Mr. Bryan Watts

Consulting Geotechnical Engineer Klohn Crippen Berger Inc. 500 – 2955 Virtual Way Vancouver B.C. Canada V5M 4X6 Office: (604) 251 8444 e-mail: BWatts@klohn.com

Mr. Ken Bocking

Consulting Geotechnical Engineer Golder Associates. 6925 Century Avenue Mississauga, Ontario L5N 7K2 Office: (905) 567-4444 e-mail: kbocking@golder.com

Dr. Leslie Smith

Consulting Hydrogeologist Richmond, B.C. Canada V7E 5C4 Office: (604) 822 4108 e-mail: lsmith@eos.ubc.ca

Greenstone Gold Mines Inc.

Hardrock Project Geraldton, Ontario



ITRB REPORT No. 1

INDEPENDENT TAILINGS REVIEW BOARD (ITRB) MEETING

December 12-15, 2017 Geraldton Ontario January 22, 2018

Table of Contents

1.0 INTRODUCTION	
2.0 TMF SITE SELECTION	
2.2 Solute Loads to Kenogamisis Lake	2
3.0 GROUND CONDITIONS AT THE TMF	
3.2 Ground Conditions – Path Forward	4
3.3 Clay Unit near Goldfield Creek North	4
4.0 TMF DESIGN4.1 General	
4.2 Cutoff	5
4.3 Stability	6
4.4 Seismicity	6
4.5 Seepage Collection	7
5.0 TMF WATER BALANCE AND POND MANAGEMENT	7
6.0 HISTORICAL TAILINGS	8
7.0 OTHER ISSUES	9
8.0 NEXT MEETING AND CLOSURE	9
Appendix A Meeting Agenda	10
Appendix B List of Presentations and Pre-Read Reports	12
Appendix C Photographs From Site Tour	13

1.0 INTRODUCTION

The first meeting of the Independent Tailings Review Board (ITRB) for Greenstone Gold Mines' (GGM) Hardrock Project was held in Geraldton Ontario from December 12-15, 2017. The intent of this first meeting was to receive an overview of the Hardrock Project, tour the project site by helicopter, and to review the geotechnical and hydrogeological investigations undertaken to support the design of the tailings management facility (TMF) which were completed as part of the Feasibility Study.

The purpose of the ITRB is: (i) to provide an independent assessment and opinion on the design, construction, operation and closure of the TMF to ensure it meets design and operational guidelines based on internationally accepted practice; and (ii) to make recommendations that may improve the design, construction, operation and closure of the TMF and/or reduce the risks associated with the TMF. The Board's mandate is to review the design, construction, operation and closure of the TMF. This review includes plans for management of tailings and process water sent to the TMF and management of seepage from the TMF to the surrounding environment. The mandate does not include review of other operations at the site, such as the open pit, waste rock stockpiles or other process water ponds and water diversion channels. Where needed to fully understand the operation of the TMF, it may be necessary to receive background information on other site operations such as dewatering of the existing underground workings, as the water withdrawn from the underground workings influences the projected water balance for the TMF.

The meeting consisted of presentations by the GGM management team, by GGM's TMF representative Mr. David Ritchie of SLR Consulting (SLR), by Wood Engineering (Wood), the designers of the TMF, and by Stantec, authors of the EIS/EA report. The Stantec report was by teleconference call. The Board found the presentations to be well prepared, technically sound, and helpful in understanding site conditions, challenges and constraints. The Board appreciated the background information on the project presented on the first day of the meeting. The helicopter tour was valuable in providing the Board with a good sense of the scale of the proposed mine site, and the various physiographic features and water bodies that influence the site layout. Several days after the meeting, SLR provided some supplemental information that aided in clarifying several points of discussion during the meeting.

The terms of reference for the Hardrock ITRB are given in Appendix A. The ITRB provides review at the "discussion level". The Board presents opinions and recommendations based mainly on PowerPoint presentations made by GGM and its consultants but does not check calculations or serve an audit function. Responsibility for acceptance and implementation of the advice and guidance given by the Board remains with GGM and its design consultants. Recommendations of the Board are identified in italics.

