TETRA TECH

July 24, 2013

Mr. Heath Smith
EPA On-Scene Coordinator
U.S. Environmental Protection Agency, Region 7
310 Saline Street
Fredericktown, Missouri 63645

Subject: **Preliminary Removal Action Report**
Proposed Streeker Forest Development Site, Wildwood, Missouri
U.S. EPA Region 7 START 3, Contract No. EP-S7-06-01, Task Order No. 0293.001
Task Monitors: Heath Smith, EPA On-Scene Coordinator
David Williams, EPA Planning and Preparedness, North Section Chief

Dear Mr. Smith:

Tetra Tech, Inc. is submitting the attached Preliminary Removal Action Report regarding the Proposed Streeker Forest Development site in Wildwood, Missouri. If you have any questions or comments, please contact the project manager at (314) 395-3157.

Sincerely,

for Dave Kinroth, CIIMM
START Project Manager

Ted Faile, PG, CIIMM
START Program Manager

Enclosures

cc: Roy Crossland, START Project Officer (cover letter only)

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PRELIMINARY REMOVAL ACTION REPORT

FOR THE

PROPOSED STRECKER FOREST DEVELOPMENT SITE
WILDWOOD, MISSOURI

Superfund Technical Assessment and Response Team (START)
Contract No. EP-S7-06-01, Task Order 0293.001

Prepared For:

U.S. Environmental Protection Agency
Region 7
Superfund Division
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July 24, 2013

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1.0 INTRODUCTION

The Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) was tasked by the U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division to provide support during preliminary removal action (RA) activities at the Proposed Strecker Forest Development site in Wildwood, Missouri (hereafter referred to as the "Strecker Forest" site). The first of these activities was a voluntary RA by the current property owner to address soil contaminated with low levels of dioxin-related compounds within a small area at the site. The contamination had been discovered during EPA investigation activities in 2011-2012. START provided (1) assistance with soil sampling and data management, (2) coordination between the property owner and the selected landfill to ensure compliance with disposal acceptance criteria, and (3) general site documentation.

The second of these preliminary RA activities was construction of a perimeter fence to restrict access to the northeast portion of the site, where soil was also contaminated with dioxin-related compounds (dioxins/furans, including 2,3,7,8-tetrachlorodibenzo-p-dioxin [2,3,7,8-TCDD] at concentrations greater than 1,000 parts per trillion [ppt] or 1 part per billion [ppb]). EPA funded this activity with regional removal program funds and tasked the EPA Region 7 Emergency and Rapid Response Services (ERRS) contractor, Environmental Restoration, LLC (ER), to complete or subcontract the fence construction. START assisted with delineation and marking of the proposed fence location, and provided oversight and site documentation during the construction activities.

The aforementioned areas of concern (AOC) had been identified during site reassessment sampling and Expanded Site Review (ESR) activities conducted by Tetra Tech START and the EPA Region 7 Superfund Division from fall 2011 through spring 2012. The Strecker Forest site is adjacent to a portion of the historical Ellisville site in Wildwood, Missouri[1]. A residential development known as Strecker Forest has been proposed for the subject property. The purpose of the ESR was to determine if contaminants were present in soil and groundwater at concentrations that may present a threat to human health and the environment considering the proposed land use. The ESR was also to provide additional data to help clarify hydrogeological conditions in the area, including the direction of groundwater flow. Sampling and analysis of environmental media occurred during the ESR to assess soil and groundwater at the Strecker Forest property for presence of volatile organic compounds (VOC), semivolatile organic compounds (SVOC), polychlorinated biphenyls (PCB), metals regulated under the Resource

[1] The Ellisville site appears on the National Priorities List (NPL), which includes priority Superfund sites maintained by EPA.

Conservation and Recovery Act (RCRA), and dioxins/furans. The study area for the ESR included the 18.3 acres comprising Strecker Forest: 23 proposed home sites are in the southern portion of the property, and an undeveloped "preservation area" is in the northern portion of the property. Additional details of the ESR activities and findings are presented in the referenced *Site Reassessment Report for an Expanded Site Review, Proposed Strecker Forest Development Site, Wildwood, Missouri* (Tetra Tech EM Inc. [Tetra Tech EMI] 2012).

The remainder of this report documents site background information and details of the aforementioned RA activities at the Strecker Forest site in 2012. The START project manager (PM) was Dave Kinroth, and the EPA Region 7 task monitors were On-Scene Coordinator (OSC) Heath Smith and Planning and Preparedness North Section Chief (for the Emergency Response and Removal North Branch of the Superfund Division) Dave Williams.

2.0 SITE LOCATION

Strecker Forest includes three parcels of land encompassing 18.3 acres north of Strecker Road in Wildwood, Saint Louis County, Missouri (see Appendix A, Figure 1). The three parcels include the former Dozier property at 165 Strecker Road (approximately 5 acres); the former Primm property at 173 Strecker Road (approximately 10 acres); and the former Schoessel property at 177 Strecker Road (approximately 3 acres). These three properties were purchased by W.J. Byrne Builders, Inc., of Glencoe, Missouri, with intent to develop the proposed Strecker Forest subdivision. Geographic coordinates of the site are 38.597578 degrees north latitude and 90.605617 degrees west longitude (see Appendix A, Figure 1).

3.0 SITE DESCRIPTION

Strecker Forest is mostly undeveloped, except for foundations remaining from recently demolished structures (a garage and two abandoned homes) on the former Dozier and Primm properties. The northern two-thirds of Strecker Forest is covered mostly by hardwood forest. The property is surrounded by suburban residential areas, except to the north and east, where a 12-acre tract with a residence, horse arena, and stables are present. Other features identified from previous investigations of the Strecker Forest property include a "Western Pond Area" in the southwestern portion of the site, a "Solid Waste Disposal Area" in a drainage ravine in the central portion of the site, an "Alleged Former Haul Road" that parallels the drainage ravine, and an "Eastern Disturbed Area (EDA)" and "National Priorities List (NPL)

Area" that are both in the northeastern portion of the site. The EDA and the NPL Area are adjacent to the Bliss portion of the Ellisville Superfund site, sometimes referred to as the Bliss-Ellisville site[2].

The terrain at the Strecker Forest property slopes downward to the north from Strecker Road. Relatively steep slopes are present that vary in elevation from approximately 720 feet at Strecker Road to approximately 635 feet along a tributary of Caulks Creek at the northeast perimeter of the site within the NPL Area (see Appendix A, Figure 2). The intermittent Caulks Creek tributary flows to the north along a ravine in the central portion of Strecker Forest, and intersects another intermittent tributary crossing the northeast corner of the Strecker Forest property. All surface water and drainage pathways on the site flow in a northerly direction toward this area.

4.0 SITE HISTORY/PREVIOUS INVESTIGATIONS

Strecker Forest is directly adjacent to the Bliss subsite of the Ellisville site; the planned preservation area includes a small (0.15-acre) portion of the Bliss subsite at the northeast corner of the 18.3-acre property (see Appendix A, Figure 2). The Callahan subsite is south of Strecker Forest across Strecker Road, and the Rosalie subsite is approximately 0.5 mile west-southwest of Strecker Forest. The following are brief summaries of each of the three subsites of the Ellisville site:

> The Bliss subsite borders Strecker Forest to the north and east, and includes a small portion of the proposed preservation area at the northeast corner of the Strecker Forest property. Investigative activities beginning on September 16, 1980, identified two waste disposal areas northwest of a horse arena on the property. On June 2, 1981, trenching operations guided by eyewitness accounts identified buried drums at the Bliss subsite. Several followup geophysical surveys starting in June 1982 and continuing through August 1990 identified buried waste at a number of locations at the Bliss and contiguous properties. In August 1985, the Missouri Department of Natural Resources (MDNR) placed a liner in the stream bed of the Caulks Creek tributary to stabilize the stream banks, and constructed a berm to divert overland flow from the eroding stream. EPA implemented an RA in 1996, involving excavation and management of soil impacted by dioxin[3] and non-dioxin wastes, along with bulk wastes in buried drums and other materials. During the RA, dioxin-contaminated materials were transported to the Times Beach site for thermal treatment (incineration). All non-dioxin hazardous wastes were managed off site at commercial RCRA-permitted hazardous waste facilities. Non-hazardous materials were disposed of at a sanitary landfill. In all, 24,700 tons of dioxin-contaminated soil, 581 tons of soil contaminated with hazardous substances other than dioxin, and 480 buried drums and other containers of wastes were removed from the site. Soil samples were collected to confirm that cleanup goals had been achieved. Once cleanup activities had been completed, excavated areas were backfilled, re-graded, and seeded. The removal activities included a

[2] The overall Ellisville Superfund site includes the Bliss, Callahan, and Rosalie subsites, which are technically defined not by property boundaries but by boundaries of the areas where contamination was found.

[3] The term "dioxin" refers to a family of related compounds. Risk related to dioxin-contaminated soils at the Bliss-Ellisville site was primarily driven by 2,3,7,8-TCDD, which has the highest toxicity of dioxin compounds.

0.15-acre area at the extreme northeast corner of the Strecker Forest property (referred to as the "NPL Area" of Strecker Forest during past investigations). MDNR continues to monitor groundwater and soil vapor conditions at the Bliss subsite.

