

**Manitoba**



**Conservation and Water Stewardship**

Climate Change and Environmental Protection Division  
Environmental Approvals Branch  
123 Main Street, Suite 160, Winnipeg, Manitoba R3C 1A5  
T 204 945-8321 F 204 945-5229  
[www.gov.mb.ca/conservation/eal](http://www.gov.mb.ca/conservation/eal)

**File: 2435.40**  
March 20, 2013

Kris Innes  
Prov. Hwy# 502  
Lac du Bonnet, MB R0E 1A0

Dear Kris Innes:

**Re: San Gold Corporation – San Gold Tailings Management Area Expansion -  
Environment Act Proposal**

The responses from the Technical Advisory Committee (TAC) that requested additional information regarding San Gold's Tailings Management Area Expansion Environment Act Proposal were forwarded to the proponent for response.

Please find attached San Gold's March 12, 2013 letter responding to the comments and requests for additional information presented by the TAC. Please review the information provided to determine if your comments or concerns have been satisfactorily addressed.

Your comments, if any, are required to be submitted to the Environmental Approvals Branch by April 24, 2013. No response on your part will be assumed to indicate no concern.

If you have any questions, please contact me at 204-945-7012.

Yours truly,

***"Original signed by"***

Jennifer Winsor, P.Eng.  
Environmental Engineer

Enclosure

- c. Donna Smiley, A/Director – Environmental Compliance and Enforcement Branch,  
Manitoba Conservation and Water Stewardship  
Ernest Armitt, Director – Mines Branch – Manitoba Innovation, Energy and Mines  
Public Registries

**Manitoba**



**Conservation and Water Stewardship**

Climate Change and Environmental Protection Division  
Environmental Approvals Branch  
123 Main Street, Suite 160, Winnipeg, Manitoba R3C 1A5  
T 204 945-8321 F 204 945-5229  
[www.gov.mb.ca/conservation/eal](http://www.gov.mb.ca/conservation/eal)

**File: 2435.40**  
March 20, 2013

William Weaver  
200 Saulteaux Crescent  
Winnipeg, MB R3J 3W3

Dear Mr. Weaver:

**Re: San Gold Corporation – San Gold Tailings Management Area Expansion -  
Environment Act Proposal**

The responses from the Technical Advisory Committee (TAC) that requested additional information regarding San Gold's Tailings Management Area Expansion Environment Act Proposal were forwarded to the proponent for response.

Please find attached San Gold's March 12, 2013 letter responding to the comments and requests for additional information presented by the TAC. Please review the information provided to determine if your comments or concerns have been satisfactorily addressed.

Your comments, if any, are required to be submitted to the Environmental Approvals Branch by April 24, 2013. No response on your part will be assumed to indicate no concern.

If you have any questions, please contact me at 204-945-7012.

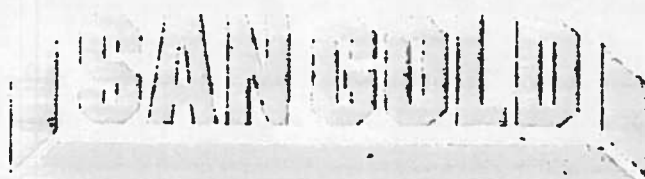
Yours truly,

***"Original signed by"***

Jennifer Winsor, P.Eng.  
Environmental Engineer

Enclosure

- c. Donna Smiley, A/Director – Environmental Compliance and Enforcement Branch,  
Manitoba Conservation and Water Stewardship  
Ernest Armitt, Director – Mines Branch – Manitoba Innovation, Energy and Mines  
Public Registries



**SAN GOLD CORPORATION**  
P.O. Box 1000 – ML 63 Antonio Road  
Bissett, MB R0E 0J0  
Ph: (204) 277-5411 Fax: (204) 277-5552  
[www.sangold.ca](http://www.sangold.ca)

**March 12, 2013**

**Jennifer Winsor, P.Eng**  
Environmental Engineer  
Environmental Approvals Branch  
Conservation and Water Stewardship  
123 Main Street, Ste. 160  
Winnipeg, MB R3C 1A5

