CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
3550 N. Central Ave, 2nd floor
Phoenix, AZ, 85012
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

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Collected by J.K. Jones Sept. 6 1973 at approximate surface coordinate location 8150 N., 6170 E. near ddh no. 1, Squaw Peak Property, Yavapai Co., Az. Taken near dump on slope above and ±150 feet northof ddh-1

Squaw Peak No. 1

Hand Sample: Fine to medium grained light gray aplitic rock.

Thin section texture: Mostly fine grained, porphyritic. Sucrose groundmass.

Mineralogy	Approx. %
Plagioclase	25
Quartz	25-30
Orthoclase	35-40
Chlorite	2
Hematite	
Sericite	
Leucoxene	
Epidote	
Apatite	
Clay minerals	
Magnetite	

Plagioclase occurs as phenocrysts and as finer grained material in the groundmass. Most granis are extensively altered mostly to clay minerals with smaller amounts of sericite. Interiors of grains are commonly more altered than the margins. Fine to medium grained orthoclase and quartz comprise most of the groundmass. Orthoclase is slightly altered to clay minerals but not nearly as strongly as the plagioclase. Chlorite occurs as fairly large elongated masses associated with leucoxene and probably represents replaced biotite or possibly hornblende. Accessory minerals are magnetite, mostly oxidized to hematite, and apatite.

Rock name: Rock is granitic in composition.

Collected by J.K. Jones Sept 6 1973 from surface at approximate coordinate location 7920N., 6220E. near ddh #1, Squaw Peak Mine, Yavapai Co., Az. From bottom of gulch less than 100 feet south of ddh 1

Squaw Peak No. 2

Hand Sample: Medium grained light gray rock with sulfides (pyrite, chalcopyrite and molybdenite).

Thin section texture: Medium grained hypidiomorphic granular.

Mineralogy

Biotite
Quartz
Plagioclase
Epidote
Sericite
Clay minerals
Pyrite
Chalcopyrite
Molybdenite
Chlorite

Plagioclase occurs as fairly large, zoned, subhedral crystals. Alteration to fine grained sericite and clay minerals is patchy. Some crystals show little alteration, others are extensively altered and still others are altered in isolated patches and fresh in other areas. Quartz ranges from fine to medium grained and is later than plagioclase and biotite. Biotite occurs in two different forms. Large crystals of dark red brown biotite are very fresh or only slightly altered to chlorite along cleavages. Masses of fine-grained straw brown biotite are slightly less abundant. The second occurrence is more typical of secondary biotite but the two occur side by side in some areas. Epidote occurs in small patches sometimes associated with chlorite. Neither are very abundant. Sulfides are fine grained and disseminated. No orthoclase was recognized in thin section and the thin section was not stained with sodium cobaltinitrite. Some of the more intensely altered grains may possibly have been orthoclase, however, it cannot be very abundant.

Rock name: Close to granodiorite.

Sample No.: SP-1-98

Hand Sample: Light gray, medium grained rock with quartz vein and abundant sulfides (cp, mo).

Thin section texture: Medium grained, hypidiomorphic, granular.

Mineralogy

plagioclase
quartz
biotite
chlorite(?)
calcite
sericite
clay minerals
apatite
sulfide

Subhedral plagioclase crystals are fairly strongly altered to sericite and less abundant clay minerals. Irregular quartz grains are abundant and several small quartz veins cut the rock. Biotite consists mostly of pale yellow-brown aggregates and appears to be recrystallized; fine grained quartz, calcite and sulfides are sometimes intergrown with the biotite. One larger dark brown grain is present but appears to have been partially replaced by the fine grained light colored biotite. Calcite is fairly abundant occuring with the biotite and in many small veinlets. Small amounts of anhydrite may occur in veinlets although the identification couldn't be definitely confirmed.

The rock is fractured and veined. Some of the quartz has sutured contacts and may be partially recrystallized. Most of the original biotite seems to have been replaced by a lighter colored fine grained biotite with calcite and quartz. No orthoclase was recognized.

Rock Name: Probably granodiorite

Sample No.: SP1-447

Hand Sample: Light grey medium grained rock w/sulfides.

Thin section texture: Fine to medium grained, sericite.

