

Navigating Briones:

getting around an advanced orienteering course.

Brown Course, October 2011.



The trek to the start this year wasn't short and boy was it steep. But this should be treated as an opportunity to prepare. I conserve energy, but still take this time to warm up and stretch my legs. I'm paying attention to how the ground feels under my feet. The packed clay is not as hard as usual, but my legs are having trouble sustaining effort on the steep hills. These will affect my navigation later on. I'm also keeping eyes open to preview the terrain. Yes, I stay on the marked trail (no entering the competition terrain in advance), but anything I can see along the way is fair game.

We passed this checkpoint along the way. See those thistles in the grass! Better be prepared for that: roads will be faster than grass. There doesn't appear to be much woods, but what I can see appears to be pretty free of undergrowth.



We also got a clear view of the finish area on the way to the start. It looks really pleasant nestled next to a small pond. It's also in a valley, so I should expect a nice, fast, downhill finish! That'll be good motivation toward the middle of the race.





We start out with a common checkpoint location: **top of reentrant**

That's a little odd: **Between two clearings**

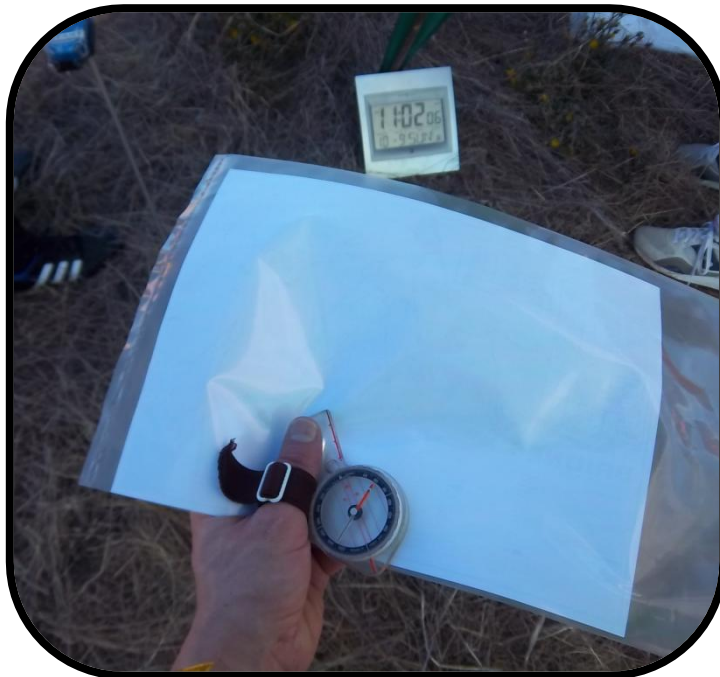
There are no water stops after checkpoint 5!

Check over your control descriptions before you start!

- **Does everything make sense?**
- **Can you recognize any patterns on the list?**
- **Where is the water?**

This control sheet looks like we have a good course in store. Nothing really strange, and the course setters did a nice job of using a wide variety of features.

I always grab a drink of water and double check my gear before I set out. Especially my shoes. I tighten my shoes a second time, since loose shoes will really hurt when I run on hillsides. Then I double knot them, and reinforce the knot with a little bit of duct tape.



Before I start the course and flip over my map, I check my compass for north. This way I can orient the map faster!

But once I do start, I try to force myself not to rush. It's faster when I slow down just enough to do things right.

If there are any really tricky long legs, we should take note, and start thinking about the route choice now. But all the route choices are pretty simple today, there isn't much to worry about.

Leg 1



On this first leg, we want to take it careful and slow, to make sure we understand the map. Check off each feature along the way. How distinct are the vegetation boundaries? How sharp are the reentrants? If things don't make sense, take some time to understand them. It's not likely that saving five seconds on the first leg will help you win the race, but if you're sloppy, it could very well help you lose the race. I always force myself to remind myself of the map scale too: 100 m/cm today.



