
Appendix 5.3.2D

Tatelkuz Lake Levels for Mine Life Scenarios - Revised

MEMORANDUM

To: Mr. Nigel Fisher Date: January 17, 2014
 Copy To: Alvaro Paredes, Keith Ferguson File No.: VA101-457/6-A.01
 From: Brendan Worrall Cont. No.: VA14-00067
 Re: Tatelkuz Lake Levels for Mine Life Scenarios - Revised

Knight Piesold Ltd. (KP) has been retained by New Gold Inc. (New Gold) to determine the annual and monthly Tatelkuz Lake levels for the following mine life scenarios:

- Baseline average
- Baseline 1:50 dry
- Construction average
- Construction 1:50 dry
- Operations average
- Operations 1:50 dry
- Closure average
- Closure 1:50 dry
- Post-closure average, and
- Post-closure 1:50 dry.

This memo describes the procedure and results in regards to the above information.

The inputs for developing the Tatelkuz levels for the noted scenarios were daily flow series that were developed for each of the project phases. These flow series were converted into annual and monthly averages. KP developed a withdrawal model for Tatelkuz Lake (VA13-02066) to model the effects of using Tatelkuz Lake as a fresh water supply source to supply Instream Flow Needs (IFN) to Davidson Creek as well as to provide water to the mill. The Tatelkuz Lake withdrawal model was used in this analysis to determine the flow series needed at the lake outlet for the various mine-life scenarios. In order to be consistent with the methodology of the Updated Feasibility Study Water Balance and the Watershed Model Report the flows scenarios in Table 1 were assumed.

Table 1 Project Phase Scenarios - Tatelkuz Lake Withdrawal

Project Phase	IFN Requirements	Mill Requirements
Baseline	No	No
Construction	No	No
Operations	Yes	Yes
Closure	Yes	Yes
Post Closure	No	No

It is recognized that IFN and mill flows will be required during a small portion of the construction phase; however, IFN and mill flows are not included in the analysis representing the construction to provide consistency with the developed Watershed Model. As there are no flows being drawn from Tatelkuz Lake during the Baseline, Construction or Post Closure scenario, the associated data series are identical.

The results of the Tatelkuz Lake level analysis are presented in Tables 2 and 3 as meters above sea level (masl). As can be seen in the aforementioned tables, the differences in stage from Baseline over the life of the mine are minimal, with a maximum annual difference in stage occurring during the 1:50 dry period (-5.4 cm), and a maximum monthly difference in stage occurring in June during the 1:50 dry period (-9.1 cm).

This letter supersedes the memo "Tatelkuz Lake Levels for Mine Life Scenarios" (VA-02278) dated December 5, 2013.

If you have any questions or concerns, please do not hesitate to contact the undersigned.

Signed: 
Brendan Worrall, EIT – Staff Engineer

Reviewed: 
Cameron McCarthy, P.Eng., P.Geo., PMP – Senior Engineer

Approved: 
Ken Brouwer, P.Eng. – President

Attachments:

- Table 2 Rev 1 Annual Average and 1:50 Dry Cases
- Table 3 Rev 1 Monthly Average and 1:50 Dry Cases (MASL)

References:

- Knight Piésold Ltd. November 2013. Tatelkuz Lake IFN Withdrawal Model. Continuity Number: VA13-02066.
- Knight Piésold Ltd. December 2013. Blackwater Project - Updated Feasibility Study Water Balance. Continuity Number: VA13-2400.
- Knight Piésold Ltd. January 2014. Blackwater Project – Watershed Modelling Report. Ref No. 457/6-6 Rev 1.

/bw

TABLE 2

**NEW GOLD INC.
BLACKWATER GOLD PROJECT**

**TATELKUZ LAKE LEVELS
ANNUAL AVERAGE AND 1:50 DRY CASES**

Print Dec/05/13 16:35:53

Scenario	Annual Levels	
	Average (masl)	1:50 Dry (masl)
Baseline	927.05	926.96
Construction	927.05	926.96
Operations	927.01	926.91
Closure	927.01	926.91
Post Closure	927.05	926.96

M:\1\01\00457\06\A\Correspondence\VA14-00067 - Tatelkuz Lake Levels Revised\Tables\[VA14-00067 - Tatelkuz Lake Levels Revised_Table 2 and 3.xlsx]Table 3

NOTES:

1. THE POINT OF ZERO FLOW USED IN THE RATING CURVE IS 926.483 masl.
2. BASELINE, CONSTRUCTION AND POST CLOSURE ASSUME NO MILL NEEDS OR IFN REQUIREMENTS.
3. OPERATIONS ASSUMES IFN REQUIREMENTS AND MILL NEEDS ARE NEEDED.
4. CLOSURE ASSUMES IFN REQUIREMENTS ARE NEEDED, BUT NO MILL FLOW IS REQUIRED.

1	14JAN'13	ISSUED WITH MEMO VA14-00067	BW	CSM	KJB
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

TABLE 3

**NEW GOLD INC.
BLACKWATER GOLD PROJECT**

**TATELKUZ LAKE LEVELS
MONTHLY AVERAGE AND 1:50 DRY CASES (masl)**

Print Dec/05/13 16:36:03

Scenario	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
	Avg	1:50 Dry	Avg	1:50 Dry	Avg	1:50 Dry	Avg	1:50 Dry	Avg	1:50 Dry	Avg	1:50 Dry	Avg	1:50 Dry	Avg	1:50 Dry	Avg	1:50 Dry	Avg	1:50 Dry	Avg	1:50 Dry	Avg	1:50 Dry
Baseline	926.93	926.87	926.93	926.87	926.95	926.89	927.06	926.95	927.34	927.06	927.30	927.03	927.09	926.94	926.97	926.87	926.92	926.85	926.94	926.87	926.97	926.90	926.95	926.87
Construction	926.93	926.87	926.93	926.87	926.95	926.89	927.06	926.95	927.34	927.06	927.30	927.03	927.09	926.94	926.97	926.87	926.92	926.85	926.94	926.87	926.97	926.90	926.95	926.87
Operations	926.90	926.83	926.89	926.83	926.91	926.85	927.02	926.91	927.29	926.99	927.25	926.94	927.05	926.87	926.93	926.81	926.88	926.80	926.90	926.83	926.94	926.86	926.92	926.84
Closure	926.90	926.83	926.89	926.83	926.91	926.85	927.02	926.91	927.29	926.99	927.25	926.94	927.05	926.87	926.93	926.81	926.88	926.80	926.90	926.83	926.94	926.86	926.92	926.84
Post Closure	926.93	926.87	926.93	926.87	926.95	926.89	927.06	926.95	927.34	927.06	927.30	927.03	927.09	926.94	926.97	926.87	926.92	926.85	926.94	926.87	926.97	926.90	926.95	926.87

M:\1\01\00457\06\AI\Correspondence\VA14-00067 - Tatelkuz Lake Levels Revised\Tables\VA14-00067 - Tatelkuz Lake Levels Revised_Table 2 and 3.xlsx\Table 2

NOTES:

1. BASELINE, CONSTRUCTION AND POST CLOSURE ASSUME NO MILL NEEDS OR IFN REQUIREMENTS.
2. OPERATIONS AND CLOSURE ASSUME IFN REQUIREMENTS AND MILL NEEDS ARE NEEDED.

1	14 JAN 13	ISSUED WITH MEMO VA14-00067	BW	CSM	KJB
REV	DATE	DESCRIPTION	PREPD	CHK'D	APP'D