

July 28, 1944

To: Jean McCallum, Mgr.
St. Louis Smelting & Refining Works
St. Louis, Mo.

From: Harrison Schmitt

Subject: Manhattan, Pleasant View, St. Helena and Eighty-eight Claims

Appendix: Cross-section Through Peerless and Manhattan Shafts

During the interval July 22-24 I examined the Manhattan, Pleasant View, St. Helena and Eighty-eight claims just east of Central, New Mexico, as by your request. The Manhattan and Pleasant View are nearly full length claims and cover the apex of the Manhattan vein. The St. Helena and Eighty-eight claims are full length claims and cover the south extension of the Peerless, Peerless No. 2 and a third vein which join on the Eighty-eight claim and continue as one vein to the south.

See Lasky, S.G.; "Bayard Area," U.S. Geol. Sur. Bull 870. Map in pocket.

Interest has been directed to the Manhattan claim particularly because of its proximity to the Peerless mine. The exposures of mineral and the appearance of the outcrops seem to be more favorable than on the other three claims examined.

The Manhattan vein can be followed for 900 ft. from the south end line of the claim along the center of the claim to the north. The walls are diorite porphyry known to be a sill or sheet intruded into the Colorado shale and sandstone. The top of the Magdalena limestone is at a depth of about 800 ft. in

in this area. The Manhattan vein is on a fault on which, judging by the striations, the movements have been largely nearly horizontal. The fault and vein on the average bears N33E and dips 80 degrees southeast. The Peerless vein is likewise a fault with nearly horizontal striations.

From the south end-line 800 ft. northeast along the vein is the inclined (80 degrees southeast) Manhattan shaft reported to be 160 ft. deep. In this shaft water is standing at near 110 ft. below the collar. This water level is more or less permanent and sulphides are known to predominate just below it. Northeast and southwest of the collar of the shaft the vein averages 2 1/2 ft. to 5 ft. wide and is filled with quartz, gossan and brown jasperoid. The south wall of the shaft is a small stope which may extend as deep as the 30 ft. level. The shaft is on a split in the vein the open fork of which points northeast. On the easternmost split 85 ft. northeast from the shaft is an inclined shaft which connects with the 47 ft. level. This shaft is on what appears to be the strongest branch of the vein and exposes 5 ft. of quartz, jasperoid and gossan. The vein is covered northeast of this exposure.

The 47 ft. level extends northeast of the main shaft for a maximum distance of about 90 ft. and separate drifts follow the two vein branches beyond the split. There are a few small stopes on the westernmost branch but the easternmost split looks the strongest and contains 3 ft. of gossan and other material. An 39 ft. level extends 37 ft. south of the main shaft and exposes

an oxidized vein varying from one to $3\frac{1}{2}$ ft. wide. Presumably the small stopes, which are all above the 47 ft. level, produced material largely valuable for gold as has been the case with most of the other shallow workings in the area. There is a little pyrite exposed in the vein on the 99 ft. level just above the water level and 5 ft. northeast from the shaft. A sample cut here $3\frac{1}{2}$ ft. wide, the width of the vein, assayed Au .14, Ag .58, Cu .10, Pb .60 Zn .60. Near the shaft collar are a few tons of stacked material containing lead and zinc sulphides with quartz and manganese bearing carbonate gangue. This is supposed to have come from a level driven near the bottom of the shaft. (The 180 ft. level?)

At 408 ft. southwest of the main shaft is a shallow surface cut on the vein which has exposed good looking vein 3 ft. wide filled with sulphide (?) gossan and quartz. The walls are strongly altered and broken diorite porphyry.

At 700 ft. southwest of the main shaft is a large cut in the vein about 30 ft. deep which has exposed 7 ft. of vein bearing 337W and dipping 77 degrees southeast. The vein filling is largely a brown iron-manganese carbonate with minor quartz, jasper and sulphide (?) gossan. Some of this material is said to have assayed up to 15% Zn.

At 796 to 826 ft. southwest of the shaft is a shallow open stope on the vein where it is said oxidized lead ore was mined. About 10 in. of quartz and gossan is exposed. The south end of the stope is at about the south end-line of the Manhattan claim.

The Pleasant View claim contains the Manhattan vein for its full length. Here the vein in general appears weak and uninteresting.

On the Eighty-eight claim as noted above the vein exposed is the southwest extension of the joined Peerless and Peerless No. 2 and a third vein. The vein is largely covered but a few of the exposures are interesting in that some quartz, jasperoid and minor gossan are visible.

The vein on the St. Helena claim is the southwest extension of the vein on the Eighty-eight claim is fairly well exposed. I examined the mine in June, 1934. The main shaft is on a west parallel vein about 40 ft. northwest from the main vein. This vein bears northeast and dips 85 degrees southeast. The shaft was reported to be 185 ft. deep and fragments probably from the bottom of the shaft show predominating carbonate, slight quartz, pyrite and chlorite. In 1934 I sampled the shaft and tributary small workings down to the 102 ft. level. The maximum vein width was 4.3 ft.; the average much lower. The vein filling was composed of quartz, gouge, jasperoid, carbonates, manganese oxide and pyrite. No galena and sphalerite was seen. No samples assayed over .07 oz. in Au. Lead, zinc and copper were not determined but apparently these metals are not important.

The open cuts on the main vein and southwest from this shaft expose a better looking vein up to 3 ft. thick, but averaging about 1.5 ft. thick, which bears N10E, dips 78 degrees southeast and contains quartz, manganese and iron oxides and in 1934 contained several small shoots of gold ore averaging about .3 oz. of Au. to the ton. No assays for lead, zinc or copper were run.

To Mr. McCallum

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General

No one of the now exposed parts of the veins on the four claims would normally create much attention but the good success of the Peerless mine developed below comparatively poor looking outcrops has renewed interest in the area. The sill or sheet which makes the wall rock in the area also enclosed the original Ground Hog mine ore shoot. The Peerless mine ore varies from zero along the vein to 12 ft. thick and assays up to 35 per cent combined base metals and 3.0 oz. silver. The ore shoot as exposed is largely horizontal. There are rapid pinches and swells and a poor looking vein on the surface becomes a minable ore shoot in depth. The outcrop at the Peerless mine looks only slightly better than that of the Manhattan vein.

It seems to me that the vein on the Manhattan claim is worth some development work perhaps taken in limited steps. The first of these would be to unwater the shaft and see what is in the bottom. If favorable, some diamond drilling should be done near the main shaft and below the lowest level. Your company has a bull-dozer on a local property and this should be used to expose the Manhattan and Eighty-eight veins in places where they are covered by mantle rock. Two other places on the Manhattan vein look favorable on the surface, one 400 and one 800 ft. southwest from the shaft. These outcrops can be easily tested in depth by drilling.

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