywhere in your perimeter, you would have located it. Then it may be that your lost person is still within the perimeter or has been carried out of the perimeter.
- ❑ We could create lots of scenarios but in this case a track was found behind the home, subject used a couch arm to climb over the fence and landing with both feet down presenting an almost perfect (Pristine Track) track. Subject went Eastbound and was found at a friend's home where she had been for couple days hiding.

REVIEW CONTAMINATION

- ▣ Contamination can be intimidating at first to locate your lost persons track in.
- ▣ Pay attention to detail, stay mentally focused on your task, block out distractions, and don't be afraid to call in reinforcements with a higher skill level.
- ▣ Perimeter tracking a contaminated scene, layering of tracks, indexing the layers.
- ▣ Expand five feet if tracks not found until you have reached the point of no more tracks then go back and repeat it over.

SIGN CUTTING

SIGN CUTTING

- ▣ Sign is the physical evidence of any disturbance of the environment left behind by animals, humans, or objects. <http://www.jaylemming-author.com>
- ▣ The detection of this sign is called sign cutting.
- ▣ Searching for lost persons using sign cutting can reduce the time it takes to track a lost person footprint by footprint.
- ▣ As discussed earlier, perimeter tracking around a contaminated scene is a type of sign cutting.

SIGN CUTTING

- ▣ By using the leap frog method with tracking teams the time can be reduced even faster.
- ▣ During the time period of the Hasty search, this sign cutting method can in most cases find your lost person within the hasty search period.
- ▣ Information received during the initial investigation may lead the direction of the search to a particular area.
- ▣ The Incident Commander may deploy trackers to this area to sign cut.

SIGN CUTTING

- ▣ We just discussed perimeter sign cutting which is very effective around a particular area such as a house, vehicle, or contaminated area.
- ▣ Let's examine a few different techniques of sign cutting using the topography to deploy sign cutters (Skilled Trackers) to a specific GPS location.
- ▣ For the sake of identification will call it (Straight Line Sign Cutting). Sign Cutting Trackers are given two GPS points starting and ending points.

SIGN CUTTING

- ▣ Straight Line Sign Cutting can be configured so that multiple sign cutting teams can check an area either made into a triangle, or square depending on the topography.
- ▣ Each teams GPS coordinates should intersect with other teams leaving no holes open for our lost person to get through.
- ▣ This method is designed to locate or note an outbound track in the perimeter of either the triangle, square, or a single team straight line cut within the hasty search.

SIGN CUTTING

- ▣ It is important that command understand how to deploy sign cutting teams and sync with our lost person LKP, or PLS.
- ▣ To effectively read the terrain and deploy sign cutters so their line of travel flows with the landscape.
- ▣ One sign cutting team can be deployed by vehicle or air to a specific GPS location and sign cut from there to another GPS location to another and so on.

ACTUAL SEARCH SCENARIO



Hualapai Nation Police Department
P.O. Box 490
Peach Springs, Arizona 86434
Office (928) 769-1024 Fax (928) 769-1027



"Protectors, Providers, Peace Keepers"

Search and Rescue

Information:

Stanley

White male

DOB:

Ht: 6'1"

WT: 165 lbs.

Eyes: Brown

Hair: Grey Short



Missing since 1530 hours 06/13/17. EMS was notified at about 2145 hours by Game & Fish who had been looking since about 1900 hours

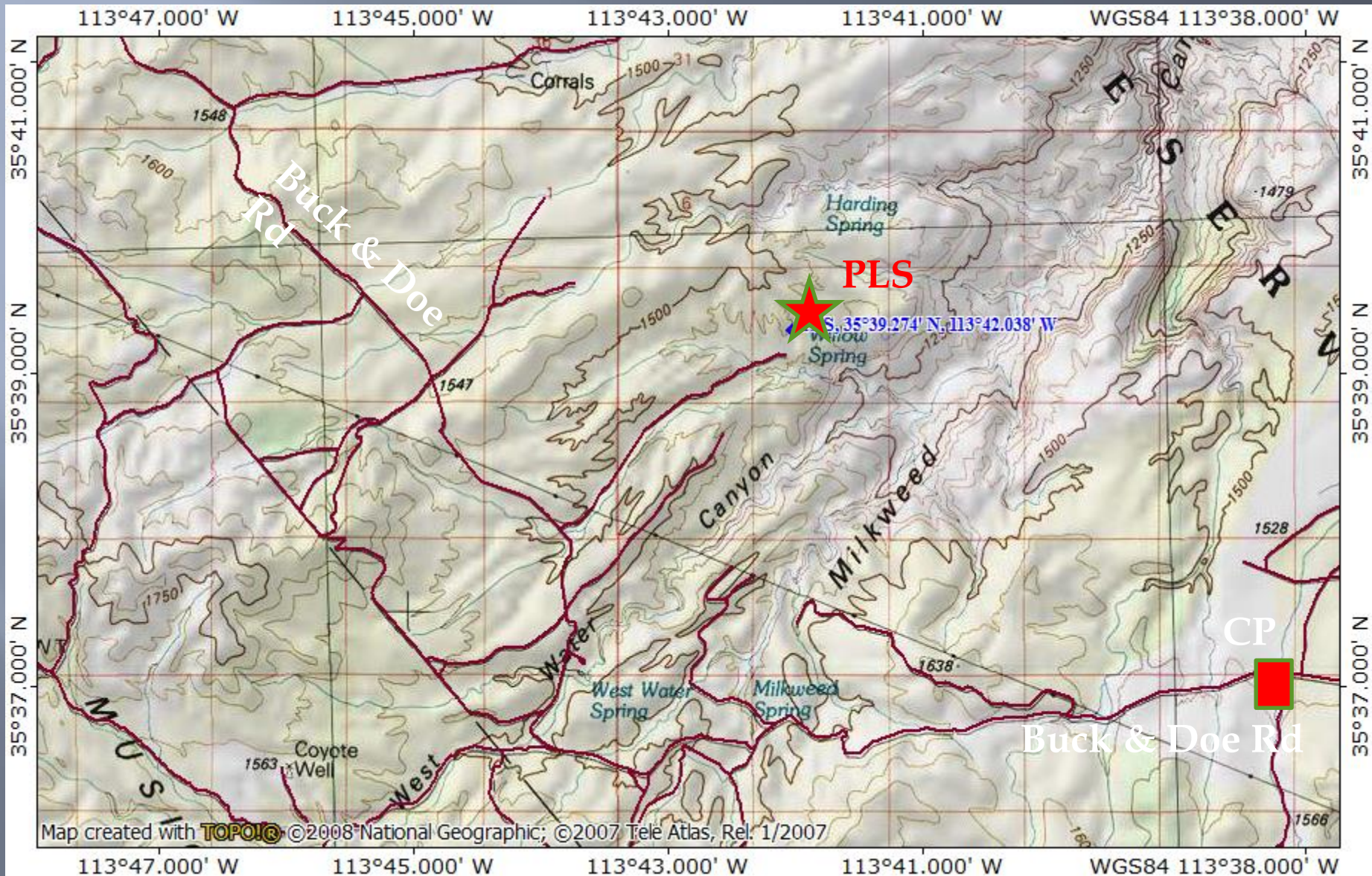
80 year old male, last seen wearing light colored camouflage clothes, light blue cap, and a tan or light colored back pack. He was out rifle hunting Javelina with his son in West Wells area of Buck & Doe. Subject has no food; just water. No cold weather gear; just hunting clothes and rifle.

