Message

From: john.coleman [jcoleman@glifwc.org]
Sent: 11/27/2018 6:38:58 PM
To: Pierard, Kevin [pierard.kevin@epa.gov]
CC: nancyschuldt@fdlrez.com; Jonathan Gilbert [jgilbert@glifwc.org]; Esteban Chiriboga [esteban@glifwc.org]; Ann McCammon_Soltis [amsoltis@glifwc.org]; Udd, Jeff (MPCA) [Jeff.Udd@state.mn.us]
Subject: NPDES/SDS permit for the Minntac Mine
Attachments: 2017-01-31_GLIFWC_Minntac-draft-permit_comments_fnl.pdf; 2017-02-23_GLIFWC_Minntac-Pathlines-memo.pdf; 2018-01-25_Twin-Lakes-Survey_memo_fnl.pdf; 2018-06-01_Sandy-River_Specific-C_fnl.pdf

Mr. Pierard,

GLIFWC Environmental Section staff remain very concerned about the proposed permit that was sent to the EPA for review on November 14th 2018. Our previous concerns remain and focus on the systematic lack of limits on the long-term and ongoing surface water exceedance of Specific Conductance, TDS, and Sulfate in the Sand River and Twin Lakes.

I have attached our previous comment letters. The concerns identified in those letters remain. A list of those comment letters follow:

1) 2017/01/31 letter to the Minn. PCA re: the proposed 2016 NPDES/SDS permit, comments that identify:
-- the multiple surface water bodies, immediate adjacent to the basin on the East side, that are receiving discharge through the basin berm.
-- the short and direct paths for water flowing from the basin to surrounding surface water bodies on the East side.
-- the lack of limits that would address the ongoing water quality exceedances in the Sand River and Twin Lakes.

2) 2017/02/23 Letter to Minn. PCA re: particle tracking using a groundwater model developed by U.S. Steel which shows that:
-- many basin wastewater flowpaths emerge to East side surface water features (wetlands, pools and channels) at the toe of the basin berm or at a relatively short distance from the berm.
-- 51% of flowpaths emerge to the surface within 100 meters of the toe of the East side berm.
-- the vast majority of water flowpaths are mostly, or fully, within the shallow overburden.

3) 2018/01/25 memo re: surface water quality survey of Twin Lakes identifying:
-- water quality transects of the Twin lakes that identify the Sand River as the primary pathway of pollutants to the lakes.
-- the large spatial variation in water quality across the Twin Lakes.

4) 2018/06/01 memo re: Sandy River Specific Conductance in the winter of 2017-2018 noting that:
-- several months in winter have high specific conductance, reflecting relatively undiluted tailings basin water in the river.
-- there is little water quality data from mid-winter.
-- the specific conductance of the Sand River in mid-winter 2017-2018 was nearly identical to that found at the toe of the tailings basins, indicating a direct hydrological connection.

In addition to our previous comments, recent data support the comments referenced above and indicate that water quality exceedances are ongoing and substantial in the Sand River watershed.

Ongoing monitoring in the upper Sand River shows levels that far exceed the state standards for Class

4A waters:

Monitoring in the Sand River between the Twin Lakes and Admiral Lake indicates that the Sand River, and by association Admiral Lake, exceed the state water quality standards for Specific Conductance (conductivity@25C) and TDS*. During periods of reduced precipitation input to the Sand River watershed tailings basin water dominates the flow in the river. In the winter of 2017-2018, when precipitation was frozen, specific conductance exceeded the Class 4A standard of 1000 uS/cm for 173 consecutive days. During a dry period in the summer of 2018, specific conductance at that location exceed the same limit for 58 consecutive days. Combined, between October 2017 and October 2018, for more than 60% of the year specific conductance and TDS were above the state standards.

As of November 26th, specific conductance is between 1,700 and 1,800 uS/cm in the Sand River between Admiral Lake and the Twin Lakes. Both specific conductance and TDS exceed state water quality standards for that water body (Figure 1).

Figure 1. As of November 26th, monitoring of specific conductance (uS/cm) and other environmental parameters in the Sand River between Admiral Lake and the Twin Lakes. TDS (mg/L) and specific conductance (uS/cm) were divided by 10 for plotting purposes.

