Sniping in Mountainous Environment
A few thoughts and lessons learned

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Planning and preparation:

The first step that is the most critical and was always the difference between a good operation and one that went FUBAR was the planning and preparation for the mission. The list of critical items is as follows:

- Doing a detailed terrain analysis, developing questions about the terrain and routes, then going and finding someone that had been over the ground before was key.
- Don't ask just one person but several and see what their experiences and recommendations are. Sat imagery no matter how detailed will not tell you what you need. On several incidents scout teams would have been compromised or unable to accomplish their mission had the knowledge provided by line units not been collected.
- Go see the S2 shop and get the SIGACT templates and see what's been happening in the AO and ID historically high threat areas and probable attack locations. ID any and all minefields. In restrictive terrain like the mountains where avenues of mobility are few and the movements suck the most frustrating thing to run into is little piles of white and red rocks that result in you doing a complete route change that is going to affect the mission. Once again bounce it off someone you know and trust in the line company and get their take and $0.02. The geeks in the TOC are always tracking the big picture and don't know how to pay attention to the little things like a good TL will. Get the big and little picture.
- A common problem ran into was the mud. It was never expected to have such an adverse effect on mobility. The weight load became an ever larger issue at this point. After 1 KM of movement you'd have several pounds worth of mud weight

added to each boot and movement was greatly slowed. Ankle rolls and knee injuries were increased due to the uneven boot sole surface and 80 plus pound loads. It was learned to avoid crossing any flat low lying area with little to no drainage. The mud made our teams choices for PZ's very difficult. It also greatly affected the scouts and pathfinders ability to select an appropriate LZ for inserting line platoons and company's in helo's. There was also a concern of how deep the mud was in farmer's fields. It was common for Soldiers to sink to a knee and need a pull out from two others. The concern/ fear with the mud depth especially during spring (mud season and heavy rains/thawing) was that a bird would sink in, get stuck, or lose control and injure the dismounts via rotor. On several operations there was no other choice but to have the birds land in the fields and ability of the units to dismount and get to the AA's / security and or assault positions was not good. It was noted by the scouts that were in the link up points that Soldiers with assault loads and equipment upon dismounting the bird would get stuck or have mobility slowed to a snail pace. One squad that dismounted from a Blackhawk had over half it's members up to their shins in mud and were out of the fight until they were pulled out. The movement time for the units from the LZ to the objective was usually almost double of that which was planned. Also the amount of energy expended during these movements (from LZ to OBJ) was immense and left Soldiers gassed before getting to the fight. It became critical for LZ/PZ reconnaissance to be conducted in depth during these conditions. Also became BN policy to utilize Chinooks for AA during the spring and in/after wet weather due to Soldiers could run off the tail onto the ground instead of jumping off a Blackhawk to the ground and getting stuck. Preference is to land on the roads but many times telephone wires and courtyard walls were too close and didn't allow for enough room to land the bird. In Iraq the enemy became savvy of this and started positioning Snipers in overwatch to plug targets of opportunity while the noise and commotion was going on. Ambushes, direct and indirect fires were also seen. The preference was to execute at night so the enemy had reduced visibility. Head counts and accountability of personnel became a big issue for the line units. By doing these ops at night it would also sometimes hardened the mud due to the drop in temperature and made movement easier. The other added benefit to night ops is the ability of the supporting Kiowa's/ Apaches/ ground level FLIR's to be more effective in ID'ing threats via thermal. It is even more important to have a good vantage point overwatching the LZ having "eyes on" prior to main body arrival when these conditions are present.

- The mud especially with a light layer of snow also greatly effected mobility in the Mountains. Soldiers that chose the ripple soled boots for the operations quickly learned that while trying to skirt a hill that the ripples gained no traction and turned into skis. The result was zero traction on noisy terrain, injuries, excessive noise, and missed time hacks. Regardless of boots worn, in the planning process the conditions of the terrain with respect to soil/surface type and composition need to be considered. On more than a few occasions my team found themselves unable to ascend at all. Ascending was not the only issue. Descending steep slopes was the most dangerous. Once traction was lost and a Soldier fell it was only on God's good grace that he stopped. The slopes were littered with jagged

rock cropping, trees, boulders, and drop offs that if the Soldier were to impact there would have been serious to life-threatening injuries. To have a casualty of this type in a tactical environment on this type of terrain would be near impossible to recover without risking the compromise and lives of the other members of the team as well as that of the helicopter crew that would be required to do the extraction. It was decided a solution was needed after one of our team members almost slid to their death while descending a slope that was about the equivalent to a black diamond pitch with full ruck. He fell/slid approximately 200' until his ruck impacted a tree 2/3's of the way down the slope. At the time due to terrain we were without communications. Due to this event on several missions we ended up carrying a 120' rope to use as a hand rail and for descending. The issue that arose was that the rope was too heavy and cumbersome to carry and hump in the rugged terrain with already heavy loads. A choice was made to instead carry a 100' section of 7mm rope wrapped around a section of 1" x 18" hardwood stick. It was light, easy to pack and passed the tension test we tried prior to fielding. It was easy to employ and recover and wouldn't absorb as much water. Each team member used their carabineer with a small loop in a prusik to snap on and act as a handle should one of us fall. It proved its worth on several occasions.