ICP Staging area is 9 miles up Buck & Doe dirt road. Cell and radio service is good. Search location is 6.7 miles west of Red Tank Command Staging area.

Hualapai Game and Fish began searching for missing hunter on 6/13, 1900 hrs.

SAR called at 0400, 6/14 to assist Hualapai Nation

General Area Map with location of PLS and CP



A search is managed. Must try to control site to avoid track contamination and manage searchers to avoid duplication of efforts. We use the acronym:

P I C S

P = Protect scene

I= Investigate

C= Contain

S= Search

Expect a contaminated scene and attempt to identify all activity before SAR arrives on scene.

Family members searching.

Other agencies, Game & Fish, Fire Rescue, other?

Take pictures of boot prints of all that have entered scene or general area.

Investigate:

Determine source of contamination of scene. Get pictures of boot prints?

Subject's Son's track



Note unique way of wrapping shoe laces around boot between heel and ball of boot.



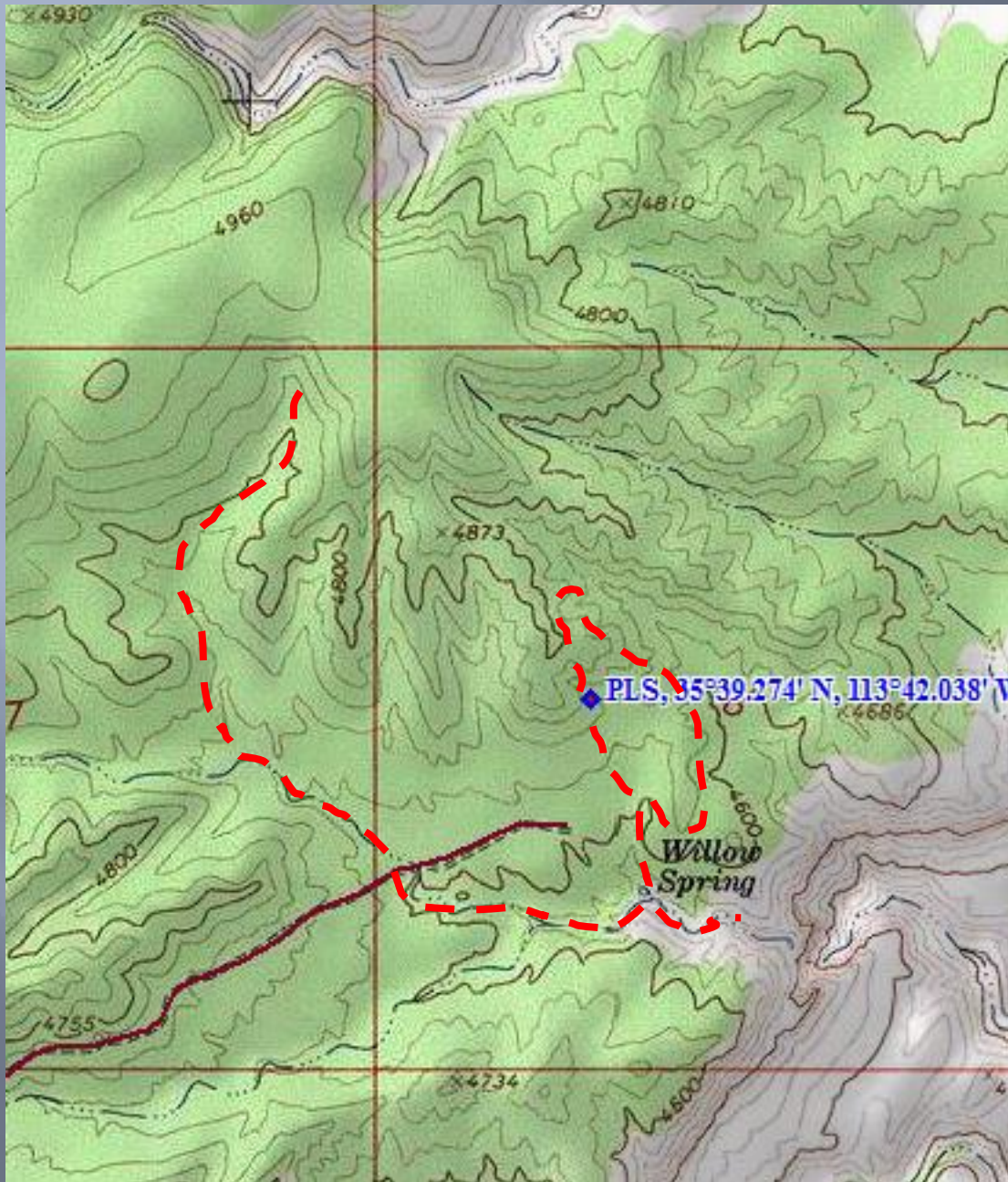
Game & Fish and
Hualapai fire
searchers 1 thru 5

Given:

1. The PLS had been searched by Game & Fish
2. Several roads around the PLS had also been searched

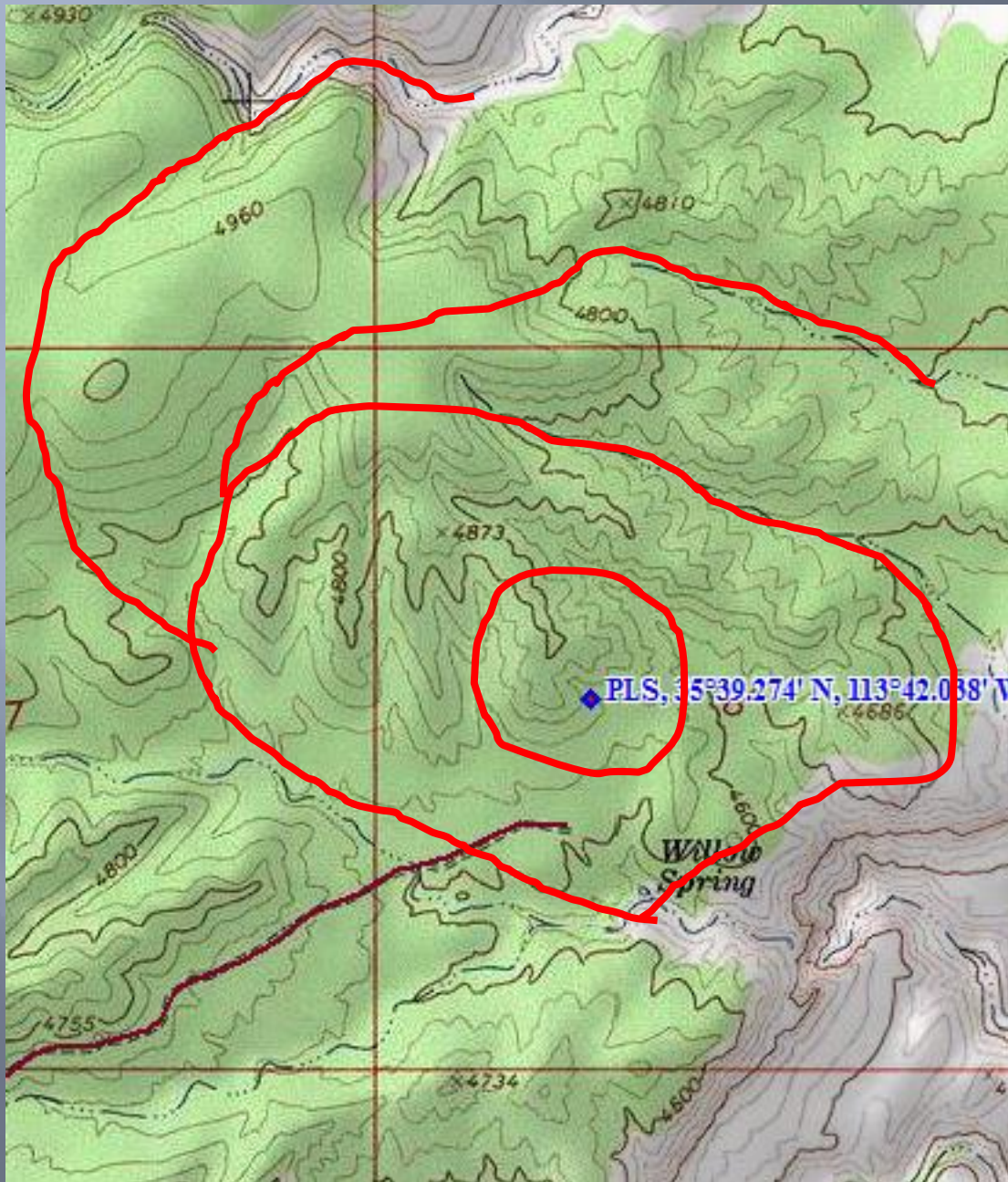
Objectives of “Hasty Search”

1. Make a 360° search around PLS looking for outbound track
2. If 1st sweep is still in contaminated ground, expand circle
3. Focus on track traps such as sandy washes, to be sure tracks are not missed
4. You should assume that areas without track traps are hard-pan - where you cannot be certain tracks were not missed- should be searched again or go outward to find track traps



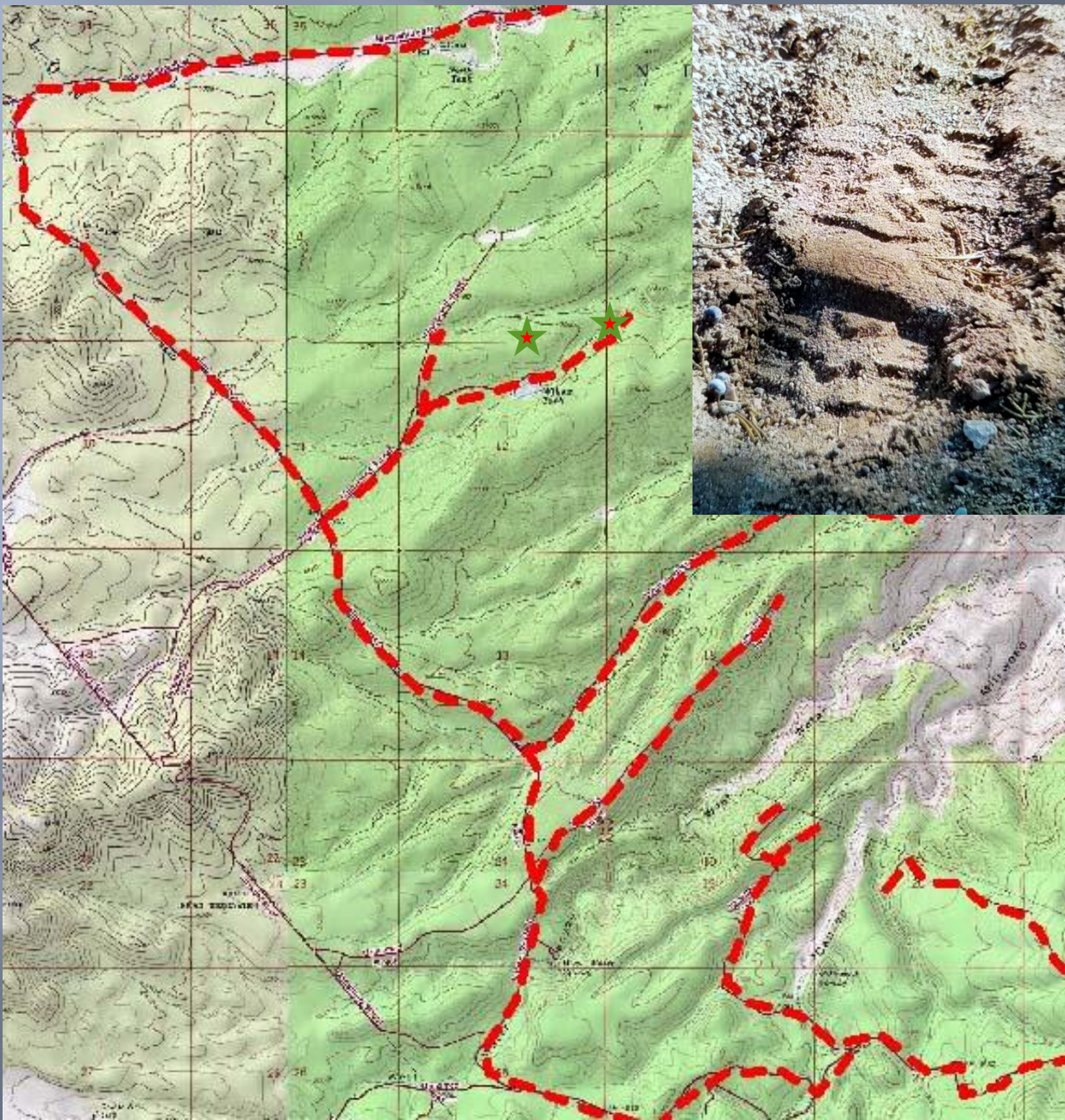
SAR arrived on scene at 0700, 6/14.

