State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
3911 Fish Hatchery Road
Fitchburg WI 53711-5397

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

June 7, 2012

Mark Muenier
Madison Kipp Corp.
201 Waubesa Street
Madison WI 53704

Subject: Approval: May 2012 Bedrock Characterization Workplan

Dear Mr. Muenier:

The Department has completed it review of the May 2012 Bedrock Characterization Workplan and has the following comments:

Page 6: For the purposes of this site it might be better to split the Upper Paleozoic Aquifer into two separate hydrostratigraphic units. At other sites the Lone Rock Formation within the Tunnel City Group has shown considerable horizontal conductivity and therefore often acts a much different contaminant migration pathway than the Wonewoc Formation. Determining horizontal movement offsite through the Lone Rock needs to be one element of the planned investigation.

Page 6: The role of the Eau Claire Formation as an aquitard is uncertain. The aquitard properties of this unit are spatially variable. If the ongoing investigation shows contaminant migration at or near the top of the Eau Claire we will need to determine its function specific to this study area.

Page 10: All drilling mud is required to be collected and managed properly.

Page 10: Split spoon sampling in the unconsolidated material will be continuous as stated on page 9 not every two feet as stated on page 10.

Page 11: As proposed the bedrock units will be continuously cored to 250 feet. It is important that the cores be continuous. As the cores are extracted they will be described by Stone Environmental using their discrete fracture approach. All cores should be maintained. There will be a single rock sample collected per foot of borehole for chemical analysis. It is important that a sample be collected and analyzed, for all parameters proposed, per every foot of borehole. Given the nature of contaminant transport through fractures there can be no data gaps in the bedrock characterization.

Page 11: There are likely differences in the horizontal transmissivities in the various hydrostratigraphic units. Therefore it is important to describe the vertical contaminant distribution. It is acceptable to the Department to install only a single well screen in each of the two boreholes. However, as part of the larger groundwater investigation the Department believes, dependent on future data, that multiport sampling will be required in downgradient directions from the suspected source area. The exact number and spacing of the sampling points will be determined largely by the data collected from the borings at locations 3 and 5.

Page 12: To be clear all the listed geophysical methods on page 12 will be conducted at each borehole.

With these comments the Department approves the bedrock characterization workplan and work can begin as planned. It is understood that the planned drilling will begin June 11, 2012 and continue for approximately 45 days. If you have any questions about this approval please contact me directly.

Sincerely,

Linda Hanefeld
South Central Region Remediation and Redevelopment Team Leader
275-3310