

## 2012 Badwater 135

The SHORT version is that I was one of ten who made up an exceptional medical team for the Badwater race this year. It's run over 135 very hot miles of exposed roads from Death Valley to Mt. Whitney portal. There were 100 extraordinary runners taking between 23-48 hours to finish the race. I helped some people and some people inspired and educated me. I can't keep it any shorter but will finish by saying it was other worldly...

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Please believe me when I say that any words or pictures that I put out cannot do this race, this event, this experience justice – buuuuuut I'm going to put it into the best words I can anyway...

If you're like most Californians, when you were a youngster you probably noticed that the distance between the lowest point in the western hemisphere is only about an inch away from the highest mountain in the lower US, right? Well it probably took a couple of adults eating pizza to notice it and one said, "Hey, I wonder if we could RUN that." After a few more beers, the conversation got serious when one of them said something like, "Heck yea we can run it but let's make it challenging so we'll run it in the middle of frickin JULY when every thing's hot as a match out there!" That bright idea was hatched in 1977 and has grown in various forms into the world class race that it is today through Adventure Corps, Inc. with 18 countries represented at the starting line.  
[www.Badwater.com](http://www.Badwater.com)

When I originally heard about the BW race, I thought, "Who in their right mind would want to do THAT?" The first turn off wasn't the 13,000' of elevation gain or that it was 135 miles (ok, I'm a bit twisted and thought it was "do-able") but the fact that it was 135 miles on PAVEMENT was darn near revolting. Next was the thought of being in DEATH VALLEY (DV) in JULY when the temps can reach 130<sup>o</sup>! Then I heard smart runners would run on the white line on the side of the road because it was COOLER and would not melt their shoes as fast as the black top would – are you KIDDING ME?!?!? I could wrap my head around running in head to toe, white, sun block clothing because it just made sense in a "survival" sort of way. I could also understand having a support crew following the entire race. But then there was the thought of the abject desolation on the left, right, front and back of me – HEY, where are the trees, rivers, hills and wildlife?!?!?

I was given the opportunity to be on the 2012 Badwater (BW) medical team again this year and I gobbled it up! 2009 was my first exposure and it left an incredible impression. I had enjoyed the thought of running mountain 100 milers like Western States, Leadville, Hard Rock, etc because I am partial to trees, rivers, hills and wildlife so much. The thought of running 100 miles on those beautiful trails was an enjoyable day dream.

In the winter of 2009 my friend, Dave Heckman, told me about the race as he had been on the medical team the year before. At first, I didn't hear anything new coming from him and that's when I realized that I had already made up my mind about the race without ever being there. I did a quick reboot of my attitude and began to listen. Have you ever heard someone tell you something but it's the look in their eyes that's doing the talking? I saw it there – in his eyes. It was magic. It was unworldly. It was special. It was that “look” that talked me into joining the medical team in the summer of 2009. I'd like to think that that look is what people see in my eyes when they mention BW.

Only a fraction of applications are accepted. To run the race, one must have proven their mettle in various 100 mile races and shown that they understand the rigors and nuances of distance running. It helps to have worked the BW event as well because there's just nothing quite like experiencing this area at this time of year. Out of all the applications received, there are only about 100 runners chosen to report to the starting line.

The race's medical director, Dr. Megan Dell, is an experienced runner and ER physician from New Mexico. She's held the position for a few years and it shows in the way she runs the team. In the winter of 2012, she began putting together a team of 10 skilled personnel to deal with medical issues runners would have that they could not manage during the race. I was honored to be a part of this group of MD's, PhD's, RN's and EMT-P's. Each of us brought our own unique experience to the table as some had run the race, crewed the race, been on the medical team or had experience working in DV for prolonged periods.

The month before the race, I received a phone call from my friend Allan Brodie. He told me that a friend of his that he had done his residency with years ago, Brad Zlontnick, was going to be at BW and asked if I'd like to meet him. The next week our families became acquainted over dinner. Brad is an avid cyclist, outdoor medicine doctor and ER physician in San Diego who had been a part of many bike races in DV including the 508 relay (yes, 508 miles in DV). We swapped stories about each of our races and what drew us to them again and again. When he would describe a part of a race, he had that same “look” in his eyes that Dave had! It's obvious. We parted ways looking forward to reuniting in another month.

