

August 3, 2011

Mr. Lucas Berresford  
Project Manager  
South Carolina Department of Health and Environmental Control  
2600 Bull Street  
Columbia, South Carolina 29201

**Re: Phase III Delineation – Preliminary Findings  
Phase IV Delineation – Proposed Activities  
Congaree River Sediments  
Columbia, South Carolina**

Dear Mr. Berresford:

This letter provides a brief summary of the recently completed fieldwork associated with the Phase III delineation activities for the Congaree River project and also provides a recommendation for additional activities (i.e., Phase IV). These preliminary findings were briefly discussed at the July 27, 2011 meeting between representatives of SCE&G and the South Carolina Department of Health and Environmental Control (SCDHEC).

### **Phase III - Delineation Summary**

The proposed Phase III delineation activities were described in a letter submitted to SCDHEC, dated June 6, 2011. The proposed activities were, by design, a continuation of the delineation efforts initiated by SCE&G to determine the extent of tar-like-material (TLM) in the Congaree River. The proposed Phase III activities generally included:

- Pre-screening the study area from the “19” to “36” line or approximately 400 feet below the Blossom Street Bridge for magnetic anomalies;
- Delineating the potential extent of TLM and/or other weathered material (OWM) within the river using manual techniques referred to as “wade and spade”;
- Delineating the eastern extent of impacts by drilling landside soil borings near the shoreline; and
- Collecting samples for laboratory analyses at the visually un-impacted boundary locations to confirm delineation.

### **Findings - Magnetometer Survey**

The magnetometer survey for Phase III was completed on June 30, 2011 and was conducted to screen the area between the “19” and “36” lines for potential magnetic anomalies. The magnetometer equipment was situated in a rubber raft and the survey was completed normally in the deeper water. In shallower water, the rubber raft had to be manually maneuvered and the presence of boulders prevented surveying in some areas. The frequency of detected magnetic anomalies decreased compared to the concentration of anomalies documented during the Phase I activities. Preliminary review of the magnetic anomalies by the vendor indicated they should be treated in a manner consistent with anomalies identified in earlier phases of the project. Consistent with past submittals, magnetic anomaly locations are not provided in this correspondence.

### **Visual Observations - Congaree River Sediment Corings and Landside Soil Borings**

The “wade and spade” investigative activities were conducted from July 19 through July 21, 2011. Based on these activities, TLM impacts have been visually confirmed below the Blossom Street Bridge and therefore, additional activities (i.e., Phase IV) are proposed as described below.

A total of 15 landside soil borings were completed on July 27 and 28, 2011 along the eastern shore of the Congaree River, after securing the property access agreement. The landside soil borings were completed using direct push technology (DPT) and the samples were collected with dedicated acetate liners. The boring locations extended from the “3” to “17” lines, and were positioned near the edge of the high bank that marks the eastern extent of the Congaree River. Based on sensory observations (visual and olfactory) of the soil samples retrieved, evidence of TLM was not noted.

In summary, based on the investigations completed to date, the northern, western and eastern extent of TLM appears to have been defined from the Gervais Street Bridge to approximately 400 feet downstream of the Blossom Street Bridge.

### **Phase III – Sediment and Soil Sample Collection Activities**

A total of seven sediment and five soil samples were collected for laboratory analysis during the Phase III activities. The sediment samples were collected using a pointed shovel referred to as a sharp shooter. The sharp shooter is the preferred tool of choice for “wade and spade” activities because the design of the tool permits deeper penetration than a typical spade shovel. The sediment samples were collected from material retrieved with the sharp shooter.

The soil samples were collected at depth of 12 to 26 feet below ground surface (bgs) over a sampling interval ranging from 2 to approximately 4.5 feet in length. The soil borings were terminated upon refusal and samples were obtained from material within the saturated zone that appeared to be lithologically similar to the sediment material generally noted along the Congaree River water line.

The sediment and soil samples were submitted for analyses of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and polynuclear aromatic hydrocarbons (PAH) via EPA Methods 8260B and 8270D, respectively. The samples were transported under standard chain-of-custody procedures to Shealy Environmental Services, Inc. (Shealy) located in West Columbia, South Carolina for laboratory analyses. The sediment and soil analytical results will be reported after the data has been received.