**Dear Ms. Winsor:**

**Subject: San Gold Environmental License**

**The following is in response to further questions and concerns raised by the TAC (Kris Innes Environmental Compliance and Enforcement) in a letter from your department of September 18, 2012 regarding our application for an expansion of the Tailings Management Area ("TMA").**

**1. Effluent/Surface Water Quality**

*Conservation and Water Stewardship recognizes corrections made by San Gold Corporation in regards to copper and aluminum exceedances. Environment Act License 2628R does not require effluent quality to meet Tier II water quality objectives as was previously reported. However, nutrient and metal concentrations exceeding Tier III drinking water guidelines were reported within the "Annual Effluent Discharge Campaign Report (2011)". Conservation and Water Stewardship requests what contingency measures or mitigation strategies will be enacted should exceedances of applicable criteria be identified during future discharges.*

**San Gold Response:**

**The Company is committed to remain in compliance with Tier II water quality criteria objectives as our permit requires. Please be advised the receiving water course from the No Name Creek discharge location, being the Wanipigow River, currently does not meet drinking water criteria for some parameters including aluminum and iron. The main parameter of concern for us is copper for which the**

**federal limit (MMER) for copper of (0.3 mg/l) is less than the criteria identified for the provincial drinking water standard of (1.0 mg/l). Through our last discharge in 2012 we maintained an average for copper of (0.10 mg/l). San Gold will continue to monitor effluent discharges to ensure compliance as per our permit.**

**In addition the company is investigating the addition of treatment systems that could be incorporated into our operations to improve overall discharge water quality. One of systems being investigated is reverse osmosis water treatment but this is in the early stages of review.**

## **2. Water Balance:**

*Reports from San Gold Corporation indicate that approximately 97% of the water required by the mill is reclaimed from the TMA. The water balance summary does not appear to reflect this. Conservation and Water Stewardship requests further clarification on how the final annual discharge volume is calculated. Specifically what are the water inputs and outputs, before and after water reclamation efforts.*

### **San Gold Response:**

**In response to this water balance question San Gold directed AECOM to communicate directly with Mr. Kris Innes with Compliance and Enforcement and to our knowledge his concerns have been satisfied. Attached please find our internal communication with AECOM in this regard.**

## **3. TMA Operation**

*No further comments*

## **4. Tailings Inlet Pipe**

*No further comments*

## **5. Groundwater**

*San Gold Corporation has indicated the risk of impact to local groundwater is low. The environment act proposal references data obtained from 1999 and 2000 sampling results. Do recent groundwater monitoring results support this assessment?*

### **San Gold Response:**

**Based on the data we have collected to-date and on our inspections of the physical environment which surrounds the current TMA we believe that the potential impacts to local ground water based on seepage from the TMA is very low.**

**The following is in response to further questions and concerns raised by the TAC (William Weaver Environmental Review Officer) in a letter to your department of September 18, 2012 regarding our application for an expansion of the Tailings Management Area ("TMA").**

**Page 1 of 2**

- 1. In order to provide clarification for regarding Point 1, on page 10.**

With regard to the application of tier II water quality objectives, guidance can be found within the Manitoba Water Quality Standards, Objectives, and Guidelines, dated on November 28, 2011 (located on the Internet at: [http://www.gov.mb.ca/waterstewardship/waterquality/quality/pdf/rmb\\_water\\_quality\\_standard\\_final.pdf](http://www.gov.mb.ca/waterstewardship/waterquality/quality/pdf/rmb_water_quality_standard_final.pdf) ). No Name Creek depending on stream flow would be considered an intermittent stream. The aforementioned guidance suggests that Tier II Water Quality Objectives should apply to all such streams when the water flow is 0.003 m<sup>3</sup>/s or greater. When the water flow is less than 0.003 m<sup>3</sup>/s, the minimal level of quality should be Tier II water quality objectives in the downstream water body which the intermittent stream is a tributary. However, in the case of where there are pools that support important uses during periods of low natural flows, Tier II Water Quality Objectives should apply at all times, similar to other larger streams. No Name Creek is a tributary that appears to contain many pool type habitats that have been largely created by beaver activity. The proponent requests for discharge to comply with federal Metal Mining Effluent Regulations under the Fisheries Act and Drinking Water Quality Guidelines. Drinking water quality guidelines are much higher than objectives for the protection of aquatic life and may not be protective of aquatic life.