1. Hasty Search initiated to cut for sign around PLS
2. No sign related to subject found, too much contamination
3. CP was called out and set up on Buck & Doe Rd.



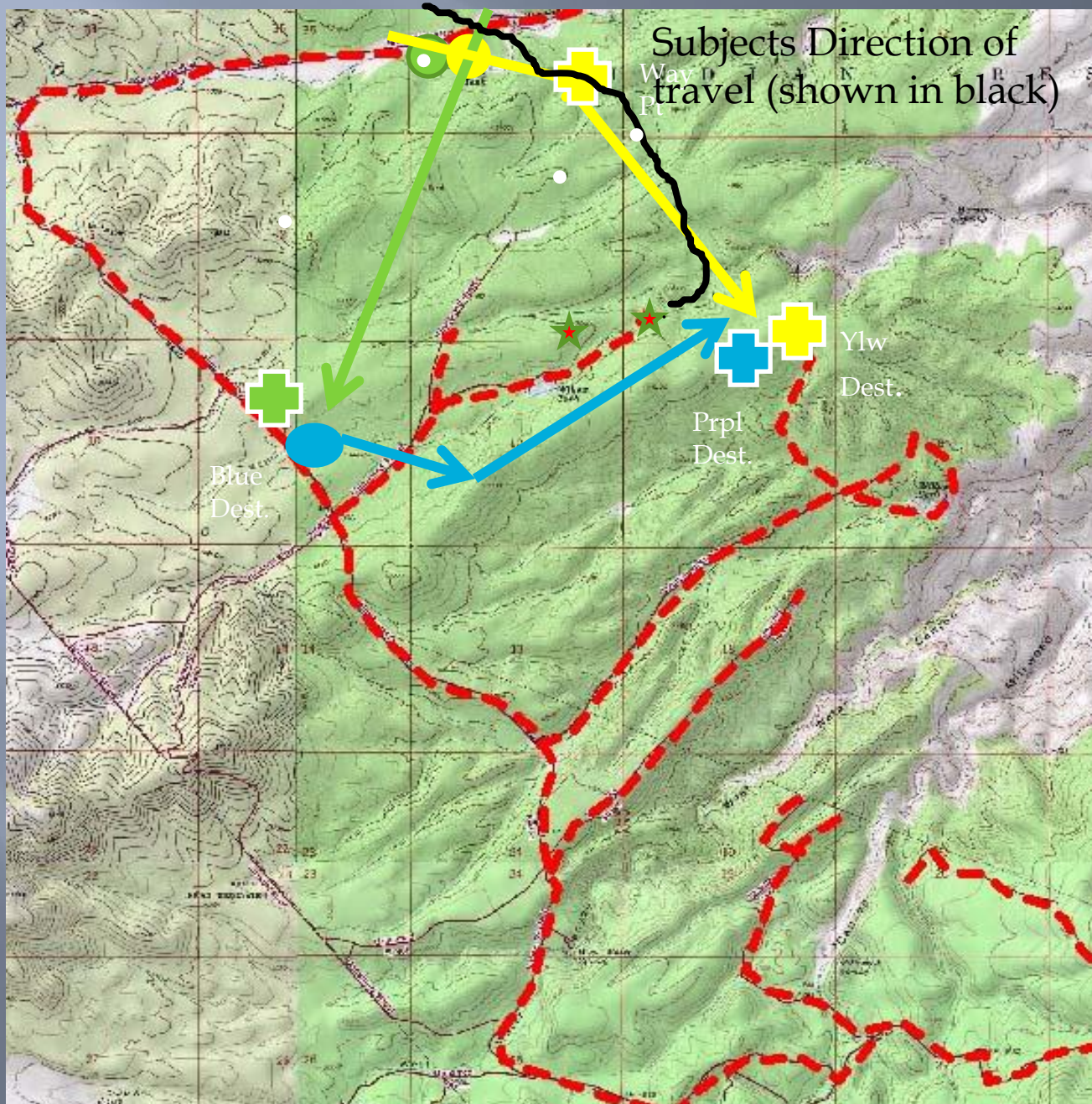
Goal of Hasty Search is to make a 360° using the terrain to determine search pattern and cutting for sign.

If still in contamination, or hard-pan (where you cannot be certain of No Tracks), expand the circle focusing on track-traps.



On-going hasty search by SAR on 6/14.

