

# The Importance of the Kinross Golden Wonder Discoveries and How to Maximize LKA's Opportunity.

Confidential Report to LKA Management Rauno Perttu, Project Geologist

October 17, 2018

The purpose of this report is to explain the importance of the surface discoveries and subsequent drilling data yielded by the 2016-2017 Kinross exploration program at the Golden Wonder and the best strategy for maximizing the opportunity they present.

## **Newly Discovered Structures**

The existence of the multiple fault zones and geochemistry halos (potential locations for new high-grade ore zones) immediately up the hill, and for a substantial distance, beyond the original Golden Wonder discovery, provide exploration guides for the property that were not previously defined or understood. These structures are now the focal points for future Golden Wonder exploration....the search for additional high-grade ore shoots. Consequently, LKA's exploration risk, in terms of money required to identify prospective targets, may have been significantly reduced.

Below I briefly address the importance and potential of these structures and conclude with my suggestions about how to focus our exploration and maximize our chances for success. (See structures identified below on Kinross-produced exploration maps)

### **Surface Geochemistry Identified Anomalies**

It is important to remember that the Golden Wonder vein is almost certainly not an isolated occurrence. The Golden Fleece mine across the valley is a similar highgrade telluride gold occurrence that lies on projection of the structural trend and at the same elevation. Both of these mines occur in the projected boiling zone of the gold system. Those are the only spots where the boiling zone in the gold control structural trend was exposed by erosion in the rugged topography of the area. To the north and east of the Golden Wonder mine, the entire package of exploration targets is situated above the projected boiling zone in which new high-grade ore bodies are most likely to occur. The overall geological setting and new information from the Kinross work suggest that the strongest part of the mineral system lies to the north and east of the Golden Wonder mine and remains unexplored at the elevation of the boiling zone.

The Kinross work, particularly the soil geochemistry, defined some of these new gold targets. The soil survey somewhat surprisingly didn't show a strongly anomalous area "halo" around the historic Golden Wonder vein above the historic workings. This is likely the case because gold at the mine is limited to the vein. The wall rock is basically devoid of gold. Further, the land surface above the mine is above the known boiling zone, so it is situated above the gold mineralization. These factors may be the reasons no strong soil anomaly exists directly above the mine. The Kinross map, however, does show a soil target area that extends from just northeast of the historic workings northeastward along the projection of the Golden Wonder structure, expanding at and beyond the intersection of the Golden Wonder structure with the crosscutting northwest-trending 3 Cabin fault zone. The presence of this soil anomaly suggests that the mineralization extends and may actually strengthen to the northeast.

In the bigger picture, the mapped soil anomalies reflect the northeast trend of the Golden Wonder vein and of the parallel Red Cloud structure a short distance to the north. These anomalies continue to the curving Horse Creek fault a mile northeast of the end of the historic workings. The biggest anomalous area identified by Kinross is just west of the curving Horse Creek fault near the projection of the Golden Wonder vein system with the fault. At this location, Kinross mapped 3 fault segments parallel to and west of the Horse Creek fault that may reflect a broader zone of faulting. The largest mapped soil anomaly is located at this spot and represents a particularly interesting exploration target.

All Kinross's mapped structures and soil anomalies are several hundred feet higher in elevation than the gold system's boiling zone, which controls the vertical limits of the gold ore at the Golden Wonder mine. Although the boiling zone limits of the gold ore may vary away from the historic mine, it's likely the boiling zone continues to be well below the surface in the exploration area. That these target areas show surface geochemical evidence this high in the system is a positive sign. This and the increased number of geochemical targets and structures to the north and east



suggest that the mineral system may strengthen to the northeast, and that the Golden Wonder may actually be southwest of the main mineral system. There is a further possibility that the mineral system is actually centered even further northeast in the ring faulting at the border of the caldera, about two miles northeast of the Golden Wonder workings (beyond the map).

## 3 Cabin Fault

The 3 Cabin Fault is a NNW-trending structure that is defined by a local juxta positioning of mafic rocks to the east against rhyolitic volcanics to the west. The fault crosses the Golden Wonder vein structure to the northeast of the historic Golden Wonder workings. The trace of the fault is marked by a series of prospect pits and small shafts. Locally, as at the Golden Wonder vein crossing, these prospect pits flare out into a zone up to more than a hundred feet across. The surface geochemical anomaly mapped by Kinross that follows the Golden Wonder vein projection terminates a short distance beyond this crossing. Of note, although the surface anomaly mapped by Kinross at the crossing of the 3 Cabin Fault with the Golden Wonder flares at this crossing, the surface anomaly does not follow the 3 Cabin Fault to the north or south, but the prospect pits do continue to extend along its trace. This may suggest a tight mineral system at this location with no bleeding of mineralization into the wall rocks, as at the Golden Wonder mine.

