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Identification of Target Areas for Exploration in the El Oro Gold District, Mexico and Michoacan states, Mexico, Based on Fluid Inclusions and Mineral Textures.

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The El Oro project is located in the El Oro-Tlalpujahua mining district, approximately 120 km northwest of Mexico City, straddling the border between the states of Mexico and Michoacan. The geology consists predominantly of Tertiary and Quaternary andesitic flows and tuffs underlain by Cretaceous and Jurassic meta-sediments and meta-andesite. The meta-sedimentary rocks host the productive gold and silver-bearing quartz-bladed calcite veins. The El Oro district has been mined since the Spanish first discovered the outcropping veins in the Tlalpuajahua area in 1529.

In the late 19th and early 20th century, the El Oro deposit was the most important gold-silver camp in Mexico with past production of over 8 million gold equivalent ounces from the San Rafael and Veta Verde veins. The production from the Borda and Corona veins is poorly documented. The veins vary in thickness from millimeters to over 70 m, and can be traced for over 3.5 km along strike. Most of the known veins in the El Oro district strike NW-SE with a steep dip (65-80 degrees) to the west for veins located in the eastern part of the property (San Rafael and Veta Verde veins) and to the east for veins located in the western part of the property in the Tlalpujahua area (Corona and Borda Veins)

Samples collected from underground workings, drill holes and surface outcrops in the El Oro gold district show a wide variety of silica and calcite textures and fluid inclusion types that are produced by boiling hydrothermal fluids. Evidence of boiling is often associated with gold and silver mineralization in epithermal systems, and the presence of abundant features indicating boiling suggests a higher probability for precious metal resources in this area, compared to areas where this evidence is absent. Importantly, boiling below the deepest levels explored in some areas of the El Oro gold district is likely, thus increasing the probability of additional gold and silver mineralization at depth.

Numerous samples from the San Rafael vein were examined. Fluid inclusion assemblages (FIAs) consisting of coexisting liquid-rich and vapor-rich inclusions with a broad range in liquid-to-vapor ratios, as well as textural evidence of boiling, was observed at the northern and southern ends of the San Rafael vein. However, samples located in the deepest part of the vein between Tiro Mexico Sur and Tiro Chuparrosa show only textural evidence of boiling (i.e., no fluid inclusion evidence was observed). Samples from Veta Borda, Veta Corona, Veta Verde, Veta Nueva, and Veta Monte show both fluid inclusion and textural evidence of boiling.

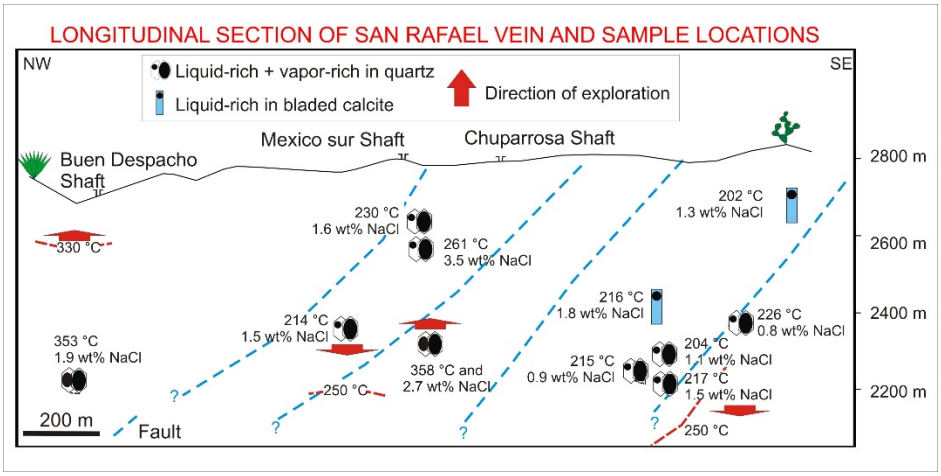

Figure 1. Results of reconnaissance microthermometric analyses of (1) coexisting liquid-rich and vapor-rich secondary fluid inclusions in quartz showing a broad range in liquid-to-vapor ratios, and (2) secondary liquid-rich fluid inclusions in bladed calcite.