

**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: Unnamed Tributary to 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-CHN1-US  
NPDES OUTALL ID NUMBERS DISCHARGING TO THIS STREAM: NT-Pond No. 2- Outfall 002

**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: 416 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: 353.0 Acres

AVAILABLE DILUTION 1: 2.80 (Mine Area : Watershed Area - with flow multipliers applied)

**RECEIVING STREAM DATA FROM MONITORING POINT SS-CHN1-US**

DATE	TSS mg/L				
7/13/2016	13.00				
8/18/2016	19.00				
9/27/2016	5.00				
10/26/2016	5.00				
12/7/2016	5.00				
12/29/2016	5.00				
<b>MEDIAN:</b>	<b>5.00</b>				

**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	119.0	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 require

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).