



**VIA EMAIL**

**Mr. Adam C.T. Matthews**  
**Co-Lead, Investor Mining & Tailings Safety Initiative**  
**Director of Ethics and Engagement, Church of England Pensions Board**

**August 30, 2019**

-and-

**Mr. John Howchin**  
**Co-Lead, Investor Mining & Tailings Safety Initiative**  
**Secretary General, Swedish Council on Ethics for the AP Public Pension Funds**

Dear Mr. Matthews and Mr. Howchin:

**Re: Request for Information Concerning Tailings Dam Management**

Thank you for your letter dated July 24, 2019 requesting information on SSR Mining Inc.'s ("**SSR Mining**") management of tailings facilities. We share the focus of the Church of England and Swedish Council on Ethics for the AP Funds on responsible management of such facilities, and we welcome the opportunity to share details on our approach.

We have reviewed your request and attach the tailings dam management disclosure table for each of our facilities. We have also included an excerpt from our inaugural [2018 Sustainability Report](#) concerning tailings management, which contains certain additional information. This letter along with the attached tables has been posted to and is available on our website ([www.ssrmining.com](http://www.ssrmining.com)).

**Our Approach to Tailings Management**

SSR Mining recognizes that tailings management is one of the most critical areas of environmental management for mining operations. In accordance with our [Environmental & Community Policy](#), we are committed to diligently applying appropriate methodologies to protect the environment and communities over the full life cycle of mining, and to developing, implementing and evaluating our environmental programs and management systems, including with respect to tailings management, with a view to continually improving our environmental performance.

Our tailings facilities are managed taking into account a combination of site-specific conditions, applicable local laws and regulations, applicable international standards, annual dam safety inspections, and dam safety reviews, as required. Our Operations, Maintenance, and Surveillance manuals and Emergency Response Plans are used as the basis for managing our facilities, and our Enterprise Risk Management system incorporates all aspects of tailings management.

We are committed to ensuring transparency and communication with our stakeholders with respect to our approach to tailings management. Our inaugural 2018 Sustainability Report illustrates the importance of this area to our company and how we engage with our stakeholders to communicate our tailings management initiatives.

## **SSR Mining's Tailings Facilities**

SSR Mining manages the following tailings facilities located at each of our operations:

<b>Operation (Jurisdiction)</b>	<b>Facility</b>	<b>Status</b>
Seabee Gold Operation (Canada)	Triangle Lake Tailings Storage Facility (see Table 1 attached)	Active
	East Lake Tailings Storage Facility (see Table 2 attached)	Active
Marigold Mine (United States)	Tailings Storage Facility (see Table 3 attached)	Inactive
Puna Operations (Argentina)	Pirquitas Tailings Dam (see Table 4 attached)	Inactive (used for water storage)

All of our facilities are wholly-owned except for the Pirquitas tailings dam at our 75% owned and operated Puna Operations joint venture. The tailings management facilities at our Seabee Gold Operation, Triangle Lake and East Lake, are active. The tailings management facility at our Marigold mine has been closed for over 20 years. We ceased to use our Puna Operations tailings management facility in early 2019, and tailings at Puna Operations are now deposited into a previously mined open pit with no dams. We have no dams which are constructed using the upstream method.

### **Independent Reviews and Monitoring**

A qualified, licensed, and experienced external engineer of record is assigned to each of our active and inactive tailings facilities. Our independent engineers review our facilities at the design, operations, and closure stages, and complete annual inspections. These reviews assess the stability and structural integrity of our tailings facilities, and note any improvements that should be made in order to further mitigate risks.

To ensure safe operations, we also have daily monitoring at our active tailings management facilities. This includes the use of leading best practice standards in the form of inclinometers, piezometers and monitoring prisms, and trained staff inspections.

### **Tailings Management Initiatives**

As set forth in our 2018 Sustainability Report, in 2019, we have committed to developing an enterprise-level tailings management policy and augment our existing third-party reviews of our tailings facilities by establishing an Independent Tailings Review Board (the "ITRB"). The mandate of the ITRB will be to review and assess the management and condition of our facilities. The ITRB will be comprised of recognized experts from relevant disciplines including geotechnical, water, and mine closure. We will also review the requirements for adopting the Mining Association of Canada's Tailings Management Protocol for our facilities.