The Agenda for the meeting is given in Appendix B. Appendix C lists the titles of the presentations at this meeting. Prior to the meeting, the Board was provided with several design reports and a number of chapters extracted from the Feasibility Study (Appendix C).

2.0 TMF SITE SELECTION

2.1 Site Selection Process

SLR presented an overview of the TMF site selection process, which incorporated a multiple accounts analysis. The selection process was conducted by Stantec and carried forward into feasibility studies by Amec Foster Wheeler (now Wood). A multiple accounts analysis is a requirement of Environment Canada for permitting of metal mine tailings impoundment areas under Schedule 2 of the Metal Mines Effluent Regulations (MMER). The Board is of the view that sufficient effort was undertaken to identify the preferred site (TMF 8) for conventional tailings disposal among the candidate sites that were examined.

2.2 Solute Loads to Kenogamisis Lake

A key feature of the site identified for the TMF is its proximity to the southwest arm of Kenogamisis Lake. Kenogamisis Lake is regulated as a Policy 2 water body as a consequence of arsenic released from historic mine tailings at the site. Water quality in the lake cannot be degraded further and a net water quality benefit from the project is required. The environmental assessment required an evaluation of the anticipated change in concentrations of select solutes in the lake that could result from the Hardrock Project. One component of that assessment is the anticipated solute load originating from tailings deposition in the TMF.

The Board concurs with the approach used to estimate solute loads to Kenogamisis Lake from groundwater. The estimates were derived from a steady state, three-dimensional groundwater flow model calibrated to both water level data in piezometers and estimates of base flows in creeks. The loading estimates apply for the TMF at full capacity at the end of the mine life (i.e. when groundwater fluxes are projected to be the greatest). A conservative estimate of the source concentration, and assumptions of advective transport and no attenuation of concentration along the flow path, was adopted. The Board notes that the load predictions derived from the groundwater model are based on the assumption that a cutoff beneath the upstream core of the TMF dams extends to the top of the underlying glacial till.

Seepage from the TMF is estimated to be approximately 45 l/s, based on the site-wide groundwater model developed by Stantec. This value is within a range considered to be reasonable by the Board, based on experience at similar sites. The groundwater model indicates that 88% of the pond seepage will report to the seepage collection ditches located around the perimeter of the TMF. Should hydrogeologic conditions in the foundation units exhibit a greater degree of heterogeneity than incorporated in the groundwater model, additional control measures may be required to achieve this level of seepage interception. For detailed engineering, the Board recommends an analysis of the seepage flux be undertaken that includes, for example, the influence of the vertical extent of the cutoff wall beneath the upstream toe of the embankments.

A brief overview of the geochemical program for tailings and construction rock was presented to the Board. The program appears aligned with good practice, although the Board has not reviewed details of the approach and the results.

3.0 GROUND CONDITIONS AT THE TMF

3.1 Ground Conditions

Previous site investigations were carried out along the alignment of the TMF dams in 2014, 2015 and 2016. These studies used hollow stem augers, mud rotary drilling and coring, test pits, and cone penetrometer tests (CPTs). Parts of the TMF site are swampy. The water table is generally at shallow depths. The scope of investigations to date (28 boreholes, 8 CPTs and test pits) is considered typical for a feasibility study. Further geotechnical investigations are beginning shortly to support detailed design of the TMF.

Investigations have indicated that the alignments of the TMF dam are typically underlain by a stratigraphic sequence that comprises: surficial organics, alluvium, outwash sands and gravels, a glaciolacustrine deposit, glacial till and bedrock. The presence, thickness and depth of the various stratigraphic units vary around the site. A different stratigraphic sequence occurs on the right bank of Goldfield Creek under the West Dam, as detailed later.

The upper outwash deposit underlies most of the perimeter of the TMF; it is permeable and loose. Engineering measures need to be taken to manage seepage through this unit, as recognized in the feasibility-level design.