o Therefore, the Water Stewardship Division maintains requiring an Environment Act License to include the following:

• The Licensee shall not release any effluent from a final discharge point if: a) the quality or toxicity of the effluent is in non-compliance with the federal Metal Mining Effluent Regulations under the Fisheries Act, or b) the effluent quality is resulting in, or is likely to directly or cumulatively result in, a downstream degradation of the water quality immediately beyond a maximum 10% mixing zone (by volume) within No Name Creek and/or the Wanipigow River, relative to the Manitoba Water Quality Standards, Objectives and Guidelines Regulation under The Water Protection Act and/or nutrient control strategies and regulations developed by the Manitoba Department of Conservation and Water Stewardship.

**San Gold Response:**

**We appreciate the clarification and have no concerns with the addition of the above noted clause to the Environmental Act License.**

• In order to provide clarification for regarding comment 2 , on page 10 and 11:

o Representatives from Manitoba Conservation and Water Stewardship's Fisheries Branch and Water Quality Management Section participate on the Technical Advisory Panel under federal Metal Mining Effluent Regulations of the Fisheries Act. The purpose of the comment was to enable the Technical Advisory Panel the ability to require the inclusion of parameters to be monitored or other considerations to comply with good scientific practice when a proponent conducts environmental effects monitoring studies. Additionally, in the past, some proponents have responded uncooperatively to recommendations of the Technical Advisory Panel, only complying with the minimum legal requirements. The Technical Advisory Panel needs an option to require proponents to conduct additional work, beyond the minimum legal requirements.

**San Gold Response:**

**While the Company recognizes the value that the Technical Advisory Panel can provide in terms of recommendations for improving water stewardship we are concerned that such recommendations are made in isolation without the opportunity for stakeholders respond and to make comment prior to submissions being made to regulatory authorities. We contend that the recommendations from the Technical Advisory Panel are meant to be advisory as compared to compulsory. San Gold is committed to not just meet the minimum regulatory standards but to use technology to improve the quality of water being discharged from the TMA.**

**The federal MMER is designed to elevate monitoring requirements should an environmental effect be detected and pushes monitoring into an investigation of Cause, that will focus and attempt to determine the cause of any environmental impact. The federal program was designed to protect fish habitat and outlines suitable discharge limits for mining activities.**

**If the Province of Manitoba does not accept the federal regulations as being sufficient, and wishes to create higher environmental standards than the industry norm, the company will endeavor to comply with more onerous provincial regulatory requirements providing the technology exists to support a higher standard. Prior to implementing new regulatory standards that are more stringent than federal MMER it is imperative that the benefits and costs of these environmental changes be clearly articulated up front to ensure maximum benefits from environmental improvements. The company does not necessarily believe that these maximum benefits will accrue if the province unilaterally accepts any or all TAP recommendations.**

**San Gold has completed the Cycle 1 and has submitted the Cycle 2 Study Design to the federal government under the MMER and has incorporated the provincial comments during the Cycle 1 program.**

**If you have any other questions, please contact me at (204) 277-5401 Ext 204.**

**Yours truly,**



**John Hutchison**

**Manager of Milling and Environmental  
San Gold Corporation**

DATE: September 21, 2012

## Memorandum

TO: Jennifer Winsor, P.Eng.  
Environmental Engineer  
Environmental Assessment and  
Licensing Branch  
Manitoba Conservation and  
Water Stewardship  
123 Main Street, Suite 160  
Winnipeg, Manitoba R3C 1A5

