

MEMORANDUM TO FILE

TO: KM File

FROM: Brian Rakvica

DATE: June 30, 2004

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

RE: KM Conference Call on June 29, 2004 at 1:30 PM

1. Attendance:
 - a. NDEP: Todd Croft, Brian Rakvica, Tamara Pelham, Alan Tinney
 - b. KM: Keith Bailey, Susan Crowley, Rick Stater
2. Discussed excavation near Athens Road Well Field (ARW). KM stated that they were aware of the work and the KM infrastructure had been marked out, however, there was damaged to a communications line on Thursday night. The repair was completed on Friday. The system did not experience any shutdowns.
3. Discussed NDEP observations on 6/27/04.
 - a. No significant differences from the last observation except the fact that no foam was visible.
 - b. The amount of scum present in the Seep area seemed to be greater. KM noted that the increase in scum is a result of their trying to knock down the turbidity and that the lack of foam is a result of the refinement of the ethanol dose.
4. Discussed the presence of black materials in the discharge.
 - a. KM noted that they did perform sampling after the last event (week of 6/21/04). The TSS was well within permit limitations.
 - b. NDEP noted that SNWA reported a similar instance today. It is likely that SNWA is testing the Wash and vicinity currently. NDEP plans on making a site visit today. KM will likely make a visit to the Seep area as well.
5. KM asked who would be a good point of contact if they can not reach Valerie. Alan Tinney provide the names and number for Diana Silsby and Larry Rountree.
6. NDEP noted that when we last met that we had discussed that it was necessary for KM to put the best system in place to achieve good effluent quality. NDEP also noted that the issue of the opacity of the effluent has been an issue for approximately 6 weeks now.
 - a. NDEP asked KM to explain what has been done to try and resolve this issue. KM responded with the following items:

- i. Testing of the Acti-Flow system. This system has not produced favorable results and testing continues. It was also noted that this system requires large doses of ferric chloride.
 - ii. KM is now testing a cationic polymer flocculent. This test should start this morning.
 - iii. KM has brought in a disc filter system to test. The pilot test of this system should be completed by July 19, 2004. The tests will be 50-100 gpm and has filter sizes down to 10 micron. Once the system is pre-coated particles less than 10 micron should be filtered out as well. It was also noted that this system has a continuous backwash capability for continuous operation.
 - iv. KM has also brought in a membrane filter system to test.
 - v. KM noted that the discharge turbidity is now down around the low 30's.
- b. NDEP asked if the Acti-Flow system could be operated at full capacity would KM be able to maintain their iron discharge limitation? KM noted that this is something that needs to be determined. KM also noted that the volume of solids that would be generated would exceed their capacity for the existing filter press.
- c. NDEP noted that KM needs to explore these different options simultaneously. NDEP also noted that KM needs to be in a position by mid-July to have a plan to provide a much cleaner effluent. NDEP noted that this plan will likely require plan review by Nadir; permit revision by Tamara; equipment procurement, etc.
- d. NDEP questioned what KM could do to provide a cleaner effluent while the above processes are taking place.
 - i. KM plans on continuing to experiment with different coagulants and flocculants. KM noted that there are two issues: the breakthrough of larger particles through the system and the presence of the small particles which cause the haze in the discharge. KM stated that they believe they can address the issue of the large particles through refined operation of the DAF. KM also believes that they can probably deal with the issue of the scum production.
 - ii. NDEP asked if KM had explored discharge to the sanitary sewer. KM indicated that the City of Henderson has not provided a positive response to this issue. NDEP asked if KM had the ability to discharge this volume of water from their plant site. KM indicated that this would require a revision of the existing BMI discharge limitation.
 - iii. NDEP asked if KM had explored the idea of construction a lined settling/decanting pond. KM noted that they felt this would take quite a while to construct.
 - iv. NDEP asked if KM had explored the idea of construction an unlined settling pond. KM had not considered that this would even be an option. NDEP was not sure if this would be an option either

and noted that it would likely require a groundwater discharge permit\, KM also noted that this settling pond would also be likely to have the same undesirable appearance as the Seep stream stagnant water.

- v. It was also noted that the location of an unlined settling pond would have to be very carefully selected so as not to mobilize additional contaminants.
 - vi. KM discussed possibly modifying the area before the culvert in the Seep stream. KM's theory is that the stagnant water in the Seep stream is partially responsible for some of the visual problems with the discharge. NDEP noted that this would likely require discussion with State Lands and some permitting.
 - vii. KM discussed the possibility of discharging in a different location to relieve the issue of the stagnant water. A location that was mentioned was the area by the City of Henderson and the BMI Alpha Ditch discharges. NDEP noted that this may also require a permit change. NDEP to verify.
7. Next meeting: telephone conference on 7/7/04 at 1:30 PM – Call in number is 405-270-2660.