A deposit of glaciolacustrine silts and clays underlies most of the Southwest and Southeast Dams. Because this unit is weaker than the glacial till and outwash, this unit will control the stability of the dam. The geotechnical properties of the glaciolacustrine unit require through evaluation (see Section 3.2) and the properties of this unit are expected to set the design basis for the dams. At least part of this deposit exhibits varving, generally with relatively thick silt varves and relatively thin clay varves. The engineering characteristics of the thin clay varves in isolation are not yet well defined. Results of SPT testing indicate soft zones in the glaciolacustrine unit. No evidence was presented of artesian pressures in or below this unit, but further observation would be appropriate. Results of CPT testing in this unit indicated substantial excess pore water pressures followed by relatively quick dissipation. Interpreted shear strengths suggest that the deposit may be in an over-consolidated state.

The glaciolacustrine unit generally directly overlies the glacial till; however Wood interprets the presence of an outwash deposit between the glaciolacustrine and till units, observed in Borehole 15-05 under the Southeast Dam. Such a deposit could outcrop on nearby hillsides, which would raise concerns about possible artesian pressures and perhaps, an enhanced seepage flux. It is understood that currently the Project views this as a localized feature near Goldfield Creek but this question is being addressed in the Supplemental Site Investigation

program. It is also important to determine if other similar deposits occur elsewhere on the TMF site.

Glacial till underlies all dams (except at bedrock outcrops). The depth to till in boreholes varied from 1.5 to 8 m. The glacial till is dense with high blow counts and low permeability.

3.2 Ground Conditions – Path Forward

According to Wood, the investigation planned for Q1 of 2018 is focused on further characterization of the shear strength and consolidation properties of the glaciolacustrine silt and clays, using:

- Shelby tube piston sampling
- Atterberg limit testing on clay varves
- Simple shear testing
- Triaxial shear and consolidation testing.

The Board agrees with the "path forward" presented by Wood, particularly the focus on better defining the engineering properties of the glaciolacustrine unit. The undrained shear strength ratio and the degree of over-consolidation of the glaciolacustrine soils needs to be better defined for detailed engineering studies.

Vane shear tests in the glaciolacustrine unit will be required in addition to a CPT program. ConeTec has a fast/efficient vane shear apparatus. The field vane correction factor needs to consider the effects of the varving.

To facilitate review and interpretation, it is recommended that all the existing and future geotechnical data for the site be compiled in a GIS system. It would be very helpful to prepare structure contour plans on the top of bedrock and the top of the glacial till. Isopach or thickness maps should also be compiled for the glaciolacustrine unit.

3.3 Clay Unit near Goldfield Creek North

A deposit of clay about 14 m thick has been identified in two boreholes on the west side of Goldfield Creek, adjacent to the West Dam. The deposit appears to be massive, without conspicuous layering or varving. This clay unit does not seem to be related to the glaciolacustrine unit; it may be a more recent lacustrine deposit that has infilled a post-glacial erosional channel. Limited field vane data suggest that it may be normally consolidated. This deposit can be expected to have engineering properties that are quite different from those of the glaciolacustrine unit.

Parts of the West Dam and the Goldfield Creek Diversion Dam will be founded on this unit. A different dam cross-section and construction approach may be required here. The strength and compressibility properties of this clay deposit needs to be determined; especially the undrained strength with depth. It is important to define the areal extent of this deposit and

in particular, determine whether this deposit extends under the projected location of the Inner Dam.

4.0 TMF DESIGN

4.1 General

Wood presented the design of the perimeter dams. The basic design is a rockfill tailings dam with an impervious core and filters, and a cutoff through the uppermost pervious foundation units. The dams will be built in several stages, using downstream raising. Wood considered three possible sections for the dam design; a central core, a sloping upstream glacial till core, and a sloping upstream HDPE liner. The project team selected the sloping upstream glacial till core design. The Board concurs with this selection.

The Board recognizes the benefit of being able to place rockfill during cold weather. The Board assumes that only non-acid generating (NAG) rockfill will be used for the downstream shell. A disadvantage of rockfill shells is that instrumentation installation post-construction is very expensive given the difficulty of drilling through coarse rockfill. *Thus most foundation instrumentation needs to be installed before rockfill placement.* The temporary downstream slope during construction of the downstream slope can be flatter than the ultimate design slope of 2H:1V. The interim downstream slopes should never be steeper than 2H:1V.