I landed in Las Vegas on Sunday morning July 15, upgraded my car to midsize to accommodate Brad and his equipment and proceeded to the store where I picked up 2 coolers, ice and enough food for us to snack on for the next 4 days - the resealable jar of olives was a surprisingly popular item! While escaping Las Vegas, I heard an alert come out over the radio – you know, that obnoxious tone that is tested periodically. It was a flash flood alert! I hoped to get a glimpse of something so unique but no such luck!

A few hours later, I was in DV. I used to think of it as flat and uninviting – it's neither. The colors of the mountains are upstaged only by their geologic diversity. The fault lines, the alluvial fans, the iron vs. silicone, the size of the boulders, it's all quite dramatic if you just stop to see it. One of the most prominent features of the area obvious movement of rock over millions of years by water – yes, water. I would happily get to view this my entire time there.

I arrived at Furnace Creek (FC) around noon and immediately attended the pre race meeting for runners. As you can imagine, the energy level is quite high but it's also a bit subdued due to the severity of the 115° heat. After the meeting, our medical team headed to our rooms in FC. Brad and I were sharing a room there so we got settled in and I went for a swim! The pool was a nice, cool 90° and felt great. I didn't need a towel as the hot wind dried me off in under a minute!

Our medical team had dinner together and then we met to go over equipment and procedures we'd follow for the next couple days. We would work in teams and staff 3 major medical aid stations along the course: Furnace Creek (mile 17), Stovepipe Wells (mile 42) and Lone Pine (mile 122). We'd also have team members travelling the course and one mobile ambulance centrally located with the largest group of runners in mind. One of the most valuable pieces of equipment we had was an istat monitor that measures sodium concentration in the blood. As runners sweat, they lose electrolytes with sodium being the main one lost. This monitor would give us an indication of how aggressive we needed to be with sodium replacement in an affected runner. Due to the amount of research he's done with them, Jeff Lynn, professor at Slippery Rock (no, not the beer), was the king bee with these monitors. He's still working on my brain to help it understand the intricacies of sodium balance. It's a work in progress.

We ended somewhere around 9 o'clock and retreated back to our rooms but I had one more thing to do before getting some sleep: I put on my suit and walked down to the pool. It was 110° out and 90° in and it felt GREAT just to feel the "cool" water surround me. As I watched the lightning in the surrounding hills, the hot wind dried me off on the way back to my room. This wind was a bit of an omen of things to come the next day.

My alarm went off at 0430. Brad and I each had a Boost (high calorie drink that holds me over until I can get real food later) as we drove to the starting line at Badwater with a mobile radio, trauma bag and my foot care kit. At 280' below sea level, this is the lowest place in the western hemisphere. The road is tucked next to a row of mountains on the west side of a valley with Telescope Peak 11,000'+ higher on the opposite side. The change is dramatic but even more impressive was when Brad told me that the valley floor we were on was 9000' of sediment! So if we removed it all, Telescope peak would be at 20,000'!!! I had a new respect for this area as I imagined what was in those layers of sediment!

Of the 100 runners entered in the race, half had run it before. Each runner must have at least 1 mini van with at least 2 crew members to follow him the entire race. This van carries all the water, food, clothing and other supplies the runner will need to finish the race w/in the 48 hour time limit. If a medical problem arose that the crew could not handle, they would pound a 3' wooden stake into the ground with the runner's number on it, toss the runner into the back of the van and drive to our nearest location. When ready to go back, the runner would be driven back out to that wooden stake, pull it up and start running again. So imagine 100 runners AND mini vans taking off all at once and you'll understand why Race Director Chris Kostman splits the runners into 3 separate waves: 0600, 0800 & 1000.

As the runners arrive at the starting line each one is responsible to come to our post where they get on the scale to be weighed. We then write this weight on their bib number for further reference. If they come to us with a medical problem later in the race, we can compare their current weight to their starting weight. The loss or gain helps us to determine treatment modalities. Of course you must have at least ONE knucklehead in the group (my hand's raised) who secretly steps on the back of the scale to momentarily add 30lbs to the runner's weight. The look of surprise was priceless!

Each wave of runners goes through the same routine and shows the same excitement. They gather at the starting line, warm together yet coldly alone. With their crews off to the side of the road anxiously waiting for the next phase of their journey, there's a sharp edge in the air. Remember, these people did not just pay a fee to run this race. This race is YEARS in the making. Each had to run other 100 mile events, put together a crew, gather/rent equipment, heat train, buy sun protective clothing, arrange flights and hotels, and make sure their life insurance policies were paid up! Getting to the start of this race is arguably THE most time consuming and expensive race of their lives. The national anthem is played, the intense 10 second countdown ends and they're OFF! You won't see any sprinting at this race. None.

