

## WRI- Family Activity

This weekend was our Ward Fathers and Sons Campout (sometimes called Priesthood Commemoration by LDS Leaders). Our Ward went to Oak Grove this year. After the church activity ends, my boys and I have a tradition of going on a hike by ourselves near the area where we camped. We chose to hike the Oak Grove Trail which starts at the Oak Grove Campground and climbs 3000 feet to the Pine Valley Mountain Summit Trail.

If you have never been to Oak Grove you are really missing out. It is a beautiful, serene place and a great get away during the hot summer months. To get there from St. George you first go to Leeds. After passing through town you turn left under the freeway and go west through Silver Reef and then onto a dirt road that climbs to the base of Pine Valley Mountain. From town it is about a 45 minute drive. Fifteen minutes to Leeds on the freeway, then 30 minutes on an improved dirt road up to the trailhead and campground.

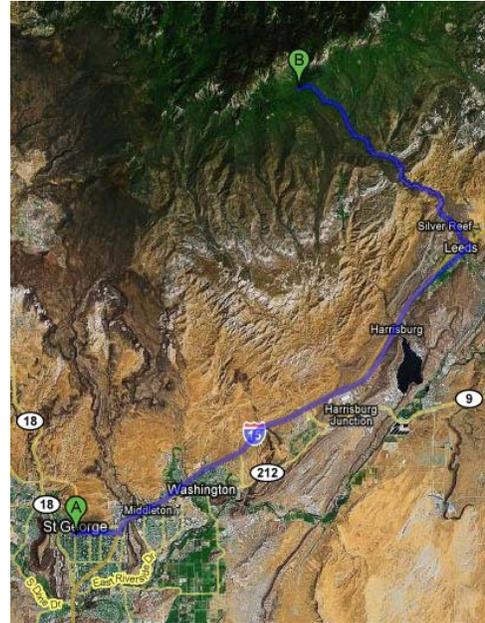


Figure 1 Path from St. George to Oak Grove



Figure 2 Oak Grove Trailhead

The trailhead is at about 6500 feet above sea level. Because it sits at the base of Pine Valley Mountain, it receives cool mountain breezes that make it much cooler than St. George. We highly recommend the area from late spring to mid-summer. Late summer can be dangerous because of the many fires in the area during the monsoon season. Winter of course is very snowy and the road up to the campground is usually impassible.

On our activity today, we intended to follow the trail straight up the mountain and just hike until our breakfast ran out, or in other words when we started getting hungry again (we only carried water with us). Then, we planned on just tumbling back down the hill in time for lunch. Awesome views of St. George and Zion were our goal.

Somewhere we took a wrong turn, though, and we ended up just following an old pack trail that circumscribes the base of Pine Valley Mountain. We hiked out about a mile and a half before turning back- making it about a three mile hike round trip. It was so beautiful and tranquil. I have to admit that I am glad we missed our goal. This was just the hike I needed. Actually, it wasn't until I got back home and started looking at my maps of the area that I realized we had taken the wrong trail. I kept expecting the hike to turn up the mountain at every bend.

The trail we took, which is labeled as the “wilderness boundary” on the trailhead map, was very leisurely and so, so beautiful. It took us along the base of Pine Valley Mountain, around and over a series of rolling hills, varying in elevation between 6500 and 7000 feet above sea level. The hills are spotted with large pine trees, and covered with oak trees, scrub oak bushes and small



Figure 3 Meadow of Mountain Flowers

maple trees. The trail passes through a number of meadows of beautiful mountain flowers. The path is also strewn with occasional large boulders to climb on and regularly outlets to view areas with incredible vistas in all directions. All in all it was a wonderland of beauty and peace. It truly filled my soul.



