

Los Angeles, California
September 6, 1983

TO: FELLOW EXPLORATIONISTS
FROM: S. MUESSIG
SUBJECT: SOME THOUGHTS ON EXPLORATION

*Ken
with all best wishes
Sip*

Following are some thoughts on exploration philosophy that I have developed over the years. They are obviously not all original with me. As is the case with many of you, over the years I've been exposed to some pretty wise individuals, all of whom have influenced my thoughts and professional attitudes.

Therefore, with thanks to my unnamed mentors, I'd like to pass on these thoughts, with the hope that they might stimulate your own thoughts and perhaps shorten the time and reduce the amount of money needed to find our next ore body. Good hunting!

1. Know the geology of the area you're looking at and know all you can about the deposits that occur or could occur there. Be realistic about the geologic permissiveness. Develop a realistic model, one that distinguishes observations and facts from hopes.

AVOID THE "COULD BE" SYNDROME.

2. GETTING IN CLOSE IS THE "ART OF GEOLOGY."

3. If there is a question of genesis vs. empirically derived facts, GO WITH THE FACTS, FORGET THE THEORY. For example, in a drilling program, when the physical model has been tested, considerations of the genetic model, whether understood or not, should have no bearing on the decision to drop or continue.

4. The closer the acreage to a headframe, the greater the chances of success. The best odds are in the SHADOW OF THE HEADFRAME.

5. The closer you get to a known deposit, the less attention you should pay to the model, and the more attention needs to be given to the ROOM FOR ORE concept.

6. In virgin areas, those without mines, unless early drilling gives a chance of success, it's better to walk away - and drill another day. SAVE THE AGONIZING FOR MINERALIZED TRENDS.

7. LOOK FOR ORE, NOT MINERALIZATION. Mineralization furnishes clues, which may be useful, but should not be pursued for themselves.

A most important corollary is:

8. TO FIND AN ORE BODY, YOU HAVE TO DRILL ORE HOLES.

9. DO NOT CHASE SPURIOUS ANOMALIES. Unless the model, or other knowledge of local geology reasonably accounts for an unexpected anomaly (either geochemical or geophysical) disregard it and continue with the program at hand.

10. DO NOT BE PREOCCUPIED WITH PATHFINDERS. In most cases, the metal sought is its own best pathfinder. E.g., in the case of gold, find the anomaly, and MINE IT.

11. DO NOT BE PREOCCUPIED WITH EXPLAINING ANOMALIES. If the drill hole or other evidence says there is no ore body, walk away, even though you've not explained the anomaly.

12. DO NOT BE PREOCCUPIED WITH STEREOTYPES, such as "ground preparation" and "structural control" UNLESS you can definitely correlate such factors with the occurrence of ore in the geologic setting or district you're exploring. (For example, in Central Tennessee.)

13. In our business, sound decisions are not made by consensus. You need sound advice, but NOT A CAST OF THOUSANDS to make the decision.

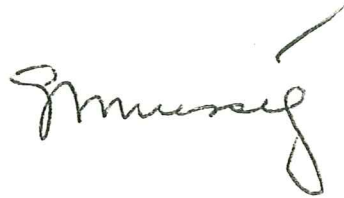
14. GO FOR THE JUGULAR. Go for the big play. Be always looking for and budgeting for that DEFINITIVE TEST.

15. Lastly, EXPLORATION IS NOT SCIENCE. The explorationist in practice is not a scientist. He is looking not

for knowledge, but for ore bodies, by whatever means.

IT'S THE DRILL HOLE, NOT THE GEOLOGIST, THAT FINDS
THE ORE BODY.

IQ gets you there, but BQ finds it!

A handwritten signature in cursive script, appearing to read "J. M. ...". The signature is written in dark ink and is positioned to the right of the main text.

SM/sd