FROM: William Weaver, M.Sc.  
Environmental Review Officer  
Watersheds and Protected Areas  
Branch  
Manitoba Conservation and  
Water Stewardship  
200 Saulteaux Crescent, Box 27  
Winnipeg, Manitoba R3J 3W3

CC: Kevin Jacobs  
David Hay  
Laureen Janusz

TELEPHONE: (204) 945-6395  
FACSIMILE: (204) 945-7419

SUBJECT: **ENVIRONMENT ACT PROPOSAL FILE NO. 2435.40**  
**SAN GOLD TAILINGS MANAGEMENT AREA EXPANSION**  
**SAN GOLD CORPORATION**

The Water Stewardship Division of the Manitoba Department of Conservation and Water Stewardship has reviewed a response, dated on August 21, 2012, from the proponent's consultant, forwarded for review and comment on August 24, 2012.

- In order to provide clarification for regarding Point 1, on page 10:
  - With regard to the application of tier II water quality objectives, guidance can be found within the Manitoba Water Quality Standards, Objectives, and Guidelines, dated on November 28, 2011 (located on the Internet at [http://www.gov.mb.ca/waterstewardship/waterquality/standards/objectivesandguidelines.html](#)). No Name Creek depending on stream flow would be considered an intermittent stream. The aforementioned guidance suggests that Tier II Water Quality Objectives should apply to all such streams when the water flow is 0.003 m<sup>3</sup>/s or greater. When the water flow is less than 0.003 m<sup>3</sup>/s, the minimal level of quality should be Tier II water quality objectives in the downstream water body which the intermittent stream is a tributary. However, in the case of where there are pools that support important uses during periods of low natural flows, Tier II Water Quality Objectives should apply at all times, similar to other larger streams. No Name Creek is a tributary that appears to contain many pool type habitats that have been largely created by beaver activity. The proponent requests for discharge to comply with federal *Metal Mining Effluent Regulations* under the *Fisheries Act* and Drinking Water Quality Guidelines. Drinking water quality guidelines are much higher than

Date: September 21, 2012  
Subject: **Environment Act Proposal File No. 2435.40**  
**San Gold Tailings Management Area Expansion**  
**San Gold Corporation**


---

objectives for the protection of aquatic life and may not be protective of aquatic life.

- o Therefore, the Water Stewardship Division maintains requiring an *Environment Act Licence* to include the following:
  - The Licence shall not release any effluent from a final discharge point if: a) the quality or toxicity of the effluent is in non-compliance with the federal *Metal Mining Effluent Regulations* under the *Fisheries Act*, or b) the effluent quality is resulting in, or is likely to directly or cumulatively result in, a downstream degradation of the water quality immediately beyond a maximum 10% mixing zone (by volume) within No Name Creek and/or the Wanipigow River, relative to the *Manitoba Water Quality Standards, Objectives and Guidelines Regulation* under *The Water Protection Act* and/or nutrient control strategies and regulations developed by the Manitoba Department of Conservation and Water Stewardship.
- o With regard to comment 2 on page 10 and 11:
  - o Representatives from Manitoba Conservation and Water Stewardship's Fisheries Branch and Water Quality Management Section participate on the Technical Advisory Panel under federal *Metal Mining Effluent Regulations* of the *Fisheries Act*. The purpose of the comment was to enable the Technical Advisory Panel the ability to require the inclusion of parameters to be monitored or other considerations to comply with good scientific practice when a proponent conducts environmental effects monitoring studies. Additionally, in the past, some proponents have responded uncooperatively to recommendations of the Technical Advisory Panel, only complying with the minimum legal requirements. The Technical Advisory Panel needs an option to require proponents to conduct additional work, beyond the minimum legal requirements.

William Weaver, M.Sc.