- Understand the effects of temperature, altitude, and wind. This cannot be stressed enough. You may be at 1000 feet but will be inserted at 3000 and make your way to 4500. You need to pack light but at the same time pack right. Good light weight snivel that dries easily and blocks the wind is a must. Don't forget to think about this in your planning.
- Move out with no snivel on regardless of the situation. Only wear a base layer. Don't wear t-shirts, extra weight and don't dry easily. Body armor will make you sweat regardless.
- Gore-Tex is very noisy. Don't wear while conducting recon missions. Also somewhat glows when viewed through NOD's after wash with commercial detergent.
- Altimeter. One of my teams members had a "high speed" watch that read altitude. Knowing your altitude is a big deal. This was often left to "guess" work if an altimeter was not present. This will come in big when calling for a fire mission where altitude is required. Most teams had GPS units that did this, but having it accessible on your wrist was much more convenient.
- SOP's. Have a system. A system that is thought out and covers all the bases. Use coordination check lists and modify them to meet the mission. This is essential to any Sniper Teams success. Especially when you are doing op after op and getting worn down. FM 23-10 Chapter #5 is a good place to start.
- Appoint a Liaison in the JOC/TOC. This cannot be stressed enough. The liaison acts as an advisor on proper employment, team capabilities, and dissemination of battlefield information. Too often have Sniper Teams been left to hang because the TOC forgot about them. The liaison is there to stick up for the teams and ensure they are taken care of. It will also limit the amount of commo going between the TOC and the Teams for stupid items. The liaison should also conduct link-up with the main body line units to go over updates, brief the link-up plans and SOPs (this is big to prevent fratricide) and to ask the line commanders if there

is any PIR or IR that they would like to know before hand that might have changed. The liaison can then effectively organize and relay this to the teams.

Insertion methods success's and flaws encountered

- Mountain movement: Masking movement can be difficult and you can be seen from long distances. Move at night and observe during the day.
- Stay in the draws and never walk the ridges.
- Use NOD's and go slow at night, cliffs can come out of anywhere. The lack of depth perception is dangerous.
- Just because the map doesn't show micro terrain (like a wadi) doesn't mean it's there.
- Early morning mountain fog is a great way of obscuring your movement and insertions. Due to visibility insertion in fog can be dangerous.

- Air: Helo insertion is a great means of getting a Team in. Only issue is the enemy knows you're there. Go seats in and rehearse. Have a head set and listen to pilot. Battle track your location in the event of an alternate LZ drop off. Make sure your shit's tied down. Weapon included. Use the sling if you have one. 2 point recommended. 1 points on inserts resulted in several incidents of smacks in the face from, the weapon on dismount.
- Ensure you dismount light to make sure you don't blow a knee or ankle.
- Vehicles:
    - Military: A great method used that was effective was the stay behind method, where a team would be put in a convoy and be inserted in darkness to their drop off point in which the convoy would act as if they were doing a routine security halt/ piss break and the Team would dismount rapidly, occupy a temp hide, and do an extended SLLS halt (30 plus min). If contact was made the convoy could return to extract and bring the firepower. It also provided a distraction the Team could use as cover because the enemy would be paying attention to the convoy and not looking for 2-5 dismounts. A lesson learned that should be noted is that the terp if one is assigned should not have knowledge that this is the insertion method being used and should be in a vehicle where he could view the insertion. Terps run their mouth to other terps about the cool mission they did and word gets around until it gets out of camp and then the locals know what's up. OPSEC is very important even with our own for the Teams. The same method can be used to extract. Technique that was successful for us was to have the far signal: comms and the near recognition a flashing IR phoenix beacon (about 100-150 yds off road). Then number combo. <u>After all convoy trucks have been alerted</u> to the sniper Teams location then the sniper Team moves in. Several times gunners were not informed of location and that link-up was occurring and they traversed guns and reported hostile movement to the TC. Fortunately no bad shootings occurred. This was by sheer luck.

