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Dam Safety Inspection Report	
To:	SnipGold Corp.
Attention:	Mr. Jon Zbeetnoff, President
From:	J. Roland Tosney, P.Eng.
Subject:	Johnny Mountain Mine - TSF Dam Safety Inspection
Date:	25 November 2014

EXECUTIVE SUMMARY

JRT GeoEngineering (JRT) has been retained by SnipGold Corp. (Snip), formerly Skyline Gold Corporation, to conduct a 'Dam Safety Inspection' and issue a summary of findings for the Johnny Mountain Mine tailings storage facility (JM TSF) dam.

Per the BC Ministry of Energy and Mines (MEM) 'Guidelines for Annual Dam Safety Inspection Reports' (2014), the following items are noted:

a. According to the Canadian Dam Association (CDA) 'Dam Safety Guidelines' (2007) the Johnny Mountain TSF dam is classified as a 'Low' consequence facility. This classification has not changed since the cessation of mining operations in 1990.
b. There are no material changes to report regarding the dam's stability or water control functions.
c. There are no significant changes or anomalies to report arising from observations and monitoring data recorded in 2014.
d. According to criteria identified in the Health, Safety, and Reclamation Code for Mines in British Columbia (2008), the JM TSF dam does not qualify as a 'Major Dam' or 'Major Impoundment'. As such an 'Operating, Maintenance, and Surveillance (OMS) Manual' is not required for the JM TSF dam, per the 2014 MEM guidelines. However, Snip's previous inspection and reporting procedures have established an OMS protocol that will continue to be followed.
e. Given the 'Low' consequence rating of the JM TSF dam, an 'Emergency Preparedness Plan' (EPP) for the facility is not required.
f. Given the 'Low' consequence rating of the JM TSF dam, a formal 'Dam Safety Review' is not required, per the CDA Dam Safety Guidelines (2007). The consequence rating for the facility shall be periodically reviewed by Snip and JRT,

particularly in the event of any downstream development. If the consequence classification changes, a formal Dam Safety Review shall be completed by Snip at that time.

Observations and measurements made during the 2014 inspection of the JM TSF dam indicate that no significant change in the condition or performance of the dam has occurred compared to previous years inspections. At the time of the inspection the JM TSF dam retained its function and was observed to be good condition. The inspection did not reveal any unsafe or unacceptable conditions in relation to the design, construction, maintenance and operation of the dam.

1.0 INTRODUCTION

JRT was retained by Snip to conduct the 2014 'Dam Safety Inspection' of the JM TSF dam, as required by MEM Permit No. M-178.

Drawings, Tables and Charts referred to herein are appended at the end of this report.

The agreed ‘terms of work’ for the 2014 inspection included the following tasks:

1. Assess the condition and ongoing performance of the JM TSF dam.
2. Collect digital photographs at locations consistent with a series of historical photos in order to visually assess any time dependent changes.
3. Acquire measurements from existing piezometers and toe weirs, for comparison with previously measured data.
4. Draft and issue a summary Dam Safety Inspection Report.

The inspection was carried out on 11 September 2014 by J. Roland Tosney, P.Eng. (BC, SK), of JRT. Mr. Tosney also carried out five (5) previous inspections of the JM TSF dam on behalf of Minefill Services Inc. (2006), BGC Engineering Inc. (2008, 2010), and JRT GeoEngineering (2009, 2011). Additional inspections have been completed at various times since 1988, by either Snip professional staff, or by engineering consultant R.C. Dick, P.Eng., the principal design and construction engineer of the dam.

Tasks completed for the 2014 inspection generally conform with those carried out during previous inspections. The current report maintains the established reporting format. Previous dam inspection reports are on file with Snip.

At the time of the 2014 inspection, the JM TSF was observed to be in generally good condition. As with previous years, a few minor exceptions were noted and are discussed in this report; however none of these are critical or require immediate attention.

2.0 BACKGROUND

The following information has been sourced principally from:

Woznow, D.P., Yeager, D.A. 1999. *Closure Plan for the Johnny Mountain Gold Mine: Reclamation Permit No. M-178.* Snip Gold Corporation.

Snip’s Johnny Mountain Mine is a formerly producing high-grade gold mine located on the company's Iskut property, in northwest BC. The mine was engaged in pre-production from January through to November 1988. The mill began operation in August and commercial production was achieved on 01 November 1988. The mine closed in mid-August 1990 and milling operations ceased in early September. High operating costs and low gold prices were significant factors in the closure.