Tracks found at night-fall at 2 locations but no confirmation they were subject's, as Game & Fish reported having been there previously

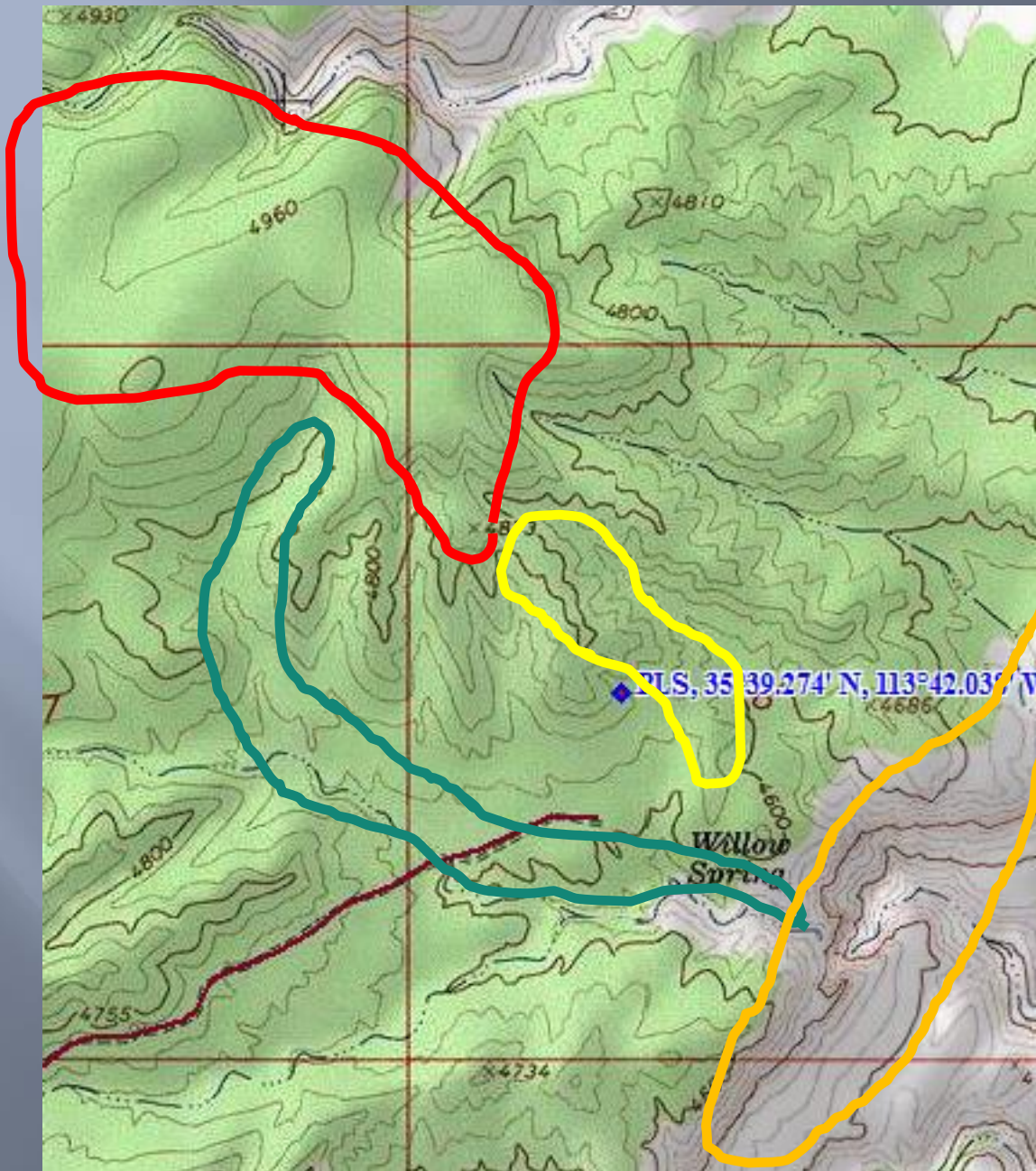


Way points are given to the tracker to move around rough terrain.

Each tracker navigates to his assigned coordinates making his way around rough terrain on his own. The destination for each tracker is either another tracker's start point or end point.

Terrain type - hills and gullies covered
by thick juniper





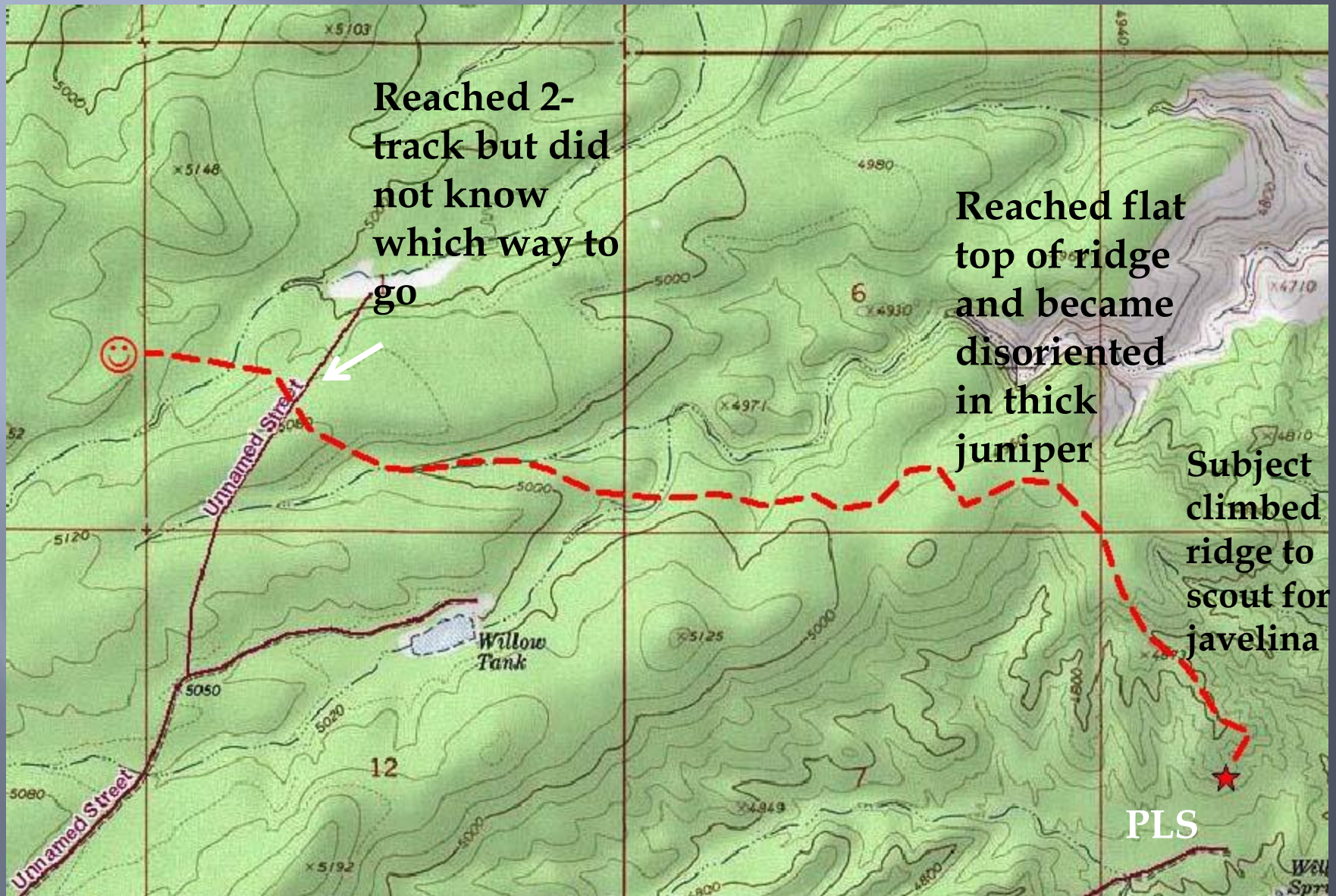
Hasty Search results:

- Washes formed track-traps to south and west of PLS but only searchers' tracks found
- Steep walled canyon limited area to east
- Ridge of PLS was heavily contaminated and no outbound track found
- Top of ridge to north was flat with hard pan soil-possible area where subject could have become disoriented, leaving few tracks

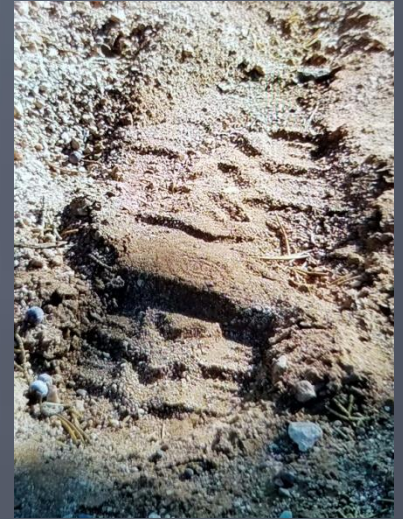
Possible Scenario:

- Hunter climbed ridge to scout for javalina
- Became disoriented in thick juniper and flat terrain on top of ridge
- Continued walking without a target direction
- Power-line to W- SW may have offered a target direction once he reached higher ground

INTERPRETATION OF WHAT HAPPENED



Great outcome
to search!



Subject's track
& boot



FUNNELING

FUNNELING

- ▣ Funneling is simply the terrain, which is naturally carved in landscape causing lost persons to follow the natural slope into an area.
- ▣ Livestock and wild game do this creating trails that lead to water or food.
- ▣ In most cases lost persons stop hiking upward at some point and follow the natural terrain downward.
- ▣ Mountainous areas have fingers and drainages that extend downward into larger drainages, washes, rivers, and lakes.

FUNNELING

- ❑ During the hasty search topographical maps are used to locate and position straight line sign cutters. If there's a LKP most likely it has been contaminated so sign cut using GPS points to cut an out bound track.
- ❑ Command considering the funnel affect can anticipate where to send straight line sign cutting teams.
- ❑ A wash or drainage can curve around and lead someone quite a distance off course and without any landmarks, navigation is difficult without the proper equipment.

FUNNELING

- ▣ Canyons that lead off into other adjoining canyons can be confusing and presents a higher risk of injury to the lost person trying to self rescue themselves. While attempting to climb out or while moving at night they are subject to falling.
- ▣ Funneling is just understanding the terrain your lost person is in and adapting your sign cutting accordingly.
- ▣ Look at the maps and based on LKP what are the areas the landscape would naturally take them. If they didn't make it to the end where you think they should be, then they could be somewhere in the middle.

INDEXING

INDEXING (AGING) SIGN

- ▣ In Tracker II indexing or aging tracks was introduced. This is something that over time will be developed as an important skill to have.
- ▣ You can develop this skill of aging tracks quicker by making a box in your back yard and studying the tracks you put in it.
- ▣ Consider and monitor the weather , moisture content, temperature, wind etc.. You can even carry something that causes you to weigh more and note the depth of the track in your test site.
- ▣ Why is aging tracks important you might ask?

INDEXING (AGING) SIGN

- ▣ As sign cutters/clue finders our task is to go out as deployed and locate disturbances that fit the time period of our lost person.
- ▣ Examine those disturbances to determine if they are relative to the time of our lost person and to locate a human track with a direction of travel.
- ▣ Aging tracks and disturbances are important as a sign cutter you must learn to age tracks and disturbances as well as differentiate between the disturbances .

INDEXING (AGING) SIGN



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INDEXING (AGING) SIGN



INDEXING (AGING) SIGN

- ▣ Indexing (Aging) Sign is a learned skill and vital to sign cutting.
- ▣ Building an index box will help you to study and learn the skill to age sign.
- ▣ Weather and other factors can help and hinder aging sign.

TRACKING IN THE PINES

TRACKING IN THE PINES

- ▣ Tracking in the pines is no different than tracking anywhere else.
- ▣ In this section will discuss some methods to work through areas of difficulty such as pine needles.
- ▣ Always remember as mentioned in each level of tracking, our goal is to locate track within the hasty search.
- ▣ Scent is just as important in tracking as any thing else.

TRACKING IN THE PINES

- ▣ Pinecones when stepped on leave a distinct smell of a mixture of dirt and pitch.
- ▣ A pinecone not stepped on or crushed may have a faint smell of dirt and pitch.
- ▣ This holds true to older pinecones bleached by the sun for some time in the forest.
- ▣ The smell of fresh sage crushed by travelers through the pines, or decomposing bodies.
- ▣ Be tuned in not only with other senses, but also with the sense of smell, which is a big part of your bag of tricks.

TRACKING IN THE PINES

- ▣ In most every forest there are breaks in the trees that hold great track traps in soil.
- ▣ This is becoming prevalent as time goes on in dry climate zones affected by drought and dying trees.
- ▣ This is where you use those sign cutting skills to go out past the pine needles under the trees and locate a track out in the track trap areas in the direction of travel of our lost person.
- ▣ When a weathered pinecone is stepped on it will break the pedals leaving a distinct brown line where the break occurred. This easy to see with the trained eye.