## **PHASE IV DELINEATION - PROPOSED ACTIVITIES**

Based on the Phase III activities, the southern extent of TLM/OWM has not yet been determined. As discussed during the July 27, 2011 meeting, both SCE&G and SCDEHC desire to investigate further downriver from the “36” line to:

- Define the southern extent of TLM/OWM; and
- Better understand the occurrence of potential TLM/OWM downriver from the Blossom Street Bridge.

Therefore, the next phase of sediment investigation will focus on the stretch of river from the “36” line down to the railroad trestles (approximately 4,000 feet downriver from the Blossom Street Bridge) as

shown on Figure 1. As discussed during the July 27, 2011 meeting, the sediment investigation points will be situated at locations that appear to be conducive for potential TLM/OWM occurrence based on actual river conditions. Based on the work completed to date, there appears to be a relationship between the presence of TLM/OWM and the bathymetric conditions. Bathymetric conditions refer to the depth of water, the contours of the river bottom, the presence of rocks and boulders, and other variations due to the water current or flow velocity. The probability of encountering TLM/OWM is greater when the bathymetric conditions consist of a deeper pool of water and/or low flow velocity. Bathymetry is not the only factor controlling the potential presence of TLM/OWM, but it is very recognizable in the field and will help to guide the Phase IV sampling locations.

Preliminary field reconnaissance was conducted on July 21, 2011 and potential, highly weathered, TLM was observed downriver from the Blossom Street Bridge at the approximate locations shown on Figure 1. Therefore, the Phase IV investigations will be focused on identifying any areas upstream of the railroad trestles where TLM/OWM may be present. Phase IV investigation and sampling activities will be performed using the "wade and spade" technique. Targeted investigation and sample locations will include (but not be limited to) the river channel and a boulder field near the railroad trestles, assuming the locations can be safely accessed. The samples will be collected at randomly selected locations to be determined by field personnel and will be located (via GPS coordinates) on a Figure to be submitted to SCDHEC. Each location will be field-screened with a metal detector to confirm the absence of a magnetic anomaly before attempting to obtain a sample. Based on the previous "wade and spade" activities, a photo-ionization detector (PID) will not be used, since moisture from the river caused the instrument to malfunction. The field activities will follow procedures described in the approved DWP.

Sediment samples for laboratory analysis will be collected below the identified limit of TLM and/or OWM and will be analyzed by Shealy for the parameters listed above.

## **SCHEDULE**

Subject to SCDHEC approval, this work is tentatively scheduled for the week of August 8, 2011. The precise start date will be dependent upon the actual river conditions and the weather forecast.

A complete Delineation Report will be developed and submitted to SCDHEC for review and approval following completion of the Phase IV work. Should you have any questions or require additional information, please contact Bob Apple at 919-819-2748 or me at 412-829-9650.