The Callahan subsite is due south of Strecker Forest. In August 1980, an eyewitness reported drums being buried near a barn on the Callahan property. On December 14, 1981, EPA/MDNR initiated an emergency RA to excavate the drums. The RA, which was completed on February 18, 1982, involved removal of 1,205 drums from the property. Of the 1,205 drums, 613 contained hazardous materials. EPA's Remedial Investigation Report regarding the Ellisville site—dated September 21, 1983—presented results from field investigations at the Callahan subsite. On July 10, 1985, EPA selected a remedial action for the Callahan subsite that included stabilization of soils in the former drum burial area and removal of a plastic cover, blocks, gravel, and fencing remaining from the 1981-1982 drum removal. On January 31, 2005, MDNR conducted a Site Removal Evaluation (SRE) to determine if any residual soil contamination remained at the Callahan subsite at concentrations that would warrant further response. MDNR prepared a Removal Site Evaluation Report—dated August 5, 2005—that incorporated the findings of the MDNR SRE (MDNR 2005). Additional sampling at the Callahan subsite also occurred during the site reassessment sampling and ESR investigation activities at Strecker Forest during fall 2011 through spring 2012. Elevated levels of VOCs and RCRA metals (lead in particular) were found in soil in the vicinity of the former drum burial area. EPA then conducted a followup RA at the Callahan subsite in fall 2012, removing 2,056.74 tons of additional contaminated material from the burial area, and transporting it off site for proper disposal at the Milam Landfill in East St. Louis, Illinois. The Callahan subsite was then restored in December 2012 in accordance with an agreement between EPA and the property owner (Tetra Tech 2013).

The Rosalie subsite is approximately 0.5 mile west-southwest of Strecker Forest. On July 17, 1980, contractors for the St. Louis Metropolitan Sewer District encountered buried drums at the Rosalie property while installing a new sewer line along Caulks Creek. The St. Louis Metropolitan Sewer District notified EPA, MDNR, and the U.S. Coast Guard Safety Office about the drums. In September 1980, four areas were identified where drums, pieces of drums, or trash had been found. During initial response actions, 267 drums were removed from the Rosalie subsite. On July 10, 1985, EPA selected a final remedy for the Rosalie subsite, subsequently implemented by MDNR, that involved off-site disposal of contaminated soil, drums, and debris remaining at two locations. An Environmental Site Assessment (ESA) during January 29-31, 1986, characterized conditions at all four disposal areas (ELL-01, ELL-02, ELL-03, and ELL-04). Twenty-five soil samples were collected and analyzed for SVOCs; all results were below EPA's Regional Screening Levels (RSL) for residential soil (EPA 2013).

Because of its proximity to the Ellisville Superfund subsites, the Strecker Forest property has come under scrutiny related to environmental health concerns associated with the proposed residential development of the property. The purpose of the recent EPA ESR was to build upon information from previous studies to establish a data set that would support a more comprehensive assessment of human health risks to short-term trespassers and associated with proposed residential land use at Strecker Forest. The ESR was also to characterize potential for impacts on existing properties/residents in nearby areas.

The study area for the Strecker Forest ESR included the entire 18.3-acre property proposed for development. During a prior Phase II ESA by Mundell & Associates, Inc. (Mundell 2010), six areas of interest had been identified on the Strecker Forest property:

- The former Dozier and Primm residences near the southeast property boundary
- A pond near the western property boundary in the southwestern portion of the site (Western Pond Area)
- A solid waste disposal area within a drainage ravine at the central part of the site (Solid Waste Disposal Area)
- A historical roadway (interpreted as a former haul road) along the central drainage ravine (Alleged Former Haul Road)
- An area in the northeastern portion of the site that was identified as formerly disturbed, based on historical aerial photography from 1966 (Eastern Disturbed Area or EDA)
- An area in the extreme northeast portion of the site that had been included in a 1996 cleanup at the adjoining Bliss subsite of the Ellisville NPL site (NPL Area).

The scope of the ESR included investigation of these previously designated areas, as well as several new areas including the southern portion of the property where 23 home sites have been proposed for development, and the undeveloped area designated as a "preservation area" in the northern portion of the property. The overall investigation strategy involved a combination of methods used to gather additional data and information in order to better characterize potential risks associated with conditions across the property. The scope of this investigation included:

- Geophysical investigation for buried metals
- Exploratory trenching
- Surface soil sampling using an incremental composite sampling (ICS) protocol
- Subsurface soil sampling at selected boring locations
- Interior dust sampling within existing structures
- Installation of groundwater monitoring wells
- Measurement of static water levels in new and existing monitoring wells
- Groundwater sampling at new and existing monitoring wells.

Selection of analytes for this ESR was based on results of previous investigations. All soil (surface and subsurface) and groundwater samples were analyzed for SVOCs, RCRA metals, PCBs, and/or dioxin-related compounds[4]. All subsurface soil and groundwater samples collected from the Strecker

[4] Dioxin analysis included seventeen 2,3,7,8-substituted dioxin and furan congeners that contribute to calculation of a dioxin toxic equivalence (TEQ) value.

Forest property were also analyzed for VOCs. Interior dust (wipe) samples were analyzed for dioxins/furans only. Sampling activities for the Strecker Forest ESR occurred between September 2011 and January 2012.

Surface soil samples were collected using an ICS strategy, which involved separation of the entire site area into decision units (DU). Each DU was split into four sampling units (SU) of approximately equal size. Within each SU, a nine-aliquot composite sample was collected from 0-2 inches (in.) below ground surface (bgs), using a disposable stainless steel spoon to collect and homogenize the aliquots. Approximately equal portions of samples from each SU were transferred to a disposable aluminum pan and homogenized to create a composite "top-tier" sample representing the entire DU. Initial analyses were performed on the top-tier DU samples. The remaining portions of the composite samples from each SU were retained and archived for possible future analysis if the top-tier data would indicate presence of one or more contaminants at concentrations exceeding their respective levels of concern. If the top-tier data showed any exceedance, archived SU samples were then packaged and shipped for analysis to provide sub-DU information in support of remedial action or additional sample collection planning. All of this was done in accordance with the *User Guide – Uniform Federal Policy Quality Assurance Project Plan Template for Soils Assessment of Dioxin Sites* (EPA 2011).

Initially, 39 DUs (sometimes referred to as exposure units [EU]) had been established at Strecker Forest to characterize surface soils using an incremental soil sampling approach. Twenty-three DUs were designated to correspond to individual home site boundaries presented in the preliminary plat for property development. These home site DUs ranged from 0.22 to 0.43 acre. The portion of Strecker Forest not planned for residential home sites has been designated as a "preservation area." This preservation area was divided into nine DUs with areas ranging from 0.96 to 1.17 acres. Seven additional DUs with areas ranging from approximately 0.18 to 0.26 acre were established near the NPL Area. The purposes of the incremental surface soil sampling in the vicinity of the NPL Area were to confirm residual conditions following past cleanup activities, and to assess any subsequent impacts from the NPL Area on adjoining areas of Strecker Forest. The seven DUs established to assess conditions at and near the NPL Area conformed to the stream features and topography in the area. An additional five DUs were added at a later date, based on secondary review of sampling results. In all, 44 DUs were eventually established and sampled at Strecker Forest.

As described above, each of the 44 DUs at Strecker Forest was subdivided into four SUs. A composite sample consisting of nine aliquots was collected from 0-2 in. bgs (surface soil) within each SU using a clean, dedicated, stainless steel spoon (or equivalent); placed in a clean, disposable aluminum pan; and

homogenized. Portions of the samples from each SU were transferred to 8-ounce jars for storage. The remaining portions of the SU samples were combined and homogenized to represent one composite sample for the entire DU. Part of this homogenized sample was transferred to two 8-ounce jars and submitted to a Contract Laboratory Program (CLP) laboratory or to the EPA Region 7 laboratory for analysis for SVOCs, RCRA metals, and PCBs. A portion of the homogenized DU sample was also transferred to a separate jar and submitted to Cape Fear Analytical, LLC (CFA) in Wilmington, North Carolina, for analysis for dioxin toxic equivalence (TEQ) concentrations via Method 1613B. The remaining portion of the homogenized DU sample was transferred to a sealed sample container and retained for possible future analysis. Pertinent data, including analyses to be performed and sample location data, were recorded on field sheets for each sample.

Subsurface soil samples were collected at selected locations at the Strecker Forest property using a Geoprobe® direct-push apparatus. Geoprobe® sample locations were selected to address specific areas of interest and to cover the geographic extent of the site. At each borehole, a Macro-Core soil sampler fitted with a disposable polyvinyl chloride (PVC) sleeve was advanced to 12 feet bgs, groundwater, or refusal, whichever was encountered first. The soil core was retrieved and screened for VOCs with a photoionization detector (PID). Samples for laboratory analysis were collected from each borehole from 0 to 2 feet bgs and from the 2-foot interval of the soil core below 2 feet bgs that yielded the highest PID reading (all samples for analysis for VOCs were collected from depths exceeding 2 feet bgs). If none of the boring intervals indicated elevated PID readings, a sample was collected from an interval with visible staining or other indication of potential chemical contamination. If no soil intervals exhibited elevated PID levels or visible staining, a sample was collected from the deepest interval (from the bottom 2-foot interval of the boring).

Soil samples for VOC analysis were collected via EPA Method 5035. Samples for VOC analysis were placed into two 40-milliliter vials preserved with sodium bisulfate (5 grams of soil in each) and two unpreserved 40-milliliter vials (each filled with soil). Then, soil from the sample interval was removed from the PVC sleeve and placed in a disposable aluminum pie pan for homogenization prior to transfer to three 8-ounce jars for the remaining analyses (dioxin TEQ, SVOCs, RCRA metals, and PCBs). Pertinent data, including analyses to be performed and sample location data, were recorded on field sheets for each sample.