Manitoba 

Date: September 18, 2012

To: Jennifer Winsor  
Climate Change and  
Environmental Protection Division  
Environmental Approvals Branch  
123 Main Street, Suite 160,  
Winnipeg, MB R3C 1A5

## Memorandum

From: Kris Innes  
Environmental Compliance and  
Enforcement  
Conservation and Water  
Stewardship  
Box 4000  
Lac du Bonnet, MB R0E 1A0

<http://www.gov.mb.ca>

Subject: SAN GOLD CORPORATION –  
ENVIRONMENT ACT  
PROPOSAL COMMENTS

Telephone: 204-345-1428  
Facsimile: 204-345-1415  
E-Mail: [Kris.Innes@gov.mb.ca](mailto:Kris.Innes@gov.mb.ca)

Conservation and Water Stewardship, Environmental Compliance and Enforcement Branch submits the following comments on the Environment Act Proposal (2012) Response to Technical Advisory Committee submitted by San Gold Corporation on August 21, 2012.

- 1. Effluent/Surface Water Quality**  
Conservation and Water Stewardship recognizes corrections made by San Gold Corporation in regards to copper and aluminum exceedances. Environment Act Licence 2628R does not require effluent quality to meet Tier II water quality objectives as was previously reported. However, nutrient and metal concentrations exceeding Tier III drinking water guidelines were reported within the "Annual Effluent Discharge Campaign Report (2011)". Conservation and Water Stewardship requests what contingency measures or mitigation strategies will be enacted should exceedances of applicable criteria be identified during future discharges.
- 2. Water Balance**  
Reports from San Gold Corporation indicate approximately 97% of the water required by the mill is reclaimed from the TMA. The water balance summary does not appear to reflect this. Conservation and Water Stewardship requests further clarification on how the final annual discharge volume is calculated. Specifically what are the water inputs and outputs, before and after water reclamation efforts.
- 3. TMA Operation**  
No further comments
- 4. Tailings Inlet Pipe**  
No further comments
- 5. Groundwater**  
San Gold Corporation has indicated the risk of impact to local groundwater is low. The environment act proposal references data obtained from 1999 and 2000 sampling results. Do recent groundwater monitoring results support this assessment?



AECOM  
99 Commerce Drive  
Winnipeg, MB, Canada R3P 0Y7  
www.aecom.com

204 477 5381 tel  
204 284 2040 fax

## Memorandum

To **John Hutchison** Page 1

---

CC

---

Subject **Water Balance Response to Manitoba Conservation and Water Stewardship memo "San Gold Corporation – Environmental Act Proposal Comments"**

---

From **Jeremy Greshuk, P.Eng.**

---

Date **December 13, 2012** Project Number **60116437 (4.9)**

---

This memo is in response to Manitoba Conservation and Water Stewardship's September 18, 2012 memorandum "San Gold Corporation – Environment Act Proposal Comments". The questions in regards to the water balance are in reference to:

1. Reports from San Gold Corporation indicating 97% of water required by the mill is reclaimed from the Tailings Management Area (TMA)
2. Further clarification on how the final annual discharge volume is calculated

### 1. Reclaim Water from the TMA

The September 18, 2012 memorandum states that reports from San Gold Corporation indicate approximately 97% of the water required by the mill is reclaimed from the TMA. Recent conversations with the Mill Manager at San Gold clarified how the 97% reclaim is calculated.

San Gold's definition of the percentage of water reclaimed from the TMA is based on the fresh water volume taken from Rice Lake compared to the volume pumped from the TMA. It is not a percentage of the volume of processed water pumped to the TMA compared to the volume of water reclaimed from the TMA for processing. Based on recent estimates of fresh water taken from Rice Lake, the ratio of fresh water to the metered water volumes from the TMA pumped into the mill process tank falls with a range of 90%-97%.

Metered flows recorded by San Gold staff, on the processed water sent to the TMA and the pipe returning reclaim water into the mill, demonstrated a 20% surplus of processed water left in the TMA after reclaim efforts. In other words, 80% of the processed water volume pumped to the TMA is brought back to the Mill for further processing; 20% remains in the TMA. This volume in addition to surface runoff (that falls within the TMA catchment) is discharged to No Name Creek. It is for this reason that processed water volume from mill discharge and reclaim water volume are included in the original Table 2.2 and revised Table 2.2 (below, replacing the original Table 2.2 in the Environmental Act Proposal submitted in March 2012) as inputs and outputs to the TMA water balance.