### **Certification**

The information provided within this disclosure is true to the best of our knowledge, based on our governance, technical, and review systems.

We would like to thank you and the other participants for your commitment to this important initiative. We are fully supportive and believe that the end result will foster greater transparency with our communities and promote higher standards for the industry.

Yours sincerely,

**SSR MINING INC.**

A handwritten signature in black ink, appearing to read 'Paul Benson', followed by a horizontal line.

Paul Benson  
President and Chief Executive Officer

cc: Mike Anglin, Chair of the Board  
Tim Bekhuys, Vice President, Environment and Community  
Matthew Langford, Corporate Counsel

Attachments:

1. Summary of Tailings Management at SSR Mining Inc. (excerpt from 2018 Sustainability Report)
2. SSR Mining Inc. Tailings Dam Management Disclosure Tables (August 2019)



Tailings management, dealing with the residue from minerals processing, is one of the most critical areas of environmental management for mining operations. It continues to receive global attention and we treat it very seriously. Notably, there is a renewed emphasis on the part of mining companies – and the mining sector as a whole – to demonstrate to stakeholders that they are managing their tailings facilities responsibly.

Our operations manage their tailings facilities according to site-specific conditions and applicable local laws and regulations as well as applicable international standards. Tailings management is a key component of EIAs and corresponding management plans.

At the Seabee Gold Operation, we use two tailings management facilities (TMF), namely the East Lake TMF and the Triangle Lake TMF. Tailings deposition alternates between the two facilities with summer deposition occurring in the former and winter deposition occurring in the latter. We will be expanding the Triangle Lake TMF beginning in 2019 with expected completion in 2020.

We operate the Seabee Gold Operation facilities in accordance with a Tailings Operation Maintenance and Surveillance Manual, which was developed by recognized independent engineering experts. We also follow the Canadian Dam Association Safety Guidelines.

In 2017, we installed a water treatment plant at the East Lake TMF to treat and settle the solids and separate the water at both of the TMFs. We use an extensive treatment process to treat water to the acceptable provincial levels, as defined in the Saskatchewan Environmental Quality Standards for Surface Water. The treated water discharges to a settling pond, which flows through a series of wetlands before discharging to the northern arm of Laonil Lake.

At Puna Operations, we optimized the design of the

“None of our operations use upstream tailings dam construction.”

operations to reduce costs, limit our overall environmental footprint, and minimize the potential impacts on the environment. Specifically, we process ore from the Chinchillas mine at the existing Pirquitas facilities and dispose tailings in the mined-out Pirquitas pit. This approach eliminated the need for constructing an expanded TMF, which reduces our overall environmental footprint. The reagent scheme used for processing Chinchillas ore avoids the use of cyanide in the lead flotation stage, thus eliminating any cyanide concerns within the tailings.

We continue to operate our existing TMF at the Pirquitas facilities. The TMF serves as a backup to the pit disposal and we may use it as a water treatment pond.

The Marigold mine became a heap leach operation in 1994 at which time the TMF was decommissioned and reclaimed. The only remaining activity concerning the TMF is ongoing well monitoring.

In 2006, the Marigold mine became the first mine in the world to be certified under the International Cyanide Management Code (ICMC). The mine continues to maintain certification under the ICMC.

We conduct extensive monitoring at all of our TMFs as part of our regular environmental monitoring programs. In 2018, we were in full compliance with all internal and external requirements.

The following table provides an overview of the quantity of tailings we produced at our operations in 2018.

**TABLE 10. TAILINGS VOLUMES**

OPERATION	(m <sup>3</sup> )
Seabee Gold Operation	195,555
Puna Operations	756,191

Throughout 2019, we will develop an enterprise-level tailings management policy. In addition, we will augment existing third-party reviews of tailings facilities with a formal Independent Tailings Review Board. The mandate of this review board will be to review and assess the management and condition of our TMFs. The review board will be comprised of recognized experts from relevant disciplines including geotechnical, water, and mine closure. Lastly, we will review the requirements for adopting the MAC Tailings Management Protocol.