The Board notes that a borrow area for glacial till has been identified, as well as the availability of acceptable waste rock for dam construction. The Board looks forward to a presentation at the next meeting on the source and specifications of filter and transition materials for the dam.

The Board is supportive of the concept of constructing the TMF as two cells (South Cell and North Cell, separated by the "Inner Dam"). This design provides a means to better manage start-up water requirements, facilitates the mechanical placement of historical tailings in the TMF on top of new tailings beaches, and allows early reclamation of the North Cell.

4.2 Cutoff

Wood presented a cutoff trench alternative for the perimeter dams with an option to use an upstream blanket when the depth of the cutoff trench exceeded about 6 m. Given the length of the perimeter of the TMF embankments and the shallow depth of the water table, the Board considers that a slurry trench cutoff around the perimeter is more flexible and constructible than a mechanically excavated cutoff trench.

To that end, the Board considers that a program of CPTs around the perimeter at the cutoff trench location is needed for detailed design and construction control. The project should consider a 100 to 200 m CPT spacing. As is usual, CPTs should be done at wide spacing, and then closed if the stratigraphy is complex.

This CPT program can be completed with a track-mounted rig. The project should consider adding shear wave velocity profiles to selected cone tests. The CPT profiles should also include calculation of the state parameter. The magnitude and anisotropy of the permeability of the glaciolacustrine units needs to be understood so that the decision to penetrate to the glacial till or the depth of penetration in the glaciolacustrine unit is clear. To that end, dissipation tests need to be done at regular intervals in the CPTs.

The Board recommends that sonic drilling be undertaken at a 500 m spacing around the perimeter. At least one contractor in this part of the continent has a track mounted sonic drilling rig. A Vancouver driller also has a track mounted sonic rig. The sonic core will be continuous and will show the characteristics of the contacts between the units at site. This will assist in identifying those contacts on the backhoe bucket samples during excavation of the cutoff wall. Although disturbed in the annulus, the sonic core can still be sampled to get meaningful water contents with depth. These water contents should be taken carefully and at close intervals in the glaciolacustrine deposits.

The Board recognizes that the cutoff of the outwash sands will likely change to mechanical excavation and replacement in the North and West Dams where the outwash sands and gravels are shallower. Mechanical excavation will likely also apply in the abutment areas of all dams.

4.3 Stability

The stability of the perimeter dams will likely depend on the undrained strength profile in the glaciolacustrine unit. The undrained strength profile will, in turn, depend on the degree of over-consolidation in this unit. Currently, the CPTs are showing over-consolidation ratios (OCRs) of 5 to 10. The origin of the over-consolidation is not clear to the Board. It is recommended Wood develop a field and laboratory program to understand the over-consolidation ratio in the glaciolacustrine unit.

The Board agrees that the undrained strength ratio should also be determined using simple shear tests in the laboratory because this ratio is stress path dependent. Simple shear tests will also give insight into the role of weak clay varves in determining the undrained strength of the glaciolacustrine unit. Vane tests should also be done in this unit to better understand the Nkt value. To this end, the Board supports the Wood recommendation to obtain piston samples of the glaciolacustrine units at a number of locations around the perimeter for laboratory testing.

The ground conditions at the two crossings of the alignment by Goldfield Creek needs to be sufficiently explored to determine whether the bedrock/glacial till contact is deeper.

4.4 Seismicity

In the Feasibility Study and TMF Design Report, the 1 in 10,000 return period PGA (peak ground acceleration) is estimated to be about 0.1 g. This estimate was based on information available for this region of Ontario from a National Research Council seismicity website, with

interpolation to long return period events. Ground motions at the level of 0.1 g or less would not liquefy the foundation soils.

SLR is undertaking a probabilistic seismic hazard analysis (PSHA) for the site, which is expected to provide a greater certainty in the estimate of ground motions at the mine site associated with earthquakes of varying magnitude in this region of Ontario. During the preparation of this report, the Board was provided with the preliminary results of this study. It indicates a 10,000 year return period event with a magnitude of 0.075 g, which is about 20% lower than the previous estimate. The Board would like to review the seismic hazard evaluation before it is finalized.

4.5 Seepage Collection

The seepage collection system (perimeter collection ditches around the embankments routed to collection ponds) is based on a design that is common for the type of TMF design proposed by GGM.