As previously mentioned, a summary of the findings and recommendations regarding all of the data generated by the recent ESR activities is presented in the referenced *Site Reassessment Report for an Expanded Site Review, Proposed Strecker Forest Development Site, Wildwood, Missouri* (Tetra Tech

EMI 2012). Two AOCs were identified during the ESR where dioxin TEQ concentrations in soil were above levels of concern (LOC). These two AOCs are as follows:

Decision Unit 19 (see Appendix A, Figure 2)

The original top-tier ICS surface soil sample collected at residential parcel number 19 (designated DU 19) had a slightly elevated dioxin TEQ level at 75.5 ppt, which was above the site-specific screening level (SSL) of 50.5 ppt for proposed residential areas of the site. The dioxin/furan congener profile in this sample did not correspond to the congener profile displayed in samples collected from the Bliss portion of the Ellisville site, which indicated that the dioxin TEQ in DU 19 likely had originated from a separate, unidentified source. Dioxin/furan compounds are known to be created during combustion processes that occur in the presence of chlorine. Uncontrolled barrel burning of trash is a primary source of dioxins/furans into the environment, and it was speculated this or some other anthropogenic source could account for the dioxin TEQ level identified at this location.

Based on the result from the top-tier ICS sample collected at DU 19, START was requested to submit the four archived samples from SUs 19A to 19D for dioxin TEQ analysis, along with another top-tier sample from DU 19. These results are listed in Table 1 below.

TABLE 1

SUMMARY OF DIOXIN TEQ CONCENTRATIONS – DU 19 (PRE-EXCAVATION)
PROPOSED STRECKER FOREST DEVELOPMENT SITE – WILDWOOD, MISSOURI

Sample Number	Date Collected	Sample Description/ Location	Dioxin TEQ (ppt)
5527-90	9-20-11	DU 19 ICS (original sample)	75.5
5651-57	5-15-12	SU 19A	4.3
5651-58	5-15-12	SU 19B	3.55
5651-59	5-15-12	SU 19C	3.67
5651-60	5-15-12	SU 19D	589.4
5651-61	5-15-12	DU 19 ICS (re-sample)	294.0

Notes:

DU Decision unit
ICS Incremental composite sample
ppt Parts per trillion
SU Sampling unit
TEQ Toxic equivalence

Implementing the ICS sampling methodology led to determination that the source of dioxin TEQ contamination in DU 19 was localized within the area represented by SU 19D. The property owner, Wes Byrne of W.J. Byrne Builders, Inc., thus decided to conduct voluntary removal of the dioxin-

contaminated soil from SU 19D. START was requested to provide (1) assistance with post-excavation soil sampling and data management, (2) coordination between the property owner and the selected landfill to ensure compliance with disposal acceptance criteria, and (3) general site documentation. These activities are summarized in Section 5.1 of this report.

EDA and NPL Area (see Appendix A, Figures 2 and 3)

Elevated dioxin TEQ levels were detected in surface and subsurface soil samples collected during the ESR investigation within the EDA and NPL Area in the northeastern portion of Strecker Forest (near the boundary with the Bliss portion of the Ellisville site, and adjacent to the area of the previous dioxin RA at the Bliss subsite in 1996-1997). The previous RA had included excavation of soils with dioxin exceeding 1,000 ppt (equivalent to 1 ppb). Residual dioxin levels in soil less than 1,000 ppt had been allowed to remain in place. Some ESR investigation samples were found to exceed an SSL of 820 ppt for dioxin TEQs established for non-residential soil. These elevated dioxin TEQ levels were limited to an area of approximately 0.5 acre within portions of the previously designated EDA and NPL Area. Implementing the ICS sampling methodology led to discovery that within the following SUs, dioxin TEQ concentrations exceeded 1,000 ppt: 34D, 35A, 36A, 41A, 42A, 42D, and 43D. Three subsurface borehole samples near these areas (SB-14, SB-37, and SB-20) also contained elevated dioxin TEQ concentrations. Results from these samples are listed in Table 2 below.

TABLE 2

SUMMARY OF DIOXIN TEQ CONCENTRATIONS >1,000 PPT – EDA AND NPL AREA
PROPOSED STRECKER FOREST DEVELOPMENT SITE – WILDWOOD, MISSOURI

Sample Number	Date Collected	Sample Description/ Location	Dioxin TEQ (ppt)
5651-23	1-24-12	SU 34D (surface)	5,770
5618-18	12-1-11	SU 35A (surface)	3,960
5618-22	12-1-11	SU 36A (surface)	4,010
5651-28	1-23-12	SU 41A (surface)	2,680
5651-32	1-23-12	SU 42A (surface)	1,130
5651-35	1-23-12	SU 42D (surface)	1,120
5651-39	1-24-12	SU 43D (surface)	2,300
5527-42	9-14-11	SB-14 (0-2 feet bgs)	18,234
5651-46	1-23-12	SB-37 (1-2 feet bgs)	26,684
5527-57	9-14-11	SB-20 (0-2 feet bgs)	1,733

Notes:

bgs Below ground surface
EDA Eastern Disturbed Area
NPL National Priorities List
ppt Parts per trillion
SB Soil boring
SU Sampling unit
TEQ Toxic equivalence

The ESR final report recommended further assessment at the Strecker Forest property to focus on conditions in the northeast portion of the property and evaluate potential risks via exposure pathways based on current and potential future land use.

EPA Region 7 decided site conditions could pose a threat to public health and welfare, given that levels of dioxin-related compounds (specifically 2,3,7,8-TCDD) had been found above the previously established removal action level (RAL) of 1 ppb for dioxin TEQ, and exceeding the current SSL of 820 ppt at non-residential, undeveloped areas of the site. It was determined that the site qualified for RA consideration, based on the following National Contingency Plan (NCP) criteria in 40 *Code of Federal Regulation*s (CFR) 300.415(b):

> **40 CFR 300.415 (b)(2)(iv) – High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.**

It was decided to isolate the portion of the northeast area of the site where elevated dioxin concentrations had been found in an effort to keep this area undisturbed by human activity (i.e., planned residential development activities), pending final decisions regarding disposition of the contaminated soils. An Action Memorandum approved in September 2012 (see Appendix B) prescribed construction of a perimeter fence to encircle all or most of this contaminated area. START was requested to assist with this by delineating and marking the proposed fence-line perimeter prior to construction of the fence, and overseeing and documenting construction of the fence. These START activities are summarized in Section 5.2 of this report.

5.0 PRELIMINARY REMOVAL ACTIVITIES

The following sections of this report document details of the preliminary RA activities in 2012 within the two aforementioned AOCs at the Strecker Forest site.

5.1 SOIL EXCAVATION AND DISPOSAL

On the morning of July 12, 2012, EPA OSC Jim Silver and START PM Kinroth met at the site to mark the perimeter of SU 19D (approximately 2,500 square feet), where a dioxin TEQ concentration of 589 ppt had been identified during the ESR sampling. During the perimeter marking process, roofing shingles that had been dumped and partially buried were observed within several areas of SU 19D. EPA and START speculated that the roofing shingles could be the source of the elevated dioxin TEQ concentration within this SU, because studies had documented production of dioxins and furans from asphalt plants and similar operations (Ministry for the Environment 2011).

The property owner, Wesley Byrne, arrived on site later that day to excavate contaminated soil and other debris from the SU. Excavation proceeded to depths varying from 4 inches to 2.5 feet, depending on presence of buried shingles and other debris. The co-mingled contaminated soils, shingles, and other miscellaneous debris were placed into a 20-cubic-yard roll-off box, which was covered with plastic sheeting and left on site until finalization of disposal arrangements.

START PM Kinroth returned to the site on July 16, 2012, to conduct post-excavation soil sampling at SU 19D and to collect disposal profile samples of the excavated material in the roll-off box. A nine-aliquot surface soil sample (numbered SFPR-001) was collected from the freshly excavated soil surface of SU 19D, homogenized, and packaged in a 4-ounce amber glass jar for shipment to the laboratory (CFA) for analysis for dioxin TEQ compounds. A nine-aliquot sample of the co-mingled soil and shingles/debris (numbered SFPR-002) was collected from the roll-off box for dioxin TEQ analysis by CFA, and an additional portion of this sample (32-ounce jar) was submitted to TestAmerica laboratory in Earth City, Missouri, for disposal profiling analyses required by area landfills. These samples were shipped or delivered to the respective laboratories that afternoon. Prior to leaving the site, START photographed the excavated SU area. Pre- and post-excavation photo records of SU 19D are in Appendix C.

The analytical data package was received from CFA on July 19, 2012, and forwarded to Deanna Crumbling, Sampling Statistician with EPA Headquarters (HQ) in Washington, D.C., for calculation of Kaplan-Meier TEQ values on the two post-excavation samples. On July 20, 2012, START received the TEQ value calculator worksheets. The sample field sheets and data package from CFA are included in Appendix D. The TEQ calculation worksheets are included on a compact disk (CD) as Appendix E. Table 3 below lists the dioxin TEQ results from the post-excavation samples, and shows that the excavation was successful at lowering dioxin TEQ concentration within SU 19D (9.9 ppt) below the 50.5 ppt SSL for proposed residential use.