The fence on the left makes a really nice handrail to start out, but we don't follow it exactly because there are bushes in the way. Instead, I cut into the forest and follow some deer trails for easier running. The forest is fast, but I'm careful to stay near the edge of the woods and not to much lose elevation. (Drifting too far down that forested hillside would be dangerous)



After about 60 meters of running in the woods, I push out to the edge of the woods. Looking up, I see a lone tree, which can be identified as a white patch on the map. I aim for the gap between that tree and the woods below, and this brings me to a large meadow.



From high in the meadow, I have a good view of the area below me. I can see the far corner of the meadow, and the thick bushes near that corner. I want to enter the woods near the corner. I see a gap in the trees near that corner, and I aim for that.



Once inside the forest, I see a small reentrant in front of me, and a small spur beyond that. I know that the checkpoint is just about 60 meters away, on the other side of the spur, so I head straight towards it. I have to go up and down to get through terrain, but I'm careful not to drop much elevation, since I know the checkpoint should be at my current level.

Leg 2



Leg 2 is the most difficult leg of the course. The direct route requires navigating through a rather vague hillside, with few features to relocate on. The forest makes it slower to move, and harder to see distant features. If you do get lost, you might drift far downhill. Proceed with cation!

I took the middle route for this leg, but this was a mistake. The (downhill) route to the right would have been faster, and the (uphill) route the right might have been safer navigation.



On this leg, I started by running slightly downhill, with a rough compass bearing to guess my direction. After crossing a small stream, I saw a small clearing with a fence on the far side. I was ALMOST right about my location -- but I misidentified the clearing, thinking that I was about 2 contours further downhill (to the right).

This meant that when I came out the other side, I was on top of the sharp ridge-line and I had to descend. The problem now, is that I was trying to find a small point feature in the woods, but my plan was broken and I don't even know exactly where I am coming FROM.



It's generally easier to relocate from a high spot, than a low spot. So before dropping off of the ridge, I followed it down about 20 meters, until I saw a finger of clearing on my right, giving me an idea of where I am. Then I start looking for other features to guide me into the control.



I tried looking for the large "terrace" on the hillside, to the south-west of the checkpoint, but there was no flat ground. This "terrace" was very subtle. I ran right across it but I still wasn't 100% sure of where I was.

However, it's easier to find a line feature than a point feature, and the control was supposed to be at the top of a small creak. So kept moving north, but keeping my eyes up. Soon I noticed a small drainage through the woods. This was it! I looked closer, and the checkpoint was at the head of the stream.

Leg 3



Leg 3 is a bit easier than leg 2. The distances are shorter, and there are distinct topographic features along the way. The most dangerous thing would be to ignore those features and lose confidence in my location. But I do err toward staying high: if I drift downhill, the forest becomes more vague and I could easily get confused.



Checkpoint 2 was located down in a valley, so we start out in a place with poor visibility. But I know which direction I need to go, so I went on rough compass for about 20 meters, until I was up on the next small ridge.



Once I made it to the first ridge, I could look across the small creek to the second ridge, where I could clearly see a saddle shape. (The saddle is created by the “thumbnail” shaped knoll). That saddle made a great feature, which I used to lead me straight toward the control. But I was certain to “confirm” the saddle with some rough compass and distance estimation, because there is a similar feature just 60 meters downhill.

Once I reached the saddle, I looked down into the valley before me. I was hoping to see the small clearing, but I didn't need to. I could see the flag itself! Navigation complete.

