

Date: August 2, 2009

Re: Kalamazoo Landscape Decorative Rocks- Brief Rock descriptions and Classifications

Samples labeled “Kino Blue, Avra Valley Yard Quarry, Arizona”, “Mojave Gold, Chloride Quarry, Northern Arizona”, “Palomino”, Valentine Quarry, Northern Arizona, “Ruby Rd, White Hills Quarry, Northern Arizona”, “Apache Brown, Beatty Quarry, Central West Nevada”, “Apache Gold, Beatty Quarry, Central West Nevada”, and “Boulder Rose, Nipton Quarry, Southwest Nevada”, were received on July 20, 2009 from Mr. Tracey Lockwood of Kalamazoo Materials, Inc., Las Vegas, NV.

Semi-petrographic examination of the submitted samples was requested for brief rock samples descriptions and classifications, and to investigate why each rock exhibits somewhat its own characteristic color.

FINDINGS AND CONCLUSIONS

Based upon stereomicroscopic examination of each sample on saw-cut and broken fresh surfaces, the findings for each submitted rock sample are presented below separately.

1. Kino Blue, Avra Valley Quarry, Arizona

The rock is blue green to locally dark reddish brown on exposed surface and light bluish gray to locally dusky brown on fresh surfaces (Fig. 1). The blue green color of the rock is likely due to presence of copper carbonate hydroxide mineral, where as the dusky brownish color likely due to presence of limonite/goethite. The rock is composed of light-colored minerals (quartz and feldspar) with lesser amount of dark minerals (biotite). The rock is medium-grained, hard, very dense and intact.

Based on stereomicroscopic observation, the rock is somewhat altered and metallic-minerals bearing (likely copper bearing minerals). The saw-cut surface exhibits that the rock contains metallic minerals filling intergranular spaces and as veinlets and veins (Fig. 1). Although some of the original minerals were likely altered during mineralization process, based on the mineral assemblages present in the rock, the rock can be classified as Igneous, and the rock can be

named as granitic rock (Fig. 1).

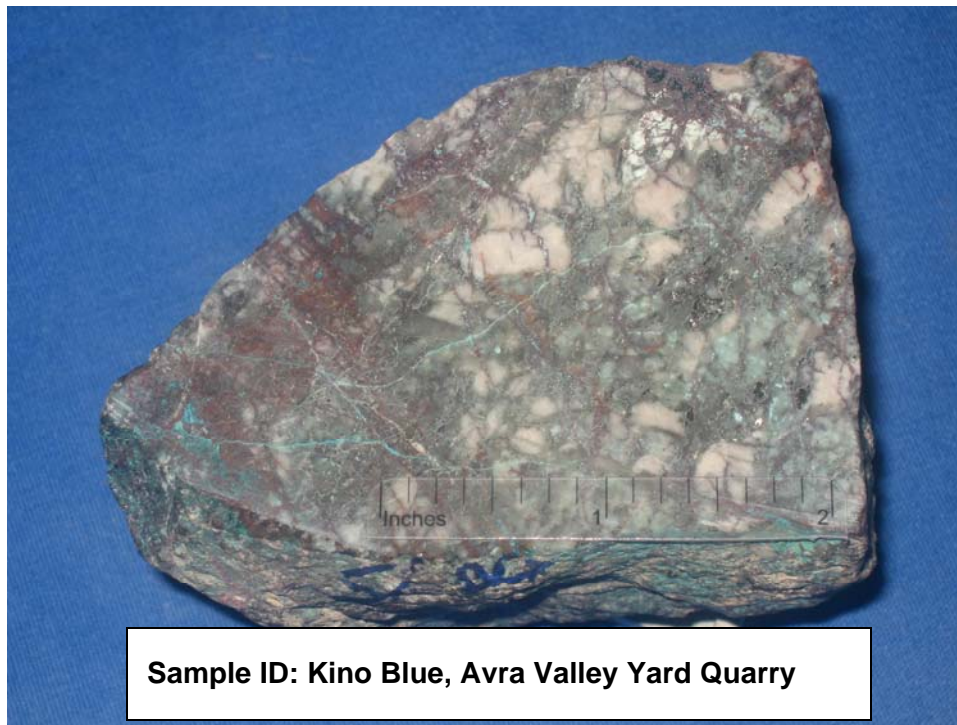


Fig. 1 Saw-cut surface of Kino-Blue sample showing the appearance and constituents of the rock. Scale shown is in inches.