On the way back to FC, Eric (one of our EMT's from the San Diego FD who has run the race before) noticed "Tex" running wearing nothing but shorts and shoes. He stopped and asked if he had any other clothing to wear to protect him from the extreme heat he was about to experience. Tex responded that he was a landscape contractor and was accustomed to working all day long in the high temps of his Texas homeland. Being an understanding soul, Eric empathized but also gently reminded him that, "This isn't Texas." Tex was confident in his "heat training" and responded that he had other clothing in case it was needed down the road. Eric smiled and said, "OK, see ya later," and we did... but that comes later.

Back at FC (mile 17), we had a team waiting to help anybody that needed it but these athletes are tuned up and dialed in so there were zero issues at this point. So with the runners gone, what does a medical team member do after the last wave of starts? Brad and I went to the pool for another dip and talked about our plan for the day and the effects of ibuprophen on healing - or the lack of healing. It was a lesson for me that I'm still trying to wrap my head around but hey, being in the pool was a great place for a class! Brad's medical and distance cycling background made for a great combination. I appreciate both book AND real life knowledge being put together in one lesson.

We left Furnace Creek a bit after noon in 115° weather accompanied by a 10 mph breeze and we drove the flat 27 miles to Stovepipe Wells. Along the way, checked on crew members to be sure they were dialed in on what to do in the case of an emergency. Plus they felt a bit of reassurance knowing medical and race officials were on the course if they encountered any problems. I made a point to remind them to have riddles and jokes ready for the early morning doldrums that runners experience.

It may have been warmer at some point but the highest temperature I saw during the race was 117°. The wind probably topped out at 15 mph during the day but bumped up a bit at night. This combination made for some interesting conditions.

BTW, care to guess the age of the oldest runner at Badwater? It's coming...

I pulled off on the side of the road behind a van, I grabbed a small orange, peeled it, ate half and held the other half in my hand as I walked to talk with the crew. We chatted for 3 minutes about this and that, laughed a bit and bid our fare wells. As I returned to the car, I took a bite of the orange and noticed that the outside skin had crusted over from drying out! All it took was 3 minutes outside and it was even IN MY HAND but the wind and heat removed its moisture like a dehydrator. The combination of a hard, crusty skin and juicy warm orange was not only a surprise but actually tasted good! It gave me a clue as to how the runners were feeling running in this convection oven called Death Valley.

We were a bit late to the scene but heard over the mobile radio one of the crew members had experienced a syncopal episode (lost consciousness) and drove off the road around mile 28. Fortunately, it was on the flats, there were no runners around and he regained consciousness. He ended up being transported via ambulance to a local hospital. It could have been A LOT worse had a runner been around or at later in the course where the road has dramatic 1000' drop offs on either side.

This part of the course is relatively flat. As we approached Stovepipe Wells (SW - mile 42) later in the afternoon, we could see a bit of a sand storm off in the distance. As we got closer, we observed it had taken the shape of an 80' funnel cloud. The winds had picked up and were blowing sand across the road making it more difficult for the runners. Fortunately, it was a fairly short section they had to run through but it was just one more undertaking to deal with.

I've always imagined reaching SW as a bit of an accomplishment. It's only ¼ of the way through the race and it's pretty flat running to get there but for many it's also getting near the end of their first hot day. Our medical team set up an "oasis" in an air conditioned room with 10 cots. We ended up with about a dozen or so runners and/or crew coming in for treatments. As they walk in we usher them to the scale right away so we can find out how their weight's changed. Most of the runners we saw were dehydrated and/or low on sodium. Getting back to normal is usually NOT a quick task so we would encourage them to rest and relax while their body recovered. Many needed a high sodium fluid replacement drink to recover and others just needed to eat and wait until their body metabolism crept closer to normal. Fortunately, I didn't notice anybody with rhabdomyolysis this year. "Rhabdo" is a potentially deadly condition where excessive byproducts of muscle breakdown clog up and reduce kidney function causing urine to be the color of cola.