TABLE 3

DIOXIN TEQ CONCENTRATIONS – SU 19D (POST-EXCAVATION)
PROPOSED STRECKER FOREST DEVELOPMENT SITE – WILDWOOD, MISSOURI

Sample Number	Date Collected	Sample Description/ Location	Dioxin TEQ (ppt)
SFPR-001	7-16-12	SU 19D (post-excavation)	9.9
SFPR-002	7-16-12	Co-mingled soil and roofing shingles in 20 yd^3 roll-off box	262.8

Notes:

ppt Parts per trillion
SU Sampling unit
TEQ Toxic equivalence
yd^3 Cubic yards

As mentioned previously, START and EPA had speculated that the asphalt-backed roofing shingles found in SU 19D may have been the source of the elevated dioxin TEQ within this isolated area. Disposal profiling sample SFPR-002 of the excavated soil and shingles contained a dioxin TEQ level of 262.8 ppt, primarily due to elevated concentrations of octachlorodibenzo-p-dioxin/furan (OCDD/DF) and heptachlorodibenzo-p-dioxin/furan (HpCDD/DF) congeners, which ranged from 1,110 to 171,000 ppt in this sample (see Appendix D [CFA Data Package WO3782]). Because these dioxins/furans are common constituents of asphalt, these data support the speculation that the shingles were the primary source of the elevated dioxin TEQ in SU 19D, and explain the difference between the dioxin/furan congener profile in this sample versus the congener profile displayed in samples collected within the Bliss portion of the Ellisville site. Elevated dioxin TEQ levels associated with the Bliss portion of the Ellisville site were primarily due to the 2,3,7,8-TCDD congener.

The remainder of the disposal profiling data from sample SFPR-002 was received from TestAmerica on August 2, 2012. The requested analytical parameters for this sample included the Code R list (included in Appendix D)—as required by two prospective local landfills under consideration to receive the excavated material (Milam Landfill in East St. Louis, Illinois, and IESI Champ Landfill in Maryland Heights, Missouri). The IESI Champ Landfill also required results of Toxicity Characteristic Leaching Procedure (TCLP) analysis for pesticides/herbicides. The TestAmerica data package for this sample is included in Appendix D.

Upon receipt of all disposal profiling analytical data, START assisted the property owner with preparation of required applications and documentation to dispose of the excavated material at the IESI Champ Landfill in Maryland Heights, Missouri. This landfill had been selected by the property owner

because it was already an established vendor for his business, and the roll-off box containing the excavated material from the site had been deployed from that location. Because the dioxin TEQ concentration was less than 1,000 ppt, and all other disposal profiling parameters were non-detect or below LOCs, disposal of the 20 cubic yards of co-mingled soil and roofing shingles/debris at the IESI Champ Landfill was approved by the St. Louis County Department of Health and the IESI Champ Landfill. The manifest authorizing transportation and disposal of the waste was signed by the property owner/generator, Wesley Byrne, on August 7, 2012 (see Appendix F), and START was later notified by IESI Champ Landfill personnel that disposal had been completed as of August 10, 2012.

5.2 PERIMETER FENCE CONSTRUCTION AT EDA AND NPL AREA

On the morning of July 12, 2012, EPA, START, and ER PM Scott Allen met for a site walk of the EDA and NPL Area, where a perimeter fence would be placed to encircle the contaminated area to restrict human activity and trespasser access. The perimeter of the area to be fenced was defined so that prospective fencing subcontractors could provide cost estimates to ER for this service. Several prospective bidders were scheduled to visit the site that day to obtain information for the estimates.

On October 24, 2012, START PM Kinroth, Dave Williams from EPA Region 7, MDNR State OSC Don Van Dyke, ER PM Scott Allen, and a subcontracted fencing crew from Fence and Deck Depot, Inc., of St. Charles, Missouri, met at the site to begin fence construction activities. START was tasked to check the exact path the fencing contractor had selected for the fence before construction began, to ensure that no areas of contaminated surface soil were outside that boundary. The fencing crew then began staging materials on site that day. Fence installation was completed on October 30, 2012. START periodically photographed the construction process (see Appendix C) and created a Global Positioning System (GPS) track log of the fence perimeter (see Appendix A, Figure 3).

Additional sampling within this area is planned to further define the areal extent and estimated volume of soil contaminated with dioxin-related compounds, and to assess dioxin concentrations in surface soil at four DUs to be established on the adjacent Bliss-Ellisville site. These additional data will be used to assist with final decisions regarding disposition of the contaminated soils.

6.0 SUMMARY

Tetra Tech START was tasked by the EPA Region 7 Superfund Division to provide support during preliminary RA activities at the Strecker Forest site in Wildwood, Missouri. The first of these activities was a voluntary RA by the current property owner at one small area of the site (SU 19D) to address soil contaminated with low levels of dioxin-related compounds discovered during EPA investigation activities

in 2011-2012. START provided (1) assistance with soil sampling and data management, (2) coordination between the property owner and the selected landfill to ensure compliance with disposal acceptance criteria, and (3) general site documentation. These activities were completed between July 12 and August 10, 2012. Post-excavation soil sampling showed the excavation had been successful at reducing the dioxin TEQ level in SU 19D to 9.9 ppt—below the SSL of 50.5 ppt for areas of the site proposed for residential development. The excavated material consisted of 20 cubic yards of co-mingled soil, roofing shingles, and other miscellaneous debris, which was accepted by the IESI Champ Landfill in Maryland Heights, Missouri, for disposal in August 2012.

The second preliminary RA activity involved construction of a perimeter fence to restrict access to an area in the northeast portion of the site where soil contaminated with dioxin-related compounds, specifically 2,3,7,8-TCDD at concentrations greater than 1,000 ppt, had been identified. EPA funded this fence construction activity with regional removal program funds and tasked the EPA Region 7 ERRS contractor (ER) to complete or subcontract the fence construction. ER subcontracted Fence and Deck Depot, Inc., of St. Charles, Missouri, to complete this task. START assisted with delineation and marking of the proposed fence-line perimeter, and provided oversight and site documentation during the fence construction activities from October 24-30, 2012.

6.1 REMOVAL CONSIDERATIONS

Additional sampling within the EDA and NPL Area in the northeast portion of the site is planned to (1) further define the areal extent and estimated volume of soil contaminated with dioxin-related compounds exceeding the SSL of 820 ppt (dioxin TEQ) for non-residential portions of the site, and (2) to assess current dioxin concentrations in surface soil at four DUs to be established on the adjacent Bliss-Ellisville site. These additional data will be used to assist with decisions regarding disposition of the contaminated soils.

6.2 PRE-REMEDIAL CONSIDERATIONS

Section 4.0 summarizes evaluations of pre-remedial issues in previous site assessment reports issued by contractors for EPA and by MDNR. Upon completion of the planned RA to address the remaining dioxin-contaminated soils exceeding 820 ppt (dioxin TEQ), no known conditions warranting further pre-remedial assessment will be present at the site.

8.0 REFERENCES

Ministry for the Environment. 2011. *New Zealand Inventory of Dioxin Emissions to Air, Land and Water, and Reservoir Sources: 2011.* Wellington: Ministry for the Environment.

Missouri Department of Natural Resources (MDNR). 2005. Site Reassessment/Post Removal Sampling Report, Ellisville-Callahan Site, Wildwood, Missouri, St. Louis County. August 26.

Mundell & Associates, Inc. (Mundell). 2010. Phase II Environmental Site Assessment Report, Proposed Strecker Forest Development Site, 165, 173 and 177 Strecker Road, Wildwood, Missouri 63011. MUNDELL Project No. M08044. March 3.

Tetra Tech EM Inc. (Tetra Tech EMI). 2012. *Site Reassessment Report for an Expanded Site Review, Proposed Strecker Forest Development Site, Wildwood, Missouri*. Superfund Technical Assessment and Response Team (START) Contract EP-S7-06-01, Task Order No. 0002.058. June 13.