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- Civilian: Toyota hi-lux made a great "get there" vehicle that slid under the radar of most ACF spotters at distance. They could handle driving in most extreme terrain and performed well. The common issue was flat tires and the rapid fixing of. Also getting stuck in the mud and having tow straps to get the stuck truck out. The big con to these vehicles is the lack of armor. It was a great way to get a Barrett to a vantage point and provided a sturdy platform to engage off of. Also provided a quick extract. Issue with these vehicles is that on a weekly basis no matter how good of markings were used (vs-17's, IR 2x2 squares, IR beacons, American flag strapped to hood, ect) coalition forces in the air and on the ground regularly ID'd it as a hostile vehicle. There were a lot of close calls and blue on blue fires. One in which resulted in the death of SOF friendly forces. It's a gamble.
- Foot: The hardest part of foot movement is having the ability to pack what you need to survive, not what you want. Ounces equal lbs and nobody enjoys more lbs in their ruck. More pounds also equals less stealth/sit. awareness. Routes need to be planned to use the terrain to mask and hide your movement. Never walk ridge lines no matter how tempting. Skirting a slope all day will fatigue anyone and will tear up your feet, ankles, and knees eventually. Once again packing lighter makes things easier. Foot movement is the most time consuming (obviously) but TOC folk see a 15K movement and don't think about the ups and downs in between. Or a 2K movement from one ridge to the other. They think straight line. Moving over this terrain takes time and sometimes time isn't what is available. Once again the Liaison can fix this. Plan on it taking 2-3 times longer than if it were a patrol on flat desert.
- Pack the sniper rifle in the ruck as much as possible (separate stock from receiver). Have an M4 as a primary. Look like all the regular line folks. The enemy can ID a sniper team pretty quick. Move in 5 to 7 man teams (sniper team plus security element like a scout team). Look like a line fire team/squad. You may get overlooked as a line unit and slip under the radar. Take the rifle out when in the ORP.
- You are 9 day out of 10 under observation from someone and it's getting back to the bad guys.
- If the rifle can't be packed, bungee it on the top of the MOLLE frame above the shoulder straps. Most comfortable form of carry. Allows it to be ready if needed.
- You need to be able to be hands free if needed to negotiate terrain and get hand holds on rocks and stuff. Have a sling like the VTAC that you can tighten up instead of a three point you have to sling behind your back.
- Don't leave any sign if you have to cross commonly traveled trails. An American boot print is easily ID'd and known. Will cause locals to alert bad guys that coalition is in the area. If possible cross hard soil or grass vs. soft mud.

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- Locating the enemy and providing timely battlefield information
    - Finding the enemy is a difficult challenge and is more of a waiting game. Glass and Stalk. Patience, discipline and attention to detail wins at the end of the day. Sun position/cloud cover changing can make the view of the landscape change. Be patient.
    - Don't do sloppy half assed scans no matter how smoked or miserable you are.
    - A great OP in the day can be a horrible op at night and vice versa.
    - Know when and how the fog/clouds will come in and affect your visual plane.
    - Predict the sun throughout the day and ensure you stay in the shadows.
    - In the mountains clouds and fog will move in and screw with your visibility. You might have to move the op to below cloud cover or move it higher to get above the fog.
    - Get good lightweight optics. The new leupold spotting scopes are great.
    - You need to be able to look out across a valley to another mountain and ID stuff.
    - Optics needs to be crisp and lenses need to be kept clean, maintained, and covered until needed.
    - Also need to use sunshades. Kill flashes are sexy and they are recommended, but sometimes they distort the image at long ranges enough you can't ID. They also add weight. Sniper veil over the lens was preferred. "bird nest" techniques worked as well. Be careful if you spray paint kill flashes, light coat only. Be smart and know where the sun is. If they are that far away they're not an immediate threat. Better they live another day then you to get compromised by popping the kill flash off and getting found by reflection. It can be seen for miles and miles (like a signaling mirror).
    - Use thermals over NOD's. NOD's can be deceiving and have restricted range dependent on fog, cloud cover, lume, ect. If NOD's to be used use SIMRAD over PVS 10.
    - PVS 10 is super heavy and is a pain in the hills. Also makes it harder to maintain low profile and has super big obj. lens that is hard to hide. Has big time sight offset. Hard to shoot through loopholes with.
    - SIMRAD, a loophole with a M3A during the day that's small will not work once the SIMRAD is on. You'll shoot what's in front of your muzzle. It changes the sight offset.
    - Know what target indicators are and exploit the enemy's poor discipline.
    - Improper camouflage was the biggest reason for daytime pos ID. small fires as well as noise accounted for most night time enemy spottings.
    - Place CS powder on route entering into hide to f up dogs tracking you. In Yugoslavia soft compromises resulted from people hunting with dogs.

Dog teams were employed by drug rings to patrol perimeter. LRSD was compromised on one occasion via this technique.

