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EXPLORING DEATH VALLEY

March 10 - 15, 2014

Trip Report



Guide: Greg Smith with participants Chick, Karen, Penny, Mary & Miranda

Monday, March 10 – Arrivals & Death Valley

Everyone had arrived the night before, so it allowed us to head out by noon. We stopped and got a quick bite to eat before leaving the west side of Las Vegas for Red Rock National Conservation Area.

Red Rock is a sculptural wonderland of red and white Aztec sandstone with a backdrop of aging, gray limestone. It was warm enough for desert tortoise at the visitor center to be out grazing. Only the



slightest of breezes as everyone got an education on the Mojave Desert and all that it holds. We did get closer to those rocks as we did the thirteen-mile loop drive. Absolutely stunning weather...

We had a two-hour drive down into Death Valley where all we had learned at the National Conservation Area opened up in front of us. Stunning silhouettes of the basin and range

phenomenon greeted us as we dropped lower and lower in elevation. Finally we dropped so low in elevation we found ourselves in Badwater, the lowest spot in North America at -282 feet.

After checking into Furnace Creek Ranch we enjoyed our welcome dinner...

Tuesday, March 11 – Wildflowers, Wildrose, Aguerberry, Salt Creek & 20 Mule Team Drive

Today we headed up to the high country of the Panamint Mountains on the west side of Death Valley. Driving up from Stovepipe Wells, we climbed a huge bajada that runs at least fifteen miles up towards the summit. But we turned off towards Wildrose prior to getting to the top, and it was here that we found a patch of wildflowers. Mostly *Cammissonia* and *Phacelia*, but there were others in smaller numbers, but nice to find some spring color.

We made our way up to Wildrose where we spent some time exploring the charcoal kilns. Designed by Swiss architects and built by Chinese laborers, the kilns were in remarkable condition. This was mostly due to their short three-year use and then their subsequent restoration in the 1970's. To create the charcoal, the surrounding hills had been stripped of juniper and pinyon pine, all to feed a silver smelting location miles away in the 1800's.

Next we headed to Ageureberry Point where we sat with a pair of ravens and ate our lunch. The ravens were interested in our sandwiches and we were interested in the view. It was a view that stretched the length of Death Valley, from Furnace



Creek south to Ashford Mills. A spectacular day with just enough puffy cumulus clouds to define an azure-blue sky that went on forever. No wonder the ravens hung out here...

Pete Ageureberry made his money in gold from his Eureka Mine that we passed on the way out. His tiny residence compound still exists on the west side of the mine and you just had to wonder what it was like mining in those days on your own.

Temperatures at this elevation were in the low 60's so it was without much hesitation we headed downhill to Salt Creek, home of the Salt Creek pupfish. This relict population from the Pleistocene is one of ten different species that are found in the deserts of California. Although the males do have a pale blue tail area (lightest blue of the ten species), the females found this just fine, as there was a whole lot of mating going on in the creek!

We had just enough time to take the 20 Mule Team Drive in the late afternoon light, perfect for lighting up these mud hills. The hills were created from silt and volcanic ash that had settled to the bottom of different Death Valley lakes and then uplifted to create this golden array of fingered ridges. They just absolutely glow in the early evening sun.



After that experience we headed back to our lodging and a break until tomorrow's adventures.

Wednesday, March 12 - *Borax Works, Mesquite Dunes, Mosaic Canyon, Dante's View, Zabriskie & Artist*

We started with a visit to the Harmony Borax Works. Given that borax precipitates out at temps around 120-degrees, it wasn't possible to harvest this mineral during the summer months. This, combined with other local borax companies starting up made for a short-lived enterprise. What was before us in these ruins had lasted all of five years. It is hard to imagine the life of Chinese immigrants working on the dry lakebed harvesting the raw mineral, and then processing the borax to make crystals. Sacks were then loaded into those huge wagons with seven-foot wheels and hauled by twenty mule teams to train stations miles away. Hard living...