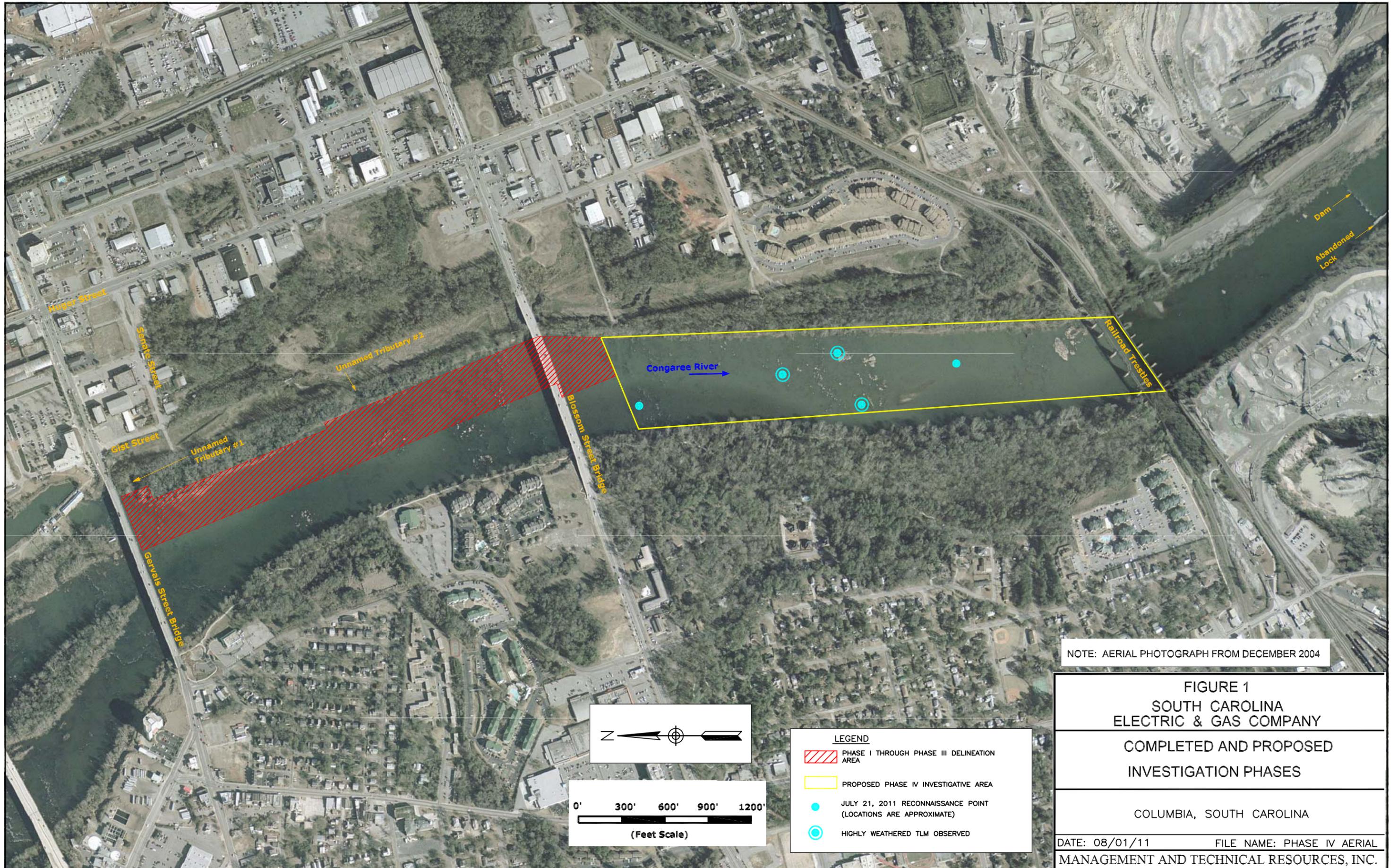
Sincerely,



Andrew R. Contrael  
Senior Project Manger

## **Attachments**

cc: B. Apple - SCANA  
M. Ferlin - MTR



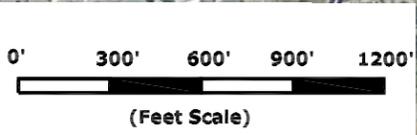
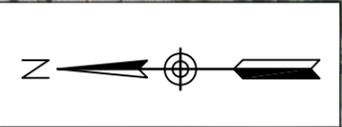
NOTE: AERIAL PHOTOGRAPH FROM DECEMBER 2004

**FIGURE 1**  
**SOUTH CAROLINA**  
**ELECTRIC & GAS COMPANY**

**COMPLETED AND PROPOSED**  
**INVESTIGATION PHASES**

COLUMBIA, SOUTH CAROLINA

DATE: 08/01/11 FILE NAME: PHASE IV AERIAL  
 MANAGEMENT AND TECHNICAL RESOURCES, INC.



**LEGEND**

- PHASE I THROUGH PHASE III DELINEATION AREA
- PROPOSED PHASE IV INVESTIGATIVE AREA
- JULY 21, 2011 RECONNAISSANCE POINT (LOCATIONS ARE APPROXIMATE)
- HIGHLY WEATHERED TLM OBSERVED