- Take into account wind direction and consider using M203 CS as a tool for a break contact drill. Also works well to freeze enemy in kill zones once suppressed, keeps enemy from placing well aimed fires. It's the gift that keeps giving and gives you the opportunity to run.
- Glassing is a big TD drill. Don't do TD at home station with BS school house items (protractor, micro machines, pen, ect). Take extra time and set up a large NAI lane and have full-size Target indicators set up. This will train the Teams eyes on what to look for. This paid out big for the units that did it.
- If your optics are wobbly then you won't get good eyes on. Carry a little extra weight and carry the lightweight tri-pod. Resting it on a ruck when trying to glass something from 2 clicks away don't cut it.
- Bring binos to get a bigger field of view. Your eyes will tire quickly with the spotting scope or rifle optic. Even a pair of the mini binos is better than nothing.
- Do like they teach at school, eyes, binos, spotting scope. See big picture then focus on the little. Quick scan then detailed.
- Have 2 to 3 sand socks on every mission. Instead of sand use the Styrofoam bean bag fillings. Make the socks sturdy, lightweight, weather resistant and can double as an insulating layer between elbows and rough terrain.
- Establish comms before you start scanning. If you ID something and then can't get comms you can't really do too much about it other than crack off a round and maybe give up your position.
- Use CAS or fires if available before you compromise your hide. Is one muj rifleman worth a possible RPG team coming through later? Maybe he's a scout or a look out? Think.
- Your chances of killing 5 dudes with a rifle and not getting compromised is a whole lot less than getting an artillery round of JDAM dropped on the same group.
- Think like the bad guy. Where would you travel to if you were going through that terrain, where would you hide? Is there any paths you can ID? Narrow your field of view to only realistic avenues of travel. Is a muj going to rappel down a 100' cliff? Or would he take the draw that skirts around it? Common sense applies here. By narrowing you're approach/hide areas you are spending more time eyes on and increasing your probability of a sighting. Too many times I've encountered someone scanning an entire mountain side instead of the areas that a human is actually able to move on.
- When trying to isolate enemy safe havens and movement corridors, look at the history of the area and the contact templates. Understand the terrain and ID what he'll need and where he must go to get to his objective.
- Be patient. This job usually entails waiting for 24 plus hours for something that will appear for as little as a few seconds. Don't try to stay

in condition red. Stay in a liberal general awareness and keep your eyes off the optics unless they have to be on them. Never forget about your position getting compromised. This needs to always be a concern. More so then your scan area. You aren't any good to the mission if you're dead.

- Engaging the enemy and preferences
    - Never compromise your team if you have the time to get CAS. Their chance of a kill vs. yours with the rifle is better.
    - If you can kill them from 4 km with a bomb while they're in a fighting position then why close the distance to engage them with a rifle? Fight smart not stupid. Fuck Hollywood. It ain't realistic.
    - Know you weapon and it's limitations.
    - INDEX THREATS AND ENGAGE PRIORITY TARGETS. Don't take out the guy with the AK when the RPG gunner or leader is next to him.
    - Perceive where the enemy would anticipate a sniper shooting from and don't be there.
    - Understand how the shot will echo in the mountains and disorient the enemy from your true location.
    - Barrett is not a system designed to be light-infantry friendly. Don't try and pack this in the hills. It's a 1.5 MOA gun. I would only recommend carry if working with a line platoon or higher. Carry 3 mags. You can fit 2 per SAW pouch and they're heavy. This gun broke people and was just to heavy.
    - Barrett, Practice getting good at 1000 meter plus engagements. This will ensure you are out of most enemy weapons effective ranges especially RPG-7 with the 900 meter limit.
    - If you know you are going to be working near gun trucks and could do a link-up for extra ammo shoot API and get more off the trucks as you go.
    - Barrett needs better optics. Variable issued with it kept blowing bearings. PEQ-2 worked well when zeroed at 500M.
    - Scope issued with XM107 gave inaccurate mil reading consistently. Don't trust it. Use MELIOS or spotting scope.
    - Use API with Barrett to be able to more easily spot impacts and will ensure added success against material threats. Rufus round also was great.
    - API for vehicles. Aim for the driver first, if you can't get then dump the whole mag into the engine. Might still take ¼ to ½ mile to stop. Understand the effects of bullets on slanted glass (windshields). Better to aim for the doors/metal.
    - Pack the right gun for the mission. Needs to meet the requirement for the shot possibilities and be light enough to ensure you can break contact with it.
    - Mil width not height as the angle will screw the reading.
    - Mil the widest object you can find. It will make your reading more accurate.

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- Measure and record everything you can when you get in country to give you stationary objects to use as ranging references. Examples: tires, trucks, doors, RPG length, enemy armor height/widths, cinder blocks, ect.
- Have a no shit means of getting the angle. Lasers are great but they run on batteries and fail. Have a back up. Be proficient with both. Angle plus bad range E is a recipe for failure.
- Wind is a four letter word. In the mountains different terrain will make wind go different ways. Wind is not a constant. Think of it more like water running through a river. Faster in some places than others and at slightly different angles. Could start as quarter value out to 200 then change to half value. Read the wind all the way out. Practice shooting it.
- Steady position is difficult to achieve on rocky, uneven slope. Shooting sticks, tri-pod, lots of sand socks. Cheap shooting sticks can be made with 550 cord and 2 sections of Humvee antenna and some old school puss pad.
- Ensure you're comfortable with good stock weld. It's critical.
- Practice shooting sitting and supported kneeling.
- Practice snap shots up and down hill at 200 meters on 9" steel
- Use sand socks with bean bag beads so you can carry more and they are lightweight.
- Ensure your muzzle clears any obstacles in front of you so you don't shoot a rock 5' in front of you. Remember the sight offset of your optics, especially the simrad and PVS-10. This is super important. Injuries have occurred from not calculating this.
- Be ready with the follow up shot and a good Kentucky windage call.
- If you miss and haven't been found take a realistic assessment on if a second shot will get you caught.
- After the shot scan 180 and don't immediately move. You could be under other enemy observation.
- Wet down the area to the front and remove leaves. Don't toss salad. The barrett is a nightmare for this. Practice this before you deploy and have it perfected. If not RPG's and PKM fire may follow.
- Same goes with muzzle flash at night.
- Be situationally aware before the shot so you know if there are other enemy present. Index targets and prioritize. Anticipate their movement once their taking fire. Make this part of your firing sequence.
- When shooting on a convex slope understand where you're dead space is and how to keep threats from reaching it.
- Study the targets body language, appearance, equipment. Ruck vs. no ruck (might not be to far from others). Is he patrolling or just going somewhere? Does he look clean like he just took a bath or rough and ragged? Assess the target and the situation. This information is also important to the S2.
- Wait until the target is stationary. Limit the chances you have of a miss. Hitting squat pissers lifting their man dresses for a tinkle is a good technique.
- Make good shots and don't rush.