The JM TSF dam was professionally engineered and constructed to conform with provincial regulations and guidelines for water retaining structures. Construction of the JM TSF dam was initiated in September 1987 with the stripping of vegetation and topsoil. After

construction delays over the winter of 1987 / 1988 the dam was completed to its current configuration on 13 November 1988. A temporary geotextile-lined spillway was constructed shortly thereafter. To ensure long term stability of the spillway, a permanent spillway was constructed during the summer of 1993. Further minor remedial works on the dam and spillway were completed during the summer of 1994.

The dam at Johnny Mountain encompasses a total area of approximately 11.5 ha including the pond, dams, and access roads. The compacted till dams constituting the dam were built up on permanent topographic features that formed a pre-existing natural impoundment. The pond area, approximately 9.66 ha, contains 123,622 m^3 or 197,794 tonnes of tailings, approximately 64% of its design capacity. A review of the dam design and 'as-built' cross-sections from field construction reports indicates that in all cases the component dams of the dam are less than 10 m high.

According to Snip, the design and quality of construction of the JM TSF dam are such that:

1. Surface water is prevented from entering the facility;
2. The high levels of precipitation common at the site are discharged from the TSF in a safe and controlled manner;
3. A permanent water cover is maintained over the tailings;
4. Seepage through the dam and into groundwater is minimal;
5. The dam is erosionally stable; and
6. The dam will resist damage from seismic events of the severity expected at the site.

As noted above, by design, surface water is prevented from entering the JM TSF by the pre-existing / permanent topography and by a series of diversion ditches. The only water entering the TSF is as a result of snowmelt water and rainfall landing within the footprint of the dam. Due to the design of the permanent spillway, any water entering the pond causes the discharge of an equal amount from the spillway.

A detailed topographic survey completed at the end of construction indicated that the lowest point of the graded dam crest has 0.9 m of freeboard under normal conditions and 0.7 m of freeboard during a 200-year flood event.

The dam is designed to provide a pond elevation sufficient to maintain the tailings in a flooded condition, under a minimum cover of ~1.0 m. In this manner, oxygen is excluded from the tailings and acid generation does not occur.

The design-estimated rate of seepage for the entire dam falls within the range of 1.2 to 9.2 m^3 per day. This range was determined using the conservative assumption that the TSF is full of water with no tailings having been deposited. In reality, the deposition of tailings in the TSF will act to seal potential seepage channels. This relatively low seepage rate is attributed to the low hydraulic conductivity of the dense tills underlying the dam, which were also used in the construction of the dam.

Primary flow directions of the seepage exiting the dam are generally to the east and west, towards Johnny and Stonehouse creeks, respectively. Data on flow rates within the toe drains can be found in the original design reports, and the dam inspection reports previously completed by / for Snip.

Reclamation Permit M-178 was issued to Snip on June 17, 1988 under section 10(6) of Health, Safety and Reclamation Code for Mines in British Columbia. It is the primary permit currently issued for the operation and governs the protection and reclamation of land and water courses at the site. It was subsequently amended in February of 1991, March of 1992, August of 1994, August of 1999, May 2001 and July of 2004 to reflect changes in the operation.

Closure and reclamation work at Johnny Mountain has continued on an intermittent basis since 2000. Additional information regarding ongoing closure and reclamation work is on file with Snip.

3.0 OBSERVATIONS

3.1. Weather

The weather at Johnny Mountain at the time of the 2014 inspection was overcast with heavy fog and intermittent showers. The tailings pond was free of ice, and the temperature was approximately 5° Celsius.

3.2. Dam Condition

Drawing 1 presents a location plan of the JM TSF dam. Note that all directions in this document are with respect to Mine North, the coordinate system in place since mine development. Mine North is oriented approximately 48° west of True North, and approximately 60° degrees west of Magnetic North.

Consistent with previous dam inspections, observations of the tailings facility were recorded while completing two traverses. The first traverse focused on the condition and performance of the dam crest and the interior dam surfaces (pond side), while traveling from the north abutment of the west dam, to the south dam, the east dam, the spillway channel, and finally the north dam. The second traverse reversed this order and focused primarily on the condition and performance of the exterior dam surfaces, and the drainage channels constructed at the toes of the exterior slopes.

Photographs were taken as the traverses were completed, at locations generally consistent with those of previous inspections. This procedure allows for a time-dependent assessment of the dam’s ongoing condition and performance, and has been used since inspections began in the late 1980’s. Photographs from the 2014 site inspection are attached as Drawings 2 through 22. Due to the foggy conditions some of the photographs from the inspection are of poor quality. As such, additional photographs from a dam inspection completed by Snip's J. Zbeetnoff, P.Geo., and J. Burgress, P.Geo., in 13 August 2014 have also been appended to this report. Comparisons of these photographs with photos from

previous inspections indicate that the overall appearance of the dam components remain virtually unchanged. Features of interest identified in previous inspection photographs continue to be visible and remain in similar condition in the 2014 photos.