5.0 TMF WATER BALANCE AND POND MANAGEMENT

Stantec developed a water balance model for the TMF as one component of the overall water balance for the project. Water balance models are a fundamental element of a mine plan; both for operations and for planning mine closure. Sufficient water must be available to supply the mill year-round with process water to meet name-plate production rates. The estimated volume of water in storage in the TMF determines, in part, the rate at which the embankments must be raised. The water balance also informs the assumptions made on the extent of subaerial tailing beaches in the TMF, which at Hardrock, is a factor influencing the seepage flux to Kenogamisis Lake. In addition, the water balance is an integral component in the management of process water at the mine site. It determines, for example, the design capacity of a water treatment facility for release of water to the environment.

The project site is located in a climatic region with a net water surplus (precipitation exceeds lake evaporation). In the absence of any other controls, this condition can lead to long-term accumulation of water in the TMF. The Board understands a favorable element for the Hardrock Project is the availability of water within the flooded underground workings as a source of water for the mill, and the flexibility this provides in managing the water volume contained in the TMF. At times of water surplus (e.g. water entering the TMF as a consequence of a much wetter climatic conditions than average), a greater proportion of process water can to be drawn from the TMF rather than the underground workings (subject to the constraint on the water table elevation at the open pit). In dry years, additional water can be pumped from the underground workings to supply the mill. The water treatment plant that enables excess water in pond M1 to be released introduces additional flexibility in the management of the process water. The Board was favorably impressed with the general plan for process water management at the site.

The mine plan indicates that after startup of operations, the intent is to hold 1.5 Mm³ of water in active storage within the TMF at the end of the Fall season, which is the volume of storage required for continuous mill operation through the winter months. The mill has been designed to maximize usage of reclaim water (up to 92.4% of mill requirements). The Board considers this an important attribute of the design, as it ultimately leads to the development of wider beaches in front of the dam embankments, promoting stability of the structures and the deposited tailings, reducing seepage fluxes, and reducing the intake of fresh water into the process water circuit.

Wood presented the water balance for the TMF, indicating that on an annual basis the mill could consume all the water available in the TMF pond, for the 92.4% recycle rate. The mill requirement is 8.7 Mm³ per year of process water, with a relatively small requirement for freshwater supply. The majority of this water requirement is recycle water from the TMF. A significant component in the water balance is the process water lost to storage in the pore space of the deposited tailings.

A number of conservative approximations were adopted for the water balance model that was prepared for the EA. This approach is appropriate for that purpose. For detailed engineering, an operational water balance model needs to be developed using the most likely estimates of model inputs, with regular calibration as operational data is obtained. The Board recommends that this model be cast in a probabilistic framework to account for climate cycles, to facilitate making operational decisions. Stochastic water balance models have proven to be valuable at a number of mine sites with which the Board is familiar. For the Hardrock Project, such a model could provide valuable guidance, for example, in the design base for the water treatment plant capacity. In addition, the model should consider the water balance in the event that site operations are temporarily suspended for a period of months or more (as part of contingency planning).

The Board requests a presentation at its next meeting on the site-wide water balance that supports the detailed engineering design, including the projected volume of water held in the TMF for each month of mine operations through the life of mine, taking into account the effects of climate cycles. This would also be an opportune time to receive a more detailed presentation on the mine water balance for the closure period.

6.0 HISTORICAL TAILINGS

The Board was provided with an overview of the historical tailings deposits, their association with the loading of arsenic to Kenogamisis Lake, and the plan to relocate 5 Mt of the historical tailings to the new TMF that will allow for a future expansion of the proposed open pit. It is understood that the plan for placement of these tailings in the TMF has considered potential pathways for solute migration in the groundwater system, and that additional laboratory investigations and design considerations are being undertaken to advance the design concepts for detailed engineering. The Board looks forward to a presentation on this topic at the next meeting.

7.0 OTHER ISSUES

The Board was presented with an overview of the corporate risk assessment for the Hardrock Project. The Board looks forward to hearing of the future risk assessments (FMEA) that will identify risks unique to the TMF.