  - If in doubt whether shooting up or down aim low.
  - Don't be afraid to take a leg shot and wound a target to draw out his buddies. Effective tactic. If you know there is more in the area but can't see them, hit the guy you do and note which way he yells or reaches out to. Then scan there.
  - Practice shooting partial exposure targets up and down hill during a react to contact drill. This is realistic and crucial to be good at. There is no success in a miss. Hitting a full e-type is easy. Hitting a 9" plate at 150 meters from behind cover with no support is the mark of a well rounded marksman.
- Engagement factors and problems encountered
  - Range estimation: Don't ever assume your eye is right. Believe the reading you're getting.
  - Lack of cold bore data. Ranges always focused on a few cold bore shots and tons of warm/hot bore due to the command looking to put rounds down range. In training take a range day to do just cold bore and plan it at different times of the year (once quarterly). Cold bore shots are the money makers. Warm bore shots lead to getting effective fire placed on your position.
  - Maps are a great reference for range estimation.
  - Don't overlook the basics: Prepare sterilized range cards and utilize. It'll help your OODA cycle when shit happens. Make sure you take with you. Leave tied to your kit.
  - Getting a high enough supported position to get above the grass line on knolls without getting spotted.
  - Wetting the area in front and to the sides of the Barrett muzzle break to ensure no grass fires are started and tossed salad indicator.
  - Ensure you are hydrated for obvious reasons. Dehydration leaves you piss smelling bad and is a target indicator much like cigarette smoke. Piss and shit in bags (air force pilot ones are awesome) and then zip lock those. Don't leave target indicators like surface laid number 2 mines.
- After the shot
  - Before the shot ensure good field discipline and leave clean FFP's.
  - Take a second and gain your composure. Transition from the shot to the egress or continued observation.
  - Radio comm. To higher with BDA. Use directional antennas from radio wire vs. a vertical standing long whip. Iridium phones work well and are light.
  - Stay put and wait to see who comes to investigate/help. Wait 30-60 minutes. Let the enemy think you're out of the AO. Normally they will have someone come get the weapons.
- Egress
  - Convex slopes cover your egress and provide better concealment than concave slopes.
  - Egress slow and camouflaged from the FFP until out of line of sight with the enemy. Quick movement attracts the human eye.

  - Select two egress routes (primary/alt) prior to FFP to cover vertical and lateral.
  - Have a security team if possible covering the 6 o'clock and link-up with them.
  - Occupy cover once out of the EA and conduct a stationary concealed scan of the egress area to ensure route is clear and enemy is not present.
  - It's better to engage from the top down and make the enemy have to run up a mountain to catch you. Use un-favorable terrain to the enemy every time and then equate your egress into it.
  - If you know you will be pursed cover your egress with M68 PDM mines. Very light, handy and effective. Better than claymores. Weigh one lbs. Note they take 25 secs to arm. Self-destruct after 4 hrs.
  - Move with a purpose but stay calm and in control.
  - Carry the rifle you can fight with (M4) and pack the long gun.
- Extraction
  - Know what your pilots are willing to do and not willing to do ahead of time and plan for.
  - Friendly forces link-up is the scariest time you'll ever have because everyone's on pins and needles and jumpy. Rehearse this in depth and ensure you rehearse with the element you will be linking up with if possible. Never expose yourself until the unit has confirmed via radio. Use your day/night near and far rec. signals. Not a lot of people do this anymore. It's a must.
  - If you're out in no mans land and things aren't going well don't be afraid to commandeer a local vehicle. Think outside the box.
- Link-up
  - Dangerous, dangerous, dangerous. People don't take this as serious in training as they do overseas. Don't get complacent. You have just as much a chance of getting killed liking up with friendlies as you do fighting the enemy.
- Supporting line units and problems encountered
  - Attachment to SBF was a common employment. Line PSG's don't understand the sniper mentality for the most part and think you are just like a M240 gun team. Converse and outline what you can do and how you do business before the mission so he's not figuring it out when the heat's on. Splitting off from the SBF to get different angles on the threats is a good technique. The SBF's draw a lot of attention and being offset you can often get a good angle on the threats to take advantage of. You can also cover areas and dead space that the SBF can't.
  - Setting up in overwatch in the hills overwatching a village prior to a cordon was another common employment. Providing eyes is a big part mission success. IDing types of obstacles, doors, hinge and locking mechanisms, possible threat locations and so forth. Very useful and increased mission efficiency as well as assaulter survivability.

