NCDENR
North Carolina Department of Environment and Natural Resources
Division of Waste Management

Beverly Eaves Perdue
Governor

Dexter R. Matthews
Director

Dee Freeman
Secretary

January 3, 2011

Ms. Claudia B. Irvin, Assistant Project Manager,
S&ME, Inc.
3201 Spring Forest Road
Raleigh, NC 27616

RE: Owen Borrow Pit – Solid Waste Demonstration Project
Water Quality Monitoring Requirements –
Plymouth, NC
Washington County

Dear Ms. Irvin:

The Solid Waste Section (SWS) received on November 8, 2010, the September 2010 Annual Groundwater Sampling Report by S&ME, Inc., on behalf of Geo-Specialty Chemicals (GSC), for the Owen Farm Borrow Pit – Solid Waste Demonstration Project located in Plymouth, North Carolina.

Pages 4 and 5 of this report, state in-part the following: *"Based on the results of groundwater monitoring and plant growth and development of organic matter and soil structure studies conducted at the site, it is our opinion that GSC has demonstrated that restoration of land resources has been performed without an adverse release of constituents to the environment that may pose a threat to public health and safety. As discussed in the background section of this report, GSC has previously requested termination of groundwater monitoring for this demonstration project. This sampling event has successfully demonstrated that sulfate levels have remained below 2L Groundwater Standards for this site. Accordingly, on behalf of GSC, we request that DWM approve termination of the Solid Waste Demonstration Project and annual groundwater monitoring at the Owen Farm Borrow Pit site."*

According to the letter by the SWS to Geo–Specialty Chemicals on April 17, 2008, it stated in-part the following: *"Based on the groundwater data submitted since 1994, there have been detections of the constituents, Aluminum and Sulfate in samples obtained from the four (4) groundwater monitor wells at the site. According to groundwater sampling data submitted, the constituent Sulfate was detected above the North Carolina 2L groundwater standard of 250 mg/l during the March 2006 sampling event. However, the trend for this constituent concentration has been mostly below 2L groundwater standards. The constituent, Aluminum has also been detected in the groundwater monitoring*

wells. Based on these factors, the Solid Waste Section will allow the groundwater sampling schedule be reduced from semi-annually to once a year (annually – September) and the groundwater wells shall continued to be sampled for the same constituents; Sulfate, Aluminum, Specific Conductivity, Temperature, and pH for a time frame of three (3) years. At the end of three (3) years, you may submit a written request to the Solid Waste Section for a revaluation of the groundwater monitoring schedule. Please note, that if the frequency of groundwater quality standards exceedances increase during the next three (3) years, then semi-annual sampling, assessment monitoring, and possible corrective action may be implemented at the time of reevaluation".

After a reevaluation of the groundwater data obtained from the four (4) monitoring wells, The Solid Waste Section requires that groundwater sampling continue on an annual basis (September, for the same constituents; Sulfate, Aluminum, Specific Conductivity, Temperature, and pH) since detections of Sulfate and Aluminum have fluctuated and not leveled off. In addition, the Groundwater Protection Standard for Aluminum is now 3.5 mg per liter. The concentration levels for Aluminum at this site have on occasion been above this protection standard. Toxicologists with the North Carolina Department of Health and Human Services calculate Groundwater Protection Standards. Questions regarding how the standards are calculated can be directed to the North Carolina Department of Health and Human Services.

Thank you for your cooperation. If you have any questions, please call me at (919) 508-8524.

Sincerely,

Brian Wootton

Brian Wootton
Hydrogeologist
Solid Waste Section

cc: Samuel P. Watts, P.G. – S&ME, Inc.
Charita Redding - Manager of Safety & Environmental Affairs, Geo-Specialty Chemicals (GCS)
Ed Mussler - Solid Waste Section
Mark Poindexter - Solid Waste Section
Ray Williams – Solid Waste Section
Hanna Assefa – Environmental Toxicologist - DWM