Mineralogy	Approximate %
plagioclase	35-40
quartz	30-35
biotite	15
orthoclase	10
chlorite	< 5
apatite	
sericite	
clay minerals	
epidote	
magnetite	1-2
pyrite	

Plagioclase occurs as subhedral crystals of various sizes. Some of the larger grains are zoned. Some grains are fresh while others are partially or almost completely replaced by sericite and clay minerals. Quartz is anhedral and ranges from fine grained to coarse grained. Larger grains show undalose extinction. Biotite has two modes of occurrence. The most abundant type is fine to medium grained pleochroic from straw yellow to brown and occurs in aggregates. The other type is dark red brown large single crystals. Orthoclase is fine to medium grained, unaltered and occurs with quartz. Many grains are finely parthitic. Chlorite is present in large elongated masses and appears to represent replaced hornblende.

Some of the quartz grains are fairly strongly fractured. No vein control of orthoclase or biotite is apparent, although aggregates of biotite could be secondary. Orthoclase shows no replacement relationships.

Rock Name: Granodiorite

Sample No.: SP17-920'

Hand Sample: Fine to medium grained, pinkish gray porphyritic rock. with minor sulfides.

Thin section texture: Porphyritic; fine grained groundmass.

Mineralogy

plagioclase
orthoclase
quartz
hornblende
biotite
chlorite
epidote
carbonate
apatite
sericite

Subhedral plagioclase ranges in size from less than 1mm to 2mm. The larger crystals are zoned. Some crystals are fresh but most are moderately to intensely altered mostly to sericite. Epidote is a less common alteration product. Hornblende occurs as phenocrysts up to 3mm in length but makes up only about 1% of the thin section. It shows minor chloritic alteration.

Biotite is present in various grain sizes. Some grains are fresh while others are partially replaced by chlorite. Irregular grains of chlorite, some associated with epidote, apparently represent completely replaced biotite and/or hornblende. Total mafic minerals make up 5-10% of the rock.

Quartz is abundant in the groundmass and several quartz phenocrysts are present. Orthoclase occurs in the groundmass intrrgrown with quartz; In a few areas orthoclase forms small patches in plagioclase crystals and in one area a small orthoclase veinlet cuts a plagioclase phenocryst. Most of the orthoclase, however, appears to be primary. Most of the orthoclase appears fresh but some grains are very slightly cloudy.

Epidote occurs in some small veinlets with or without carbonate. In general the rock is not highly fractured.

Rock Name: Porphyritic quartz monzonite.

Sample No.: SP20-459

Hand Sample: Medium grained, light gray rock w/ minor pyrite.

Thin section texture: Medium grained, hypidiomorphic, granular.

Mineralogy	Approx. %
plagioclase	30-35
quartz	35-40
biotite	5-10
Hornblende	15
orthoclase	5
epidote	
chlorite	
sericite	
clay minerals	
apatite	
magnetite	
pyrite	

Plagioclase is subhedral and most grains show strong alteration to clay minerals and sericite. Some grains are zoned. Hornblende is euhedral and shows only minor chloritic replacement. Single crystals of biotite are pleochroic and some appear slightly bleached along cleavages. No aggregates as described in SP1-447 are present. Orthoclase is unaltered or only slightly cloudy. No vein of orthoclase is present but some penetrates, surrounds, and appears to be replacing plagioclase.

The rock is highly fractured in some areas. Some fractures contain pyrite and a mineral that appears to be calcite, anhydrite or sericite.

Rock Name: This sample is very similar to SP1-447. Hornblende is more abundant and biotite is less abundant in this sample. Granodiorite.

Sample No.: SP20-575

Hand Sample: Medium grained granitoid rock. Small amounts of sulfides.

Thin Section Texture: Medium, hypidiomorphic granular.

Mineralogy

plagioclase
quartz
orthoclase
hornblende
biotite
chlorite
epidote
sericite
clay minerals
magnetite
apatite
carbonate

Plagioclase occurs as subhedral crystals ranging in size from fine-grained to medium-grained. Alteration ranges from moderate to intense with sericite being the most abundant alteration product. Epidote is also a common alteration product and smaller amounts of clay minerals are present.

Hornblende occurs as phenocrysts and as smaller crystals. Most is fresh but some grains are partially altered to chlorite. Biotite is medium grained and shows moderate to strong alteration to chlorite. Some fairly large masses of chlorite apparently represent completely replaced biotite. Biotite, hornblende and chlorite together make up 15-20% of the thin section.

Orthoclase appears to be fairly abundant in the hand specimen but less abundant in thin section. Some of the intensely altered grains are probably orthoclase. Most of the orthoclase is interstitial to the other minerals and shows no crystal faces. Patches of orthoclase occur in some larger plagioclase crystals. Quartz is abundant and occurs interstitially.

One large vein is composed almost wholly of epidote. Some smaller fractures contain carbonate or anhydrite.

Rock Name: Quartz monzonite