

Effluent Characterization Screening Spreadsheet

Mining Permit Permit No. 01930302

Site Name: Pitts Quarry

NPDES Permit No.

Outfall ID: Pitts Pond 1 (001)

Hardness (mg/L as CaCO₃):	100	Flow Ratio		OR	Drainage Area Ratio	
		(for continuous discharges)			(for precipitation induced discharges)	
		Stream Flow (gpm):			Watershed Drainage Area (acres):	140.7
		Outfall Discharge Flow (gpm):		Outfall Drainage Area (acres):	88.7	
		Stream:Discharge Flow Ratio:		Watershed:Outfall Area Ratio:	2	

Parameter or Constituent Name	Fish and Aquatic Criteria Continuous Concentration (CCC)	Fish and Aquatic Criteria Maximum Concentration (CMC)	Human Health Criteria	Specific Water Quality Criteria	Most Stringent Criterion	Effective Criterion (based on ratio)	Quantitation Limit	< symbol in this column indicates value was reported as a detection limit	Maximum Concentration Expected or Reported from the Outfall	Candidate for WQBEL?
Total Iron (mg/L)	NA	NA	NA	1.5	1.5	0.75	0.02		0.34	No
Total Manganese (mg/L)	NA	NA	NA	1.0	1.0	0.50	0.002		0.012	No
Total Aluminum (mg/L)	NA	NA	NA	0.75	0.75	0.38	0.01		0.28	No
Osmotic Pressure (mOsm/kg)	NA	NA	NA	50	50	25	NA			
Sulfate (mg/L)	NA	NA	NA	250	250	125	1.0		20	No
Total Dissolved Solids (mg/L)	NA	NA	NA	500	500	250	2.0		210	No
Total Antimony (µg/L)	220	1100	5.6	NA	5.6	2.8	2.0	<	10	Yes or Resample
Total Arsenic (µg/L)	150	340	10	NA	10	5.0	3.0	<	5	No
Total Beryllium (µg/L)	NA	NA	NA	NA	NA	N/A	1.0	<	2	No
Total Cadmium (µg/L) *	0.3	2.1	NA	NA	0.3	0.15	0.2	<	1	Yes or Resample
Total Chromium (Cr ³⁺) (µg/L) *	86	1803	NA	NA	86	43	4.0	<	2.5	No***
Total Copper (µg/L) *	9.3	14	NA	NA	9.3	4.7	4.0	<	5	No
Total Lead (µg/L) *	3.2	82	NA	NA	3.2	1.6	1.0	<	3	No
Total Mercury (Hg ⁺²) (µg/L)	0.9	1.6	0.05	NA	0.05	0.025	0.20	<	0.2	No***
Total Nickel (µg/L) *	52	469	610	NA	52	26	4.0	<	10	No
Total Selenium (µg/L)	5.0	NA	NA	NA	5.0	2.5	5.0	<	10	Yes or Resample
Total Silver (µg/L)	NA	3.8	NA	NA	3.8	1.9	0.4	<	2	No
Total Thallium (µg/L)	13	65	0.24	NA	0.24	0.12	2.0	<	10	Yes or Resample
Total Zinc (µg/L)*	120	120	NA	NA	120	60	5.0	<	6.7	No
Free Available Cyanide (µg/L)	5.2	22	140	NA	5.2	2.6	1.0	<	5	No
Total Phenols (Phenolics) (µg/L)	NA	NA	NA	5.0	5.0	2.5	5.0		80	Yes

NA = Not Applicable
All concentrations are the total recoverable concentrations

If the stream:discharge ratio is less than 3.0 then the stream is effluent dominated and a constituent becomes a candidate for a WQBEL if the concentration exceeds 50% of the criterion
If the stream:discharge ratio is greater than 3.0 then a constituent becomes a candidate for a WQBEL if the concentration exceeds the criterion
This is in accordance with Standard Operating Procedure No. BCW-PMT-037 from PADEP Bureau of Clean Water

*Hardness Dependent, if no site specific stream hardness data is available a default value of 100 mg/L is used
The hardness value should represent the receiving stream after mixing with the discharge from the NPDES outfall

** Sulfate, Total Dissolved Solids, and Phenols are only candidates for a WQBEL if a downstream public water supply intake may be impacted

***The Quantitation Limit is greater than the either the criterion or 50% of the criterion (whichever is applicable based on the flow or area ratio)
If the detection limit for a constituent is reported as greater than the criterion but less than the Quantitation Limit then that constituent is not a candidate for WQBEL

Sources: PA Code Chapter 93.8c Table 5 for CCC, CMC, & HH criteria: <http://www.pacode.com/secure/data/025/chapter93/s93.8c.html>
PA Code Chapter 93.7 Table 3 for Specific Water Quality Criteria: <https://www.pacode.com/secure/data/025/chapter93/s93.7.html>