

MEMORANDUM TO FILE

TO: Kerr McGee (KM) File

FROM: Brian Rakvica

DATE: August 25, 2004

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

RE: KM Quarterly Meeting on August 25, 2004 at 9:30 AM at KM

1. Attendance:
 - a. NDEP: Todd Croft, Tamara Pelham, Brian Rakvica
 - b. KM: Keith Bailey, Susan Crowley, Pat Corbett, Tom Reed (via phone)
 - c. ENSR: Ed Krish (via phone)
 - d. SNWA: Joe Leising, Peggy Roefer
 - e. AIG: Brad Dougherty
 - f. Veolia: Mary Cheung, Jeff Lambeth
 - g. USEPA: Mitch Kaplan, Larry Bowerman
2. A number of handouts and an agenda were distributed.
3. FBR system discussion
 - a. Noted that the system has operated at up to ~95% of the hydraulic and chemical load, however, due to water quality issues the load had to be cut back.
 - b. Currently, the system is being operated at ~92% of the hydraulic load and 50% of the chemical load. Discharge is in the 15-20 ntu. Expect to ramp up to full capacity and complete 30 day test by sometime in November.
 - c. Discussed issues with water quality.
 - i. Control of ethanol injection needs to be very precise (within 1 quart/day).
 - ii. Water discharged to the Seep stream is slow moving and it is believed that indigenous bacteria convert sulfate to sulfide in this area resulting in objectionable odors. The outfall is proposed for relocation to address this. This is likely to take a few months to try and obtain right-of-way agreements.
 - iii. Changes in effluent concentration make system difficult to control. Additional equalization capacity is being added to address this issue.
 - iv. Dissolved Oxygen (DO) has been low. KM takes samples once a week for permit requirements. NDEP requests more frequent sampling (via field probe) and reporting to NDEP for monitoring trends.
 - d. A number of steps have been taken to increase the water quality (WQ).
 - i. Flocculants have been changed and coagulants have been added.

- ii. Hydrogen peroxide addition has been initiated to destroy sulfide (and convert it back to sulfate).
 - iii. A static mixer is being added to improve the delivery of ferric chloride.
 - iv. Discussed permit issues.
 - 1. KM must achieve an 18 ppb discharge by December 4, 2004.
 - 2. KM noted that the on-site IX has been off since March. The off-site IX has been off since June 11, 2004.
 - 3. Noted that the DMRs show some elevated perchlorate levels in the discharge.
 - 4. Noted that the permit renewal will be due in August 2005 (application due in February 2005).
- 4. Discussed Surface Water Trends and Data
 - a. Reviewed various graphs and tables.
 - b. Noted that there will be a long amount of time to get the concentrations in the Colorado below 2 ppb and to approach 1 ppb.
 - c. Discussed the differences between naturally occurring and man made perchlorate.
 - d. Discussed erosion control structures and effects on perchlorate loads to the Wash.
- 5. Reviewed 2nd Quarter 2004 Perchlorate Report, Athens Road Efficiency
 - a. Noted declines in concentration downgradient of the Athens Road Well Field (ARW).
 - b. Discussed calculations for percent capture at ARW. KM to clarify in 3rd quarter report.
 - c. Noted that ARP-6 was damaged due to WRF construction and is likely to be replaced by the 4th quarter.
 - d. KM noted that in the future dilution water will still be needed from the Seep area.
 - e. KM noted that they are currently pulling water from the Wash in to the Seep Area. NDEP expressed a desire for this to be optimized and for additional high concentration water to the east to be captured. KM to review.
 - f. SNWA to provide data from vegetation wells to KM.
 - g. NDEP to email errors in 2nd quarter report to KM.
 - h. KM noted that the May 2004 map can be expected after 9/10/04.
- 6. Discussed Ampac progress.
 - a. Reviewed schedule for design and implementation of remedial systems.
- 7. Discussed tours. Reviewed tours planned for the near future per the agenda.
- 8. Discussed standards setting.
 - a. Noted that the MCL Academy of Science review is expected by the end of the year.
 - b. Noted that California is looking to develop an MCL by early 2005.
- 9. Discussed agricultural studies by KM and the University of Arizona.