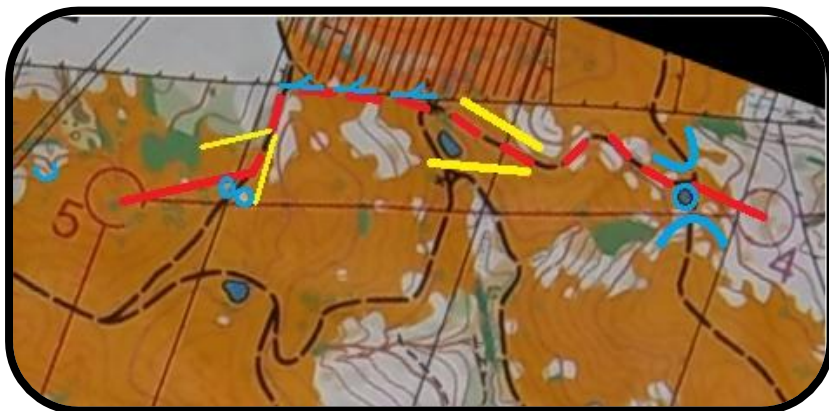
Leg 4



Leg 4 is a simple short leg. Basically, I just need to head straight uphill for 100 meters, using a rough compass to point in the right direction. It's a fairly safe leg, since the fence provides a strong collecting feature (letting me know when I'm getting close). And the grassy meadow provides a strong catching feature (letting me know if I've gone too far).

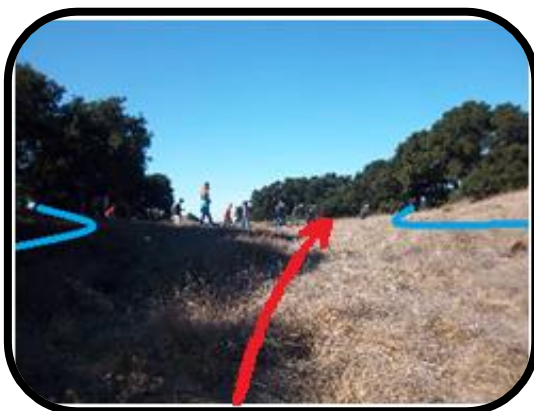
To execute cleanly though, I need to know which gully I am heading up. I hoped to stay a little “closer to the line” and use the central gully, but this was obstructed by vegetation and didn't look inviting. However, the main gully was quick moving, and once I crossed the fence, I was able to scan the terrain, look to the right, and see the checkpoint sitting between two clearings. Just like the map shows.

Leg 5



Leg 4 was the end of the tough forest legs. Now we switch to a different style of navigation. Instead of technical forest navigation, we need to pick efficient routes around the hills.

Leg 5 is the longest leg of the course, but it is easy to break down into manageable pieces.



The first step is to get out to the road. The road stays close to our straight line, and does a nice job of contouring around the hillsides, so we will use it.

But the first trick is to reach the road. This is easy to do (just go up to the west). But you want to do it fast, without any extra climb. So aim for the small saddle, at the road intersection. Once you are at the saddle, it's easy to see where you are, because of the small pond.



As I run down the road, I get a fantastic view of the terrain. It's a good idea to use that view and preview the rest of the course. In this case, I can see half a kilometer into the distance, including the fenceline that I will follow once I reach the road bend. (Boy that fenceline climb looks steep – but it is the best route. You actually have to climb further if you go left around the hill, and the fenceline is straighter.)



I can see exactly where I'm going, so I can just stretch out my legs and run on the downhill, and I can use the uphill slog to study future legs.

The next real navigation doesn't occur till the end of the leg, where I have to read the vegetation to lead me into the checkpoints. It's a little tricky, because the vegetation mapping doesn't seem perfect, but I have a 200 meter approach to figure things out.

Leg 6



Leg 6 is an interesting leg, where experience with Bay Area style hills will help.

There are a couple ravines and ridges between 5 and 6, so taking a perfectly straight line will involve too much up and down.

The Bay Area experience helps when it comes to finding the proper balance between extra climb, and extra distance. In this case, the optimal place to hit the ridge is on the flattish spot, just below where the roads make a y-shape (and the ridge gets steeper). This amount of climb is just enough to completely avoid two ravines, and it gets us to some flatter hillsides where we can run fast. We can get there efficiently by following the small gully (dashed blue line)



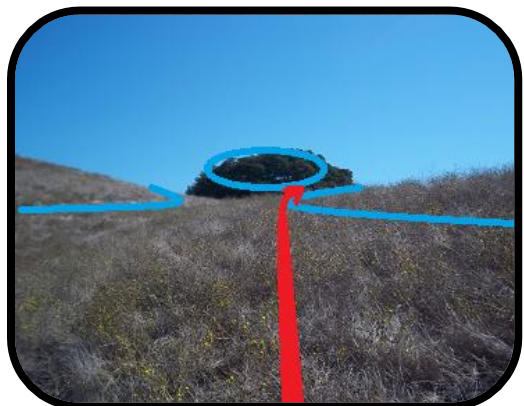
An advantage to taking this high route is that we get a panoramic view of the features we are looking for.