### **Moose Lake Fault**

The Moose Lake NNW-trending structure is a probable fault that crosses the Golden Wonder structure similarly to the 3 Cabin Fault. Again, no surface anomaly was mapped by Kinross along this structure. However, the proximity of the structure with the termination of two of Kinross's anomalies at this structure, or alternatively the offset of one initially longer structure is noteworthy.



## **Horse Creek Fault**

The Horse Creek fault is a curved fault zone that is almost certainly a part of a caldera ring fault. Its proximity to the Golden Wonder vein suggests it is a part of the mineralization control structures that emplaced the Golden Wonder and potentially other ore bodies. Traditionally, ring faults of calderas dip into the caldera and are often

key conduits for ore fluids. Any structures that cross the caldera can provide additional conduits for mineralization to migrate upward from the caldera's ring faults. In this case, the northeast-trending Golden Wonder structure may have provided a conduit for ore fluids migrating up from the underlying Horse Creek fault structure. Similarly, the other structures on the property may have formed similar fluid pathways. The three local faults mapped by Kinross that parallel the Horse Creek structure near the projection of the Golden Wonder structure with the Horse Creek fault very possibly are associated slump blocks that splayed from the Horse Creek fault. Although the fault doesn't have a surface geochemical target directly on it, the biggest target identified by Kinross underlies the projection of the Golden Wonder screek fault. Additionally, four of Kinross's geochemical targets are proximal to the interior wall of the caldera's Horse Creek fault. These types of splay faults "horsetails" often form additional ore zones in caldera-related ore systems.

### **Proposed Drilling Plan**

The new planned Golden Wonder drilling program by LKA will be driven by the information and data generated by the Kinross exploration program. Kinross completed a very limited five-hole program that tagged mineralization on or near three structures. Their holes 16-01 and 16-02 apparently were drilled to test a structure they named the Red Cloud vein that is just north of and parallel to the Golden Wonder vein and to continue to the Golden Wonder vein. Hole 16-01 intersected two zones of anomalous gold mineralization that may represent these structures, but high in the system above the boiling zone. Holes 17-03 and 17-04 were likely drilled to intersect the Golden Wonder vein northeast of the historic workings. Both holes hit gold-bearing telluride. Where the vein was intersected, contact was made both above and below the projected boiling zone horizon, which is where ore would most likely occur. Despite that, the holes intersected mineralization, suggesting the ore system continues northward and eastward. Hole 17-05 was likely drilled to test the 3 Cabin zone near its intersection with the Golden Wonder vein. Although the hole hit spots with anomalous gold in the upper and middle potions of the hole, it appears to have been drilled east of the structure and not to have reached the Golden Wonder vein.

It is important to remember that the Golden Wonder ore body, although extremely high-grade and valuable, was very limited in area. This means individual drill holes can miss a new ore shoot even when drilling across an ore-bearing structure. The mineralization in Kinross's drill holes suggests they hit ore structures even if they didn't hit another Golden Wonder style ore shoot. They also didn't drill their best newly identified targets, probably because they are further out from the historic workings.

LKA's program plans to follow up on the new information. The initial holes LKA plans to drill next are follow-ups on Kinross's drilling, hopefully to be followed by testing of the step-out targets.

- The Golden Wonder structure near the mineralization in holes 17-03 and 17-04 needs to be drilled in the boiling zone elevation, which is below hole 17-03 and above hole 17-04.
- The Golden Wonder zone should also be tested along its extension to the 3 Cabin zone. This area contains a wide surface soil anomaly and remains completely untested.
- The 3 Cabin zone is defined by numerous historic shafts and prospect pits. The intersection of the Golden Wonder structure and 3 Cabin zone also shows a widening and strengthening of the soil geochemical anomaly. The Cabin zone and its intersection with the Golden Wonder structure need to be drilled. Although hole 17-05 had spots of mineralization, it did not intersect the 3 Cabin zone, and likely did not reach the Golden Wonder structure, at least at the favorable elevation.
- The soil anomaly at the intersection of the projected Golden Wonder structure with the Horse Creek fault, in the area where Kinross mapped 3 parallel faults in close proximity, is a location that should be a high priority for drilling.