The west and south dams generally appear to be in good condition, and remain virtually unchanged from previous years (Drawings 3 to 9). A minor degree of localized surface cracking and beaching along the interior dam crest continues to be observed in a few locations, consistent with previous inspections. The locations of these cracks are indicated in Drawing 1, and typical cracks are depicted in Drawings 6 and 7. The cracks likely result from wave action against a locally over-steepened slope face, and/or freeze-thaw cycling, and do not extend into the core of the dam. (i.e. the cracks are cosmetic defects only).

In-filling of these cracks with sand or equivalent is recommended, but not urgently required. The cracks do not currently pose a risk to the integrity or ongoing performance of the dam, however as recommended in previous inspection reports they should continue to be monitored during subsequent inspections. In the unlikely event that significant crack growth is observed, remedial measures such as resurfacing and localized material replacement and/or the placing of additional rip rap may be warranted.

Note that for the purposes of this report, significant growth refers to crack growth occurring on a scale of meters to tens of meters in length, or in instances where the depth of cracking exceeds 0.25 to 0.50 m depth, or if cracking is observed to affect and / or penetrate the dam core.

At the south east dam corner, at the location where previous wave action had been noted during the 1995 inspection, it was observed that subsequent dam degradation has not occurred (Drawing 9).

Minor longitudinal cracks on the interior (pond) side of the east dam, between the southeast corner and the spillway discharge channel, have remained essentially unchanged from those observed during previous inspections. Within this zone, individual cobbles and boulders have remained in their exact same locations. The cracks should continue to be monitored during subsequent inspections but do not currently pose a risk to the integrity or ongoing performance of the dam. As above, in-filling of the cracks with sand or equivalent is recommended, but not urgently required.

As indicated in Drawings 11 and 12, the spillway discharge chute and channel appear unchanged from previous years, and retain their function. The rip rap / slope protection lining the spillway discharge channel remains in good condition.

The interior slopes of the north half of the east dam and the north dam remain in good condition, unchanged from previous years, as indicated in Drawings 13 and 14.

At the north abutment, the inner slopes of the north dam and the saddle dam remain in good condition, and do not exhibit significant change since the last inspection.

Generally speaking, the exterior dam slopes and drainage channels appear to be in good condition, and do not exhibit significant change compared to previous inspections, resulting in similar anticipated performance characteristics (Drawings 15 to 20).

The condition of the buttress/access road placed against the exterior slope of the east dam, aligned along its southern half, also remains in good condition with no evidence of significant change from previous inspections.

3.3. Springs

The groundwater springs located approximately 50 m west of the toe of the west dam do not appear to have changed from previous inspections.

The two previously identified springs located on the airstrip, labelled Weir 11 and 12 (Drawing 21), continue to exhibit a minor amount of groundwater seepage, evidenced by the moss-like vegetation observed at this location. Based on photo comparisons from previous inspections, conditions do not appear to have changed significantly.

3.4. Piezometers

Water level measurements were recorded in piezometers originally installed in 1988 and 1989, provided that the piezometers could be located, and provided that they remained functional.

Data from these readings, along with historical data collected from previous inspections, are included in Tables 1 and 2, and illustrated in Charts 1 and 2.

As with previous inspections a conductive probe water level meter was used to facilitate easy and accurate piezometers measurements. However, a malfunctioning water level probe and poor weather conditions precluded the collection of a full suite of monitoring data during the current inspection.

3.5. Toe Weirs

The JM TSF dam toe weirs were rehabilitated during the current inspection and a set of weir flow measurements were recorded. Current measurements, along with historically collected data, are presented in Table 3 and Chart 3.

4.0 DISCUSSION

4.1. Dam Condition

The minor cracking / beaching of the interior slope and dam crest identified in Section 3.2 and illustrated in Drawings 6, 7, and 10, does not require immediate rehabilitation. However, in-filling with sand or an equivalent is recommended. In the unlikely event that subsequent inspections indicate significant crack propagation / growth, more substantial rehabilitation work may be required. As indicated, this may include localized resurfacing and/or material re-placement and / or the placing of additional rip rap.

4.2. Piezometers

As illustrated in Charts 1 and 2, piezometer readings recorded during the 2014 inspection are generally consistent with trends observed over the past 20 years.

This assessment excludes piezometers 88-01 P1 and P2 which began recording a sustained increase in water level in 2006. It is noted that the condition and security of this dual port piezometer's collar has been compromised, and that the continued functionality of this particular instrument is questionable.

Previous inspection reports have noted that a number of the piezometers installed in 1988 and 1989 are no longer functioning, for a variety of reasons (e.g. blocked, covered, buried). This list includes piezometers 88-01 P1 and P2, 88-04 P2, 89-03, 89-04, 89-05, and 89-06. A number of these non-functioning piezometers are located within the dams.