From high on the hill, I can look down and identify several patches of forest on the map, and pick out exactly which patch of forest should hold our checkpoint.

Leg 7



Leg 7 is a quick “up and over” leg, with a bit of forest running at the start and finish, and some vegetation running along the way.



Leaving control 6, we get about 20 meters of fun forest running, and then we get to climb 30 meters through the sun. Once again, I have to cross over a ridge, so I aim for the saddle to minimize climb. This one is easy to aim for: I’m climbing up a gentle reentrant guiding me straight to the saddle, and a small patch of forest peaking over the ridge reassures that I’m heading to the right saddle.



From the saddle, I pick my route to drop through a gap in the forest. The gap is not “super” distinct, but I have no question that I’m going the right way because I can see the distinct spur on my right.

As I exit the gap in the woods, I look downhill to scope out the target location. All the vegetation makes sense, and I can see a subtle drainage passing through the meadow – this is the same drainage our checkpoint is placed in.



I run down to the drainage and let it lead me into the forest and toward the checkpoint. The forest has great visibility, but there is no checkpoint in sight... yet. But I’m certain that I’m in the correct drainage, so I press onward. Sure enough, the checkpoint is there, tucked below a small cliff. (Just like the clue sheet said)



Leg 8



A short quick leg, but with poor visibility (in the woods), complicated topography, and big penalties for mistake (steep slopes). I'm careful to orient my map in advance, identify my target spur before I start moving, and then just pick the path of least resistance through the woods.

Leg 9



This leg probably has the biggest “route choice” of the day. Do you go left, or right around the central hill?

In the end, there isn't a huge difference between the options. The key is committing to your choice, and executing fast. I choose the easterly route, which seems less likely to be obstructed by vegetation, and slightly less sidehill.



As I navigated around the central hill, I hugged the edge of the bushes (not wanting to gain any extra elevation).



As I contoured around the central hill, I could see the patch of trees where our control is placed from a good distance. Even better, I can pick out a “lone tree” that is slightly separated from the others (it's even accentuated because it's a distinct species). This is great, because it lets me know exactly how high I am on the slope when I enter the woods.

As I cut through the woods, I maintain elevation, even though the checkpoint is supposed to be a one contour lower. (My theory is that it's easier to drop down to a control, than climb up to it). This turned out to be a particularly good strategy because the control was placed a little bit higher than mapped.

Leg 10



A nice short leg, with great visibility. You can get into navigational trouble if you duck into those green woods at the wrong spot, but it's super fast if you find the right spot. So use that high vantage point to your advantage! (Besides the pond and vegetation boarders, you can also use the road junctions)



The downhill run is super steep. So steep that it's hard to run at full speed. The gently arcing path is useful for smoothing out the elevation drop and running faster.

Leg 11



Most of this leg is spent on the road, which makes it pretty easy. The trick is cutting off the road at the right time.

Part of this requires reading the contours. There are also ground features that can help.



This small ditch in the terrain is also marked on the map, and helps lead straight into the checkpoint.

Realize this checkpoint is over 100 meters off the road through tall grass. Track your distance and read the features carefully!

Contour features can be difficult to map accurately in places like this!

Leg 12



This short leg is a physical test. It's tempting to head out to the road and get out of this tall grass, but that would be a mistake.

The real question is, how fast can you move through the grassy hillsides, getting around the thistles and ridges?



The trick is, you can run a lot faster if you can read the contours and vegetation features from a distance, so you know exactly where you need to go.

Then pick a nice smooth line through the terrain.

Leg 13/Finish



Here it is, that fast finish we've been waiting for! Everything is visible on the road ahead! Nothing to do but stretch out your legs and punch the last checkpoint! Oh yeah, and have a snack at the finish to refuel for the next run!