TRACKING IN THE PINES



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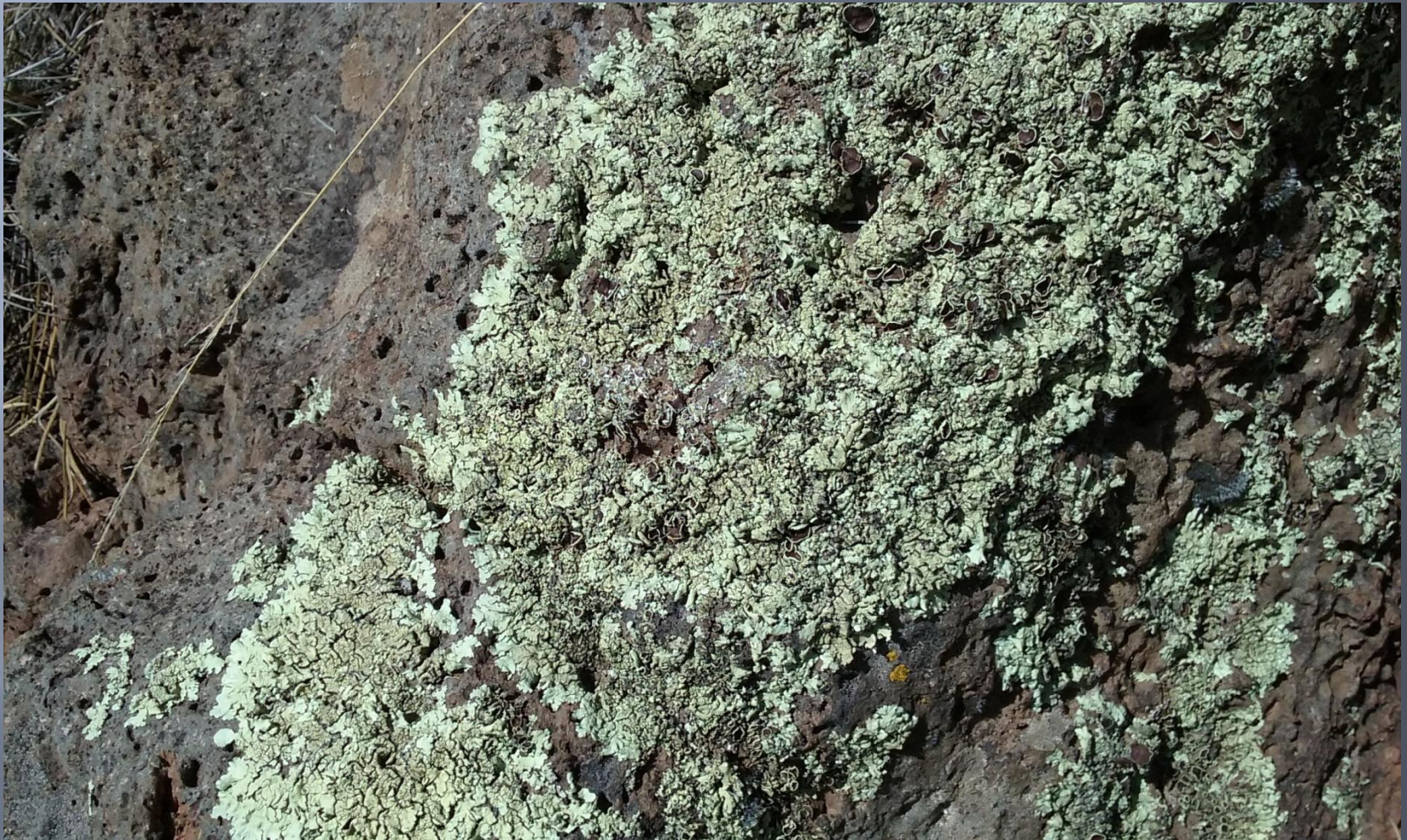
TRACKING IN THE PINES



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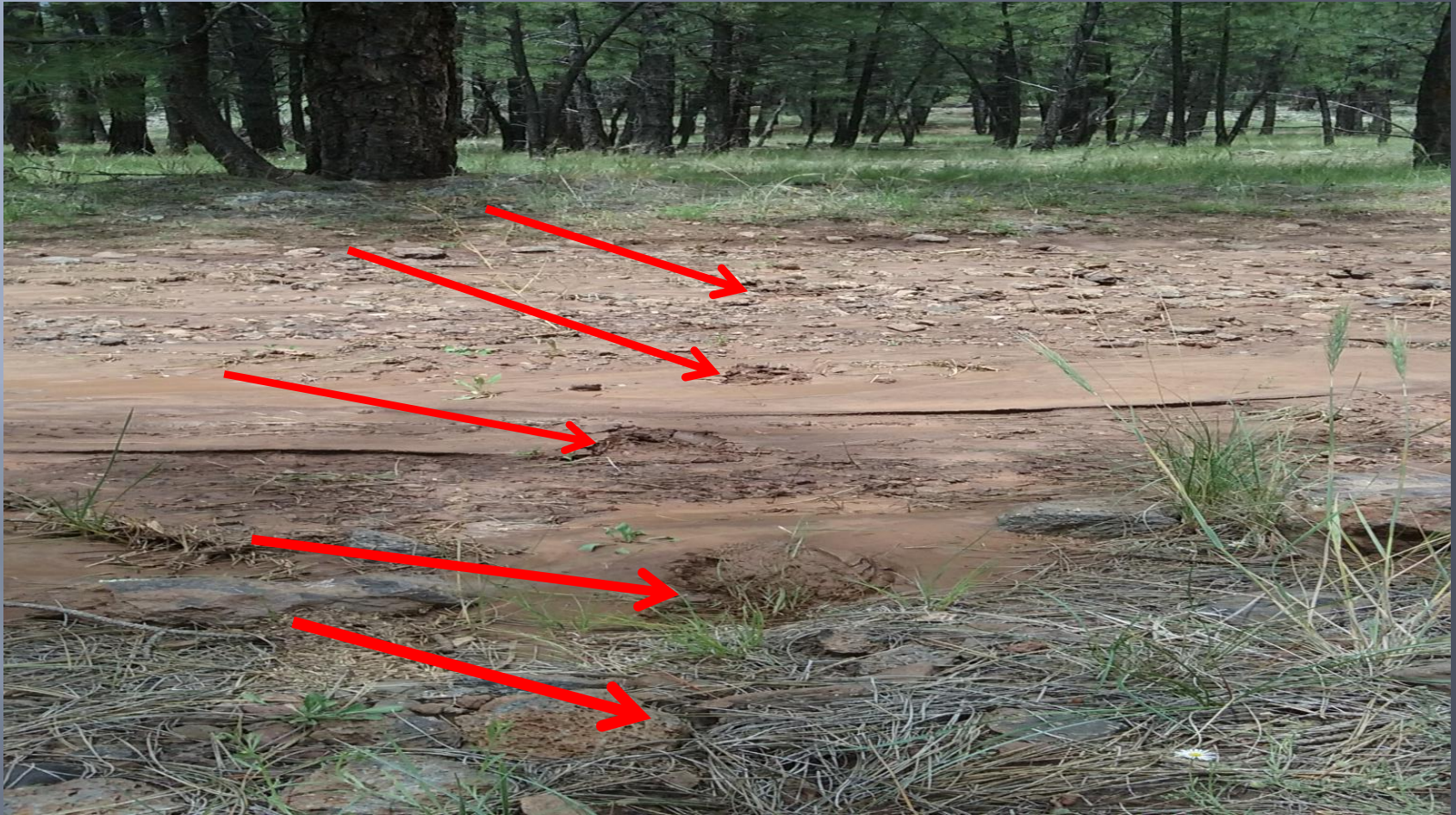
TRACKING IN THE PINES