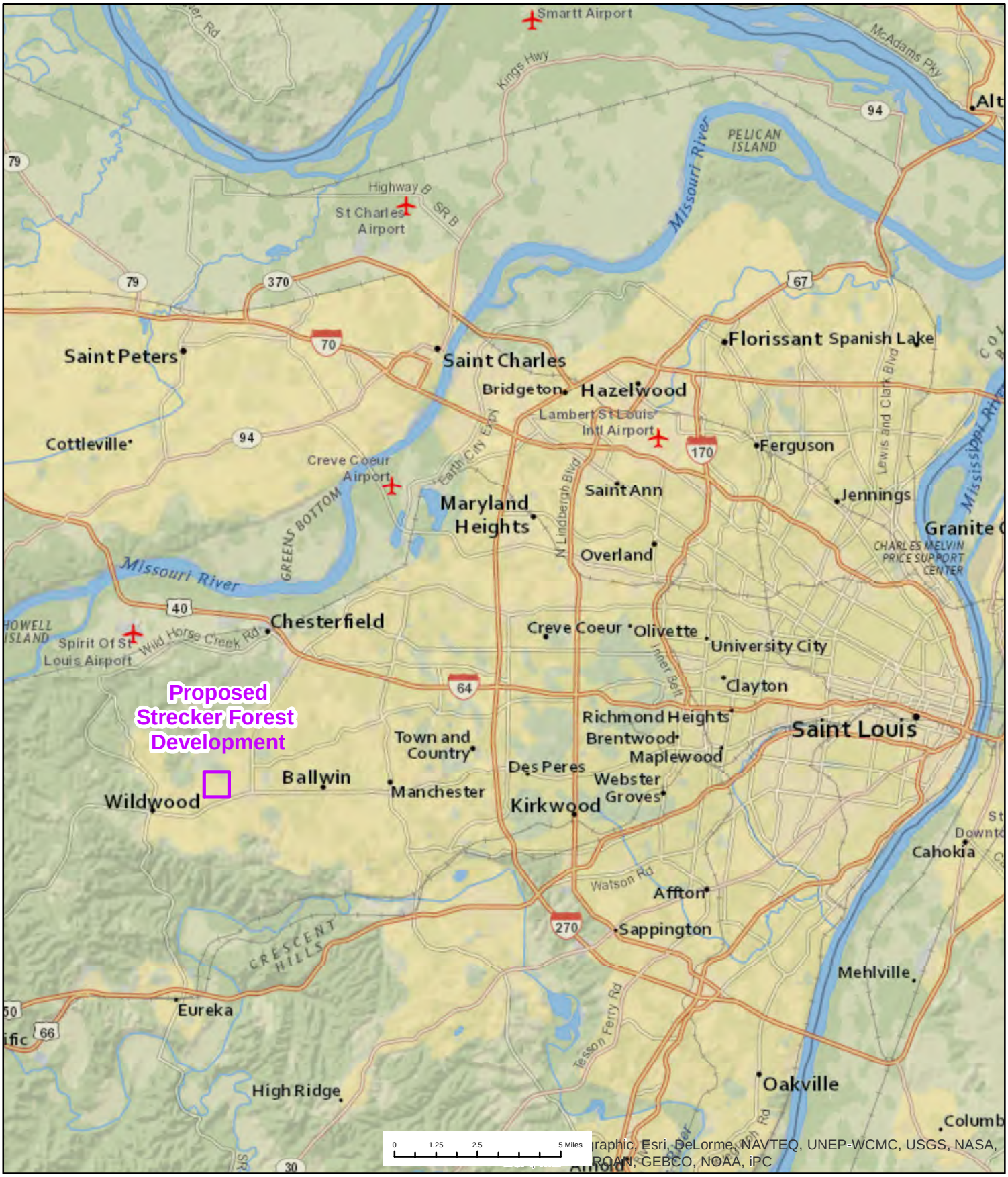
Tetra Tech, Inc. (Tetra Tech). 2013. Removal Action Report – Callahan Property Site, Wildwood, Missouri. Superfund Technical Assessment and Response Team (START) Contract EP-S7-06-01, Task Order No. 0316.000. March.

U.S. Environmental Protection Agency (EPA). 2011. *User Guide – Uniform Federal Policy Quality Assurance Project Plan Template for Soils Assessment of Dioxin Sites*. September. On-line address: http://www.epa.gov/superfund/health/contaminants/dioxin/pdfs/Dioxin%20%20QAPP%20UserGuide.pdf.

EPA. 2013. Regional Screening Levels. On-line address: http://www.epa.gov/reg3hwmd/risk/human/index.htm.

APPENDIX A

FIGURES

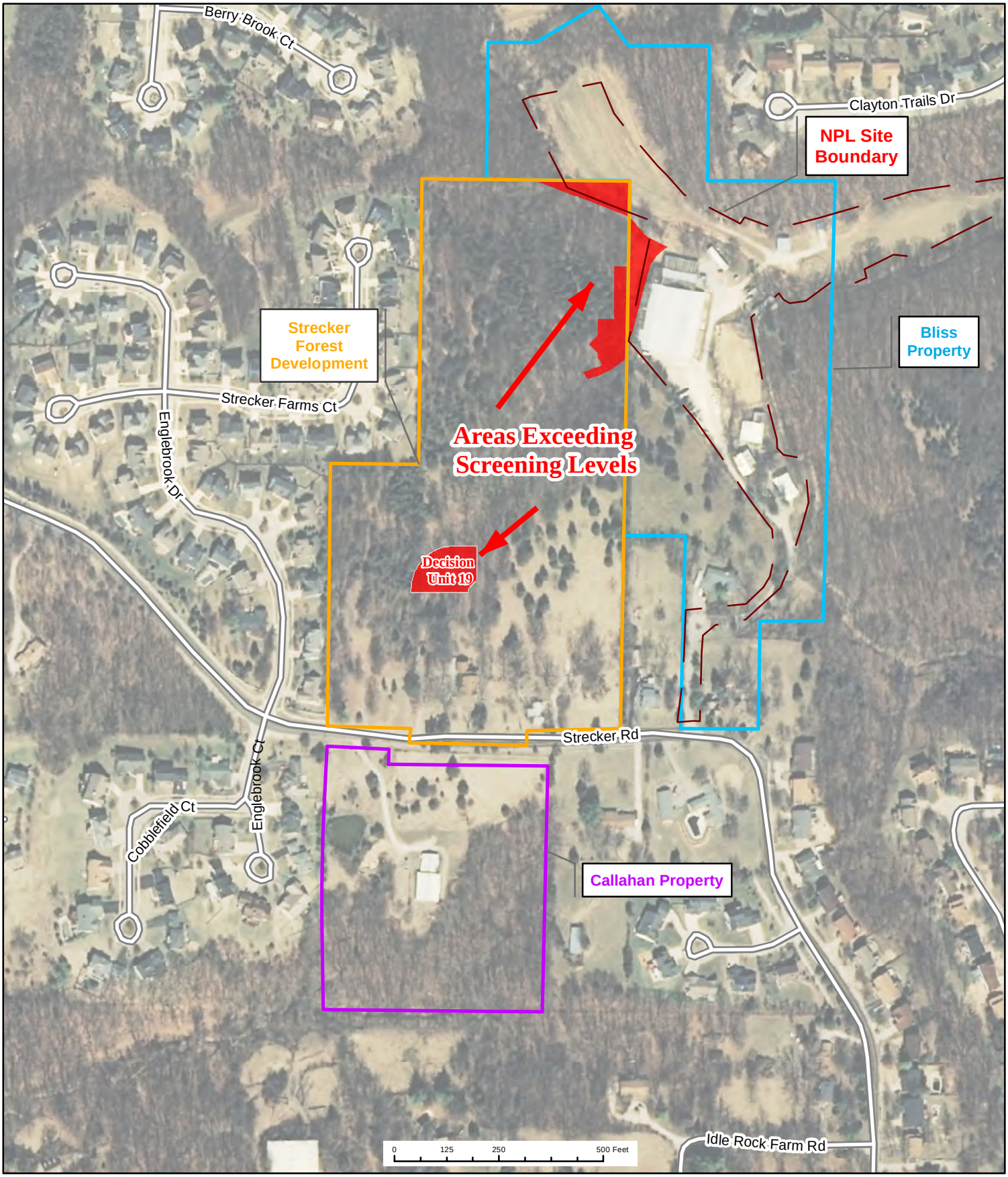


NOTE: The Environmental Protection Agency does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any injury or loss resulting from reliance upon the information shown.
2/11/2013 CjM
1 Locator Map Removal Action.mxd

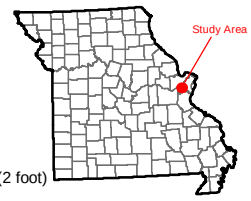
Data Sources:
ESRI National Geopgrahic Basemap
GDT Streets 2007

Locator Map
Ellisville NPL Site
and proposed Strecker
Forest Development

Figure 1



NOTE: The Environmental Protection Agency does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any injury or loss resulting from reliance upon the information shown.
2/11/2013 CjM
2 Strecker Forest Detects.mxd

