CRD Discussion

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CRD Targeting 1: Geometry ("Skeletal")

A critical element in effective exploration of carbonate replacement (CRD) deposits is a clear understanding of the orebodies' geometries and metal zonation patterns as seen in CRD analogs from around the world. The figures to the right show plan views of mineralized mantos and chimneys at the Santa Eulalia deposit in Mexico and the Tintic deposit in Utah. Mantos are often characterized as elongate rods of high-grade massive sulfide mineralization replacement in carbonate rocks often 20-100 meters wide. 10-40 metres thick and up to as much 3-4 kilometers length. These ore body in geometries typically result in a distribution the 'skeletal' of orebodies exemplified in the figures to the right.





Above: Skeletal Orebody Geometries Santa Eulalia district, Mexico and the Tintic district, Utah (courtesy: Dr. Peter Megaw)

CRD Targeting 2: Mantos

The figure below demonstrates that mineralized mantos can be stacked over a significant vertical relief in any given district. At Santa Eulalia, ore bodies are stacked over a kilometer of vertical stratigraphy. Importantly and as a rule of thumb in CRD exploration, the first favorable limestone or dolomite (i.e., the deepest) encountered by the ascending mineralizer is often by far the most productive. Mantos in general attenuate in scale as you move outward in the system.





Above: Cross-section of the West Santa Eulalia district showing stacked mantos over 1km of stratigraphic thickness. (courtesy: Dr. Peter Megaw)

CRD Targeting 3: Metal Zonation Patterns

The final critical targeting aspect in CRD exploration is the metal zonation patterns indicative of where in the 'skeletal' geometry the encountered mineralization occurs. Figure 3 shows a plan map of the Hermosa/Taylor deposit in southern Arizona. The deposit exhibits classic CRD metal zonation both laterally and vertically between stacked mantos with proximal Cu-Zn-Ag-Au, intermediate Zn-Pb-Ag and distal Ag-Pb-Zn and Ag-Mn.

Right: Plan view of the Hermosa/Taylor Deposit, AZ showing both lateral and vertical metal zonation in the stacked mantos. (modified from AZ Mining, 2018) WESTERN ALASKA

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The Company would like to thank Peter Megaw for his support and technical input into the company's recognition of the major CRD potential at Illinois Creek. His input has been invaluable in helping formulate our strategic planning and to better identify the world-wide analogues and the commonalties in CRD deposits outlined in the discussion above.

Peter Megaw's CRD Checklist



World-renowned silver expert & WAM Technical Advisor:

Dr. Peter Megaw Co-Founder, MAG Silver



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- 1. Location Main Street CRD Belt
- 2. Ag (+400g/t), Au, Zn, Pb, Cu + Mn, Mo, As, W, V, Cd
- 3. Multiple mineralization and alteration stages
- 4. Large-scale zoning
- 5. Located at top of carbonate section (room to grow)
- 6. Presence of Felsite dikes
- 7. Discordant geometry (not syngenetic)
- 8. Replacement mineralization
- 9. High iron sphalerite
- 10. Pyrite pseudomorphs after pyrrhotite (not yet determined)
- 11. Molybdenum mineralization (not yet determined)
- 12. Granitic Stock

Is the Illinois Mining district a major new CRD belt?

May 2022 land acquisition along potential CRD belt



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