The Board accepts the TOR for the Board as revised during the first day of this meeting.

8.0 NEXT MEETING AND CLOSURE

The next meeting of the Board is scheduled for the second half of 2018 (time to be determined).

The Board thanks all participants for the open exchange of information and viewpoints.

Original Signed by
Bryan Watts, MSc, PEng (BC), PGeo (BC
Original Signed by
Leslie Smith, Ph.D, PGeo (BC)
Original Signed by
Ken Bocking, MSc, PEng (ONT)

Appendix A - Meeting Agenda

	Agenda			
Meeting Title:	Independent TMF Review Board Site Visit and Meeting			
Location:	Community Room (GGM offices)			
	Geraldton, Ontario			
Date/Time:	December 12-15, 2017			
Attendees:	 Bryan Watts, ITRB Leslie Smith, ITRB Ken Bocking, ITRB Eric Lamontagne, GGM General Manager 			
	 Bertho Caron, GGM Director Infrastructure Steve Lines, GGM Environmental & Permitting Manager lan Horne, GGM Director Environment & Community Relations David Newhook, GGM Plant Manager David Ritchie, GGM Geotechnical Engineer Prabhat Habbu, Wood Engineering EOR (formerly Amec) Matt Soderman, Wood Engineering 			

Time	Day 1 – Tuesday December 12, 2017	Lead/
		Attendees
8:30 AM –	Introductions	Eric
9:30 AM	Meeting Agenda & Objectives	Lamontagne
	Safety Induction	ITRB Members
		GGM Reps
9:30 AM -	Site Tour (by Helicopter)	ITRB Members
12:00 PM		GGM Reps
Noon	Lunch	All
1:00 PM-	Overview of GGM & Corporate Governance	Eric Lamontagne
2:00 PM	Presentation of draft ITRB Terms of Reference	/ Meeting
2:00 PM-	Hardrock Project Overview	
4:30 PM	- Mining Overview	Bouchaib
	- Processing Overview	Semali, David
	- Project Execution Plan (high-level)	Newhook,
	- Tailings Site Selection	Berto Caron,
		David Ritchie /
		Meeting
		Attendees

