

## MEMORANDUM TO FILE

**TO:** KM File

**FROM:** Brian Rakvica

**DATE:** July 28, 2004

**CC:** Todd Croft, Jennifer Carr, Jeff Johnson, Jim Najima, Jon Palm, Tamara Pelham, Alan Tinney, Leo Drozdoff, Valerie King

**RE:** KM Conference Call on July 28, 2004 at 1:30 PM

1. Attendance:
  - a. NDEP: Todd Croft, Tamara Pelham, Brian Rakvica
  - b. KM: Keith Bailey, Susan Crowley
2. Discussed NDEP observations.
  - a. Discharge appears to be fairly clear. White, filamentous material and sulfide odor present in the vicinity of the culvert.
3. Reviewed system operations.
  - a. System is operating at ~950 gpm and 2/3 of the chemical load.
  - b. Noted that this flow includes 45 gpm of combined flow from GW-11 and the chromium treatment system. Same as last week.
  - c. KM noted that they would like to operate the system as is for a week or so to make sure that the system continues to operate correctly prior to increasing chemical loading.-
  - d. DAFs have been optimized.
  - e. DO is approximately 7.0 mg/L at the end of the pipe.
  - f. Bulk of the solids are being removed. Discharge turbidity is in the teens which correlates well to the Wash levels.
4. Discussed white, filamentous bacteria.
  - a. Bacteria have been verified to be Thiothrix or Beggiatoa. These aerobic bacteria convert sulfide to sulfur then to sulfate.
  - b. KM noted that the sulfide levels are low in their discharge. It is theorized that an (indigenous?) anaerobic bacteria must be converting the available sulfate to sulfide in the slough or sulfide is entering the slough from the surrounding areas. The white filamentous bacteria are aerobic bacteria that then convert the sulfide to sulfur and then back to sulfate near the end of the slough where agitation likely increases the D.O. If the secondary scenario holds true the bacteria should decrease in time.
5. Discussed discharge location.
  - a. NDEP asked if KM had considered re-engineering the entire slough area to resemble the outfalls from Henderson and TIMET. KM noted that access to this area would be very difficult.

- b. KM would like to explore the idea of re-locating their discharge. KM would propose to extend the discharge pipe to the area near the location of the culvert.
    - i. BWPC to review the permit requirements for such a change.
    - ii. Noted that it may be best to discuss this at the quarterly meeting with USEPA.
    - iii. NDEP to discuss with SNWA regarding set-back from the Wash.
    - iv. BWPC requested a map showing existing and proposed discharge locations.
- 6. Discussed stoichiometry.
  - a. BWPC asked if dilution of the ethanol would make for easier control of the system.
  - b. KM noted that the problems they are having lie with the variation of influent concentrations. KM is investigating the installation of additional surge tank capacity to the equalization area.
- 7. Discussed 1,000 gpm notification requirement.
  - a. BWPC to review if this is related to chemical loading and what is desired.
  - b. KM noted that as Seep area concentrations continue to decline the FBR may be operated under 1,000 gpm in the future.
  - c. BWPC noted that the schedule of compliance does not deal with the 1,000 gpm flow. The next issue on the schedule of compliance is for the 18 ppb discharge.
- 8. Next call: Tuesday, August 3, 2004 at 3:30 PM. Call in number: 405-270-2655