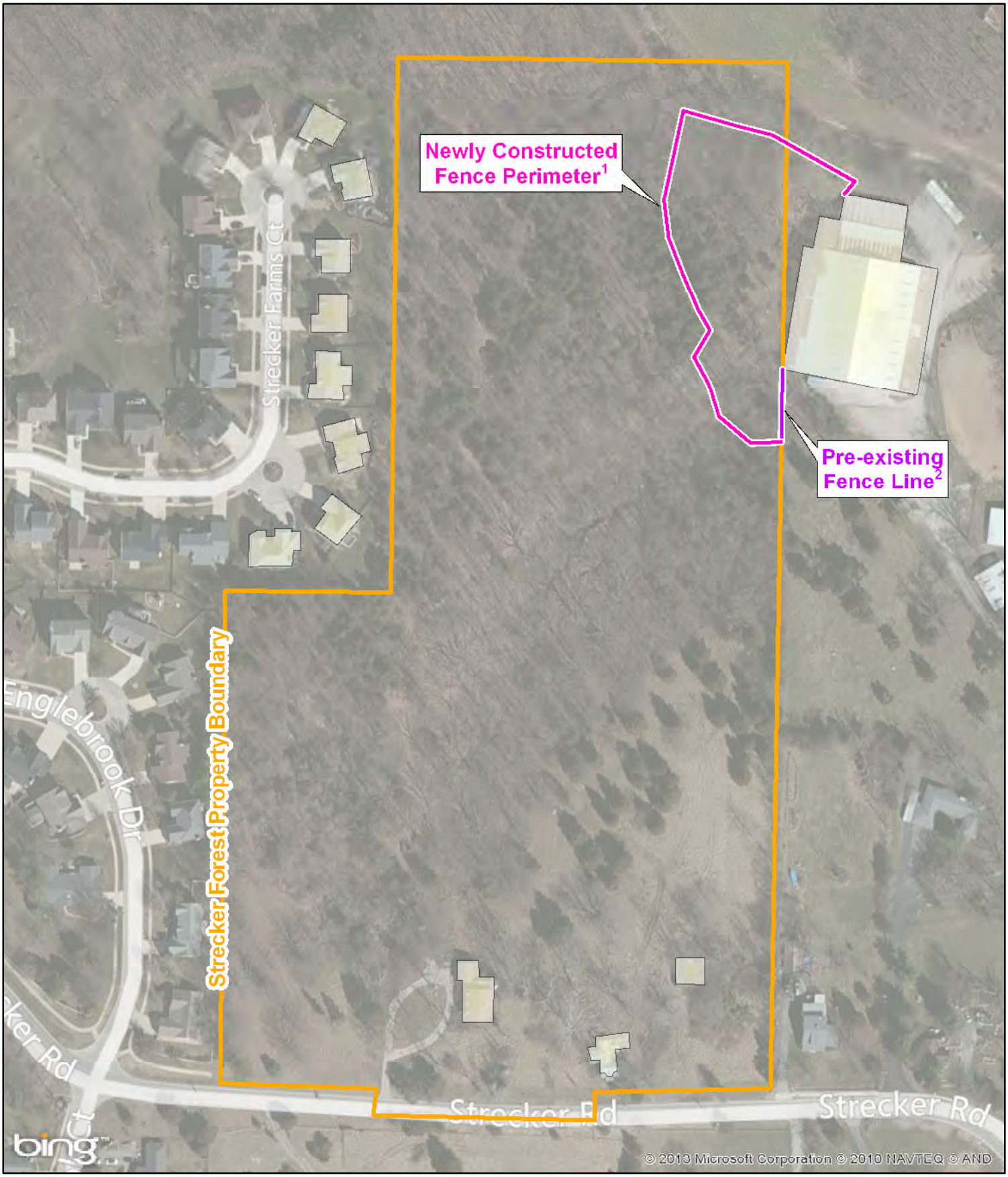


Data Sources:
USGS Missouri Aerial Imagery 2007 (2 foot)
GDT Streets (2007)

- Areas Exceeding Regional Screening Levels
- NPL Site Boundary
- Callahan Property
- Proposed Strecker Forest Development
- Bliss Property

Dioxin Soil Detects
Strecker Forest Development

Figure 2



NOTE: The Environmental Protection Agency does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any injury or loss resulting from reliance upon the information shown.
2/11/2013 CjM
3 Strecker Forest with Fence.mxd

Fence Line[1] (October 2012)

Pre-existing Fence Line[2]

Strecker Forest Boundary

Existing Structures

1) Fence as defined by field GPS
2) Full extent of pre-existing fence line not shown on map

0 30 60 120 Feet

New Fence Location
Ellisville Site
Wildwood, Missouri

Figure 3

APPENDIX B

EPA REGION 7 ACTION MEMORANDUM FOR PERIMETER FENCE CONSTRUCTION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

SEP 12 2012

ACTION MEMORANDUM

SUBJECT: Approval and Funding for a Removal Action at the Ellisville Site, Wildwood, St. Louis County, Missouri

FROM: David P. Williams, Federal On-Scene Coordinator
Planning and Preparedness North Section

THRU: Don Lininger, Chief
Planning and Preparedness North Section

THRU: Cecilia Tapia, Director
Superfund Division

TO: Karl Brooks
Regional Administrator

Site ID # 0708

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of the selected removal action described herein for the Ellisville Site (Site), Wildwood, St. Louis County, Missouri.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

CERCLIS ID #:	MOD980633010
Site ID#:	0708 (RV005)
Category of Removal:	Time-Critical
Nationally Significant/Precedent Setting:	Yes

1. Removal site evaluation

Strecker Forest is located directly adjacent to the Bliss subsite of the Ellisville Superfund Site. The Bliss subsite borders Strecker Forest to the north and east, and includes a small portion of a proposed preservation area in the northeast corner of the Strecker Forest property (see Attachment 1). Previous investigative activities begun on September 16, 1980, identified two waste disposal areas to the northwest of a horse arena on the property. On June 2, 1981, trenching operations

guided by eyewitness accounts identified buried drums at the Bliss subsite. Several follow-up geophysical surveys were conducted starting in June 1982 and continued through August 1990. These surveys identified buried waste at a number of locations on the Bliss and contiguous properties. The U.S. Environmental Protection Agency (EPA) implemented a removal action in 1996 involving excavation and management of soil impacted by dioxin and non-dioxin wastes, along with bulk wastes in buried drums and other materials. The removal activities included a 0.15-acre area in the extreme northeast corner of the Strecker Forest property (referred to as the "NPL Area" of Strecker Forest during past investigations).

From August 2011 through February 2012, the EPA conducted reassessment actions at the Site to, among other things, determine if contaminants were present in soil and groundwater at concentrations that could present a threat to human health and the environment for the proposed land use. Information and recommendations from this reassessment were summarized in the "Site Reassessment Report for an Expanded Site Review, Proposed Strecker Forest Development Site, Wildwood, Missouri," dated June 13, 2012.

One of the findings of this reassessment was the discovery of elevated dioxin toxic equivalent (TEQ) concentrations detected in surface and subsurface soil samples collected in the northeastern portion of the Strecker Forest parcel ("northeast area"). Dioxin TEQ concentrations as high as 26,684 parts per trillion were detected in subsurface soils; concentrations as high as 5,822 parts per trillion were detected in surface soils. The reassessment concluded that, with regard to the northeast area, "immediate actions are not warranted in the short-term to mitigate exposure, while further site assessment is ongoing."

However, other factors suggest that isolating affected portions of the northeast area where elevated dioxin concentrations were found would be prudent. These other factors include: (1) uncertainty surrounding the timing on final decisions regarding contaminated soils in the northeast area; and (2) keeping the area "undisturbed" by human activity (e.g., planned development activities).

2. Physical location

The Ellisville Site includes property indicated on Attachment 1 as the "Bliss Property" and "Strecker Forest Development." The Strecker Forest Development property ("Strecker Forest") is the primary area where the proposed action will take place and, as such, is the primary area discussed in this action memorandum. Because of this, in lieu of describing the Site as the "Strecker Forest Development of the Ellisville Site," the shorthand of "Strecker Forest" is primarily used in the following discussions.

Strecker Forest is located in St. Louis County, Missouri, and includes three parcels of land encompassing 18.3 acres to the north of Strecker Road in Wildwood, Missouri. The three parcels include: the former Dozier property located at 165 Strecker Road (approximately five acres); the former Primm property located at 173 Strecker Road (approximately 10 acres); and the former Schoessel property located at 177 Strecker Road (approximately three acres). These three properties were purchased by W.J. Byrne Builders, Inc., of Glencoe, Missouri, with the intent to develop the proposed Strecker Forest subdivision.

3. Site characteristics

Strecker Forest is mostly undeveloped, except for foundations remaining from a recently demolished garage structure and two abandoned homes on the former Dozier and Primm properties. The northern two-thirds of Strecker Forest is covered mostly by hardwood forest. The property is surrounded by suburban residential areas, except to the north and east where a 12-acre tract with a residence, horse arena and stables is located. Specific features identified in previous investigations of the Strecker Forest property include the abandoned residences on the former Primm and Dozier properties, a "Western Pond Area" in the southwestern quadrant of the Site, a Solid Waste Disposal Area in a drainage ravine in the central portion of the Site, an Alleged Former Haul Road that parallels the drainage ravine, and an Eastern Disturbed Area (EDA) and National Priorities List (NPL) Area that are both located in the northeastern portion of the Site. The EDA and NPL Areas are located adjacent to the Bliss portion of the Ellisville Superfund Site, sometimes referred to as the Bliss-Ellisville Site.

The terrain at the Strecker Forest property slopes downward to the north from Strecker Road. Relatively steep slopes are present that vary in elevation from approximately 720 feet at Strecker Road to approximately 635 feet along a tributary of Caulks Creek at the northeast perimeter of the Site in the NPL Area. The intermittent Caulks Creek tributary flows to the north along a ravine in the central portion of Strecker Forest and intersects another intermittent tributary crossing the northeast corner of the Strecker Forest property. All surface water and drainage pathways on the Site flow in a northerly direction toward this area.

4. Release or threatened release into the environment of a hazardous substance, or pollutant, or contaminant

TCDD (2,3,7,8,-tetrachlorodibenzo-p-dioxin) has been detected in soils at the Site. TCDD is listed as a hazardous substance pursuant to 40 CFR § 302.4. As such, TCDD is a hazardous substance as defined in section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9601(14).

5. NPL status

The Strecker Forest development area is not on the NPL. A portion of the northeast area where elevated dioxin TEQ concentrations were detected includes a small area of the Ellisville Superfund Site, which is on the NPL.

6. Maps, pictures and other graphic representations

A map of the Site is included as Attachment 1. The Confidential Enforcement Addendum is included as Attachment 2.

B. Other Actions to Date

1. Previous actions

See section II(A)(1).

2. Current actions

The Strecker Forest area has been proposed for residential development.

C. State and Local Authorities' Roles

1. State and local actions to date

The state of Missouri personnel have, among other things, provided input and feedback on proposed actions at the Site.

2. Potential for continued state/local response

It is expected that personnel from the state of Missouri will continue to provide input and feedback on matters concerning this Site.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The Site conditions pose a threat to public health and welfare which meet the criteria for response action under 40 CFR § 300.415(b) of the National Contingency Plan (NCP), which are described as follows:

300.415(b)(2)(iv) - High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.

Dioxin TEQ concentrations as high as 26,684 parts per trillion were detected in subsurface soils; concentrations as high as 5,822 parts per trillion were detected in surface soils. A primary objective of this action is to ensure that these soils are left undisturbed pending future decisions on an overall response strategy for contaminated soils in the area.