9:00 AM — TMF Design Overview — Site investigatons — Dam design — Seenage collection — All 1:00 PM — TMF Operation — Amec EOR / Meeting — Attendees 1:00 PM — TMF Operation — Amec EOR / Meeting — Tailings deposition plan — Water management — Historic tailings deposition 4:00 PM — Time — Day 3 — Thursday December 14, 2017 — Lead / Attendees 8:30 AM — Time — Day 3 — Thursday December 14, 2017 — Lead / Attendees 8:30 AM — Sey considerations & constraints — Key considerations & constraints — Information Request — David Ritchie / David Ritchie /	5:00 PM	ITRB Administration - Selection of ITRB Chair - Review and appoval of ITRB Terms of Reference	ITRB Members
9:00 AM Meeting Agenda & Objectives 9:00 AM TMF Design Overview 12:00 AM - Site investigatons - Dam design - Dam design - Seenage collection Noon Lunch 1:00 PM - TMF Operation 3:30 PM - Design criteria - Tailings deposition plan - Water management - Historic tailings deposition 4:00 PM - Improduction of ITRB to First Nations Representatives 8:30 PM Time Day 3 - Thursday December 14, 2017 Lead/ Attendees 8:30 AM EIS/EA Overview 10:00 PM - Key considerations & constraints - Information Request 10:00 AM TMF Risk Assessment Overview David Ritchie /	Time	Day 2 – Wednesday December 13, 2017	-
9:00 AM - TMF Design Overview	8:30 AM -	Introductions	Eric Lamontagne
12:00 AM - Site investigatons - Dam design Attendees - Seenage collection Noon Lunch TMF Operation Amec EOR / 3:30 PM - Design criteria Meeting Attendees - Tailings deposition plan Attendees - Water management - Historic tailings deposition 4:00 PM - Introduction of ITRB to First Nations Representatives Time Day 3 - Thursday December 14, 2017 Lead/Attendees 8:30 AM- ISS/EA Overview Steve Lines / 10:00 PM - Key considerations & constraints Meeting Attendees 10:00 AM- TMF Risk Assessment Overview David Ritchie /	9:00 AM	Meeting Agenda & Objectives	Meeting Attendees
- Dam design - Seepage collection Noon Lunch 1:00 PM— 3:30 PM - Design criteria - Tailings deposition plan - Water management - Historic tailings deposition 4:00 PM— 5:30 PM Time Day 3 — Thursday December 14, 2017 Lead/ Attendees 8:30 AM— 10:00 PM— - Key considerations & constraints - Information Request 10:00 AM— TMF Risk Assessment Overview David Ritchie /	9:00 AM -	TMF Design Overview	Amec EOR/
- Seenage collection Noon Lunch 1:00 PM - TMF Operation - Design criteria - Tailings deposition plan - Water management - Historic tailings deposition 4:00 PM - Introduction of ITRB to First Nations Representatives Time Day 3 - Thursday December 14, 2017 Lead/ Attendees 8:30 AM- EIS/EA Overview - Key considerations & constraints - Information Request David Ritchie /	12:00 AM	- Site investigations	Meeting
Noon Lunch All 1:00 PM – TMF Operation Amec EOR / 3:30 PM - Design criteria Meeting - Tailings deposition plan - Water management - Historic tailings deposition 4:00 PM – S:30 PM Introduction of ITRB to First Nations Representatives ITRB Members Time Day 3 – Thursday December 14, 2017 Lead/ Attendees 8:30 AM- EIS/EA Overview Steve Lines / 10:00 PM - Key considerations & constraints Meeting - Information Request David Ritchie /		- Dam design	Attendees
1:00 PM — TMF Operation Amec EOR / 3:30 PM — Design criteria Meeting — Tailings deposition plan — Water management — Historic tailings deposition 4:00 PM — Introduction of ITRB to First Nations Representatives Time Day 3 — Thursday December 14, 2017 Lead/ Attendees 8:30 AM— EIS/EA Overview — Key considerations & constraints — Information Request 10:00 AM— TMF Risk Assessment Overview David Ritchie /			
3:30 PM - Design criteria - Tailings deposition plan - Water management - Historic tailings deposition 4:00 PM - Introduction of ITRB to First Nations Representatives ITRB Members Time Day 3 - Thursday December 14, 2017 Lead/Attendees 8:30 AM- EIS/EA Overview - Steve Lines / Meeting Attendees 10:00 PM - Key considerations & constraints - Information Request Attendees 10:00 AM- TMF Risk Assessment Overview David Ritchie /	Noon	Lunch	All
- Tailings deposition plan - Water management - Historic tailings deposition 4:00 PM — Introduction of ITRB to First Nations Representatives Time Day 3 — Thursday December 14, 2017 Lead/ Attendees 8:30 AM— EIS/EA Overview 10:00 PM - Key considerations & constraints - Information Request David Ritchie /	1:00 PM-	TMF Operation	Amec EOR /
- Water management - Historic tailings deposition 4:00 PM — Introduction of ITRB to First Nations Representatives 5:30 PM Time Day 3 — Thursday December 14, 2017 Lead/ Attendees 8:30 AM- 10:00 PM - Key considerations & constraints - Information Request David Ritchie /	3:30 PM	- Design criteria	Meeting
- Water management - Historic tailings deposition 4:00 PM — Introduction of ITRB to First Nations Representatives 5:30 PM Time Day 3 — Thursday December 14, 2017 Lead/ Attendees 8:30 AM- 10:00 PM - Key considerations & constraints - Information Request David Ritchie /		- Tailings deposition plan	Attendees
- Historic tailings deposition 4:00 PM - Introduction of ITRB to First Nations Representatives Time Day 3 – Thursday December 14, 2017 Lead/ Attendees 8:30 AM- EIS/EA Overview - Key considerations & constraints - Information Request 10:00 AM- TMF Risk Assessment Overview David Ritchie /		1	
4:00 PM - Introduction of ITRB to First Nations Representatives 5:30 PM Time Day 3 - Thursday December 14, 2017 Lead/ Attendees 8:30 AM- EIS/EA Overview Steve Lines / 10:00 PM - Key considerations & constraints Meeting - Information Request Attendees 10:00 AM- TMF Risk Assessment Overview David Ritchie /		1	
5:30 PM Time Day 3 – Thursday December 14, 2017 Lead/ Attendees 8:30 AM- 10:00 PM - Key considerations & constraints - Information Request 10:00 AM- TMF Risk Assessment Overview David Ritchie /	4:00 PM-		ITRB Members
Time Day 3 – Thursday December 14, 2017 Lead/ Attendees 8:30 AM- EIS/EA Overview Steve Lines / 10:00 PM - Key considerations & constraints Meeting - Information Request Attendees 10:00 AM- TMF Risk Assessment Overview David Ritchie /		, , , , , , , , , , , , , , , , , , ,	
8:30 AM- 10:00 PM - Key considerations & constraints - Information Request - Meeting Attendees 10:00 AM- TMF Risk Assessment Overview - David Ritchie /	Time	Day 3 – Thursday December 14, 2017	-
10:00 PM - Key considerations & constraints - Information Request Attendees 10:00 AM- TMF Risk Assessment Overview David Ritchie /	8·30 AM-	FIS/FA Overview	
- Information Request Attendees 10:00 AM- TMF Risk Assessment Overview David Ritchie /		1 ⁻	-
10:00 AM- TMF Risk Assessment Overview David Ritchie /	10.001 101		
		- information request	Attendees
12:00 PM - Procedures Meating	10:00 AM-	TMF Risk Assessment Overview	David Ritchie /
12.00 TWI Trocedures	12:00 PM	- Procedures	Meeting
- Dambreak study (preliminary) Attendees		- Dam break study (preliminary)	Attendees
- Risk register		- Risk register	
Noon Lunch All	Noon	Lunch	All
1:00 PM — ITRB Deliberations and Recommendations ITRB Members	1:00 PM-	ITRB Deliberations and Recommendations	ITRB Members
4:00 PM	4:00 PM		
Time Day 4 – Friday December 15, 2017 Lead/	Time	Day 4 Friday December 15 2017	load/
Attendees	iiile	Day 4 - Filiday December 15, 2017	•
8:30 AM- ITRB Deliberations and Recommendations – con't ITRB Members	8:30 AM-	ITRB Deliberations and Recommendations – con't	
11:00 PM			
11:00 AM- ITRB Presentation of Findings ITRB Chair /	11:00 AM-	ITRB Presentation of Findings	ITRB Chair /
12:00 PM GGM reps	12:00 PM		GGM reps
Amec EOR (by phone)			Amec EOR (by phone)
Noon Lunch ALL			