Figure 4 Large Boulders Along Trail

If you ask the kids what they liked most they will probably say it was “King’s Perch” and “The Dragon’s Lair”. About a mile out, the trail crosses a small, very cold mountain stream. As it was a beautiful, sunny day this was a very refreshing spot for a break. We all dipped our hats into the stream and wetted our hair and necks. Just beyond the stream there is a hearty pine grove with many places to rest and enjoy the forest. It was in this wooded hillside, just beyond

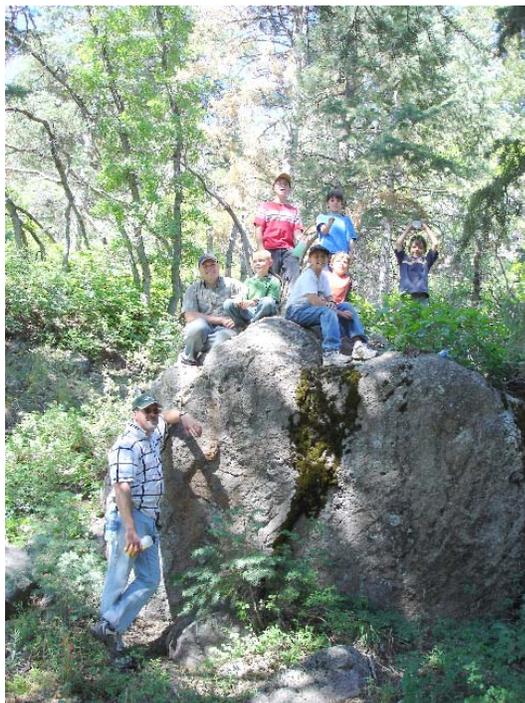


Figure 5 King’s Perch

the stream, that we encountered the two sites we named “King’s Perch” and “The Dragon’s Lair”. King’s Perch is a large quartz monzonite boulder that probably rolled down from Pine Valley Mountain long ago (most of Pine Valley Mountain batholith is quartz monzonite; the differences between quartz monzonite and granite are very subtle and mostly have to do with mineral content and grain size; the insert on the next page gives a very basic overview of igneous rocks for those who are interested). From the front, King’s Perch is a large, ten foot shear wall. Sitting below it and gazing up at your kids it is quite ominous (the picture does not do it justice, this was truly an great chunk of rock). From the uphill side, the boulder is very easy to mount, as the hill has built up against it. The vertical moss stripe down the face, and another on the left side, appear to have grown where rainwater which has gathered on top of the boulder trickles down the face. A number of concave pits on top of the boulder make very comfortable seats for resting or even lying down for a short nap.

The Dragon's Lair is a large craggy old tree that has fallen near the path. Its great size and the many large branches sticking off in every direction gave it an ancient feel and made it look like an old skeleton or eerie cave entrance. The kids said it looked like a dragon's lair and they wanted to give it that official name, so we did. The Dragon's Lair immediately became a place of adventure, and then a jungle gym. The kids played underneath it some, and then began balancing along the trunk. If it had just been our family we probably would have made up a Medieval adventure and gone about with our trusty steed and swords, slaying dragons and saving the princess (Marianne always plays this role). But as this was a father and sons activity we will have to save our adventure for a future day when we can go back with the whole family.



Figure 6 The Dragon's Lair

The best part of the hike for me was probably the mountain foliage. I am getting so excited to start learning the names and other information about the local plants of the area. There were so many different types of beautiful flowers, many that filled huge meadows along the trail, that were just so beautiful that you had to stop and take a closer look at them and enjoy their beauty and simple shapes and complex structures (some flowers were surprising; I think I found a wild relative of the Dandelion and in one area I found a patch of wild Morning Glories; it was nice to see them in the wild, instead of in my lawn). Similarly, it was fun to see the many patches of oak and maple trees along the way. Though they are small and perhaps uninspiring compared to their famous eastern



Figure 7 Unknown Flower

### Overview of Igneous Rocks

Igneous rocks fall into two general categories: Intrusive and Extrusive. Both begin deep within the earth as molten rock. Intrusive rocks cool, and therefore lithify or turn to rock, below the surface. Extrusive rocks cool above the surface. Volcanoes are probably our best known source of extrusive rocks, ejecting plumes and lava flows which create the familiar cinder cones, basalt, ash, and pumice. Great batholiths like Yosemite's Half Dome are probably the best known intrusive rocks.

Intrusive and extrusive rocks are then further classified according to mineral content and grain size. The percentage of varying minerals in a rock will determine a rock's color. Grain size will affect the rock's texture. The table below shows the relative proportions of different minerals in the basic types of igneous rock.