There's a fine line to tread when pushing a body to its limits. On one side is the need of a massive blood supply to the muscles to function. On the other is the need of a massive blood supply to cool the body and enable digestion. Both sides need to function well to perform well. Not enough blood to either side and there's a price to pay. We saw a few runners who had crossed that line. They came in feeling low on energy, exhausted and nauseous. When eating and/or drinking is followed by vomiting, treatment is often a simple matter of rest and rehydration so the runner's body can reboot itself. Sometimes it's 30 minutes and other times it's hours. Throughout the runners stay, the medical team monitors vital signs, ability to eat and the runner's attitude to determine the proper time to return him/her back out to the race.

This is where we saw our friend Tex again – the guy running with no shirt. He came in under his own power but very weak. After being weighed, he lay down for a couple hours and during that time, drank plenty of water with electrolytes. Sure enough, he felt better and as he left, with his long sleeve shirt on, he thanked us. We didn't feel the need to remind him to keep that shirt on!

I am forever grateful to both John Vonhof ("Fixing Your Feet" author) and Denise Jones for sharing their foot care expertise with me over the years. Their taping techniques are equal parts function AND art. They had a couple people come in with foot issues (hot spots and blisters) and dealt with them in short order. Running on the hot pavement can melt the bottoms of shoes so runners often try to run on the white line. Still, the heat wreaks havoc on the bottoms of feet so John and Denise did their magic to help the feet withstand another 90 miles of abuse!

The course from SW has 3 dramatic changes for the runners one right after the other:

- 16 mile climb 5,000' UP to Townes Pass
- 10 mile descent 4000' DOWN to Panamint
- 11 mile climb 4000' UP to Darwin

The good news is that for many of the runners, the sun's going down and the temperature begins to drop below 100 for the first time in their race. Getting out of the car to talk with people, I was hit by the dramatic temperature change. At night, I was chilled with the 60°s. While it makes for good running conditions, it reminded me of the 50° swing these runners would get to experience. Another bit of uniqueness was the rain that came through a couple days prior. There was enough to cause some flooding on the roadway that left dirt and sand. With all of the heat and parched rock, it was a challenge to imagine so much rain in such a dry place.

As we drove the sometimes winding but always windy, curvy road in the dark, I could see lights thousands of feet down in the valley below giving me a perspective of our elevation. Many runners were walking the uphill sections but some were running and running fairly well considering the distance they had covered. This year the wind was especially strong through the hills but with the sun asleep, many seemed to be refreshed and invigorated.

Brad and I stopped to check in with more crew and remind them that if they needed medical assistance, the nearest medical checkpoint was BACK at SW (mile 42) or an ambulance at Darwin (mile 90). With the onset of darkness, each runner and crew was required to wear a reflective vest with flashing LEDs for safety. This, along with brake lights made for a spectacular row of lights in some straight sections. All runners were looking good!

BTW, care to guess how many runners were over 50 years old? It's coming...

I stopped at Panamint Springs (mile 72) to fill up on gas (\$5.49 a gallon). This is a just a one stop shop on the way to Lone Pine but the people were gregarious. I was approached and asked if I would look at a runners feet. Not one to refuse care, I pulled out my foot care kit and took a look. For someone that had just run 72 miles on hot pavement, they looked great except for one bothersome, 1" blister. I took care of business and she was on her way off into the darkness. I saw her at the post race lunch and found out that she finished the race.

The section between Darwin (mile 90) and Lone Pine (mile 122) was quiet. During this 30 miles of gentle downhill running, the stars were ablaze and the moon silent in the dark sky. In the distance, I could see the rocky the Alabama Hills sitting beneath the silhouette of the eastern Sierra and Mt. Whitney. We passed by bone dry Owens Lake. I learned that this lake was drained back in the day to supply water for a growing Los Angeles. At the end of this descent is Lone Pine (LP) – 12 miles from the finish line.

I really, really like this town! The people were friendly, the area has its own beauty and the food was great! When we arrived, Alene and Meghan had already set up our medical station. Alene, an RN from Colorado, is a studette! Not only has she run the race a few times but last year she completed a DOUBLE Badwater! That's right. When she finished the first time, she took a break and ran back to the starting line for a total of 270 miles! As she would offer suggestions to weary patients, I'd butt in and say, "Listen to this one! She ran a DOUBLE Badwater last year!" Then her words, if not already, were golden.

I've lost track of some of the time frames at this location but at some point but Brad and I hopped back in the car and proceeded to climb the 12 miles and 4700' to the finish line at Mt. Whitney Portal (8360'). This was another very geologically unique area. The Alabama Hills were big, weather rounded rocks that looked like they were transported and dumped while the Sierra were created right where they stood. But each felt long and exposed to the hot sun just like every other part of this race. Our climb was along the side of these majestic mountains with a long drop or high climb on either side.