Appendix B List of Presentations and Pre-Read Reports

PowerPoint Presentations at Meeting

Project Governance (GGM) Project Overview (GGM) TMF Site Selection (SLR) TMF Risks (SLR) TMF Design (Wood)

TMF EA - Waste Rock Geochemistry, TMF Construction Material, Tailings Geochemistry, Seepage Modeling (Stantec)

Pre-Meeting Reports Distributed to Board

TMF Design Report
Geotechnical Investigation for TMF and Waste Rock Areas
Peer Review Regarding the Design of the TMF for Hardrock Project in Geraldton Ontario,
(Golder Associates) and Responses by GGM
TMF Realignment Memo
Conceptual Closure Plan (Stantec)
Conceptual Waste Rock Management Plan
Conceptual Emergency Response Plan

From the Feasibility Study:

Summary

Section 7 Geological Setting and Mineralization Section 17 Recovery Methods Section 19 Tailings Management

Section 21 Environmental Studies, Permitting, and Social or Community Impacts

Section 25 Project Execution Plan and Operating Plan

Appendix C Photographs From Site Tour



Photo 1 - View of the southern boundary of the TMF and the southwest arm of Kenogamisis Lake



Photo 2 - View along the alignment of proposed Southeast Dam next to Kenogamisis Lake



Photo 3 - View of Goldfields Creek near the location of the proposed West Dam



Photo 4 Closer view of Goldfields Creek in same area as Photo 3



Photo 5 - View across the South Cell of the TMF toward Kenogamisis Lake, with Goldfields Creek Tributary in foreground



Photo 6 - View of future location of the open pit