Potential development activities could include the clearing, grubbing, grading, etc. of soils near or adjacent to the areas of high dioxin TEQ concentrations. Erecting a fence around such areas would provide a visual "marker" that would ensure that these areas are left undisturbed.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site may present an imminent and substantial endangerment to public health, or welfare or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

The proposed action is the installation of a fence that will encircle most or all dioxin TEQ concentrations that exceed 50 parts per trillion in surface soils. In addition, signs will be placed at one or more locations around the fence which will advise against entry/trespassing.

Post-removal site control activities (e.g., repair of fencing) will be conducted by the landowner(s). An agreement to conduct such work is under development.

2. Contribution to remedial performance

The proposed actions will, to the extent practicable, contribute to the efficient performance of any long-term remedial action.

3. Engineering Evaluation/Cost Analysis (EE/CA)

Not applicable.

4. Applicable or relevant and appropriate requirements (ARARs)

No state or federal ARARs have been identified for the proposed action.

5. Project schedule

Once initiated, it is expected that the fence and warning signs can be installed within several days.

B. Estimated Costs

PROJECT CEILING ESTIMATE	
Extramural Costs:	
Regional Removal Allowance Costs:	
Total Cleanup Contractor Costs	$25,000
Extramural Costs Contingency	5,000
TOTAL REMOVAL ACTION PROJECT CEILING	$30,000

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action may increase public health risks to the adjacent population due to disturbance and/or migration of the contaminated soil.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

Using the extramural cost calculation summarized above ($30,000), an estimate of the EPA's direct intramural costs ($10,000) and 27.52 percent as the regional indirect cost rate, the total estimated EPA costs for the removal would be:

($30,000 + $10,000) + (27.02 percent x $40,000) = $50,808.

The total cost for this removal action based on full-cost accounting practices that will be eligible for cost recovery is estimated to be $50,808.

Direct costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost-accounting methodology effective October 2, 2000. These estimates do not include prejudgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

See attached Confidential Enforcement Addendum for additional information.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Ellisville Site in Wildwood, Missouri, developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based on the administrative record for the Site.

Conditions at the Site meet the NCP section 300.415(b) criteria for a removal and I recommend your approval of the proposed removal action. The total project ceiling, if approved, will be $30,000. This amount comes from the regional removal allowance.

Karl Brooks

SEP 12 2012
Date

Attachments

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

AUG 31 2012

MEMORANDUM

SUBJECT: Request for Concurrence on Proposed Nationally Significant or Precedent-Setting Removal

FROM: Cecilia Tapia, Director
Superfund Division, EPA Region 7

TO: Lawrence M. Stanton, Director
Office of Emergency Management

The purpose of this Memorandum is to request your concurrence on the proposed removal action at the Ellisville Site in Wildwood, Missouri. Redelegation of Authority R-14-2 gives you the authority to concur on nationally significant or precedent-setting removals.

The On-Scene Coordinator has discussed this proposed removal with staff of the Office of Emergency Management's Program Operations and Coordination Division. POCD has advised the OSC that this removal is considered nationally significant or precedent-setting because it involves dioxin contamination.

The Action Memorandum is attached for your review. My approval awaits your concurrence.

Concur

Lawrence M. Stanton
Director, Office of Emergency Management

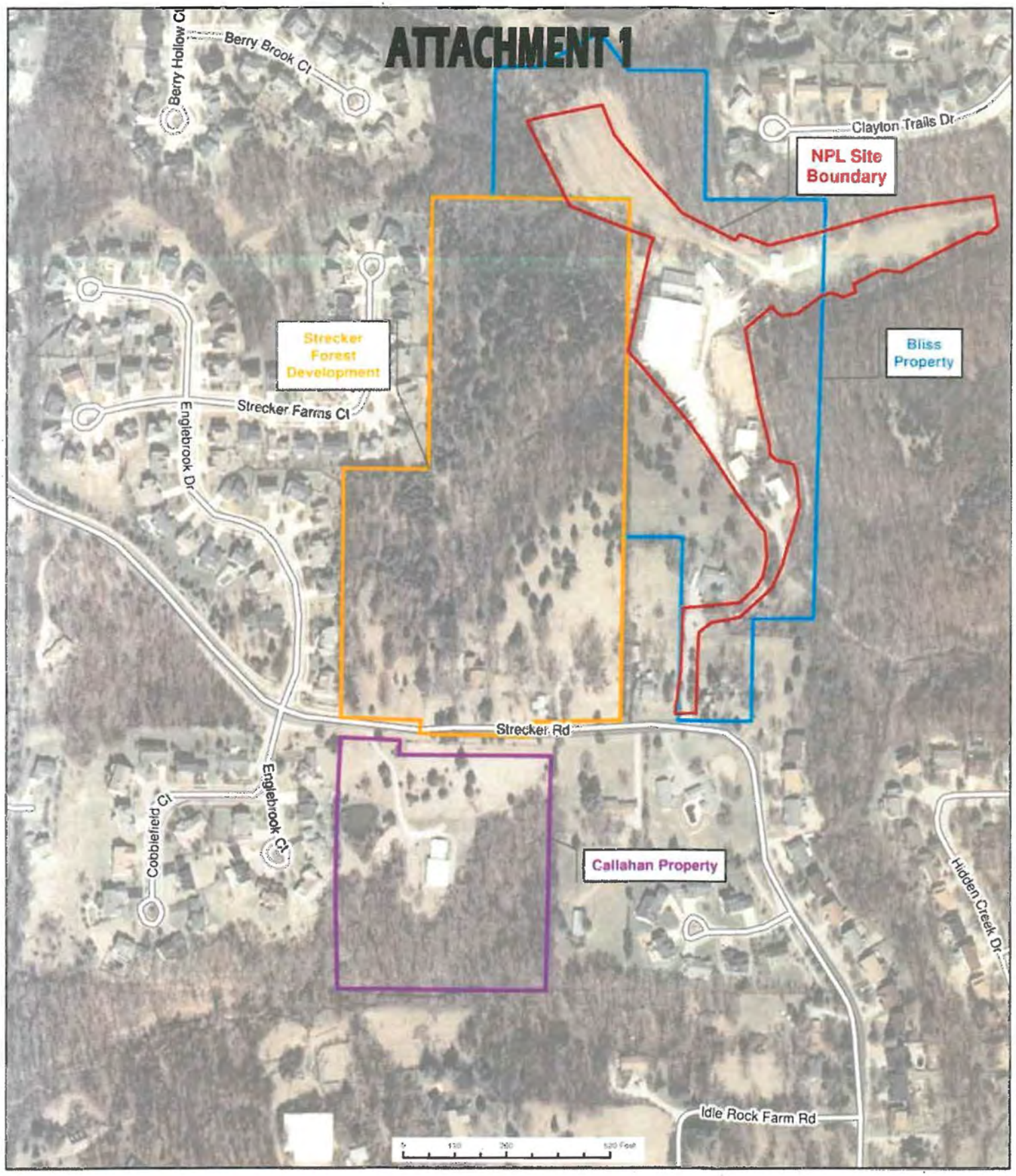
9/10/12
Date

According to the re-delegation, authority to non-concur remains with the Assistant Administrator. If you choose not to concur on this action, please forward this memorandum to the Assistant Administrator.

Non-Concur:

Mathy Stanislaus, Assistant Administrator
Office of Solid Waste and Emergency Response

Date


ATTACHMENT 1
Berry Hollow Ct
Berry Brook Ct
Clayton Trails Dr
NPL Site Boundary
Strecker Forest Development
Bliss Property
Strecker Farms Ct
Englebrook Dr
Strecker Rd
Englebrook Ct
Cobblefield Ct
Callahan Property
Hidden Creek Dr
Idle Rock Farm Rd

APPENDIX C

PHOTOGRAPHIC DOCUMENTATION

Missouri Dioxin Sites - Strecker Forest Preliminary Removal Activities
Wildwood, Missouri

TETRA TECH PROJECT NO. X9004.12.0293.001 DIRECTION: East	DESCRIPTION	This photograph shows the south perimeter of Sampling Unit (SU) 19D marked for excavation of soil impacted by elevated levels of dioxin-related compounds.	1
	CLIENT	Environmental Protection Agency - Region 7	DATE 7/12/12
	PHOTOGRAPHER	Dave Kinroth	

TETRA TECH PROJECT NO. X9004.12.0293.001 DIRECTION: Northeast	DESCRIPTION	This photograph shows a 20-cubic-yard roll-off box staged next to SU 19D to hold excavated soil and debris.	2
	CLIENT	Environmental Protection Agency - Region 7	DATE 7/12/12
	PHOTOGRAPHER	Dave Kinroth	

Missouri Dioxin Sites - Strecker Forest Preliminary Removal Activities
Wildwood, Missouri

TETRA TECH PROJECT NO. X9004.12.0293.001 DIRECTION: NA	DESCRIPTION	This photograph shows roofing shingles in SU 19D. The shingles were determined to be the likely source of dioxin-related contamination in soils in that area.	3
	CLIENT	Environmental Protection Agency - Region 7	DATE 7/12/12
	PHOTOGRAPHER	Dave Kinroth	

TETRA TECH PROJECT NO. X9004.12.0293.001 DIRECTION: East	DESCRIPTION	This photograph shows SU 19D after excavation of dioxin-contaminated soils, shingles, and other debris by the property owner.	4
	CLIENT	Environmental Protection Agency - Region 7	DATE 7/16/12
	PHOTOGRAPHER	Dave Kinroth	