As a result, JRT continues to recommended that Snip install a number of replacement piezometers (approximately four in total) to assist with dam performance monitoring, as soon as practical. While on-going field observations and the remaining functioning instrumentation are considered by JRT to provide a minimally acceptable level information to confirm the continued performance of the dam (commensurate with its 'Low' consequence classification), additional / replacement piezometers will improve Snip's ability to reliably monitor the condition of the dam.

4.3. Toe Weirs

As indicated in Chart 3, weir flow rates recorded during the 2014 inspection remained within ranges observed during previous inspections. The observed increased rates in 2008 and 2011 are likely due to coincident precipitation events and temporarily increased levels of ponded water in the vicinity of the weirs, and not increased seepage through the component dams.

It should be noted that the current weirs installed at site are very rudimentary, consisting of 1 to 2" dia. PVC pipe inserted through small, 6" to 12" high soil dams that are re-constructed / rehabilitated as the inspection is carried out. Indeed, even the exact locations of the various weirs cannot be confirmed to be consistent year over year. As previously indicated, the weirs are allowed to 'recover' from the time they are re-constructed until the time flow rate readings are collected, however this is usually less than a full day in the field, and it is likely that ponded water resulting from recent precipitation events can significantly affect the speed at which this recovery may occur. In effect this makes it difficult to confirm steady-state flow conditions through the weir has been achieved. As a result, there is some degree of uncertainty regarding the accuracy and repeatability of the weir flow measurements recorded using the current system.

JRT recommends the installation of a number of more robust and permanent weirs (approximately four in total), at locations similar to those currently installed, to facilitate more consistent and repeatable weir flow measurements in the future. Construction costs and logistics related to the installation of these weirs would not likely be prohibitive, as they could

be installed over the course of a few days using equipment and materials already at site. While on-going field observations and the remaining functioning instrumentation are considered by JRT to provide a minimally acceptable level information to confirm the continued performance of the dam (commensurate with its 'Low' consequence classification), additional / replacement weirs will significantly improve Snip's ability to reliably monitor the condition of the dam.

4.4. Waste Disposal

During the 2000 field season, approximately 900 tonnes of pyritic waste rock mixed with non-pyritic waste rock and soil were placed in the submerged deep strip borrow area located within the pond, near the junction of the north dam and the north saddle dam. The approximate location is indicated on Drawing 1. The material was placed in excess of 2.3 m below the pond water level.

No sign of the waste rock was visible during the 2014 inspection, and no rust staining of the water in the pond was observed. This indicates that the placed material is not oxidizing, likely due to the fact that it is submerged below the level of oxygenation of water in the pond.

5.0 CONCLUSION

Observations and measurements made during the 2014 inspection of the JM TSF dam indicate that no significant change in the condition or performance of the dam has occurred compared to previous years inspections. At the time of the inspection the JM TSF dam retained its function and was observed to be good condition. The inspection did not reveal any unsafe or unacceptable conditions in relation to the design, construction, maintenance and operation of the dam.

6.0 RECOMMENDATIONS

1. As indicated in Section 3.2, it is recommended that localized cracks identified at various locations along the dam crest and the interior slope be specifically observed and monitored using photo comparison techniques, to determine if the crack propagation is significantly progressive, and if rehabilitation work is warranted in the future. In-filling of these cracks with sand or an equivalent is recommended but not urgently required.
2. As indicated in Section 4.2, given that the quantity of functioning piezometers has decreased since construction, and the reliability of others is questionable, JRT recommends the installation of approximately four (4) replacement piezometers to assist with ongoing performance monitoring.
3. As indicated in Section 4.3, given the uncertainties regarding the reliability of the current weirs, JRT recommends the installation of four (4) robust / permanent weirs at locations similar to those currently installed, to facilitate more consistent and repeatable weir flow measurements in the future.

7.0 LIMITATIONS

JRT prepared this report for the account of Snip. The material in it reflects the judgment of JRT in light of the information available to JRT at the time of report preparation. Any use which a third party makes of this report, or any reliance on decisions based on it, is the responsibility of such third parties. JRT accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

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8.0 CLOSURE

JRT trusts that this report meets your current requirements. If you require anything further, please do not hesitate to contact us.

Yours sincerely,

JRT ENGINEERING INC.
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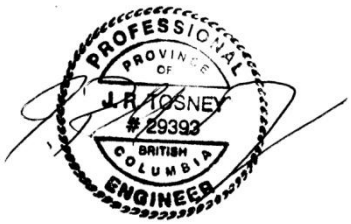

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