2. Mojave Gold, Chloride Quarry, Northern Arizona

The rock color is predominately is light brown to locally dull white to light gray. The rock is fairly hard, coarse-grained, and composed of light-colored minerals (quartz and feldspar) with lesser amount of dark mineral (biotite). The brownish color (“gold”) is due to the presence of quartz and feldspar minerals in the rock (Fig. 2).

Based on identified mineral assemblages of the rock, the rock can be classified as Igneous, and the rock is granite (Fig. 2).

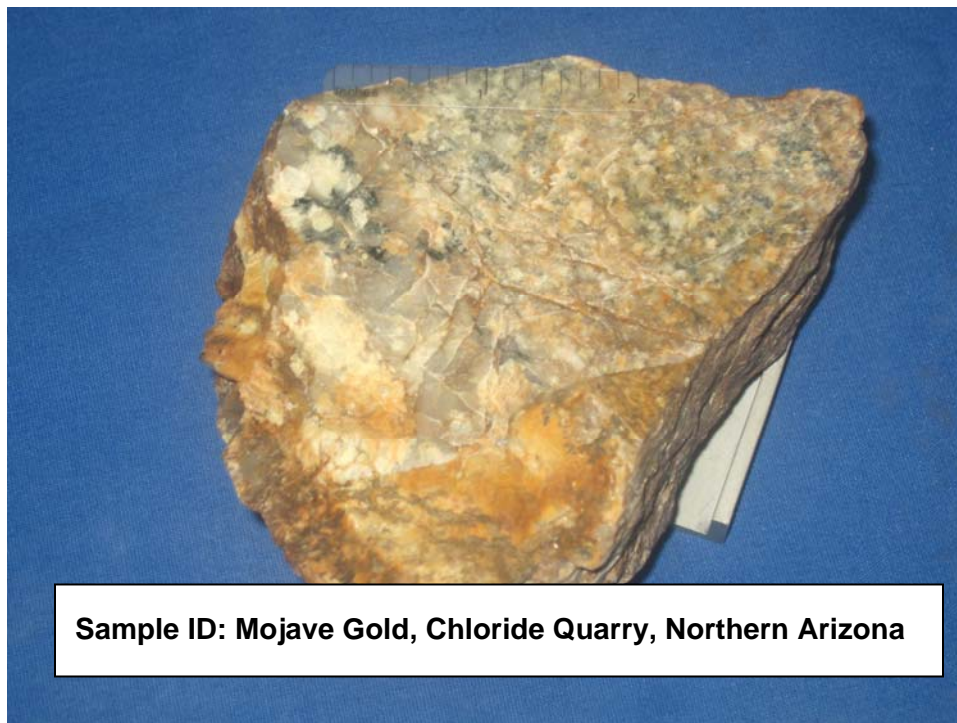


Fig. 2 Saw-cut surface of Mojave Gold sample showing the appearance and constituents of the rock. Scale shown is in inches.

3. *Palomino, Valentine Quarry, Northern Arizona*

The rock color is predominately buff with spots of dark green due to presence of dark minerals. The rock is fairly hard, medium-grained, and composed of light-colored minerals (quartz and feldspar) with subordinate amount of dark minerals (biotite and amphibole). The buff (“palomino”) color is due to the dominance of quartz and feldspar minerals in the rock (Fig. 2).