## 2. Final Annual Discharge Volume

Manitoba Conservation and Water Stewardship have requested further clarification on how the final annual discharge volume is calculated, specifically what are the water inputs and outputs before and after water reclamation efforts.

### TMA Inputs

The inputs to the TMA are from mill discharge and runoff from precipitation on the TMA pond and headwater catchment area that drains south into the TMA.

The mill discharge component is a slurry made up of tailings and process water. The estimates of monthly tailings and processing water volumes are based on a maximum predicted milling rate of 2,500 short dry tons per day (sdtpd).

There was an error in the water balance portion of the March 2012 Request for Alteration to San Gold Corporation's Tailings Management Area document (Section 2.3.1.1). The error is on page 6 and Table 2.2 in regards to the monthly water contribution in the mill discharge to the TMA. The line reads: "the net monthly contribution of water is approximately 222,600 m<sup>3</sup>, which includes 7,100 m<sup>3</sup> of trapped process water within the tailings voids". This should have been "215,500 m<sup>3</sup>, which includes approximately 7,100 m<sup>3</sup> of trapped process water within the tailings voids". This means that there would be approximately 208,400 m<sup>3</sup> of water available for discharge/re-use considering that approximately 7,100 m<sup>3</sup> of water is trapped in the tailings voids.

Additionally, AECOM confirmed that the 550 m<sup>3</sup>/month of mine water indicated in Table 2.2 of the March 2012 NOA request is included in the mill discharge, and should not be treated as a separate input to the TMA.

The runoff into the TMA pond is estimated from average annual precipitation based on the climate normal for the meteorological gauge station at Blissett, Manitoba. The runoff volume computed includes both the on-pond precipitation as well as the runoff from the TMA catchment area. A runoff coefficient was estimated for the TMA catchment area and is used to estimate the potential abstraction of the precipitation that landcover (e.g. forest area) and soil type have on the potential runoff. The watershed runoff volume presented in Table 2.2 is the combined runoff volume into both the proposed TMA and proposed Polishing Pond as well as the direct precipitation on each.

### TMA Outputs

The outputs of the TMA are from evaporation and the volume of water reclaimed to the mill for processing.

The evaporation from the TMA is calculated based on the pond surface area and the average annual lake evaporation values for the Blissett area. Because the pond surface area is less than the total drainage area for the TMA the evaporation volume will typically be less than the total runoff volume in the TMA.

The water reclaimed to the mill is based on a percentage of the total volume discharged to the TMA from the mill, as indicated earlier.

Table 2.2 has been copied to this email with an additional column for annual input and output volumes for the Proposed TMA.

**Original Table 2.2: Summary of Inputs and Outputs for the Proposed TMA Expansion**

| Component                             | Quantity  |
|---------------------------------------|-----------|
| <b>Input</b>                          |           |
| <b>Mill Discharge</b>                 |           |
| Mine Tailings (m <sup>3</sup> /month) | 47,200    |
| Water (m <sup>3</sup> /month)         | 222,600   |
| Precipitation (mm/yr)                 | 557       |
| Watershed Runoff (m <sup>3</sup> /yr) | 753,000   |
| Mine Water (m <sup>3</sup> /month)    | 550       |
| <b>Output</b>                         |           |
| Evaporation (mm/yr)                   | 545       |
| Seepage                               | -         |
| Reclaim Water (m <sup>3</sup> /month) | 167,000   |
| Annual Discharge (m <sup>3</sup> /yr) | 1,955,000 |

- Notes: <sup>1</sup> Based on a maximum predicted milling rate of 2,500 sdtpd, and a 30 day operation/month.  
<sup>2</sup> Annual discharge is a summation of both the existing and proposed new polishing ponds and does not have a licenced maximum number of pumping days. Discharge is controlled by a maximum pump rate into No Name Creek of 0.2 m<sup>3</sup>/s (17,280 m<sup>3</sup>/d).