  - If conducting the above ensure the link-up plan is solid and pushed down to the lowest level. Trying to link-up mid cordon is not a good idea. Wait until after things have calmed down.
  - A team can pin down and deny enemy passage via mountain trails and passes. This can be a tremendous asset to the company commander in ensuring enemy is denied areas and routes of reinforcement.
  - Commanders can often be too cocky to listen to a E5 or E6 TL about the proper employment of the team and as a result bad relations occur due to the commander not employing the team to it's full capability.
- Cordon and search
  - Overwatch is crucial. Eyes on 24 hours prior.
  - Get the high ground
  - Don't just focus on the objective but also the terrain around it looking for enemy early warning or security positions.
  - Develop the situation and get all information you can. Gates, locking mechs, are windows barred or not? Can a .50 shoot through the roof walls? Things as such. ID threat locations and heavy concentrations of people. For example on one occasion an assault team was not told about the 15 plus people seen on the roof of one building sleeping during the hot summer night and when they made entry they had a whole family they had to secure and search. Had they know ahead of time they could have brought an extra fire team in.
  - Get photos/video if time is allowed. Allows you to analyze while not exposed to the threat and better study and provide information. Will serve as an archive if you ever need to go to that AO again. Good for reference and to do an AAR off of. Allows a reference for extended operations if when daylight comes up again and something looks out of place. You can look at photo/video and see what's out of place. Use a poncho or space blanket to cover over you to view so the enemy doesn't see the glow of the screen.
  - Having a thermal in overwatch is a good thing. The Javelin CLU was used to great success from over 1000 meters away on one occasion on a hillside overlooking a village in a valley. It was heavy but provided great clarity and a group of MAM's digging was ID'd and observed burying munitions, filling the hole in and then moving an old car over the top of it. This would have never been seen with NOD's. The location of where the MAM's returned to was also noted and during the cordon the following day the MAM's in that structure were detained.
- Use of a scout liaison in the JOC/TOC
  - Have a liaison in the TOC/JOC. Have two. One for day and one for night. Keep them attentive and not burned out. They need to know what's going on. Next to your radio they are your biggest life line.
- Gear utilized pro's and cons
  - M24
    - Accurate, reliable, not great for MOUT.
  - M3A

        - Great optic. SIMRAD made it complete all around optic. Fixed 10X was difficult to get on target sometimes. Variable like on the Barrett but with bearing that won't go and a "True mil reticle" that keeps the reticle proportionate to the power setting it's on. Adding a DOC optic or similar ring mounted red dot is the cat's ass.
    - PVS10
        - Reliable, but very bulky and heavy. Large sight offset. Large objective lens that's hard to hide
    - SIMRAD
        - Great piece of gear. Allows low profile day optic during the day. Had a large sight offset. Be careful of your loophole clearance when firing.
    - PEQ-2
        - Worked well on Barrett for targets out to 500M. Issue of concern was the target indicator when using against enemy with NOD's.
    - Camera Tri-pod
        - Mandatory piece of kit. Mountains provide awkward angles and shooting positions all the time. You need stability to make good shots and the tripod makes that happen as well as being light. Used for spotting scopes and binos for extended observations as well. Can also mount a video camera to record reconnaissance of objectives to do playback for company commander on.
    - ASIP
        - Good radio for short distances
        - Know it's ranges and effects in the mountains, altitude, cold weather, ect. It's your lifeline.
        - Know how to use field expedient antennas and construct them. Bring on every patrol/mission.
        - Use a ground wire and proper insulation techniques.
        - Use resistors from radio shack and heat shrink to wire or shoe goop. Don't use earplug case and salt.
        - 292 jungle antennas doesn't work and is a target indicator in bare mountain region. Use directional, slant "v" or ground laid half rhombic.
        - DR-8 commo wire is good but get more flexible stranded stuff from radio shack, ect that is slimmer and easier to roll up and has less memory.
        - See above and store on a fly fishing reel with the clicker bearing disabled so it is silent when it's unrolled and rolled up.
        - Bring two extra cobra adapters for field expedients.
        - Spray paint non-contact areas on cobra adapters.
        - Have a destruction plan "z" plan.
        - Carry an ANCD for every team. Carry a PLGR/DAGR to get time from. Don't trust your watch.
        - Know your battery life and the effects of cold on it.