The rock is medium-grained and exhibit a weak foliation defined by dark minerals and elongated quartz and feldspar. Based on the mineral assemblages and observed texture, this rock is classified as metamorphic, and the rock can be called granitic gneiss (Fig. 3).

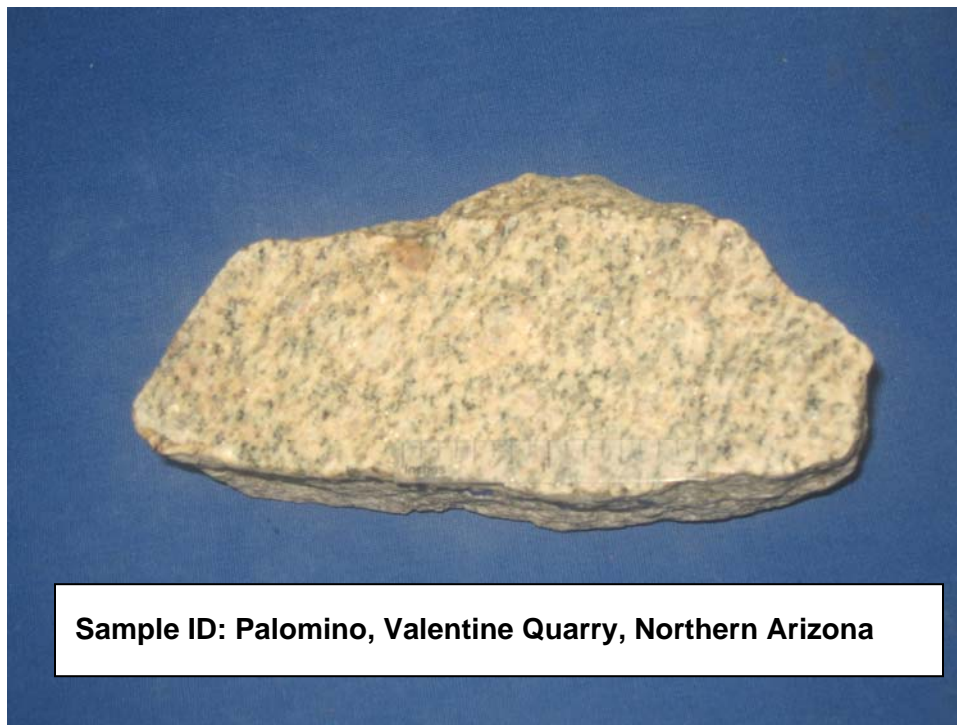


Fig. 3 Saw-cut surface of Palomino sample showing the appearance and constituents of the rock. Scale shown is in inches.

4. *Ruby Red, White Hills Quarry, Northern Arizona*

The rock color is predominately is ruby red to locally light grayish, and composed mainly of potassium feldspars and lesser amount of quartz and trace amount of dark minerals (Fig. 4). The Ruby red color is due to the dominance of K-feldspar minerals in the rock.

The rock is fairly hard, coarse grained-grained, and relatively dense and intact. Based on the mineral assemblages and observed texture of the rock, this rock is classified as Igneous, and the rock name is granite (Fig. 4).

