



**November 6, 2013**

**Field Investigation Summary—Golden Wonder Mine**

*By Rauno Perttu—Project Geologist*

***Based on my field investigations:***

- ***At the Golden Wonder Mine, All of the exploration and production to date has been from the southwestern part of one northeast-trending vein complex. Based on surface observations, the strongest part of the vein complex remains unexplored and unmined, to the northeast of the current and historic activity. The potential is strong for the discovery of new ore bodies as large or larger than those historically mined within the zone.***
- ***The Golden Wonder vein complex is one of several northeast-trending mineralized zones. The other zones remain unexplored.***
- ***The Golden Wonder has impressive potential for new and larger reserves for near-term and long-term production.***

On October 14 and 15, 2013, I revisited the area uphill of the Golden Wonder mine in Hinsdale County, Colorado, that is encompassed by LKA's mining claims. I wanted to better understand the mineral system to help guide future expansion of the known mineralization at and near the mine. Over two days, I traversed much of the surface to the north, northwest and northeast (all uphill) for more than one half-mile outward from the current mining operation. My immediate goal was to find support for, or to challenge the proposed boiling zone model, which I believe is associated with the very high-grade gold mineralization at the mine. In many low-temperature gold systems, the zone where super-heated fluids flash to steam (the boiling zone) is most strongly mineralized because, as the fluids flash to steam, the contained minerals, including gold, are left behind in a fashion similar to the ring that forms inside a tea pot.

Most of the surface I traversed is blanketed by colluvium and soil, but local areas of bedrock are locally visible. During my field work I encountered numerous prospect pits, some small shafts and adits, and much alteration of the Tertiary rhyolitic rock. Although I encountered prospects and areas of strong alteration to the limits of my review, to about a half-mile from the mine, it was clear that zones of alteration and prospect pits extend well beyond the area of this most recent field work.



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### **Additional zones of mineralization**

In several instances, prospect pits appear to be aligned in the same roughly N50E trend of the known veining at the mine. In walking these prospects, it became clear that many pits are outside the northeastward projection of the zone of veining in the mine, and that groups of aligned pits may be outlining sub-parallel mineralized zones both east and west of the mine zone.

I took samples to test for signature chemistry that would indicate a high-grade gold system may underlie the pits and workings, perhaps deeper, at the same elevation as the boiling zone at the mine. The results were educational. Only one of the samples showed measurable gold. This is important because one of the samples I took was from directly above the previous and ongoing high-grade production at the Golden Wonder. This sample was a deliberate attempt at a select high-grade sample. This attempted high-grade sample contained no measureable gold or tellurium. It had slightly elevated arsenic, antimony, copper and lead. The historic mining at the Golden Wonder has repeatedly shown no significant mineralization in the wall rock around the high-grade veins. My sampling appears to support the findings at the mine. Had gold mineralization bled into the wallrock surrounding the ore veins, prospectors would have been able to follow this halo mineralization to the ore bodies, and the mine might have been historically developed.

A sample I took that did contain measurable gold came from a prospect pit located approximately a quarter mile northeast of the known Golden Wonder mine mineralization, along a N50E trend, defined by several prospect pits. This zone lies at least 500 feet east of the northeastward projection of the Golden Wonder trend, so it is a different, more easterly zone from the one that contains the mine. This new zone also contains an old mine working that shows strong clay alteration in a large dump that shows the mine had significant work and historic production. A sample from the dump of that working showed slightly elevated copper and zinc. The historic mining operation and associated prospect pits are all at a higher elevation than the Golden Wonder, and up to a half-mile further northeast.

Another sample from a prospect pit located approximately half-way between the trend of the Golden Wonder ore zone and the newly observed zone I just described contained elevated arsenic and strongly altered volcanics in an area with few outcrops. A limited number of prospect pits near this pit suggest an additional northeast trending zone. This zone is also at a higher elevation than the Golden Wonder.



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### **Extensions of the known Golden Wonder zone**

Having established that ore zones additional to the established Golden Wonder zone are likely on LKA's claim block, on the second day of my field work, I focused on the very near-term potential for new ore bodies along the Golden Wonder zone immediately adjacent to the current operation. In reviewing the known Golden Wonder vein system, I noticed that the best surface indications of underlying mineralization are not over the current or historic Golden Wonder mine operations. The strongest alteration and most numerous prospect diggings are concentrated in an area at least 400 feet wide, which is broadly centered about 200 feet N70E from the northeastern-most workings of the Golden Wonder mine, in an area with no exploration information. It is unclear whether this broad area of alteration weakens further uphill, or whether the apparent weakening is due to either reduced bedrock exposures, or because the mineralization weakened upward and away from the main boiling zone. If the strongest mineralization is associated with the elevation of the boiling zone, which I believe is likely, it may continue northward under the deepening rock cover, so an apparent weakening of the system may instead represent increasing elevation above the boiling zone.

### **Key Observations**

- My field investigations north of the Golden Wonder vein clearly suggest several additional mineralization zones.
- These zones continue for at least a half-mile northward from the Golden Wonder mine, and could continue further.
- Along the Golden Wonder zone of veining, much of the area of strongest alteration and historic prospecting is northeast of the production and exploration to date. The alteration zone area is hundreds of feet wide and continues for hundreds of feet along trend to the northeast, suggesting a much bigger exploration target area than has been explored to date.
- Halo mineralization around the Golden Wonder ore zones is very limited. Observed rock alteration and silicification are likely better guides to new ore zones. This lack of halo mineralization would have been discouraging to earlier prospectors, but is a welcome indicator for us that the new zones that I believe exist would not have been found by earlier prospectors, who similarly did not discover the ore being mined by the current operations.



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- Along the Golden Wonder zone, the historic production has occurred southwest of the strongest surface alteration, which is very encouraging for future discovery of new ore near the mine, along the Golden Wonder zone.
- I believe the limited assay results and additional surface work support my boiling zone model, and confirms that we can initiate a solid, inexpensive ore reserve expansion and exploration program from the existing workings to locate new, and possibly larger ore zones, in the near-term.
- Additionally, there is very strong field evidence for the existence of additional mineralization zones near the Golden Wonder zone, but these are clearly separate zones. I believe future exploration of these new zones will result in the discovery of future ore bodies for longer term production.