



**MEETING SUMMARY – TECHNICAL REVIEW TEAM – GEOCHEMISTRY SUBCOMMITTEE
GRASSY MOUNTAIN GOLD MINE PROJECT**

March 7, 2018

10:00 am – 12 noon

Teleconference with public access at the DOGAMI Albany Office

Attendance:

Subcommittee Members

- Randy Jones, DOGAMI
- Bob Brinkmann, DOGAMI
- Larry Knudsen, DEQ
- John Dadoly, DEQ

Others in Attendance

- David Livermore, Integral
- Andrew Nicholson, Integral
- Nancy Wolverson, Calico Resources/Paramount
- Rich DeLong, EM Strategies
- Amy Prestia, SRK
- Rob Bowell, SRK
- Peggy Lynch, League of Women Voters
- Janet Gillaspie, Environmental Strategies

The meeting was held by phone; public access was by phone or at the DOGAMI Albany offices.

The meeting was chaired by Randy Jones, DOGAMI.

Meeting Purpose

Jones stated the meeting purpose: a discussion of the Integral review of the SRK geochemistry report. Integral is a geochemistry consultant to the State and the Technical Review Team (TRT). He emphasized that the Subcommittee should be working toward developing a consensus recommendation to the full TRT.

Jones asked if there were questions or additions to the agenda; there were none.

Integral Technical Review of Calico Grassy Mountain Geochemistry Report (SRK 1/2018)

David Livermore, Integral, discussed its technical review of the SRK geochemistry report. He reminded the Subcommittee that Integral's scope of work included:

- If the work is in compliance with applicable regulations (DEQ and DOGAMI),
- If the approved work plan was adequately followed,
- If the data Quality Assurance/Quality Control (QA/QC) was adequate, and
- If the data was of adequate quality to predict the project's impact to groundwater and surface water.

Integral prepared a technical memorandum to DOGAMI dated March 2, 2018.

Livermore indicated the SRK report has a lot of good information and the findings show that almost all the rock type has the potential to generate acid.

He stated that there are errors in the presentation and other items that need to be corrected in the report and that Calico and SRK plan to correct address those.

Livermore said that some of the critical information was not clearly presented in the body of the report. In some areas, the text is not accurate or does not match the information in the tables.

Regarding the compliance with the approved baseline data for geochemistry work plan, there are some elements that were not addressed or completed, he said. Livermore reminded the group that these types of reports and information gathering do tend to be iterative and although additional information may be gathered, it was not clear from the report.

Andrew Nicholson, Integral, continued by stating that the focus of Integral's review was the data. The humidity cell data shows that 8 out of the 9 cells tested generated acid. Seven (7) samples generated pH below 4. The carbonate concentrations of the rocks are low, so there is very little neutralizing capacity in the rock. One tailings sample generated acid also, he said. He stressed that the acid generating nature of the rock is a fundamental 'take away' point of the report.

Nicholson said SRK will be improving the report.

Nicholson continued that it is not possible to characterize the samples tested as being consistent with the overall rock that will be encountered, since the mine plan is still being developed. That should be noted in the report, he suggested.

The primary concerns are understanding how the characterization report matches the approved geochemistry baseline work plan, said Nicholson. Also, the data itself is available and much of that information is now in data tables and appendices and it is important to be able to find that data easily, he said. Nicholson said that overall, the ore in the waste is well characterized and provides a good base of information on the proper handling of ore and waste.

Bob Brinkmann with DOGAMI said the report shows that the deposit has limited neutralization capacity. Brinkmann reinforced the recommendations of the Integral report (see pages 5 and 8).

Jones said that the TRT Geochemistry subcommittee, along with Calico and its consultants, all know that the acid-rock drainage potential is a critical element of the project permitting process. Jones highlighted that some aspects of using the geochemistry information to address acid-rock drainage and proper groundwater protection are still needing to be explored. He had questions about the timing for gathering that information. The purpose of the baseline report is to determine the potential of issues with chemical stability of anticipated mine waste, said Jones.

John Dadoly with DEQ asked about the pending mineralization analysis since all the rock types were generating acid. Will not conducting the mineralization analysis cause issues in the future, he asked.