- Use lithium ion vs. rechargeable. They last longer and weigh less. A lot less.
- Have an extra handset.
  Use the remote handset to easily change freqs but the h-250 standard to communicate on.
- Always keep on whisper if on patrol. Sound goes far in the bare mountains.
- Protect the pins on the bottom and top.
- Have an nbc storage Ziploc bag to keep radio in if needed. seran wrap the handsets if rain is coming in. Don't keep covered all the time as moisture will build on the inside of the handset.
- Tie down all commo gear. Antennas included. Have two on the ANCD.
- Go to radio shack and get real resistors vs. earplug case with salt water and silicone. Heat shrink them to the wire to waterproof or shoe goop.
- Hands free ear mics are good in the hide and on the move but limit your hearing ability. John Clark head sets are good as well. Lets you stay on the optic better.
- Only bring long whip and directional.

- Motorola walkabouts
  - Don't use unless you have to. We used more as a scanner than anything. Enemy likes to talk on these and scan for us.
  - Headsets on these break easy. Don't plan on them lasting very long.
- TACSAT
  - Very technical. Refresher training and PMCS/PCI is a must.
  - Works well and range is not a factor.
  - Heavy
  - Double to triple your battery count you would use with an ASIP
  - a lot of difficulties with directional when trying to contact a mobile element or if the TOC jumps.
  - Be really gentle with antenna assemblies and cords.
  - Everyone in the team needs to be as proficient on this as the RTO
- IRIDIUM sat phone
  - Awesome. Have cheat cards made and carry the SOI on you. Worst case is the bad guys get the phone and the SOI and call the JOC to say dirka dirka. They can't listen in on it.
  - Lightweight, have extra everything as usual. Good part to an E&E kit. Waterproof.
  - Has a key pin capability on the newer ones for security if it's a concern.
  - Highly recommended.
- MBITR
  - Piece of crap.
  - Light but reliability sucks.

- Long whip every time over short whip

- MELIOS
  - Heavy
  - Batteries sucked
  - Use AA adapter
  - Gave most accurate readings
  - Noisy when operating
  - Gave readings way past civilian models
  - Bulky
  - Metal body and caused hands to get cold fast in cold weather.
  - Good if used with dedicated vehicle.
- M14
  - Great gun for 600 and under. Accurate and reliable. Good selection if you're in and out of urban areas.
  - Reliable action
- Barrett
  - 1.5 MOA gun with API
  - Too heavy (about 30 lbs with optics). I would rather eat some recoil and know I can pack it easier than vice versa.
  - Combat load is heavy and you can't carry enough for a sustained fight
  - Good gun if working attached to a company where you have security. It reaches out.
  - Has a very severe psychological effect on the enemy.
  - Brake gasses kick up debris and can cause eye damage to shooter/spotter. Wear eye pro
  - Ear pro is a must. Earplugs w/550 cord around neck works well. This thing will make you go deaf and bleed from the ears. It will also screw up you equilibrium if you over shoot it.
  - Spotter located at the 6 o'clock not to the side. Muzzle gasses will mess up spotting. Also at longer ranges it's crucial spotter is in line with bore/projectile path.
  - Tie down pins with 550. If you loose one your dead in the water. Have extras as well
  - Spray paint the weapon to break up outline.
  - Use LSAT run dry for the most part.
  - Don't take out buffer assembly if in the field. Wait until garrison.
  - Take off bi-pod and use ruck rest or sand socks. It's extra weight and noisy.
  - Only load 8 rnds per mag
  - Combat load was 6 mags if used as a dedicated weapon (will require 3 saw pouches to carry).
  - Combat multiplier is employed correctly
  - Carry disassembled in ruck until in a secure position

Sniping in Mountainous Environment
A few thoughts and lessons learned

- Need higher powered optic for it. Rifle ballistics bypassed the fielded optics ability. A 5.5-22x nightforce with Horus reticle and Badger ord. heavy duty match rings would be a great addition.
- Best gun for terminal ballistics. Turns things to dog food. Will halve a target. Kills multiple threats. Can near miss and still effect target.
- Quick follow-up shots
- Know it's abilities with regards to barrier penetration. It doesn't penetrate everything you think it would. Test and see for yourself. Annotate in data book as well as the bullets entry point, exit point, and how bullet path was altered due to angle of impact.
- Silencers are available. Worked awesome at test week at sniper school. Recommend using. Con: extra weight and impact on zero.
- API was the way to go. RUFUS was a great AP round.
- Good rifle to do counter mine work with
- Good rifle to do counter sniper work with because you can stay our of the lethality range of the sniper you're hunting and still engage lethally.
- Only real gripe is it needs to be lighter and most training posts don't have a range nor terrain to train to the rifle's full capacity. Resulted in having to collect combat dope. Not the right answer.
- If a rifle will toss salad it's this one. Have a plan for prevention.
- Think about how you will get the brass if you shoot.
- Good weapon for a SBF. You can engage threats through barriers and if you don't hit they will usually break cover.
- Still aim for driver of vehicle for vehicle stops.
- Important to ensure weapon is level when firing. Recommend getting a gun level that mounts on scope due to effect canting has on long range accuracy.