“In 2006, the Marigold mine became the first mine in the world to become certified under the International Cyanide Management Code (ICMC). The mine continues to maintain certification under the ICMC.”

Table 1 – Seabee Gold Operation, Triangle Lake Tailings Storage Facility

Disclosure	Answer
1. "Tailings Dam" Name/identifier	Seabee Mine, Triangle Lake TSF – 2 dams and 2 saddle dikes
2. Location	N 55 41' 25.38" / W 103 34' 45.54"
3. Ownership	SGO Mining Inc., a wholly-owned subsidiary of SSR Mining
4. Status	Active
5. Date of initial operation	2004
6. Is the Dam currently operated or closed as per currently approved design?	Currently operated
7. Raising Method	Modified centreline
8. Current Maximum Height	19 m
9. Current Tailings Storage Impoundment Volume	3.84 Mt or 2.75 Mm <sup>3</sup>
10. Planned Tailings Storage Impoundment Volume in 5 years' time	Estimated 5.59 Mt or 4.00 Mm <sup>3</sup>
11. Most recent Independent Expert Review	January 2019
12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	Yes
13. What is your hazard categorisation of this facility, based on consequence of failure?	High
14. What guideline do you follow for the classification system?	Canadian Dam Association Consequence Classification Ratings for Dams
15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	No
16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	Internal and external (SRK Consulting) engineers
17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	Yes (2019)
18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	Yes and yes
19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	Yes, we have committed to assessing climate-related risks to determine the resiliency to changing climatic conditions at all our operations. Please see section on Energy and Greenhouse Gas Emissions in our <a href="#">2018 Sustainability Report</a> for further details.
20. Any other relevant information and supporting documentation.	Please see our <a href="#">Environmental &amp; Community Policy</a> and <a href="#">2018 Sustainability Report</a> (including section on Tailings Management) for further information.

Table 2 – Seabee Gold Operation, East Lake Tailings Storage Facility

Disclosure	Answer
1. "Tailings Dam" Name/identifier	Seabee Mine, East Lake TSF – 3 concrete perimeter dams
2. Location	N 55 41' 24.16" / W 103 35' 32.08"
3. Ownership	SGO Mining Inc., a wholly-owned subsidiary of SSR Mining
4. Status	Active (tailings deposition and water storage)
5. Date of initial operation	1991
6. Is the Dam currently operated or closed as per currently approved design?	Currently operated
7. Raising Method	Concrete dams are centreline
8. Current Maximum Height	8 m
9. Current Tailings Storage Impoundment Volume	3.75 Mt or 2.55 Mm <sup>3</sup>
10. Planned Tailings Storage Impoundment Volume in 5 years' time	Estimated 4.19 Mt or 2.86 Mm <sup>3</sup>
11. Most recent Independent Expert Review	January 2019
12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	Yes
13. What is your hazard categorisation of this facility, based on consequence of failure?	Significant
14. What guideline do you follow for the classification system?	Canadian Dam Association Consequence Classification Ratings for Dams
15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	No
16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	Internal and external (SRK Consulting) engineers
17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	Yes (2019)
18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	Yes and yes
19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	Yes, we have committed to assessing climate-related risks to determine the resiliency to changing climatic conditions at all our operations. Please see section on Energy and Greenhouse Gas Emissions in our <a href="#">2018 Sustainability Report</a> for further details.
20. Any other relevant information and supporting documentation.	Please see our <a href="#">Environmental &amp; Community Policy</a> and <a href="#">2018 Sustainability Report</a> (including section on Tailings Management) for further information.