These nine basic types of igneous rock shown below are as in depth as most introductory college classes will go. If you really get into geology, however, you will eventually want to learn the finer details such as when a rock is granite, and when it is quartz monzonite. But we will save those for another day.

#### classification of igneous rocks

	granite	grano-diorite	diorite	gabbro	peridotite
intrusive	granite	grano-diorite	diorite	gabbro	peridotite
extrusive	rhyolite	dacite	andesite	basalt	-
relative proportion of minerals	quartz d=2.4 potash feldspar	plagioclase feldspar	plagioclase feldspar	plagioclase feldspar	olivine d=3.4
		biotite amphibole	pyroxene		

counterparts, yet, to see these same types of trees growing in this barren land of ours and thriving, at least in quantity, just causes me to wonder. I want to learn about it all and learn about how they are the same as their eastern varieties and how they are different. I want to learn about the distribution of the different types, and their evolutionary history, and how they got here. As you take the time to look around and really notice the vegetation, it is amazing how many different varieties of plants there are. There are hundreds of incredible species right here in our own backyards, and each has an exciting history and life cycle waiting to be discovered. Between a good library, and some regular trips into this beautiful land we have been given, there is an unending series of Nature and Discovery programs just for us. And the best part is that in addition to staying fit (physically and mentally), one is constantly inspired, uplifted, and energized during the process. I would take it ten hours to one over TV or movie watching, but that's just me.



**Figure 8 Thick Oak Foliage Along Trail**

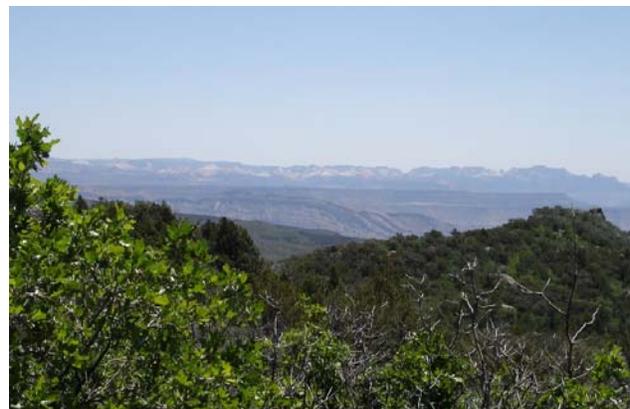


**Figure 9 View of Pine Valley Mountain**

The other thing I loved was the views along the foothills. Normally, those who know me would think my favorite part was looking up at the towering spires and considering their geologic history or looking out over the valley with my binoculars and trying to see another story in the topography of the Virgin Basin and its complex geologic history; but such was not the case today. Today I was spellbound looking along the base of the hill at its unchanged shape and form. In studying the history of the West, it is rare to find a spot of ground that has not been completely deformed and broken apart many times over the past 4000 years since The Flood (the last 245 million years for you geologists that are trying to follow along). This land has been bent,

overturned, exploded, ripped apart and flooded so many times in its history that it has basically been a new land for each new culture that spread across it.

This is one spot, the east facing foothills of Pine Valley Mountain, where you can sit and gaze into the ages. In this location, the late Jaredites, the Pre-Christ Nephites, and the



**Figure 10 View Eastward of Hurricane Cliff & Zion**

Nephites of Mormon's day all saw the same land that we can sit and gaze upon today. Ravines are a little deeper and annual precipitation rates have changed in this area a little over the ages, but for the most part the land now is very similar to what they would have seen then. For at least the last 3000 years (or almost 20 million years by geologists), this particular area has looked much the same. This cannot be said of many places, and just looking at it and remembering the people that have lived here and hiked these same hills, and allowing the landscape to speak to you and tell you its story, is a deeply spiritual experience.

Well, I hope you can all get the chance to walk these trails, and if you are lucky, you will miss your turnoff like we did, and you will be able to see these places and taste of the Creator's love. Well, I hope I haven't waxed too romantic for you. We'll see you around. Chio.



**Figure 11 The Ancient Foothills of Pine Valley Mountain (looking north- Oak Grove is on the other side of the first ridge)**