The proposed permit does not address the surface water quality exceedances that are currently occurring and have been well documented by multiple entities for many years. Any NPDES permit issued for this facility must contain at a minimum, limits for Specific Conductance, TDS, and Sulfate. A schedule must be set to bring the facility into compliance with the Clean Water Act within the 5 year period of the permit.
Thank you for your attention to these issues.
john coleman
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TDS = 0.815 * Specific Conductance:

Data from the September 2017 EPA site inspection shows that there is a strong relationship between specific conductance and TDS in the basin discharge (Figure 2). That relationship is TDS = 0.815 * Specific conductance with an r^2 of 0.998 . Data collected by GLIFWC, the 1854 Authority and U.S.Steel's consultant all support this strong relationship between TDS and specific conductance. Using that relationship, when specific conductance is > 1000 uS/cm, TDS is > 815 mg/L.

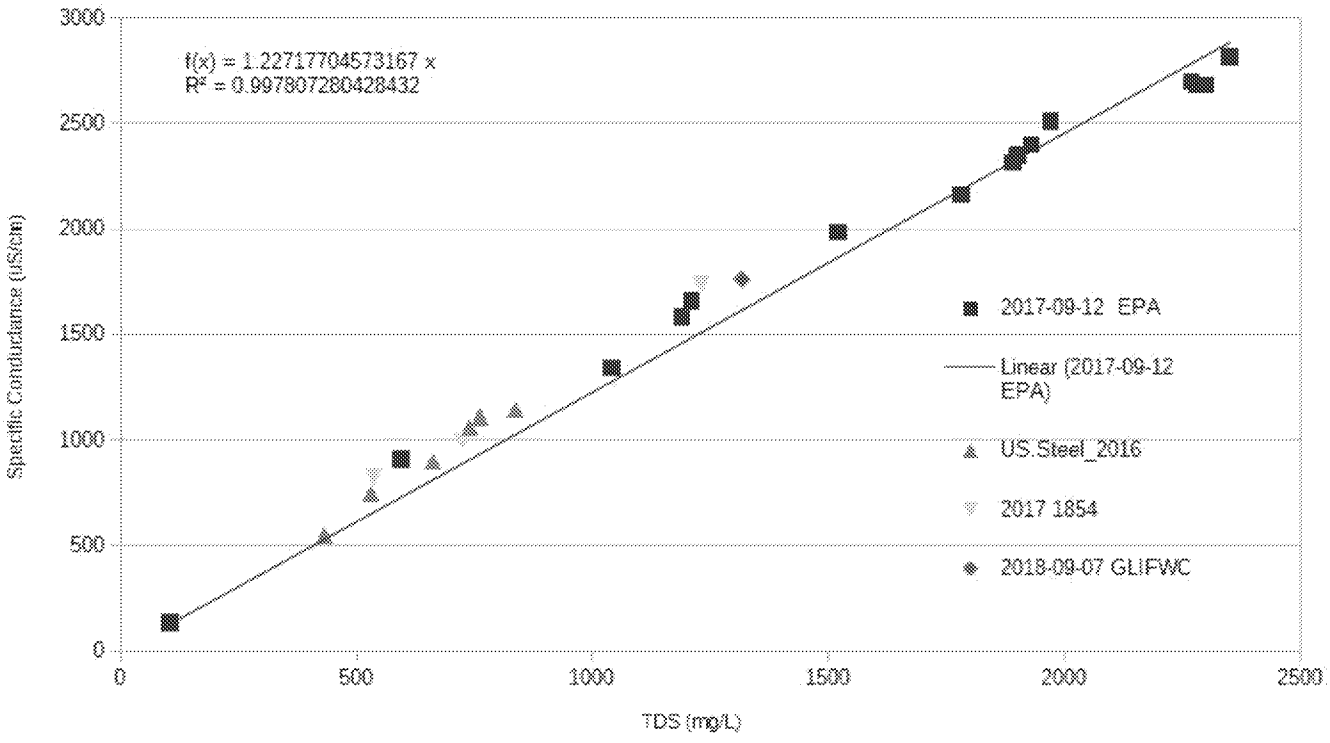

Figure 2: TDS vs. Specific Conductance in water discharged from the Minntac tailings basin. Equation based on data collected by the EPA in 2017. Other data plotted for comparison.

attached files are also available for download at: https://app.box.com/s/fzi4dg5hx8f4mcwcc4bg7d4o237s3x2w