



April 11, 2014

Ms. Janice Kroone  
On-Scene Coordinator  
U.S. Environmental Protection Agency, Region 7  
11201 Renner Boulevard  
Lenexa, Kansas 66219

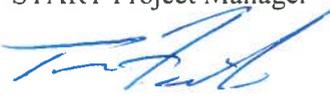
**Subject: Quality Assurance Project Plan, Addendum No. 1  
Big River Mine Tailings – Operable Unit #1 Site, St. Francois County, Missouri  
U.S. EPA Region 7 START 4, Contract No. EP-S7-13-06, Task Order No. 0038  
Task Monitor: Janice Kroone, EPA On-Scene Coordinator**

Dear Ms. Kroone:

Tetra Tech, Inc. is submitting the attached Addendum No. 1 to the previously approved Quality Assurance Project Plan (dated October 22, 2013) for the Big River Mine Tailings – Operable Unit #1 site. If you have any questions or comments, please contact me at (816) 412-1759.

Sincerely,

  
for Dave Gray  
START Project Manager

  
Ted Faile, PG, CHMM  
START Program Manager

Enclosure

cc: Randy Schademann, START Project Officer (cover letter only)  
Brian Mitchell, START Deputy Project Officer (cover letter only)

ADDENDUM NO. 1

QUALITY ASSURANCE PROJECT PLAN  
BIG RIVER MINE TAILINGS – OPERABLE UNIT #1 SITE

Superfund Technical Assessment and Response Team (START) 4  
Contract No. EP-S7-13-06, Task Order No. 0038

Prepared For:

U.S. Environmental Protection Agency  
Region 7  
11201 Renner Boulevard  
Lenexa, Kansas 66219

April 11, 2014

Prepared By:

Tetra Tech, Inc.  
415 Oak Street  
Kansas City, Missouri 64106  
(816) 412-1741

APPROVED BY:

*[Signature]*  
for Dave Gray, START Project Manager

4-11-14  
Date

*[Signature]*  
Ted Faile, PG, CHMM, START Program Manager

4-11-14  
Date

*[Signature]*  
Kathy Hornet, START Quality Assurance Manager

4-11-14  
Date

*[Signature]*  
Janice Kroone, EPA Region 7 On-Scene Coordinator

16 April 2014  
Date

*[Signature]*  
Diane Harris, EPA Region 7 Quality Assurance Manager

04/11/2014  
Date

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## ADDENDUM NO. 1

### QUALITY ASSURANCE PROJECT PLAN BIG RIVER MINE TAILINGS – OPERABLE UNIT #1 SITE ST. FRANCOIS COUNTY, MISSOURI

This document is an addendum to the Quality Assurance Project Plan (QAPP) dated October 22, 2013, for the Big River Mine Tailings – Operable Unit #1 site (site) in St. Francois County, Missouri. This addendum addresses issues regarding properties where soils have been found to exceed the Removal Action Level (RAL) for lead, qualifying for excavation during an EPA-funded removal action (RA). In addition, this addendum addresses analytical parameters and methods required for characterization of a proposed backfill borrow area. Sampling of the borrow area soil is anticipated on April 16 or 17, 2014. Removal activities are tentatively scheduled to begin the week of April 28, 2014. The QAPP previously submitted by Tetra Tech, Inc. under the Superfund Technical Assessment and Response Team (START) 4 contract will remain the primary guidance document for sampling during the RA, but with the following modifications:

- EPA reduced the RAL for lead in surface soil at the site from 1,200 to 800 milligrams per kilogram (mg/kg). In EPA's Action Memorandum Amendment #1 for the site, dated March 30, 2011, EPA concluded that removal of soil with lead concentrations exceeding 800 mg/kg at residential properties would be necessary to protect children residing at or frequenting those residential properties.
- EPA has tasked the Emergency and Rapid Response Services (ERRS) contractor to conduct time-critical removal activities at properties where surface soils contain lead above the RAL, and that serve as primary residences of children younger than 84 months of age. To minimize site restoration costs, the ERRS contractor will excavate lead-contaminated soils in approximately 6-inch lifts, instead of 12-inch lifts as specified in the original QAPP.
- START will collect soil samples within the proposed borrow area prior to initiation of excavation for the RA. Using a dedicated Encore™ sampler, START will collect a grab sample for analysis for volatile organic compounds (VOC) via EPA Method 8260 at a low spot within the borrow area, within the interval between 0 and 1 inch below ground surface (bgs). Collection of the grab sample will accord with EPA Method 5035. In addition, START will collect a five-aliquot composite sample within the borrow area for analyses for semivolatile organic compounds (SVOC) via EPA Method 8270, organochlorine pesticides via EPA Method 8081B, and organochlorine herbicides via EPA Method 8151A. Collection of the composite sample will accord with EPA Region 7 SOP 4231.2012. At each aliquot location, soil will be collected within the interval of 0 to 12 inches bgs by use of a clean stainless steel hand auger. The aliquot locations will be equally spaced throughout the borrow area. All aliquots will be placed in a large, clean stainless steel bowl for compositing before transfer to 8-ounce jars. Global Positioning System (GPS) coordinates of each sample/aliquot location will be recorded in the logbook. After collection, the sample containers will be placed in a cooler maintained at or below 4 degrees Celsius (°C) for immediate transport to a contracted laboratory. The turnaround time for laboratory data will be 7 days.