

CLAYTON PEAK, UTAH: ONE OF NATURE'S  
STOREHOUSES OF MINERALS

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Clayton Peak, one of the highest summits of the western crest of the Wasatch range, is midway between Park City, one of the famous silver-lead camps of the country, and Alta, another mining camp, situated at the head of Little Cottonwood Canyon.

The Peak is composed of quartz-diorite, and the contact minerals adjacent to this mass are very interesting to the mineralogist. The writer has had occasion to visit these points twice in the last two years, once going by way of Park City, which is about six miles northeast of the peak, and the other time by the Cottonwood route, via Alta. On both trips minerals were collected from the limestones on the north and south sides, and also from the quartzites on the east in the vicinity of Park City, and in the underground workings of both camps.

The minerals collected were quartz, jamesonite, massicotite, sphalerite, pyrolusite, cerussite, calcite, garnet, epidote, chabazite, muscovite, galena, pyrite, specularite (hematite), etc. Those taken from the mines show, as a rule, well formed crystals, while those found at or near the surface are weathered.

In one of the mines the following minerals were found: a fine aggregate of galena crystals, very brilliant and highly modified; crystals of sphalerite and galena intergrown, on aggregates of quartz crystals; large and well formed crystals of pyrite, both single and grouped, one measuring about four inches across the faces. One group of pyrite crystals was taken from a cavity which was lined with bunches of acicular crystals of jamesonite; these hair-like crystals were so intergrown with the pyrite crystals that the latter were colored dark. The jamesonite has a dark steel-gray color and a brilliant metallic luster.

Cerussite is a common ore of the district and is sometimes found well crystallized, mostly in crevices in galena. It is also found in the form of slender acicular crystals up to two inches in length, and greenish white in color.

In the mines of Alta are found a variety of crystallized minerals: wulfenite, in thin tabular yellow crystals associated with the other lead ores, and in fine crystals on calamine. One large specimen taken out showed fine crystals intergrown with quartz crystals. Calamine occurs in the form of needle-like crystals lining the cavities in pyrolusite, and in botryoidal masses surrounding the wulfenite crystals. Small and almost transparent crystals of sphalerite were collected at one mine, and the writer has had the pleasure of seeing several beautiful specimens of aurichalcite. Some large pyrite cubes altered to limonite were found associated

with quartz crystals, the crystals being perfect, but looking as tho they had been twisted and mashed.

The district is noted for having produced large and well developed crystals of quartz, both single and grouped. One large group, taken out by the writer was studded with small brilliant pyritohedral crystals of pyrite.

The eastern part of the district yields large numbers of loose crystals found on the surface, some almost as brilliant as the "Herkimers." On the north side of the mountain, in an outcrop of limestone near the diorite, garnet is very abundant. Dodecahedral crystals of brown and green garnet implanted on calcite, associated with specularite (micaceous hematite) occur, and fine showy specimens were obtained. Good specimens of chabazite, epidote, muscovite, and a yellow garnet were taken from the southern contact. Further north and west coarse porphyritic granite appears, and here fine crystals of orthoclase, some twinned (Carlsbad law) were taken out of the rock.

The following minerals were reported from the locality, but were not observed by the writer: diopside, monticellite, ludwigite, phlogopite, magnetite, chalcocite, tetrahedrite, fluorite and pyromorphite.

The district is very favorable for collecting, interesting specimens being obtainable at any time. The country is not only noted for its variety of minerals and rocks, but also for some of the finest scenery in the West. To the south of Clayton Peak Big Cottonwood Canyon forms a large amphitheatre which is covered with timber, and built up with summer homes. Silver Lake lies at its base, while on the opposite side of the peak, but higher up, the beautiful Lackawaxen Lake is situated, making it an ideal spot to spend a summer vacation.

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## AN ELEMENTARY INTRODUCTION TO CRYSTALLOGRAPHY

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*(Continued from page 83)*

The face 110 is referred to as the unit prism and the face 111 as the unit pyramid. As already indicated they, with the pinacoids, are the most important faces, for they will give the constants of the crystal, the angles between the axes, (thus far all right angles) and the lengths of the axes, (thus far all equal).

We have now described the three most important fundamental crystal forms; four other primary forms are derived from them, and all other isometric crystals are combinations of these seven. Every plane or face of a crystal we have described has cut one or