**Corrected Table 2.2: Summary of Inputs and Outputs for the Proposed TMA Expansion**

| Component                            | Monthly Quantity | Annual Quantities |
|--------------------------------------|------------------|-------------------|
| <b>Input</b>                         |                  |                   |
| <b>Mill Discharge</b>                |                  |                   |
| Mine Tailings (m <sup>3</sup> )      | 47,200           | 566,400           |
| Water (m <sup>3</sup> )              | 215,500          | 2,571,100         |
| Precipitation (mm)                   | -                | 557               |
| Watershed Runoff (m <sup>3</sup> )   | -                | 753,000           |
| <b>Output</b>                        |                  |                   |
| Evaporation (mm/yr)                  | -                | 545               |
| Evaporation Volume (m <sup>3</sup> ) | -                | 487,300           |
| Seepage (m <sup>3</sup> )            | -                | -                 |
| Reclaim Water (m <sup>3</sup> )      | 167,000          | 1,989,300         |
| Annual Discharge (m <sup>3</sup> )   | -                | 1,955,000         |

- Notes: <sup>1</sup> Based on a maximum predicted milling rate of 2,500 sdtpd, and a 30 day operation/month.  
<sup>2</sup> Annual discharge is a summation of both the existing and proposed new polishing ponds and does not have a licenced maximum number of pumping days. Discharge is controlled by a maximum pump rate into No Name Creek of 0.2 m<sup>3</sup>/s (17,280 m<sup>3</sup>/d).

The annual discharge volumes to No Name Creek discussed in Section 2.3.3.2 of the March 2012 Request for Alteration to San Gold Corporation's Tailings Management Area document have been provided under the assumption that the water stored in proposed polishing pond prior to annual discharge is up to the freeboard elevation as well as the ultimate dike elevation. This was to provide a worst-case scenario in which discharge to No Name Creek during normal operation of the proposed TMA expansion is based to the requirement of storing waste water to the normal fill level (leaving freeboard) or ultimate dike elevations. It is understood that in some years, depending on summer rainfall or overwinter snow accumulation, there may not be a need to store water in the proposed polishing pond to the normal fill level or ultimate dike elevation and in turn the annual discharge may be less than reported.

The annual discharge volumes presented in Section 2.3.3.2 are provided as a conservative estimate and are not inclusive of the typical net annual runoff into the existing polishing pond each year. Since the existing polishing pond will be used as the discharge point for the new TMA, the existing polishing pond net runoff volumes were not, but should have been, included in the annual discharge to No Name Creek. It is estimated that under average precipitation and evaporation conditions the net runoff volume stored in the existing polishing pond would be approximately 98,000 m<sup>3</sup>.

The Environmental Act Proposal submitted in March 2012 indicated that if water is stored at the ultimate dike elevation in the proposed new polishing pond, the required discharge period would be approximately 67 days at a constant pump rate of 0.2 m<sup>3</sup>/s. If water is stored at the ultimate dike elevation (storage volume of 1,158,000 m<sup>3</sup>) the revised total volume of water to discharge to No Name Creek would be 1,256,000 m<sup>3</sup>. The required discharge period would be approximately 73 days at a constant pump rate of 0.2 m<sup>3</sup>/s.

The Environmental Act Proposal submitted in March 2012 indicated that if water is stored at the normal fill level in the proposed new polishing pond, the required discharge period would be approximately 60 days at a constant pump rate of 0.2 m<sup>3</sup>/s. If water is stored at the normal fill level (storage volume of 1,045,000 m<sup>3</sup>) the revised total volume of water to discharge to No Name Creek would be 1,143,000 m<sup>3</sup>. The resulting required discharge period would be approximately 66 days at a constant pump rate of 0.2 m<sup>3</sup>/s.

Respectfully Submitted

AECOM Canada Ltd.



Jeremy Greshuk, P.Eng.  
Project Engineer