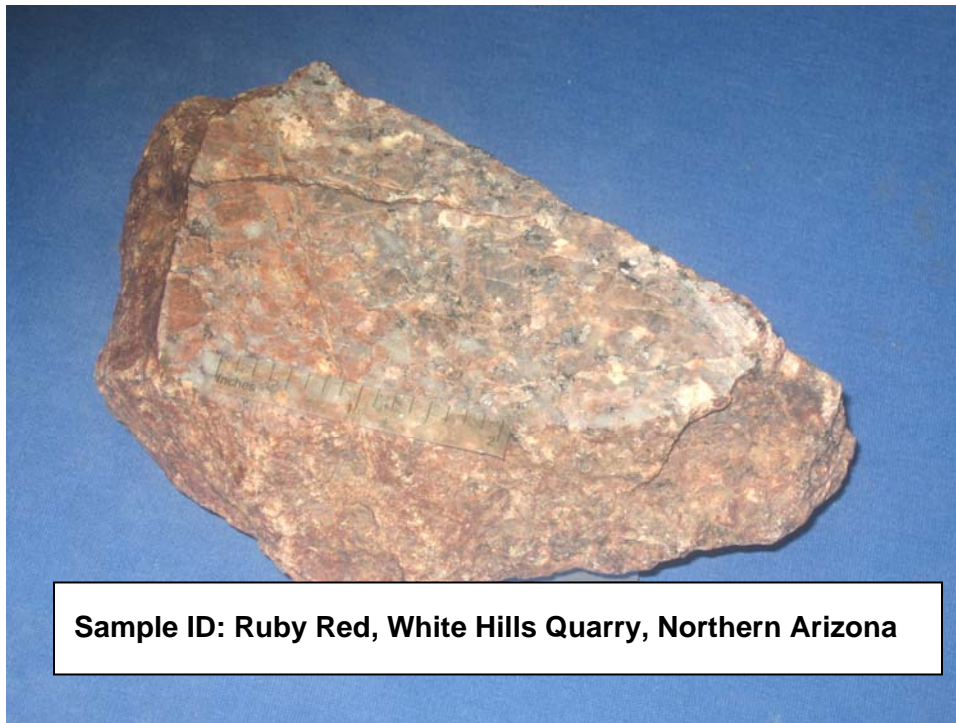
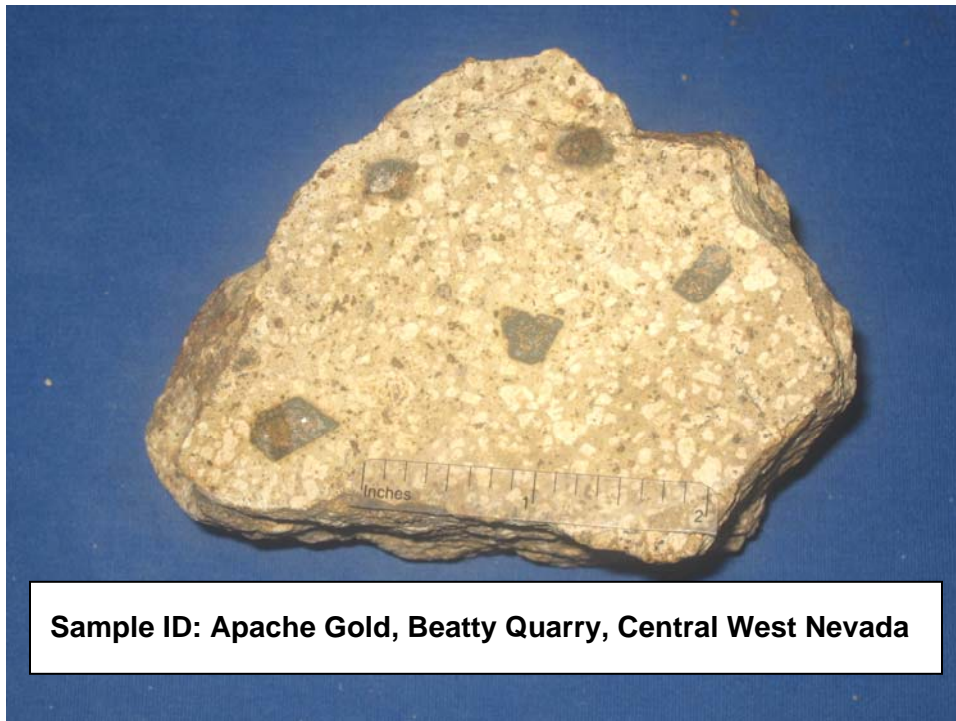


Fig. 4 Saw-cut surface of Ruby Red sample showing the appearance and constituents of the rock. Scale shown is in inches.

