From: Rubinson, D.P., 1968. The Petrology stratigraphy and paleoecology of the Lakeforn Dolomite in East central Nevada: M.S. Thesis Northern Illinois U. DeKalb

1070 0203 Cherry Creek Mt.

General Geology of the Cherry Creek Mountains

The Cherry Creek Mountains are located approximately 60 miles north of Ely, Nevada. The range is 49 miles long and 8 miles wide at Indian Creek. Steptoe and Butte Valleys border the range on the east and west sides respectively. (Text-fig. 2).

Mapping done by Misch (1960) indicates that the Cherry Creek Mountains have a rather simple and regular structure. Misch suggests (1960) that the south part of the range is essentially a large, west-dipping homocline of Paleozoic strata. This pattern disappears in the northern part of the range where broadly folded Pennsylvanian and Permian rock are exposed. Misch (1960) interprets the homocline as a tilted Tertiary fault block bordered by a large basin-range fault on the east. The central portion of the range is complicated by Tertiary intrusives and associated faulting. This area is known as the Cherry Creek Mining District, which yielded ores of gold, silver, and tungsten.

Paleozoic rocks are best exposed on the east side of the range. From the ghost town of Cherry Creek to the northern end of the range a Cambrian through Permian stratigraphic section is exposed. These rocks strike in a southwest to northeast direction and dip to the northwest at 45 degrees.

The pink to white Lower Cambrian Prospect Mountain

Quartzite outcrops to the west of Cherry Creek in roadcuts and gullies. This is overlain by Middle and Upper Cambrian limestones, dolomites, and shaly units including the Dunderburg Shale and Windfall formation. The Dunderburg Shale is 600 feet thick and contains trilobite faunas. The overlying Windfall Formation consists of 650 feet of shales and limestones. Cambrian strata are dissected by numerous southwest-northeast faults, the Exchequer and Black Jack faults being most prominent. Tertiary dike intrusions and ore bodies are associated with these faults and the Cambrian host rock.

The Ordovician Pogonip Group includes all strata above youngest Cambrian and below the Eureka Quartzite. The lower 2,332 feet consists of unnamed, thick-bedded, slope-forming, cherty calcisiltites. The lower fourth is equivalent to the House Limestone in Utah. This is overlain by 400 feet of thin-bedded, gray Kanosh Shale containing Receptaculites. The top of the Pogonip Group consists of the thin- to thick-bedded, fossiliferous Lehman Formation. The Pogonip Group is generally a slope-former. It is exposed in Log Cabin and Goshute creeks north of Cherry Creek.

Overlying the Pogonip Group conformably is the Eureka Quartzite. This is a thin but persistant unit throughout the Great Basin. Its characteristic pink weathering and cliff-forming profile makes it an excellent marker bed.

Its white outcrop can be observed from a distance of several miles. At Cherry Creek it is 80 feet thick, cross-bedded, and outcrops north of Goshute Creek. Uppermost Orcovician is represented in the range by the Ely Springs Dolomite. It is a black, cliff-forming, thick-bedded to massive, banded dolomite. It can be distinguished from the overlying Laketown Dolomite by its darker color.

The Middle Silurian Laketown Dolomite is a gray to black, thick to massive-bedded, cherty, cliff-forming dolomite. It contains tabulate coral fauna characterized by Halysites and Favosites. At Cherry Creek it outcrops south of Indian Creek on the east side of the range.

Lower and Middle Devonian units are recognized by their regular, thick-bedding and chalky white color. They include the Sevy and Simonson dolomites. The Sevy Dolomite is 950 feet thick and contains several sandy beds. The Simonson Dolomite is darker than the underlying Sevy and is characterized by a wide variety of sedimentary structures. It is 1,575 feet thick in the Cherry Creek Mountains near Indian Creek. Upper Devonian Guilmette Formation conformably overlies the Simonson. In the Cherry Creek area the Guilmette Formation thickens to about 1,600 feet and consists of interbedded fine-grained gray limestone and nodular argillaceous limestone with interbedded calcareous siltstone and scattered beds of sandstone (Langenheim, 1960).

Overlying the Guilmette unconformably is the Joana Limestone. In the Cherry Creek Mountains in comprises 340 feet of cherty limestone containing Lithostrotionella. The Joana Limestone is considered to be early Mississippian in age while the overlying Chainman Shale is latest Mississippian or early Pennsylvanian. Misch (1960) recognizes the Chainman Shale as being present in the Cherry Creek Mountains. However, no description has been published. Chainman Shale stratigraphy is involved with that of the Diamond Peak Formation and Scotty Wash Quartzite (Sadlick, 1960). These are thought to be time-stratigraphic equivalents.

Pennsylvanian Ely Limestone is exposed in the northern Cherry Creek Mountains. This unit consists of fossiliferous beds of brachiopod, echinoid-spine, crinoid-columnal, and foraminiferal fragments in a matrix of microcrystalline limestone and calcareous mudstone (Steele, 1960, p. 100). Locally, oolitic beds are present. The Ely Limestone is a thick-bedded, slope forming unit. Overlying the Ely Limestone unconformably is the Riepetown Sandstone. The Riepetown Sandstone is composed of pale yellowish-gray, very fine- to medium-grained, round to subround, platy to thick-bedded quartz sandstone which weathers in hues of brownish-red and yellowish-tan (Steel, 1960, p. 103). Steele recognizes this unit and overlying Permian sands, shales, carbonates and red beds as present in the Cherry Creek Mountains.