Table 3 – Marigold Mine, Tailings Storage Facility

Disclosure	Answer
1. "Tailings Dam" Name/identifier	Marigold Mine TSF – inactive, on-land facility with one crescent dam
2. Location	N 40 45' 04.06" / W 117 08' 23.91"
3. Ownership	Marigold Mining Company, a wholly-owned subsidiary of SSR Mining
4. Status	Inactive
5. Date of initial operation	1989
6. Is the Dam currently operated or closed as per currently approved design?	Closed as of 1999
7. Raising Method	Centreline
8. Current Maximum Height	22 m
9. Current Tailings Storage Impoundment Volume	N/A (facility permanently closed). The area has been reclaimed and revegetated. The gold production process at Marigold has changed to a run of mine heap leach and tailings are no longer produced.
10. Planned Tailings Storage Impoundment Volume in 5 years' time	N/A (facility permanently closed).
11. Most recent Independent Expert Review	July 2007
12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	Yes
13. What is your hazard categorisation of this facility, based on consequence of failure?	Low
14. What guideline do you follow for the classification system?	Canadian Dam Association Consequence Classification Ratings for Dams
15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	No
16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	Internal engineer (facility permanently closed)
17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	An analysis is being completed in Q3 2019. The facility has been inactive for over 20 years.
18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	Yes and yes
19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	Yes, we have committed to assessing climate-related risks to determine the resiliency to changing climatic conditions at all our operations. Please see section on Energy and Greenhouse Gas Emissions in our <a href="#">2018 Sustainability Report</a> for further details.
20. Any other relevant information and supporting documentation.	Please see our <a href="#">Environmental &amp; Community Policy</a> and <a href="#">2018 Sustainability Report</a> (including section on Tailings Management) for further information. In 2006, Marigold became the first mine in the world to be certified under the International Cyanide Management Code (ICMC) and continues to maintain certification under the ICMC.

Table 4 – Mina Pirquitas S.A., Pirquitas Tailings Dam

Disclosure	Answer
1. "Tailings Dam" Name/identifier	Mina Pirquitas S.A. – Pirquitas Tailings Dam
2. Location	S 22 41' 48.09" / W 66 29' 17.72"
3. Ownership	Mina Pirquitas S.A., a wholly-owned subsidiary of Puna Operations Inc., our 75% owned and operated joint venture
4. Status	Inactive (water storage only)
5. Date of initial operation	2009
6. Is the Dam currently operated or closed as per currently approved design?	Ceased use as of May 2019
7. Raising Method	Downstream
8. Current Maximum Height	30 m
9. Current Tailings Storage Impoundment Volume	8.8 Mm <sup>3</sup>
10. Planned Tailings Storage Impoundment Volume in 5 years' time	N/A (facility inactive)
11. Most recent Independent Expert Review	September 2018
12. Do you have full and complete relevant engineering records including design, construction, operation, maintenance and/or closure.	Yes
13. What is your hazard categorisation of this facility, based on consequence of failure?	High
14. What guideline do you follow for the classification system?	Canadian Dam Association Consequence Classification Ratings for Dams
15. Has this facility, at any point in its history, failed to be confirmed or certified as stable, or experienced notable stability concerns, as identified by an independent engineer (even if later certified as stable by the same or a different firm).	Yes. The Stage 1 of the TSF was built on liquefiable soil, but the further Stages (2A, 2B, 3, 4 and 5) corrected this instability.
16. Do you have internal/in house engineering specialist oversight of this facility? Or do you have external engineering support for this purpose?	Internal and external (Ausenco) engineers
17. Has a formal analysis of the downstream impact on communities, ecosystems and critical infrastructure in the event of catastrophic failure been undertaken and to reflect final conditions? If so, when did this assessment take place?	Yes (July 2016)
18. Is there a) a closure plan in place for this dam, and b) does it include long term monitoring?	Yes and yes
19. Have you, or do you plan to assess your tailings facilities against the impact of more regular extreme weather events as a result of climate change, e.g. over the next two years?	Yes, we have committed to assessing climate-related risks to determine the resiliency to changing climatic conditions at all our operations. Please see section on Energy and Greenhouse Gas Emissions in our <a href="#">2018 Sustainability Report</a> for further details.
20. Any other relevant information and supporting documentation.	Please see our <a href="#">Environmental &amp; Community Policy</a> and <a href="#">2018 Sustainability Report</a> (including section on Tailings Management) for further information.