5. Apache Gold, Beatty Quarry, Central West Nevada

The rock exhibits apache gold to dark brownish colors on exposed surfaces and beige to buff on fresh surfaces (Fig. 5). The rock is composed of light-colored feldspar phenocrysts (plagioclase) and a few coarse to fine euhedral phenocrysts of pyroxene set in fine-grained siliceous matrix (Fig. 5). The apache gold color is due to the light-colored phenocrysts and siliceous groundmass.

The rock is fairly hard, fine grained-grained, and relatively dense and intact. Based on the mineral assemblages and observed texture, this rock is classified as Igneous, and the rock can be designated as silicic porphyritic volcanic rock (Fig. 5).



Sample ID: Apache Gold, Beatty Quarry, Central West Nevada

Fig. 5 Saw-cut surface of Apache Gold sample showing the appearance and constituents of the rock. Scale shown is in inches.

6. Apache Brown, Beatty Quarry, Central West Nevada

The rock exhibits light brownish gray and light gray color on exposed and fresh surfaces, respectively. The rock is composed mainly of quartz, feldspars, and visible white mica (muscovite) that must have grown during metamorphism. The rock exhibits two major sets of intersecting veinlets partially filled with some sort of altered sulfide minerals. The brown color on the exposed surface appears to result mostly from altered sulfide minerals.

The rock is moderately hard, fine grained-grained, and relatively dense. Based on the mineral assemblages and observed texture, this rock is classified as altered and metamorphosed rock, probably of greywacke protolith, and the rock can be designated as metasandstone (Fig. 6).

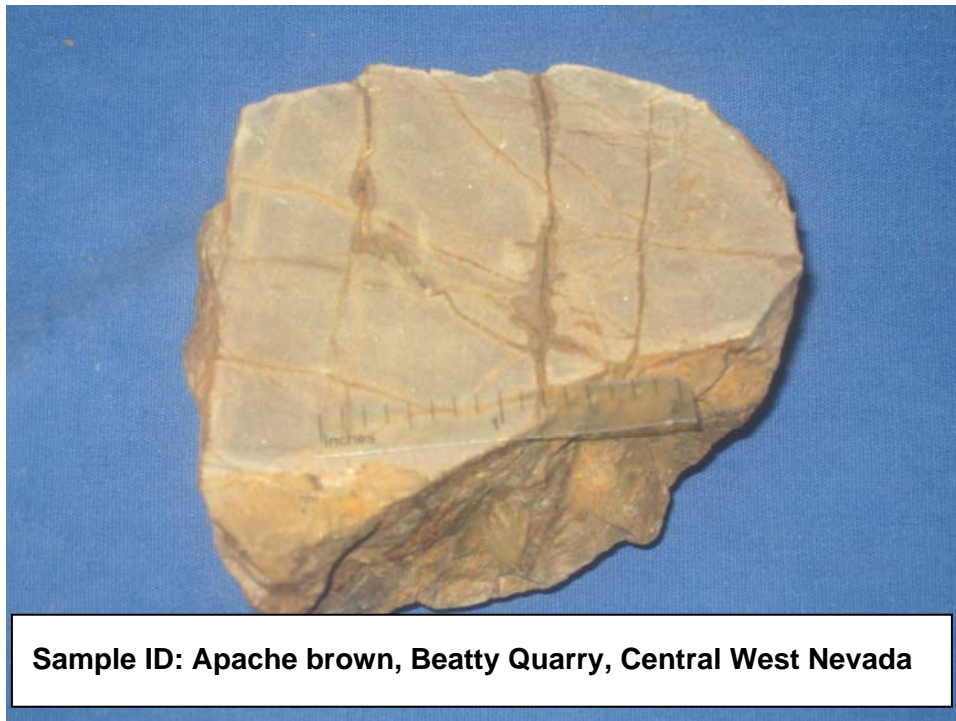


Fig. 5 Saw-cut surface of Apache Brown sample showing the appearance of the rock. Scale shown is in inches.

