STRATIGRAPHIC COLUMNS - PINTO MOUNTAIN QUARTZITE

PLATE IV R. E. POWELL, 1981

PINTO MOUNTAINS

EAGLE MOUNTAINS

E-1 Early Red Cloud Thrust 2600 MYLONITE 2400 2200 P-2 P-3 2000 E-3 2000 fault 1800 1800 1600 1600 1400 1400 E-2 1200 __ Early Red Cloud (COVER) 1200 Thrust 1000 1000 800 800 600 (COVER) 600 400 400 200 200 FOR LOCATIONS OF STRATIGRAPHIC COLUMNS, SEE PLATE V.

KEY

IRON CHIEF DOLOMITE: VERY COARSE-GRAINED, RECRYSTALLIZED DOLOMITE; WHITE TO LIGHT GRAY, GRAYISHORANGE (10YR7/4) WEATHERING; THIN (~1") TO THICK (~3') BEDDED; GENERALLY VERY PURE, BUT LOCALLY CONTAINS CHERT NODULES, PODS, AND LENSES; LAYERS (≤10' THICK) OF VERY COARSE-GRAINED WHITE CALCITE MARBLE ALSO OCCUR LOCALLY.

BLACK EAGLE PELITIC GRANOFELS: QUARTZ+MUSCOVITE+ ALUMINOSILICATE+BIOTITE/CHLORITE±K-FELDSPAR GRANO-FELS; DARK-WEATHERING, COMMONLY WITH ALTERNATING LIGHTER AND DARKER LAMINAE IN HAND SPECIMEN.

BLACK EAGLE FERRIFEROUS PELITIC GRANOFELS/SCHIST:
VARICOLORED, MOTTLED IN RED, PURPLE, LAVENDER, BLUE,
GRAY, AND WHITE, ALUMINOUS GRANOFELS AND SCHIST. A
PHYLLITIC SHEEN IS COMMON ON FOLIATION SURFACES. IN
ADDITION TO QUARTZ, ALUMINOSILICATE, BIOTITE/CHLORITE
AND FELDSPAR, THE ROCK CONTAINS ABUNDANT HEMATITE (2530%); IN PLACES IT IS EXCLUSIVELY QUARTZ AND HEMATITE.
THE UNIT WEATHERS TO FORM TOPOGRAPHIC LOWS MARKED BY
GENTLY ROUNDED, SMOOTH HUMMOCKS; FROM A DISTANCE THESE
SUBDUED EXPOSURES HAVE A DISTINCTIVE LAVENDER CAST.

BLACK EAGLE PELITIC SCHIST: LIGHT-COLORED QUARTZ+
MUSCOVITE+ALUMINOSILICATE±K-FELDSPAR SCHIST INTERBEDDED WITH THE VERY COARSE-GRAINED VITREOUS WHITE
QUARTZITE.

VITREOUS WHITE QUARTZITE: VERY COARSE-GRAINED (UP TO 1 CM), WHITE QUARTZITE, RECRYSTALLIZED GRAINS WITH SUTURED BOUNDARIES; MASSIVE, BEDDING OBSCURE OR OBLITERATED; WHITE TO LIGHT GRAY, IN PLACES STAINED BROWNISH TO LIGHT RED-BROWNISH WHITE; COMPOSITIONALLY SUPERMATURE, COMMONLY WITH 93-99+% QUARTZ; LEDGE-FORMER; INTENSELY JOINTED.

CROSS-BEDDED QUARTZITE: COARSE TO VERY COARSE-GRAINED VITREOUS MOTTLED LIGHT TO DARK GRAY TO BLUISH GRAY QUARTZITE; MEDIUM-BEDDED TO MASSIVE, WITH LOW-ANGLE SETS OF TANGENTIAL PLANAR CROSS-LAMINATIONS; THIN BLACK LAMINAE (*1mm) OF OPAQUE MINERALS OCCUR SPORADICALLY; COMPOSITIONALLY MATURE (*95% QUARTZ) WITH ABUNDANT WHITE ALUMINO-SILICATE, LOCALLY WITH VIRIDINE IMPARTING A GREEN COLOR TO THE ROCK.

Conglomerate: occurs in layers and lenses up to 10' thick interbedded near the base of the cross-bedded quartzite. clasts (75-85% of the rock) consist of roughly equidimensional pebbles and cobbles of very coarse-grained white quartz/quartzite (85-95%), tabular clasts of fine-grained black specular hematite-rich quartzite (5-15%), and rare fine-grained jasper. The matrix is similar to the cross-bedded quartzite. Hematite imparts a characteristic rusty brown stain to the rock. Deformation in the Eagle Mountains has stretched the pebbles as much as 10:2:1.

PELITIC SCHIST: ABUNDANT QUARTZ AUGEN IN A MATRIX OF MUSCOVITE+QUARTZ+ALUMINOSILICATE±K-FELDSPAR. KINK-BANDING IS COMMON, ESPECIALLY IN THE EAGLE MOUNTAINS. QUARTZ VEINS ARE ALSO COMMON. THE UNIT IS INFERRED TO REPRESENT A METAMORPHOSED PALEOWEATHERED ZONE.

JOSHUA TREE GRANITE BASEMENT: PORPHYRITIC LEUCO-GRANITE WITH PHENOCRYSTS OF WHITE TO GRAY K-FELDSPAR AND GREENISH-WHITE PLAGIOCLASE, SPHEROIDAL GRAINS OF QUARTZ (≤1 cm), AND LESS THAN 10% BIOTITE. THE GRANITE HAS BEEN DEFORMED TO AN AUGEN GNEISS IN THE EAGLE AND CHUCKWALLA MOUNTAINS.