- Kestrel wind meters
  - Essential piece of gear
  - Worked great for not only sniping but letting TOC know wind conditions on the ground for AA elements inbound.
  - Told biometrics, temp, alt all in one little package.
  - Ensure it stays maintained and clean. Compressed air worked well. Keep the fan portion clean or it will get gunked up and provide false reading with wind less than it is.
- Space blankets
  - Spray-paint both sides
  - Use any time there may be a enemy with thermals (Iraq invasion)
  - Use heavy duty vs. light weight survival type.
  - Carry in leg pocket
  - Ensure you still have friendly markings visible so friendly CAS won't engage you.
- MOLLE system
  - Sucks

- Ruck frames always broke
- Not comfortable
- Use old ALICE pack and have camo ruck cover handy
- Butt pack was best part, used as a throw and go recon bag. Could fit spotting scope, sand socks, snivel, chow, ect in and move over terrain easily. It then was easy to re-attach to ruck
- Bandoleer was good. Made for easy rapid ammo resupply. Also used to keep OPfund money in and accounted for.

- IBA
  - Not fun stuff but worked.
  - Did not allow good stock weld/shooting position
  - Practice shooting with it on every time. You'll experience zero change if you don't.
  - Don't over tighten because it'll throw off your breathing cycle and ability.
  - Don't mount pouches on IBA.
- M9
  - Don't waste your time. Too much weight for nothing.
- M4
  - Terminal ballistics aren't top notch with M855. See if you can get soft nose 5.56
  - MOD 77 77gr black hills stuff was good terminally and extended range and accuracy but had functioning issues.
  - Tracers vs. no tracers: in mountain terrain where you shoot up and down and range E is a tricky thing, I'd prefer to have them over not to see where I'm hitting and when my mags are getting low.
  - M68 CCO worked well accuracy wise but batteries, dust in the kill flashes, trying to find the right setting (looking into shadows of a hillside vs. looking up a ridge into the sun) was always an issue.
  - Iron sights were preferred as they would maintain there zero and could be counted on not to break.
  - PAQ-4 is junk. PEQ-2 was awesome.
  - Ghetto grip creates sympathetic response for those using it. Effects long range accuracy. Grip pod is noisy.
  - Reliability was always a concern. Double feeds common. Class one malfunction common. Practice immediate action often.
  - Dust, mud or moisture a show stopper.
  - Use the dust cap, keeps shit out of the weapons barrel.
  - 3 point slings suck.
  - 1 or 2 points the preference.
  - Harris bi-pod on swivel mount was worth the added weight
  - Ensure weapons light won't have a light ND.
- M203
  - Does it's job
  - Ammo is awkward and heavy to carry with current MOLLE system. Does not fit well with IBA

        - Not worth the weight for a spotter.
    - M249
        - Preferred spotter weapon
        - Gave the ability to suppress vs. the M203
        - Easy to carry with collapsible stock and shorty barrel
        - Could suppress targets in EA while shooter focuses on priority engagement.
        - Complimented the hunter killer mission well
        - 100 Rnd cloth pouches over the 200 rnd plastic drums.
        - Orient to the 6 o'clock in FFP to allow quick transition if engaged to the rear.
- Gear recommended and items procured
    - Shooting
        - Styrofoam bean bag filling filled sand socks
        - Light weight tripods
        - Kestrel wind meters
        - Ballistics palm pilot with ballistics calculator
        - Leupold range finders with angle compensation
        - Anti-cant level
        - Angle co-sign indicator (ACI)
        - Good ruck rest
        - Milmaster sliding ruler
        - Key chain thermometer (back-up)
        - Weatherproof calculators x2
        - Desert camo mesh blanket (4' x 6' to use as back drop or hasty hide blanket. Beats the hell out of sweating in a ghillie suit all day. Use smaller sections to drape over gun and optics
        - Custom concealment viper hood. Best piece of gear issued. Worked great.

    - Ruck
        - ALICE with good utilized waist belt add on
        - Good ruck rest on frame.
        - Get add-on shoulder straps to increase comfort
        - Kifaru packs and gunslinger system are highly recommended
        - Have a small assault pack that's easy to take off/secure and carries well.
        - Have a good camo ruck cover. Knowing what I know now I would recommend crye multi-cam pattern. Kifaru makes a molle pouch that secures to the ruck side and contains a ruck cover.
    - Kevlar
        - Put camo netting over it to break-up outline
- Conditioning
    - PT is everything. Focus on rucking in terrain (mountainous) with lots of weight so when you deploy it's easier than your training regimen. Do ruck stuff then run after to get ready for a hard compromise. Do NBC runs with

mask on to help condition your lungs to operating off less oxygen. Implement PT with stress shoots so you get used to performing while smoked.

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