7. Boulder Rose, Nipton Quarry, Southwest Nevada

The rock color is predominately is darker pinkish to locally light pinkish gray and light pinkish colors on exposed and fresh surfaces of the rock, respectively. The rock is composed of alkali feldspars (potassium feldspars) and quartz. The pink color is due to the dominance of potassium feldspars in the rock.

The rock is fairly hard, coarse grained-grained, metamorphosed and somewhat dense. Based on the mineral assemblages and observed texture of the rock, this rock is classified as metamorphic, and the rock can be designated as granitic gneiss (Fig. 7).

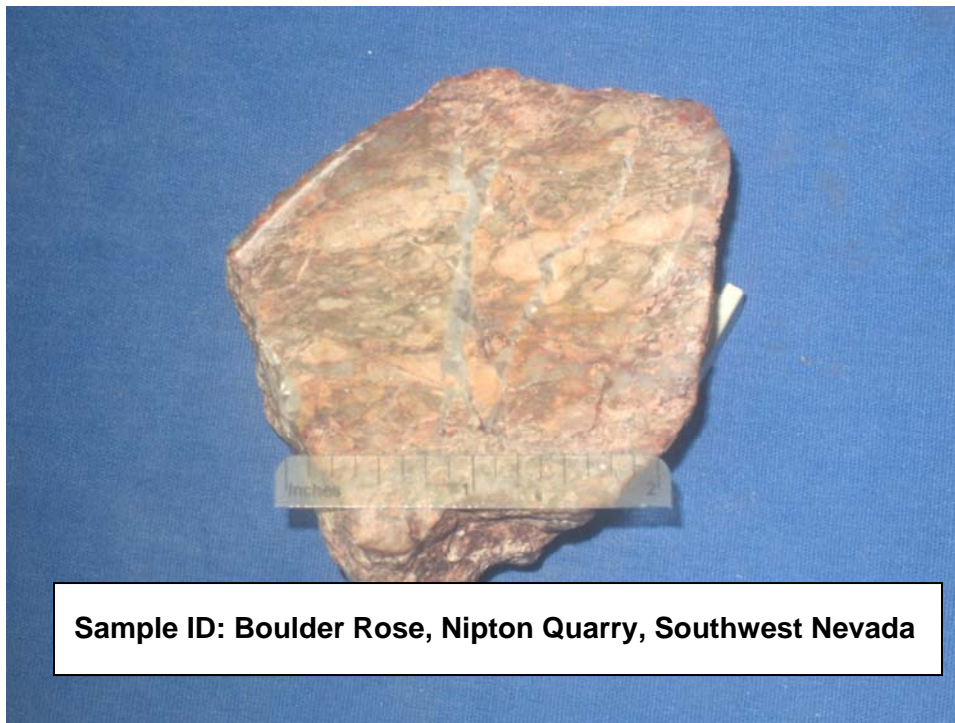


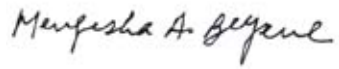
Fig. 7 Saw-cut surface of Boulder Rose sample showing appearance and constituents of the rock. Scale shown is in inches.

METHODS

The samples, as received were visually inspected and described, and then each sample was saw cut into two halves. One of half of each sample was broken into fragments to

study the physical characteristics of the rock along fresh surfaces. The other halves and the broken fragments of each sample were examined under stereomicroscope to observe mineral constituents, the true color, and texture of the rocks.

- Notes: 1. Results refer specifically to the sample submitted.
2. This report may not be reproduced except in its entirety.

A handwritten signature in black ink, reading "Mengesha A. Beyene". The signature is written in a cursive style with a prominent initial 'M'.

Mengesha A. Beyene
Associate Microscopist and PhD Candidate