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REPORT ON STRUCTURAL GEOLOGY
of the
PANSY LEE MINE
WINNEMUCCA, NEVADA

LOCATION: W 1/2, W 1/2, SW 1/4, Section 6, Township 36 N, R 37 E, Mount Diablo Base Line and Meridian.

PURPOSE OF SURVEY:
To detail the structural features for a proposed exploration program.

AREAL GEOLOGY:
Block faulting is predominant in the area north of the shaft. Triassic beds of quartzite and phyllite form escarpments; the more resistant quartzite beds appear as hogbacks. Dip slope is southeast. It is one of these quartzite hogbacks that forms the walls of the main vein of the Pansy Lee.

South of the Pansy Lee shaft the formation changes to eroded beds of tuffs and basalt lying uncomformably on the upturned triassic formation. It is not apparent what influence, if any, the volcanics may have had on the mineralization, but, to the writer's knowledge, no important connection has been noted thus far.

GEOPHYSICAL ASPECTS:

A magnetometer survey was made to determine the relationship between the granodiorite basement rock and the ore deposition. There was no magnetic change found which correllated with the granodiorite, however, there was a distinct magnetic change produced by the contact between the quartzite and phyllite beds. This was of no great advantage in tracing the structure as most of the veins and contacts are well exposed and easily distinguished by eye.

UNDERGROUND WORKINGS AND GEOLOGY:

Underground workings consist of nine levels spaced at 100 foot intervals, all connected to an inclined shaft dipping 70° east. Stopes and drifts disclose a uniform vein striking about N 20° E and dipping 70° E.

Underground Workings and Geology, continued:

On the 810 foot level the ore has been stoped northerly some 200 feet, a pillar of shipping ore having been left at the shaft. South, on this same level, stoping has been carried to the 500 foot station. A general survey of the workings on this level and on the upper levels reveals a change of the vein structure as it leaves the quartzite and enters the phyllite. The phyllite being a much weaker rock has failed to confine the mineralizing solutions to the original walls. Microscopic examination reveals at least four different periods of faulting; each period accompanied by ascending solutions capable of attacking and weakening the phyllites. The phyllite composition is approximately that of felsite tuffs, in fact, there is strong evidence that a good deal of the quartzite and phyllite is composed of volcanic tuff and ash.

SURFACEGEOLOGY: (Local)

The accompanying plan and cross section show the structural geology in the immediate area of the vein system. The Carpenter vein is in the phyllite, striking approximately N 60° E and cutting the stratification of the phyllite both in strike and dip. The vein crossing the Carpenter is not fully developed, but appears to be more closely associated with a quartzite ledge which occurs at this location. Previous work on the Carpenter vein produced some good shipping ore near the surface, but faulting with depth caused the operators to abandon it. Apparently the workings on the 585 foot level failed to reveal anything promising when exploring the Carpenter vein at that depth. At least this is indicated by the old maps.

Extending the area to be considered to the Nevada Consolidated property, some 1300 feet south of the Pansy Lee shaft, shows that the veins in the phyllite on the Pansy Lee have a close resemblance to those in the phyllite in the Nevada Consolidated 1910 Mine, both in strike and

Surface Geology (continued);

dip. The vein exposed at the top of the quartzite hill, 1300 feet N.W. of the "1910" also has a strike similar to that of the Pansy Lee main vein. A more convincing key to the major post mineral faulting may lie in the segments of quartzite which are exposed thusly:

1. 100' south of the Carpenter vein
2. 350' S.E. of the 1910 shaft
3. 700' west of 1910 shaft
4. 1800' west of "1910" shaft

The aligning of these four similar segments also aligns the larger quartzite outcroppings and the 1910 vein appears as part of a sliver fault segment which may have been part of the Carpenter vein. This appears as the most likely picture prior to the major post mineral faulting.

CONCLUSION:

The weakness of the phyllites and the intense post mineral faulting indicate that ore would occur as kidneys and lenses only or in large low grade bodies in the phyllites. Past production in the unfaulted phyllite of the "1910" proves that it is possible for this particular rock to house commercial ore bodies that warrant exploration. In view of the fact that the mineral bearing solutions were very high in salts of arsenic, iron, sulphur and lead it is likely that an electrical survey would be a very satisfactory means of outlining the faulted zones and the ore bodies that may exist. This electrical work is best done in the spring of the year when there is moisture in the ground. For depth measurements the resistivity method is recommended. This survey should be checked with one or two drill holes before actual development is started. The Carpenter vein and its cross vein are best suited for electrical investigation. The southern extension of the "1910" is also well suited to this type of survey. A survey of the vein systems in the quartzites, using the resistivity method, would be particulary advantageous.

Respectfully submitted,

Wade M. Dale.