NEIL GOLDSCHMIDT
GOVERNOR

Department of Geology and Mineral Industries

1831 FIRST STREET, BAKER, OR 97814 PHONE (503) 523-3133

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MAHOGANY PROSPECT
MALHUER COUNTY

VISITED BY MARK L. FERNS
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Visited Manville's Mahogany Prospect with Joe LeVay, who discovered the property. The property is visible from U.S. Hwy 95 in Sec. 25,36, T.26S., R.46E. about 1 mile west of the Idaho border.

General geology: The property lies in Miocene lake sediments of Kittleman's Sucker Creek formation. The lake sediments occupy a large, somewhat circular shaped depression that is bounded to the north and east by highlands made up of enormous per-alkaline ashflow sheets (Jump Creek Rhyolite). Both Levay and Jim Rytuba (USGS) feel that this is a large caldera that is filled in part by Miocene moat-sediments. From what Joe showed me, a strong argument could be made that this is the source for the Jump Creek rhyolite exposed on Hwy 95 on French John Hill in Idaho. If so, it is younger than Rytuba's Mahogany Mountains Caldera to the west.

Manville's working model is that the prospect is related to emplacement of post-collapse resurgent domes in the caldera floor.

The prospect is a hot-springs-type system with a small sinter cup with interbedded hydro-breccias that contains some vegetable matter. The cup is apparently underlain by hydrothermal vent breccias that are cemented and veined by calcite-zeolite and minor quartz. Levay thinks that the sinter is subareal and the calcite-zeolite breccias are subaqueous.

Dozer cuts to the southeast of the sinter have exposed a hydrothermal vent area in the subaqueous sequence where vertical pebble dikes cut across finely laminated bedded material. The core consists of grayish green zeolitized breccias that are cut by numerous quartz-adularia veinlets. Some breccia fragments show multiple veining and fracturing stayes. The quartadularia core grades laterally into a calcite-zeolite assemblage. According to Levay, one cut across the core graded 65 feet of .05 oz/ton Au. A second cut contained 10 feet of .20 oz/ton Au.

MAHOGANY PROSPECT Cont.....

Bedded sinter and hydrothermal breccias are aligned along a northeasterly trending structure and dip away from the structure. A peculiar looking "conglomeratic" unit underlies the hydrothermal breccias. These are poorly sorted matrix-supported conglomerates that contain some well rounded, polished pebbles. Again, according to Levay, the matrix in this unit consists solely of perlitic ash. The unit shows some grading and is locally cross-bedded. Abundant wood and angular volcanic rock fragments are incorporated into the conglomerates. We found that some of the well-rounded, polished pebbles were silicified and contained sulfides. We also found some ropy dacite fragments that showed evidence of flowage after incorporation into the "conglomerate". Perhaps indicating that they were still partially melled. The present thinking is that this unit is a dacitic base-surge deposit vented from the resurgent dome presumed to underlie the system. The unit dips back into the hill under the hydrothermal vents and could easily be a siliceous maar.

Deborah Gilbert, a master's student from the University of Washington worked last summer on the property. She will be back for several weeks this summer and try to pin down the origin of the "conglomerate". A base-surge model has interesting implications on the "Deer Butte conglomerates" at Vale Butte, Red Butte, and Deer Butte.

One interesting aspect about the property is that it is surrounded by massive zeolitized lake sediments. Some of which contain interbedded pyritic siliceous zones. A second interesting aspect is that main ore zone does not show any sort of color anomoly. I sudder to think how many of these things I have walked by.

Chevron is in a joint-venture with Manville on the property and plans to drill this summer. At this juncture, it appears that main feeder zone this far indentified will be small, several hundred thousand tons in size. Viability of the property will depend on finding either additional feeder zones or replacement zones in the conglomerate unit.