WATER QUALITY SPREADSHEET

Ver. 2, FEB., 1993
Revised MAR 1995
Revised NOV 2019

DATE OF CALCULATION:	**24-Jun-2020**
OPERATOR:	SGI
MINE PERMIT #	**01180301**
NPDES #:	**PA0279617**
SITE NAME:	**Northern Tract Quarry**
SITE STATUS:	**Application In Process**
RECEIVING STREAM NAME:	**Toms Creek**
CHAPTER 93 CLASSIFICATION:	**Cold Water Fishes**
DOES THE RECEIVING STREAM HAVE SPECIAL PROTECTION STATUS?	**Yes - High Quality**
IS A TMDL IN EFFECT FOR THE RECEIVING STREAM?	**No**
MONITORING POINT IDENTIFIER:	**SS-TC-US**
NPDES OUTALL ID NUMBERS DISCHARING TO THIS STREAM:	**NT Pond No. 1- Outfall 001**

AREA AND MULTIPLIER INPUT DATA

PIT LENGTH		PIT WIDTH		*Note: If there is more than one pit, add the pit dimensions*
MAXIMUM MINING AREA AFFECTED (not Stage 2, including pit and spoil slope area)			**63**	Acres
WATERSHED AREA TO MONITORING POINT			**1869**	Acres

FLOW MULTIPLIERS

PIT FLOW MULTIPLIER - Default is '2' (or enter 2, 4, or 6...see above)	**2**
AFFECTED AREA MULTIPLIER, Default is '2' signifying that areas that do not meet reclamation standards will contribute twice as much to the flow as the surrounding undisturbed area	**2**

Pit Flow Multipliers	Description of Site Condition
2	Mine site located on hilltop, above regional water table. Few or no springs located in area to be mined. Little groundwater flow is expected
4	Mine site probably below regional or significant perched water table. Some groundwater flow into pit expected. Springs or seeps present within stratigraphic interval to be mined.
6	Mine site located below regional water table in a significant groundwater discharge zone, i.e., pit is below major stream level or abundant indications of groundwater discharge are present.

CALCULATED ADJUSTED AREA AND AVAILABLE DILUTION

MAXIMUM PIT/UNREGRADED AREA (= 1.5 x pit area - includes spoil slope to pit)	63.00	Acres
FLOW-ADJUSTED MINING AREA ACREAGE	126.0	Acres
WATERSHED ACRES OUTSIDE MINING AREA:	1806.0	Acres

AVAILABLE DILUTION 1: 14.33 (Mine Area : Watershed Area - *with flow multipliers applied*)

RECEIVING STREAM DATA FROM MONITORING POINT SS-TC-US

DATE	TSS					
	mg/L					
7/13/2016	**7.00**					
8/18/2016	**7.00**					
9/27/2016	**5.00**					
10/26/2016	**5.00**					
12/7/2016	**5.00**					
12/29/2016	**5.00**					
MEDIAN:	**5.00**					

EFFLUENT LIMIT CALCULATIONS

	BAT (or MAX) EFFLUENT LIMITS	CHPT. 93 IN-STREAM CRITERIA	REQUIRED DILUTION RATIO (Total effluent flow:stream flow)	ALLOWABLE CONCENTRATIONS*	AVERAGE MONTHLY LIMITS	MAXIMUM DAILY LIMITS	INSTANTANEOUS MAXIMUM LIMITS
TSS	35.0	35.00	0.00	465.0	35.0	70.0	90.0

Notes:
* The Allowable Concentration is the average monthly limit that would protective of the instream water quality standard. If the BAT (or Max) limits are higher than the Allowable Concentration then those limits (or a Monitor Only requir

If the receiving stream is degraded by abandoned mine drainage causing the background stream concentrations to exceed criteria and there is no TMDL in effect for the stream then the effluent limits are set at instream criteria.

If the receiving stream is degraded by abandoned mine drainage causing the background instream concentrations exceed criteria but there is a TMDL in effect for the stream then the effluent limits are set such that the discharge will not contribute to a further exceedance of the criteria.

4.0 mg/l is the 'maximum' Average Monthly Limit (AML) for aluminum; AML limits above 4.0 mg/l would result in an Instantaneous Max above 10 mg/L which results in only a 'Monitor Only' requirement for aluminum. This is in accordance with the "Developing National Pollutant Discharge Elimination System (NPDES) Permits for Mining Activities" Technical Guidance Document (No. 563-2112-115).