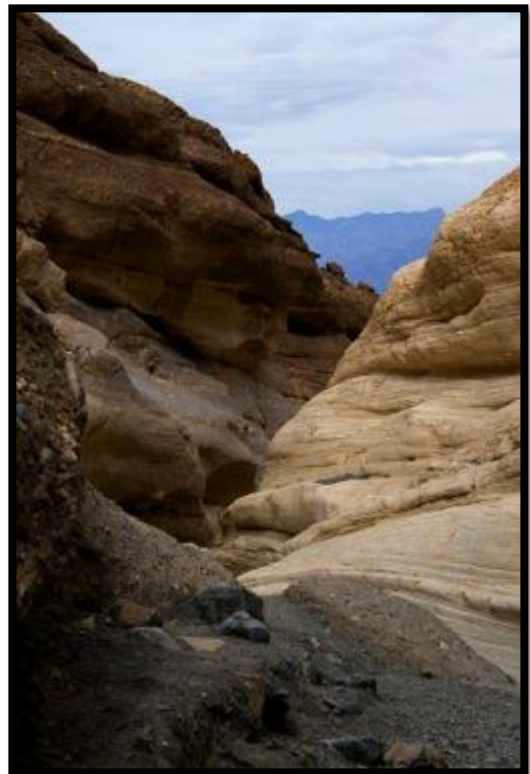


The dunes are always an amazement, but even more so when there is no wind. Silent stories of nighttime drama were relived as we walked over the rippled sands. Tales of kangaroo rats, beetles and Common Ravens were spelled out for us as we interpreted telltale tracks. Slipfaces of some of the larger dunes were smooth, not at all like the opposite side of the dune that shared consistent ripples. We walked the edge between the two and stared out at the sensual curves of dune after dune after dune. They really are a magical place, especially when all is quiet...

Mosaic Canyon is a lesson in how erosion forms landscapes, both temporary and somewhat permanent. From the parking area you look up at the fault that shows horizontal quartzite (metamorphic) to the north and sloped slabs of dolomite (sedimentary) to the south. They erode at different rates and further up the canyon you discover where the material starts its journey.

As we moved up the canyon there are slabs of polished dolomite that anyone would love to have on their kitchen counter. Eons of relentless pounding by water and rocks have smoothed the surface of these slabs. But mixed in with these slabs are sections of concrete, concrete formed with the calcium carbonate and lime found up canyon. Some of this concrete has pea-sized gravel, while other have chunks of angled breccia. But the one thing they have in common is that they are cemented in place.

But when you look on top of this series of layers there is unconsolidated material. It looks just like the lower level concrete, but hasn't had enough moisture to cement the particles together. It is these upper layers that act like waves on the ocean shore. Flowing our and down canyon with a heavy rain and accumulating with gentle rains. And with the rains we learned that rocks sort themselves out to size, whereas mudflows have mixed sizes of materials. A lesson on erosion that helped us all understand those huge alluvial fans we saw across the park.



Dante's View, perched at over 5300' gives you the eastside perspective of Death Valley, just a little further south of Augeureberry Point. Another clear day that allowed us to see points north and south that we had or were going to visit. But it was windy up there, unlike what we left on the valley floor.

Usually with weather like this we would see Turkey Vultures or some hawk species blasting by, but not today.



Back down that 23-mile drive until we came to Zabriskie Point. As we climbed the hill those golden hills of Twenty Mule Team Drive came back into view. Only this time they provided the look of abstract fingers reaching towards Zabriskie. To the south, those golden fingers were wearing brown leather gloves, a layer of chocolate brown. The lighting was superb in the late afternoon, which meant it was time to head to Artist Drive.

What an amazing collision of swirls greeted us as we climbed the first hill. Chocolate fudge swirl, strawberry swirl, caramel swirl and others all seemed to melt together as we stared, the sun beating at our back. And this was just the first mile.

Those ice cream-looking mountains had an almost full moon staring, peeking over the top as we headed towards Artist's Palette. And here the sun made sure the chondrite-colored green hills jumped out at us. Mix that with shades of brown, peach, white, purple and cream and it really does take on the hues and saturations of an artist's paint palette. Just stunning...

