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PRIMARY NAME: RIEDER AND BAILEY GROUP

ALTERNATE NAMES:

PINAL COUNTY MILS NUMBER: 381A

LOCATION: TOWNSHIP 5 S RANGE 16 E SECTION 9 QUARTER NW  
LATITUDE: N 33DEG 01MIN 07SEC LONGITUDE: W 110DEG 43MIN 10SEC  
TOPO MAP NAME: CHRISTMAS - 7.5 MIN

CURRENT STATUS: DEVEL DEPOSIT

COMMODITY:

GOLD  
COPPER  
IRON SULFIDE

BIBLIOGRAPHY:

ROSS, CLYDE P., ORE DEPOSITS OF THE SADDLE  
MTN AND BANNER MINING DISTRICTS AZ, USGS  
BULL. 771, 1925

✓ADMMR U FILE

another inclined shaft. There are reported to be 600 feet of workings on the property.<sup>48</sup> At the prospect on Gila River there are several short tunnels and a shallow shaft. No work appears to have been done at either place for some time.

*Character of the deposits.*—The country rock at Pool's mine is a dark andesite. The deposit exposed in the cuts is a shear zone a few feet wide. The mineralized rock on the shaft dump is andesite in which chlorite, calcite, quartz, pyrite, and chalcopyrite have been introduced, cut by narrow stringers of quartz containing a little pyrite. The deposits were worked for copper and gold, but the ore found does not appear to have been of satisfactory grade. The shaft 1,500 feet farther east is at the contact between andesite and slate, both belonging to the Cretaceous bedded rocks. The slate is at the base of a considerable body of sedimentary beds which extends from the vicinity of the Two Queens mine through this place northward to Deer Creek. In the shaft is a zone of sheeted and brecciated altered andesite about 4 feet wide, with quartz stringers, calcite, and a little pyrite. The zone strikes N. 55° E. and dips steeply to the southeast. There is a small dike of quartz-mica diorite close to this shaft, and another just south of the shaft at the place marked "Pool's mine" on Plate I.

The prospect on Gila River is in a small fault block of Tornado limestone surrounded by Cretaceous andesitic strata and cut by a dike of hornblende porphyry 20 to 30 feet wide, with vertical dip, striking N. 90° E. The limestone dips gently northeast, and the andesitic strata above lie approximately parallel to the limestone beds. At one place on the contact is a mass of quartz-mica diorite cutting both andesite and limestone. The outcrop is so small that it could not be shown on Plate I. The west boundary of the limestone block appears to be a fault, the limestone being on the upthrown side.

On both sides of the hornblende porphyry dike the limestone shows irregular recrystallization and replacement with quartz, fluorite, pyrite, and chalcopyrite. The sulphides are partly oxidized to limonite, hematite, and a small amount of malachite. The porphyry is also in part altered and stained with limonite. The altered limestone exposed is small in amount. Locally the replacement spread out along bedding planes.

#### HOOSIER GROUP

*Location.*—The Hoosier group is on Sulphur Gulch in secs. 4 and 5, T. 5 S., R. 16 E. The principal workings are in the NW. ¼ sec. 4. Sulphur Gulch empties into Gila River about 1,000 feet above the

<sup>48</sup> Wood, W. H., *Mines Handbook*, vol. 15, p. 219, 1922.

mouth of Ash Creek and half a mile from the railroad siding of Finney.

*Property.*—The Hoosier group comprises about eight unpatented claims owned by J. Miles and O. H. Crozier. About 1,500 feet from the mouth of Sulphur Gulch, in a side gulch, is a shaft on the vein. The same distance up the main gulch and some 50 feet vertically above it on the north side is another shaft, reported to be 48 feet deep, and a short tunnel. There are reported to be two or three shallow shafts on the vein between the two mentioned. In the main gulch a crosscut tunnel is being driven by Mr. Miles to intersect the vein exposed in the 48-foot shaft and the short tunnel. He has a tent house near the mouth of Sulphur Gulch.

*Character of the deposits.*—Most of the rock on this property is andesite of various types, including light-colored hornblende porphyry. At the shaft first mentioned above there is a small mass of Tornado limestone. (See Pl. I.) The block is bounded on the south by a slip that strikes N. 75° E. and dips 80° S. The shaft has been sunk on this slip, the rock along which is mineralized. The limestone block is about 200 feet long in a northwesterly direction and 100 feet wide. The southwest boundary appears also to be a fault with downthrow to the southwest. Beyond the limestone block to the northwest this fault is marked by a zone about 20 feet wide of fault breccia composed of hornblende porphyry, dark andesite, and limestone. The mineralized rock on the dump of the shaft here appears to be limestone almost completely replaced by quartz, chlorite, magnetite, specularite, and pyrite. The vein in the tunnel on the hillside 1,500 feet to the northeast is about 3 feet wide, stands nearly vertical, and strikes N. 65° E. The vein matter is thoroughly oxidized and consists essentially of limonite and quartz. In the lower part of the 48-foot shaft a small amount of pyrite is exposed in gangue consisting largely of chlorite and quartz. A little pyrite is exposed in the andesite in the tunnel below, but in May, 1922, the tunnel was not yet long enough to reach the vein exposed in the tunnel and shaft on the hillside above it.

