3. Physical Description:

(a) All accessable or mapped development and exploration in the Queen veins and the Bonanza King (sometimes called Kate) vein, are shown on the attached composite map of the 450 level, winze, and levels below the 450 level of the Silver Star Queen Mine. Sole access is through the Rockwell Shaft. The shaft has two fully-equipped compartments and a single counter-balance skip. The 450 level has track and pipe, pump, and charging facilities for the battery-powered locomotive. Ventilation is achieved by air circulating through connections between the development from the Rockwell shaft and the Old Queen of the Hills and Minnie Moore workings. Water inflow is small and is pumped up the Rockwell shaft by an RVH 35.

(b) Federal Resources has had no interest in previous developments.

(c) Past Production:

1. Bonanza King Vein: Small - data not available-from a few shallow surface cuts and an 80 foot adit close below.
2. Main Queen Vein:
   1884 - 1890: 11,377 tons (concentrate) $1,265,608.00 (gross)
   1952 - 1957: 91 tons (crude)
3. Queen Footwall Vein:
   1952 - 1957: 11,617 tons 14.6 oz Silver, 12.4 % Lead, 7.95 % Zinc
   1959 - 1960:* 15,000 tons $ 37.00 / ton

* This tonnage is below the 450 level and results from discovery during the D.M.E.A. program. The figure may include ore developed but not mined.

(d) There are no known ore reserves.

(e) Geologic features of the Silver Star Queen property.

Three roughly parallel veins have been discovered and found productive or promising in the subject property. They occur in the Milligan formation argillites which in this area dip southwesterly. In general the veins are nearly conformable with the bedding, dipping, however, somewhat steeper and more southerly, averaging between 50 and 55 degrees from horizontal and cutting higher beds as followed horizontally northwestward. Ore has been found in pods and shoots with a westerly rake.

The Milligan formation is mostly thin bedded argillite divisible into members grading from soft gray or graphitic-black argillite to harder siliceous argillite or hornstone or to calcareous argillite or limestone. The sequence appears to be repeated and to total well over 1000 feet. The ore deposits of the main Queen and Queen Footwall veins appear to have formed within argillaceous members of the formation.

The veins have been identified as the Main Queen vein, the Queen Footwall vein and the Bonanza King Vein, the last being lowest in the argillite sequence, or most northeasterly of the trio. The Main Queen and Queen Footwall veins rarely are separated by more than 100 feet and appear to be within a wide fracture zone. The Bonanza King vein

lies 150 to 250 feet below the Queen Footwall vein. The veins are similar in composition and habit, consisting at minimum of a foot or two of breccia and gouge with slickensiding containing bunchy siderite, quartz veins and pods, disseminated to solid vein pyrite and possibly Traces of sphalerite and galena; all within walls generally gradational but locally sharp, particularly on the hangingwall. In the vicinity of ore shoots, the veins broaden, the hangingwall contact becomes sharper, the siderite becomes more massive and pyrite more conspicuous.

In the ore shoot proper, the vein reaches maximum widths of 16 feet or more, and "fills" abruptly with pods and lenses of argentiferous galena of which individual masses may exceed 1000 tons. Past investigators have reasoned that galena formed by replacement of siderite. Sphalerite occurs in generally minor amounts associated with pyrite at the lateral margins and walls of the ore shoot. The hangingwall is normally sharp and solid.

Diagonally intersecting minor veins occur sparingly in the ore shoots and appear to localize deposition of thicker and richer galena. Divergence or "horsetailing" of the vein seems to be common beyond the margins of the ore shoot. Little evidence of cross faulting of the Queen or Bonanza King vein is indicated in past development or reported through strike-distances of more than 1000 feet. However minor displacements undoubtedly occur, and a breccia zone below the 750 level off the 450 level Winze is probably derived from faulting.

Experience in the closely neighboring Minnie Moore workings and other mines of the district suggests that optimum conditions for deposition of ore shoots include an intersection of a vein with more competent members of the sedimentary sequence such as hornstone or limestone the Riverview and San Jose limestones are members of a calcareous sequence lower than that occupied by past Queen development, and it is possible that upper portions of this sequence may be intersected by the Bonanza King vein below the Queen vein stoped areas.

Diamond drilling of the Bonanza King vein in this area has resulted in three successful penetrations of the vein, one of which was reported barren, two were mineralized with siderite, pyrite, sphalerite and a trace of galena. These tests would be typical of an ore-shoot margin.

The development on the main Queen vein west of the Winze on the 450 level encountered a small ore shoot (see map) representing the sole development of ore in this, the most productive, of the Queen veins on or below the 450 level. It is highly possible that this was the first pod on the east margin of an ore shoot; and that development further west on this vein would reveal more and better pods of ore.

Development of the Queen Footwall vein terminated a few feet west of stoping ore and may be suspected of stopping within the zone of deposition of the Queen Footwall ore shoot.

A fourth vein, known as the Grey Copper vein elsewhere productive, is projected as converging from the hangingwall with the Queen veins northwest of past development. The location of such convergence is highly speculative, but a convergence of two productive veins should provide a most favorable environment for an ore shoot. The small deposits of the Main Queen stope on the 450 level and the Queen extension adits near surface further northwest may be the east and west margins respectively of a shoot thus derived.

(f) If the exploration is approved as outlined in Section 5a, below, about 1500 feet of drift will follow veins known to have been productive into virgin areas where intersections with favorable strata and structures are likely to be made, all in close proximity to areas profitably mined in times past without benefit of local milling. About 200 feet of cross cutting will pick up the Queen veins within 100 feet of mined stopes with some possibility of discovery of "splits" of the Queen Veins not recognized in past mining.

This exploration will be closely followed by structural and stratigraphic studies, mapped in detail, which may indicate modifications or extensions of the program to reach more favorable sites of deposition. There is no record of such guidance to past exploration.

(g) There are no technical geologic reports worthy of note except Bulletin 814 of the U. S. Geological Survey at Pamphlet 90 of the Idaho Bureau of Mines.