Amy Prestia responded that Integral accepts that the mineralization analysis was not completed, but additional information on 'why' needs to be explained in the report. Nicholson agreed that the mineralization is not required at this time.

Jones asked if the mineralization analysis will be useful in developing the mine plan or in determining if there will be metal leaching in the tailings disposal facility. Nicholson responded that there is a good database on the bulk characteristics of the overall ore and that database can provide information on metal leaching. Additional testing will be required as the mine and permitting process move forward, he said. Prestia added that the sulfide levels are similar throughout the deposit; the acid-generating potential of the rock is consistent throughout the deposit and is not likely to increase or decrease as the mine progresses. Prestia said that additional testing of potential waste rock is underway, and that data would be provided to the TRT in the future.

Brinkmann agreed that the ore body is well characterized. Depending on the final mine plan, some additional baseline ore body testing may be required, said Livermore. The overall geochemistry data set should be reexamined when the final mine plan is developed, he said. The final mine plan program is imminent, said Nancy Wolverson of Calico.

Larry Knudsen with DEQ asked about the procedures and timing regarding additional baseline data gathering within the Oregon regulations. If there were methodologies required in the approved baseline plan that were not completed, there may be an issue. If that additional information is needed for baseline data requirements, then it will be needed before determining if the baseline data is adequate or the baseline data methodologies will need to be revised. Knudsen requested that Integral and Calico follow up with DOGAMI and DEQ on this point.

Nicholson concluded that the results are clear that the ore body is acid-generating and there is no uncertainty; additional work is not needed to answer that question, creating simplicity in the permitting process. The additional testing will be conducted when the mine plan is finalized.

Jones said the report was very useful and just needs to be clarified.

He continued that some of the critical information and data related to geochemistry is still needed, mostly related to acid-rock drainage.

Jones said that in August of 2015, the TRT Geochemistry Subcommittee asked for a report that was as 'readable' as possible by a lay-public member and he thought the report was quite 'readable.'

Prestia thanked Integral for its review and said SRK will be making improvements to the report.

Wolverson highlighted that Calico and SRK are still reviewing the Integral report.

Rich DeLong with EM Strategies focused on the current step in the process; the workplan was intended to provide the 'process' of characterizing the waste materials. The SRK report fulfills that requirement. DeLong remarked that Integral's review memo extends beyond the Calico requirements for the geochemistry baseline requirements; the issue of "compliance with applicable State and Federal Regulations" is beyond baseline scope, he said. There is a difference between data that is needed for a baseline and the data needed to design the mine.

DeLong pointed out a typographical error in the rule citations.

Jones continued that as an iterative process, the subcommittee is to engage in this type of exchange between state agencies, technical experts, and the applicant to reach a consensus recommendation to the TRT.

Wolverson added that Calico will be providing a response letter to the Integral report and asking SRK to update the report.

Knudsen suggested that Calico be asked to make any appropriate revisions to the report and, subsequently, Integral should be asked if the report meets the required baseline data methodologies. After that, the Geochemistry Subcommittee could accept the report, ask for additional revisions, or allow a preliminary approval, if additional information is needed. The geochemistry baseline data and report should not be rushed, he said.

Prestia will respond to the Integral comments and revise the report as soon as possible. The on-going testing is related to mine planning and that information should be in a separate report. Jones highlighted that this is a baseline characterization report and should be consistent with the approved geochemistry baseline approved methodologies.

Jones asked Calico to respond to Knudsen's suggestion that the report be revised and then the Geochemistry Subcommittee will review the revised report and either accept the report, ask for additional revisions, or allow a preliminary approval, if additional information is needed. Wolverson agreed that this process made sense.

Jones asked for concurrence in that approach: Dadoly agreed; Brinkmann agreed.

The group decided to work with Calico and Integral to develop a schedule for the revised report and its future review by the TRT Geochemistry Subcommittee.

Gillaspie summarized the 'to do' list from the meeting, which includes:

- Calico and SRK will review Integral's comments and revise the geochemistry baseline report as appropriate. They will work informally with Integral as needed.
- DOGAMI and DEQ will review the approved geochemistry baseline data methodologies to ensure all required testing has been conducted.
- Gillaspie will work with Calico, SRK, and Integral to develop a review schedule for the revised report, including adequate time for the Geochemistry Subcommittee review.