TRACKING IN THE PINES



TRACKING IN THE PINES



TRACKING IN THE PINES

- ❑ There are plenty of tools to use in the pines without spending precious time looking at pine needles.
- ❑ The search should start out with deployment of sign cutting teams, these teams should check all disturbances in their straight line sign cutting to either locate or rule out it's our lost person.
- ❑ The teams focus should be on track traps, once a track is located a direction of travel is established then work through the pinecones, grasses, etc. Till you get to the next area of soil in the direction of travel.

TRACKING IN THE PINES

- ▣ Tracking in the pines is no different than tracking in the desert lowlands, don't waste the time to look at pine needles under trees.
- ▣ Sign cut out past the trees into the soil in the direction of your lost persons last known position (LKP).
- ▣ Once your perimeter is established send teams of sign cutters also down dirt roads. You can either locate a track walking down or crossing a dirt road.

TRACKING IN THE PINES

- ▣ Command can quickly reduce their search areas by using this method.
- ▣ It is important to remember that vehicles have also been traveling down these dirt roads so your lost persons track may have been destroyed.
- ▣ If this has already happened the sign cutter should pay attention to the sides just off the road.
- ▣ If it's a paved road our lost person most likely will be walking on the paved portion, with intermittent travel to the shoulder. Watch for tracks entering and leaving sides of the road.

CONTAINING AND PRESERVING A CRIME SCENE

CONTAINING AND PRESERVING A CRIME SCENE

- ▣ Search and Rescue generally does not get involved in crime scenes. Our training is in lost persons wanting to be found, or rescues.
- ▣ The last thing the Sheriff's Department wants is to put their volunteers in harms way.
- ▣ So with that, sometimes it happens. As search and rescue volunteers, top sign cutters we need to be aware of this possibility, and see it coming by the sign your seeing.
- ▣ If in any doubt stop and call command.

CONTAINING AND PRESERVING A CRIME SCENE

- ▣ Preservation and containment has been presented in previous tracking levels although being in the front line you may fine your team in this predicament.
- ▣ Your team's safety is always FIRST. Command needs to be notified of the potential crime scene. Command will advise as to your action. Your team will NOT proceed without their approval.

CONTAINING AND PRESERVING A CRIME SCENE

- ▣ For the sake of being able to work through the crime scene and containment let's say your team has approval to proceed.
- ▣ You find your team has sign cut right into this crime scene.
- ▣ Preservation is the priority at this time. Everyone stops where they are. Backing out a safe distance noting any presence of sign on your way out.

CONTAINING AND PRESERVING A CRIME SCENE

- ▣ A perimeter is established 360 degrees with crime scene tape with the team leader direction.
- ▣ Assistance may be needed to contain an area where the public can gain access. A deputy may need to be there.
- ▣ Once you feel containment is set, preparations must be made for Crime Scene Detectives, FBI , County Coroner, Etc.

CONTAINING AND PRESERVING A CRIME SCENE

- ▣ With the best sign cutter, flag into crime scene area so not to contaminate any evidence. A path to the crime or evidence that may have been found is also to be flagged, a direct line in and out.
- ▣ In some cases an evidence track might have a person you assign to stay with that track and does not leave it. If needed due to weather conditions the evidence should be protected.
- ▣ As a search and rescue sign cutter you and your team have been a vital part of this crime scene in locating the evidence, flagging, containing and preserving that scene.

CONTAINING AND PRESERVING A CRIME SCENE

- ▣ You and your team standby until you have been relieved by someone with the authority, no one gets through your perimeter without proper identification and the authority to be there.
- ▣ Media will be present, filming, and using high powered listening devices if they can. In most cases they do not have the authority to be within your perimeter. Do NOT speak to the media without permission from command to do so.

CONTAINING AND PRESERVING A CRIME SCENE

- ▣ Eating food in or around the perimeter would not be appropriate. Do NOT take any food into the crime scene.
- ▣ Once the proper authorities arrive and take charge of the scene you and your team remain there solely at the discretion of IC to assist or be relieved from that crime scene.
- ▣ Remember this is a crime scene do NOT take pictures with your personal cell phone or it may be confiscated as evidence.

CONTAINING AND PRESERVING A CRIME SCENE

- ❑ Don't be alarmed if impressions of you and your team's footwear is taken. This is strictly as to identify you and your teams tracks in the crime scene.
- ❑ You and your team may testify in a court of law as it relates to tracking to the crime scene, who, what, where, why, how did you find it and what did you find in it.
- ❑ To track to this level you must remember that tracking/sign cutting is a learned skill with practice and experience on many search and rescue tracking assignments.

“KEEP ON TRACKIN”

End Presentation