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 ► phone 865.211.5101 ► fax 865.211.1553 ► www.y12.doe.gov

February 10, 2010

Mr. Paul E. Davis  
 Division of Water Pollution Control  
 Tennessee Department of Environment and Conservation  
 6<sup>th</sup> Floor, L&C Annex  
 401 Church Street  
 Nashville, Tennessee 37243-1534

Dear Mr. Davis:

**Seasonal Progress Report for the Y-12 National Security Complex Biological Monitoring and Abatement Program**

Enclosed is the seasonal progress report for the Y-12 National Security Complex Biological Monitoring and Abatement Program. The information contained in the report pertains to East Fork Poplar Creek sampling conducted in the fall/winter 2009/2010 period. The subject report is provided to comply with the requirement in the Y-12 National Security Complex, National Pollutant Discharge Elimination System Permit, "submit a brief letter report to update (the state) on the ongoing work and advise of any potential difficulties, which may be reflected in the annual report." No potential difficulties have been identified to date. This letter report will be submitted twice per year to summarize each of the spring/summer and fall/winter sampling periods.

Should you have any questions or requests for additional information, please contact L. O. Vaughan of my staff at (865) 576-8108.

Sincerely yours,

A handwritten signature in black ink that reads 'Michelle M. Reichert'. The signature is fluid and cursive, with the first name being the most prominent.

Michelle M. Reichert  
 Vice President  
 Environment, Safety and Health

MMR:ris

Enclosure: As stated

cc/enc: B. Alexander, TDEC  
 D. Arnwine, TDEC  
 J. P. Donnelly, YSO  
 J. A. Owsley, TDEC/DOE-ORO  
 M. J. Peterson, UT-Battelle  
 W. Smith, TDEC

Enclosure  
Letter, Reichert to Davis  
Dated: February 10, 2010

Letter Title

**Seasonal Progress Report for the Y-12 National Security Complex  
Biological Monitoring and Abatement Program**

# OAK RIDGE NATIONAL LABORATORY

MANAGED BY UT-BATTELLE FOR THE DEPARTMENT OF ENERGY

ENVIRONMENTAL SCIENCES DIVISION

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**Date:** January 28, 2010

**To:** M. C. Wiest, Jr.

**From:** M. J. Peterson, Bldg 1504, MS-6351 (576-3461) (NoRC)

**cc:** L. O. Vaughan

**RE:** **Seasonal Progress Report on the Oak Ridge Y-12 National Security Complex Biological Monitoring and Abatement Program for East Fork Poplar Creek, Fall/Winter 2009-2010**

This progress report for the Oak Ridge Y-12 National Security Complex Biological Monitoring and Abatement Program (BMAP) for East Fork Poplar Creek (EFPC) covers field sampling performed in accordance with the Y-12 Complex BMAP Plan during the fall and early winter of the 2009-2010 field season.

The BMAP is a requirement of the Y-12 Complex's NPDES permit and is described in the BMAP Plan. The BMAP consists of three primary tasks that reflect complementary approaches to evaluating the effects of Y-12 Complex discharges on the biotic integrity of EFPC: (1) bioaccumulation monitoring, (2) benthic macroinvertebrate community monitoring, and (3) fish community monitoring.

The BMAP Plan requires a fall-winter sampling of sunfish from various locations in EFPC and a reference stream for mercury analysis, and sampling of stoneroller minnows from one upper EFPC site and a reference stream for analysis of mercury, other metals and PCBs. As has been the case in previous years, all bioaccumulation sampling activities in the fall-winter season were conducted in late November to early January. Three ten-fish stoneroller composite samples were collected from East Fork Kilometer (EFK) 24.5 and Hinds Creek Kilometer (HCK) 20.6 as required in the Plan. Six redbreast sunfish were collected from each of two EFPC sites (EFK 24.2 and EFK 6.3), and four were collected from HCK 20.6. Six rock bass were collected from each of five locations (EFK 23.4, EFK 18.2, EFK 13.8, EFK 6.3 and HCK 20.6). Sunfish were returned to the laboratory and length and weights taken from each individual fish before tissue biopsy samples were taken for mercury analysis. All fish were returned to the creek after treatment and recovery in the Aquatic Ecology Laboratory. All fish tissue samples were later prepped (e.g., homogenized) and will soon be submitted to the analytical laboratories for analysis.

Monitoring of the benthic invertebrate community is required at five locations [EFK 24.4, EFK 23.4, EFK 13.8, Brushy Fork Kilometer (BFK) 7.6 and HCK 20.6] on an annual frequency using State of Tennessee semiquantitative protocols, and on a biannual frequency using BMAP quantitative protocols. Benthic macroinvertebrate samples were collected using TDEC protocols in August 2009, and collected using BMAP protocols in October 2009. All samples will be delivered soon to the benthic processing laboratory for identification and enumeration.

Monitoring of the fish community is required on a biannual frequency at five locations (EFK 23.4, EFK 18.7, EFK 13.8, EFK 6.3 and BFK 7.6) and on an annual frequency from a sixth location (EFK 24.4).

All fish community monitoring task activities required under the Plan were successfully completed in fall 2009.

In summary, the fall/winter collection for BMAP went as planned and there are no identified issues or concerns. Should you have questions regarding the content of this report, please do not hesitate to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark J. Peterson". The signature is written in a cursive style with a prominent initial "M" and a long horizontal flourish at the end.

Mark J. Peterson