This year's winner, Mike Morton (Florida), finished in 22:52, just a couple minutes off of the record. The first woman, Sumie Inagaki (Japan) finished in 29:53 (4 minutes before a strong Dean Karnazes). Brad and I arrived at the finish line shortly after the 3<sup>rd</sup> place finisher. If you've ever been to the finish line of an ultra marathon, you know it can be an emotional place. If you've been to the finish of a tough 100 miler, you may have seen even MORE emotion. Being at the finish line for Badwater is emotion on steroids! Each runner comes around the final turn about 200 yards away bringing their entire crew on both sides all the way through the finisher's ribbon. Smiles, cheers, whistles, tears, shouts, cries, it's all there and it spares nobody!!!

There were many memorable finishes. One of the more memorable ones was Art Webb (Santa Rosa). This is NOT a typo: at 70 years young, Art finished his 14<sup>th</sup> Badwater in 29<sup>th</sup> place at 33:45! He also reached the 100 mile point in under 24 hours! HELLO!!! As he was receiving his award, the RD asked his sweet wife (who also crewed Art) if they'd be back next year. Her answer was short, emphatic and to the point, "NO." I guess 14's a good number to stop at besides, who needs 15 finisher buckles?!?!?

EVERYBODY that finished was to be congratulated and the complete list is on the Badwater website. A couple notable finishers were:

- \* Cheryl Zwarkowski @ 47:08. She's running a TRIPLE Badwater (405 miles)
- \* Dan Marinsik @ 42:42. He's running a DOUBLE Badwater (270 miles)
- \* Keith Straw (tutu man) @ 40:05. He just finished WS100

And then there's always an overachiever (I'm smiling) in the group and that award must go to Marshall Ulrich who finished in 41:55. Not a super fast time you say? Right, it's not but Marshall was just warming up. He and Dave Heckman (see 5<sup>th</sup> paragraph) have been going around DV (literally) for the past couple months caching supplies for their self supported, circumnavigation around DV. 100% of their supplies have been buried along their self plotted course that will take them approximately 500 miles in 18 days. Now THAT's a big loop! Thank you Marshall and Dave for raising the bar yet again!

Finish tidbits:

- \* The final finisher came through in 47:08
- \* 93% of the entrants finished the race
- \* 32% of the entrants were over 50 years old
- \* 6% of the entrants were over 60 years old
- \* The youngest runner was 23 years old

A post race lunch was held Wednesday at noon after all runners and crew had a chance to shower and relax a bit. The vast majority of runners attended and the vast majority of them were walking very well with a few making slow forward progress. The RD announced each runner's time and had each come to the front. While eating pizza and salad, the camaraderie was incredible – just what you'd expect after a race such as this. Email, phone numbers, and Facebook IDs were exchanged while pictures were being snapped for future reference. There were equal amounts of laughter and serious talk... well ... probably more laughter and joy especially when the topic of "next year" came around.

The bittersweet end came and it was time to leave. It had been a long 4 day adventure for runners and crew. There were jobs, families and a bit of reality to return to back home and "home" was all around the world for these people. I think the only continent NOT represented was Antarctica!

Me? As I sat in my car about to drive back to Las Vegas, I started my reflection. I brought some foot care, first aid, encouragement, advice, humor, perspective and understanding to crew and runners. "Inspiration" is a good word to describe what I was given. I was honored to be a part of a very strong team that helped runners achieve such a lofty goal. Both groups were awesome.

I filled up with gas in Lone Pine and drove the course back to the start with the windows down and A/C off. I was able to get a different view and see some of the areas that I had driven through in the dark. There were some long, straight roads that went on forever. The climbs up to Darwin and Townes Pass that were hidden at night were very oppressive during the daylight hours. As I was about 10 miles from Furnace Creek, I saw 2 guys running on the side of the road. I wondered if they were doing a Double BW and asked if they needed anything. They responded by saying one of their wives had dropped them off so they could get a little run in. I hope they made it as when I arrived at Furnace Creek, the thermometer said 135° but I think it was broken ... or had I become acclimated?!?!?

So WHO in their right mind wouldn't want to run this race? If you're reading this, you know one person. Will I run it? Mmmmmmm, probably not... or maybe I will. Time will tell but even though it's missing trees, rivers and wildlife, the spirit that is Badwater makes it my absolute favorite race out there.

Best wishes to all.

(~: George