#### RIEDER & BAILEY GROUP

*Location.*—The Rieder & Bailey group is on the south side of Ash Creek nearly a mile up the winding streamway from its mouth. The principal workings are in the NW. ¼ sec. 9, T. 5 S., R. 16 E.

*Property.*—This group comprises several unpatented claims, and Mr. Rieder has other claims covering much of the W. ½ sec. 5 and probably extending beyond. There are a number of workings in this area, but none are extensive. In May, 1922, Mr. Rieder was working on the south side of Ash Creek a short distance below the mouth of

the gulch down which the road from Winkelman comes. Here he has two tunnels side by side. One of these has caved near the face, where mineralized and fractured rock is reported to have been encountered, and the other was being driven to open up this ground, if possible, without resorting to timbering.

*Character of the deposits.*—The rock in this part of the Christmas area is a complex of Cretaceous effusive rocks and fine-grained intrusive porphyries. Northwest and southeast of the tunnels mentioned above are the dikes of quartz-mica diorite shown on Plate I, and there are smaller masses not mapped. The rock in and near the tunnels is principally gray hornblende porphyry. Several small slips stained with iron and copper salts are exposed in the tunnels. Specimens found loose at the mouth of one of the tunnels, presumably from the mineralized zone in the caved ground, contain quartz-mica diorite cutting chloritized andesite. The diorite is altered, contains numerous pyrite crystals, and is cut by quartz stringers containing chrysocolla.

In the general vicinity of these tunnels there are a number of poorly defined shear zones in andesite and hornblende porphyry. The outcrops of these zones consist of altered country rock with quartz stringers containing limonite, chrysocolla, other oxidation products, and small amounts of unoxidized pyrite, specularite, and magnetite. Some of the specimens furnished by Mr. Rieder yield free gold when panned.

#### FAULT GROUP

A group of copper claims belonging to James Fault lies on both sides of Gila River just above Christmas station. At the time of visit assessment work was in progress in a tunnel in Cretaceous andesite a short distance south of two dikes of quartz-mica diorite on the east side of the river. In the tunnel streaks of altered andesite containing pyrite crystals are exposed.

Other claims in this vicinity are held by Mike O'Brien and by Simon Beaurle, but little work has been done on them for some time.

#### CHRISTMAS MINE

*Location.*—The Christmas mine, which is the largest in the area mapped, is on the west side of the valley of Gila River about 8 miles by road north of Winkelman, in sec. 30, T. 4 S., R. 16 E. (unsurveyed); the property extends also into secs. 19, 20, and 29 of this township and sec. 25, T. 4 S., R. 15 E. The branch line of the Arizona Eastern Railroad has its terminus at Christmas Station, which is just above the channel of Gila River and about 650 feet vertically below the settlement at the mine. The station and mine are

connected by a winding road over 1½ miles long and by an aerial tramway nearly as long.

*History.*<sup>46</sup>—Dennis O'Brien and William Tweed first staked claims on what is now the Christmas property about 1880. About 1882 Dr. James Douglas, acting for the Phelps-Dodge Co., bought Tweed's claims and obtained options on O'Brien's. He built a wagon road from Picacho, bridged Gila River above the mouth of Ash Creek, and set up two small water-jacket furnaces for smelting the ore. A small amount of oxidized copper ore was mined. In 1884 operations were terminated because the deposits were then inside the San Carlos Indian Reservation, and mining was prohibited. From this time until the reservation boundary was shifted, only annual assessment work was done. On December 22, 1902, through the efforts of G. B. Chittenden, of the Saddle Mountain Mining Co., an Executive order was issued restoring to the public domain the part of the reservation in which the deposits lie. The area restored is a triangle about 15 miles on a side.

Just before Christmas, 1902, Chittenden and three other men located a group of claims covering the deposits. The mine was named from this circumstance. The Phelps-Dodge Co. protested, but before the case came to trial a compromise was effected, and the Saddle Mountain Mining Co. bought the Phelps-Dodge holdings, consisting of about 40 mining claims. After a test of the ore with one of the furnaces already installed the Saddle Mountain Mining Co. purchased another furnace having a rated capacity of 150 tons. In July, 1905, this furnace was blown in, and it continued in operation until the spring of 1907, when the mine was shut down. The product sold is reported to have had a value of \$872,000. During this time 113,322 tons of ore was mined and the development of the mine was carried to a depth of 300 feet through two shafts. In 1909 the Gila Copper Sulphide Co. was formed and took over the property of the Saddle Mountain Mining Co. This new company operated the Christmas mine until about 1914. From 1915 to 1919 work was continued under contract by the American Smelting & Refining Co. This company gave up the management in January, 1920, and the mine was again shut down in April, 1921. From 1915 to 1920, inclusive, 415,264 tons of ore was mined.

*Property.*—The Gila Copper Sulphide Co. owns the Saddle Mountain group of silver claims (see pp. 43-46), 640 acres of coal land in the lower coal field in Reed Basin east of the Christmas area, and 35 patented and 21 unpatented claims at the Christmas mine, including the 18 unpatented claims of the Shamrock group southwest of Christmas, recently purchased. The developments at

<sup>46</sup> Compiled from data supplied by G. B. Chittenden and others.