

Micro Mining

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Current Status



Very few rural communities are in control of their destiny and would like to gain a stronger stance to the direction they wish to travel

Natural Resources have been largely exploited using a model of a stipend for the use of the land with the promise of jobs

Opportunity is to gain control of the resources through manageable organic growth of community owned companies



Personal Observations of Many Rural Communities



- Social issues are the most pressing problem
 - Complaints of under funding, complaints of mismanagement
 - Competing constituencies causing more angst
- Economic models have been based on corporate objectives rather than community needs
 - Of course it is because that is who drives the agenda
 - Rural position has largely been one of protest as we have been put in that situation
- Systems used in resource exploitation geared toward highly educated and utilizes a network of specialists to keep the systems running
 - These systems marginalize the participation of the community in the process because of our education levels in the community



Opportunity

- Communities have been reluctant to move into mining
 - Economic model lost
 - Advanced exploration rarely committed
 - Regulations
 - Costs not understood
 - Junior mining companies are trying to follow the larger companies...go big
- Communities can move into mining with confidence
 - Micro mining is the key





Examples

Small scale mining



Location Chile





Mine Location





The setting, rural Chile, camp on the left, mine working on the right.





Low tech excavation techniques (pick and shovel)





Low tech, manual winching





Ore stockpile for toll treatment





Southern Africa



Historic diggings along an alluvial gravel run delineate part of an ancient channel





Low Tech solutions











Russia – Ural Mountains



Sampling





Open up the ore body





Small Modular Plants





But what about here in Canada?



A Hypothetical Case

- Diamond Drilling proves reserves for prospect to be 150,000 ounces at 0.4 oz/ton
 - NI 43-101 compliant
 - Current Value
 - ~CDN\$ 90 million (@ C\$600/ tr oz)
- No one currently interested in this property... But You!
- Environmental assessment started with the understanding the property is going into advanced exploration stages



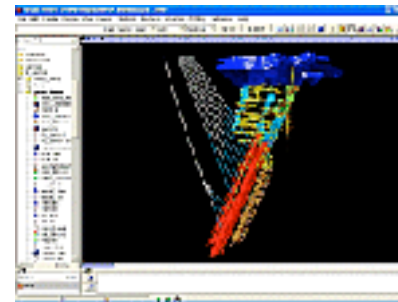


Mine Plan / Development

- Proven reserves (Starting Point)

- Year 1 Get underground

- Hoist Plant and Shaft
 - Lateral development in ore
 - Set up for extraction
 - Set up for exploration



- Year 2 Mine 15 -20 000 ounces

- Review plan
 - Environment Assessment for Mining
 - Set up for exploration

<CDN\$ 5-7 Million



- Year 3

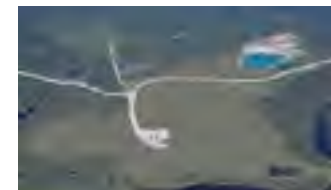
CDN\$10.6 – 14.1 Million

CDN\$10.6 – 14.1 Million



Add the Mill and Closure Plan

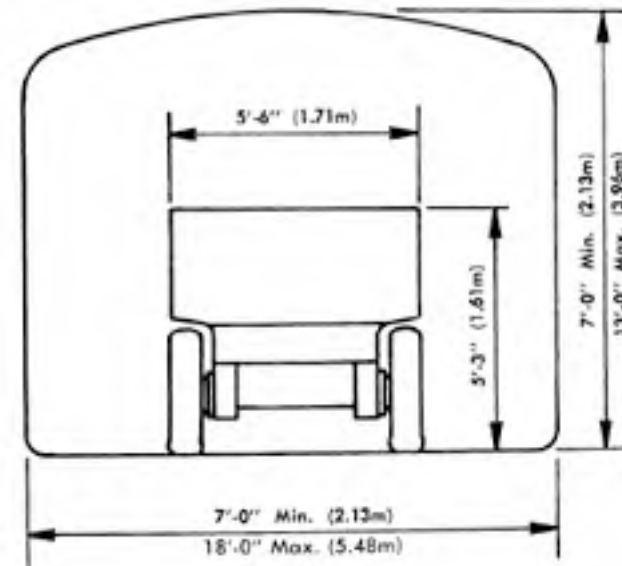
- Add the mill after engineering studies completed and the GO/NOGO gate is passed
 - < CDN\$2 Million
- Continue the mine review and keep exploring for new reserves





Mine Plan / Development

- Use machines that are easy to use and repair
- Minimize material required to move to surface
- Minimize energy requirements per cubic meter





Conclusion

- Communities can get to production without excessive expenditures
- Micro mining is the future for many Canadian companies by use of appropriate technology, manageable mining plans and a stewardship for the community first
- Golder Associates can make it happen





In Closing

- **Mining can be community based and be a launch pad for development**
 - Community sustainability and stability can be derived from taking advantage of the material in the area
- **At Golder Associates Ltd...**
 - **We believe that the most sustainable thing in our communities are people and ideas**
 - We help balance ideas and the communities with real solutions
 - **We believe we have a lot of good people and ideas**
 - We want to work with communities and companies in developing their vision of Sustainable Development