Thursday, March 13 – *Racetrack Playa, Scotty's Castle & Ubehebe Crater*

It is a twenty-seven mile gravel road drive to Racetrack Playa, and that is once you get to Ubehebe Crater. We wanted to get there in the morning so that any photographs would use shadows to highlight the trails. The morning light was stunning on snow-capped Ubehebe Peak and silhouetted the Joshua tree woodland. But we would stop and explore areas adjacent to the road on the way out.



We arrived at the playa and headed to the south end where most of the sailing rocks were found. It didn't take us long find a number of these sailers, so we started taking pictures and trying to imagine how or when these rocks last moved. The theory on their movements suggests that after a rain and minor flooding of the playa (playas are noted as the flattest surfaces in the world), the fine clay/silt precipitates out of the water leaving a very viscous, moist surface. Under the right conditions, wind gusts up to 90mph are capable of pushing the rocks over this slick surface. And once they get going, it only takes have the initial force to keep the rocks sailing. What a treat to visit this remote section of the park.

We headed back towards Ubehebe Crater, stopping to take pictures of the more contorted Joshua trees, of Teakettle Junction and some of the more striking rock formations. This really is a stunning drive and we were in no hurry for our gravel road adventure to end...

We were hungry and there were picnic tables up at Scotty's Castle we could use for lunch. So after getting cleaned up, we sat down for our box lunch and enjoyed the large cottonwood and palm trees. We took some time to explore the outside of that shuckster Scotty's home and realized he had the foresight and practicality to utilize the water flow from the spring to generate electricity and then store it in batteries. He also had a sophisticated solar water heater and really didn't need outside resources to live comfortably on the shoulder of Death Valley.



It was a short fifteen-minute drive back over to the craters, even with the road construction. Ubehebe Crater and Little Ubehebe Crater were created by a steam explosion (aka maars) about two thousand years ago. A groundwater source came in contact with magma and the combination of the two created enough steam to force an eruption. In some areas around the crater lava spatter is one hundred- fifty feet deep covering adjacent sedimentary mud rock. This is the same orange mud rock we saw exposed on the eastern wall of Ubehebe. On the edge

of the crater the wind would swirl in from different directions, probably because of the shape of that big bowl in front of us...

It was an hour drive back to our lodging, so we loaded up and headed south. It was time for dinner...

Friday, March 14 – *Westside & Greenvalley Roads, Museums & Farewell Dinner*



This was our morning for driving down the famous Titus Canyon, an exceptional ride through a storybook of different types of geologic forms. It is a narrow, single-lane track that passes mountains of green and red and purple, so close that our vehicle would have looked like a Matchbox. The views of Death Valley from up above looking south, would've been stunning. And at the end of the drive the route is lined with limestone walls towering almost two hundred feet over our heads. Dolomite breccia squeezed into limestone mudflows that have hardened into rock lined the walls looking like the latest in

wallpaper. And then you burst from the dark into the wide and open light of Death Valley, wondering what had just happened. It really is the quintessential drive for this park, but the only problem is the road had washed out with last weekend's rain and we didn't get to experience all of the above.

We did take two different roads (Westside and Greenvalley Roads) in lieu of Titus, but there really isn't any comparison. We did take the afternoon to explore the museums at the Ranch and then headed over to the Furnace Creek Inn for our farewell dinner. A sumptuous meal filled with laughter as we shared stories of our exploration of Death Valley...



Saturday, March 15 – *Departures*

First flight out was for anyone wasn't out until 1:45 so that gave an easy departure time of 8:30. We took the south route out hoping to see desert bighorn sheep at Mormon Point. This is a location where ewes would regularly come to lamb. But we didn't see any this year, maybe because of the drought. Death Valley had only had four inches of rain over the last three years, and this was probably taking a toll on wildlife in general. We had noticed it at the dunes where tracks in the sand were minimal compared to years past, and now with no sightings of bighorn sheep, it looked like it was taking a toll on them too. We discussed how one good year of rain could turn things around for these desert-adapted species, and hoped it was going to happen in the upcoming winter.

We made it to the airport at the agreed upon time...