Missouri Dioxin Sites - Strecker Forest Preliminary Removal Activities
Wildwood, Missouri

TETRA TECH PROJECT NO. X9004.12.0293.001 DIRECTION: West	DESCRIPTION	This photograph shows SU 19D after excavation of dioxin-contaminated soil, roofing shingles, and other debris.	5
	CLIENT	Environmental Protection Agency - Region 7	DATE 7/16/12
	PHOTOGRAPHER	Dave Kinroth	

TETRA TECH PROJECT NO. X9004.12.0293.001 DIRECTION: West	DESCRIPTION	This photograph shows the roll-off box containing excavated soil, shingles, and other debris from SU 19D.	6
	CLIENT	Environmental Protection Agency - Region 7	DATE 7/16/12
	PHOTOGRAPHER	Dave Kinroth	

Missouri Dioxin Sites - Strecker Forest Preliminary Removal Activities
Wildwood, Missouri

TETRA TECH PROJECT NO. X9004.12.0293.001 DIRECTION: Northwest	DESCRIPTION	This photograph shows installation of a perimeter fence around dioxin-contaminated soil near the northeast corner of the Strecker Forest property.	7
	CLIENT	Environmental Protection Agency - Region 7	DATE 10/25/12
	PHOTOGRAPHER	Dave Kinroth	

TETRA TECH PROJECT NO. X9004.12.0293.001 DIRECTION: West	DESCRIPTION	This photograph shows the perimeter fence installed at the northeast corner of the Strecker Forest property and on the adjacent Bliss-Ellisville site.	8
	CLIENT	Environmental Protection Agency - Region 7	DATE 10/30/12
	PHOTOGRAPHER	Dave Kinroth	

Missouri Dioxin Sites - Strecker Forest Preliminary Removal Activities
Wildwood, Missouri

TETRA TECH PROJECT NO. X9004.12.0293.001 DIRECTION: East	DESCRIPTION	This photograph shows the northwest corner of the fence on the Strecker Forest property.	9
	CLIENT	Environmental Protection Agency - Region 7	DATE 10/30/12
	PHOTOGRAPHER	Dave Kinroth	

TETRA TECH PROJECT NO. X9004.12.0293.001 DIRECTION: East	DESCRIPTION	This photograph shows the south portion of the perimeter fence on the Strecker Forest property.	10
	CLIENT	Environmental Protection Agency - Region 7	DATE 10/30/12
	PHOTOGRAPHER	Dave Kinroth	

Missouri Dioxin Sites - Strecker Forest Preliminary Removal Activities
Wildwood, Missouri

TETRA TECH PROJECT NO. X9004.12.0293.001 DIRECTION: Northeast	DESCRIPTION	This photograph shows a gate constructed on the southwest corner of the perimeter fence on the Strecker Forest property.	11
	CLIENT	Environmental Protection Agency - Region 7	DATE 10/30/12
	PHOTOGRAPHER	Dave Kinroth	

TETRA TECH PROJECT NO. X9004.12.0293.001 DIRECTION: Northeast	DESCRIPTION	This photograph shows the southeast corner of the perimeter fence on the Strecker Forest property.	12
	CLIENT	Environmental Protection Agency - Region 7	DATE 10/30/12
	PHOTOGRAPHER	Dave Kinroth	

APPENDIX D

POST-EXCAVATION SAMPLING DOCUMENTATION AND RESULTS

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: Strecker Forest Development Site
City/State: Wildwood, MO
Superfund Site No:
Site Code: NA

Epa Number: SFPR-001
Contract Number:
Priority: High
Medium: Soil

Clean-up Area: SU19D
Layer: 1st Lift 4" to 2.5' removed
Date Collected: 7-16-12
TIME: 1430
Team Leader:
Samplers: Kinath
Sample Depth: 0-2 in.
No. Of Aliquots: 9

COMMENTS:
Sample unit 19D post excavation after removal of dioxin TEQ soils + waste shingles greater than 75 ppt to nearly 600ppt TEQ

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
4oz jar	4°C Ice	1613B dioxins/furans

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: Strecker Forest Development Site
City/State: Wildwood MO
Superfund Site No:
Site Code: NA

Epa Number: SFPR-002
Contract Number:
Priority: High
Medium: Soil + demolition debris (roofing shingles)

Clean-up Area
Layer NA
Date Collected: 7-16-12
TIME: 1455

Team Leader:

Samplers: Dave Kincaid

Sample Depth: NA in.

No. Of Aliquots: 9

COMMENTS:

20 Cubic yard rolloff box of co-mingled soil & roofing shingles demolition debris
- sampled according to EPA ERT SOP for waste pile sampling using representative protocol

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
32 oz. wide mouth glass jar + 4oz jar	4°C ICE	Code R List Attached + 1613B dioxins/ furans with

CODE R

Standard analytical required at all our landfills with the exceptions shown below

State of Illinois Permit

pH
Paint Filter (Free Liquids)
Reactive Cyanide
Reactive Sulfide
Total Phenolics
Flash Point (Open Cup)
PCB's (if suspect or unknown)
F-Code Solvent Scan (if suspect or unknown)
TOX (required only for Five Oaks, Milam, Tazewell, and Cottonwood Hills for liquids for solidification)

TCLP Organics

Benzene
Carbon Tetrachloride
Chlorobenzene
Chloroform
o-Cresol
m-Cresol
p-Cresol
1,4-Dichlorobenzene
1,2-Dichlorethane
1,1-Dichloroethene
2,4-Dinitrotoluene
Hexachlorobenzene
Hexachloro-1,3 butadiene
Hexachloroethane
Methyl Ethyl Ketone
Nitrobenzene
Pentachlorophenol
Pyridine
Tetrachloroethylene
Trichloroethylene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
Vinyl Chloride

TCLP Metals

Arsenic
Barium
Cadmium
Chromium
Lead
Mercury
Selenium
Silver

EXCEPTIONS

Not required for UST petroleum fuel product contamination. What is required for UST petroleum fuel product contamination is pH, paint filter, flash point, and TCLP lead. Not required for wood material contaminated with creosol. For creosol contamination, if the waste is over 10 years old and is weathered, no analytical is required. If less than 10 years and/or not weathered, TCLP Arsenic, TCLP Creosol, and TCLP Pentachlorophenol are required.

CFA | Cape Fear Analytical LLC
an affiliate of The GEL Group INC

3306 Kitty Hawk Road, Suite 120 Wilmington, NC 28405
P 910.795.0421
www.capefearanalytical.com

July 19, 2012

Mr. David Kinroth
Seagull Environmental Technologies, Incorporated
20 James Town Farm Drive
Florissant, Missouri 63034

Re: Strecker Forest Development 1613B
Work Order: 3782

Dear Mr. Kinroth:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 17, 2012. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421.

Sincerely,

Cynthia Larkins
Project Manager

Purchase Order: 1084802
Enclosures

TetraTech PO 1084802

(1 week turnaround requested)

CFA WO# 37892

TetraTech Internal TO X9864.12.0298.000

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Jim Silver Dave Kinroth	Strecker Forest	16 / 7 / 12	1 of 1

CONTENTS OF SHIPMENT: Post Removal Sampling

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	4oz BOTTLE	Collection Date (BOTTLE)	Collection Time (BOTTLE)	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other: Debris	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
SFPR-001		X1	7/16/12	1430			X				Full Jars of soil
SFPR-002		↓	7/16/12	1455			X			X	Analyze ~15g by 1613B

Collection dates and times on COC taken from sample labels at CFA. CSL 17JUL12

Dave Kinroth 7-16-12

DESCRIPTION OF SHIPMENT

2 PIECE(S) CONSISTING OF ____ BOX(ES)

1 ICE CHEST(S); OTHER ____

MODE OF SHIPMENT

X COMMERCIAL CARRIER: FedEx

____ COURIER

____ SAMPLER CONVEYED

8750 8908 6353 (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Dave Kinroth X SEALED ☐ UNSEALED	7-16-12	16:50	Cynde Larkins 17JUL12 0951 X SEALED ☐ UNSEALED	Transport to Lab for Analysis
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 2/88)

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: TETR	Work Order: ~~3781~~ 3782 (16JUL12)
Received By: Cynde Larkins	Date/Time Received: 17JUL12 0951

Suspected Hazard Information	Yes	NA	No
Shipped as DOT Hazardous?		✓	
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other(describe)
2	Chain of Custody documents included with shipment?	✓			
3	Samples requiring cold preservation within 0-6°C?	✓			Preservation Method: (ice bags) blue ice dry ice none other (describe) 4.2°C
4	Samples requiring chemical preservation at proper pH?		✓		Sample IDs, containers affected and pH observed: If preservative added, Lot#:
5	Samples requiring preservation have no residual chlorine?		✓		Sample IDs, containers affected: If preservative added, Lot#:
6	Samples received within holding time?	✓			Sample IDs, tests affected:
7	Sample IDs on COC match IDs on containers?	✓			Sample IDs, containers affected:
8	Date & time of COC match date & time on containers?	✓			Sample IDs, containers affected:
9	Number of containers received match number indicated on COC?	✓			Sample IDs, containers affected:
10	COC form is properly signed in relinquished/received sections?	✓			

Comments:

Checklist performed by: Initials: CL Date: 17JUL12

High Resolution Dioxin and Furan Analysis

Case Narrative

HDOX Case Narrative
Tetra Tech EM Incorporated (TETR)
SDG 3782

Method/Analysis Information

Product:	**Dioxins/Furans by EPA Method 1613B in Solids**
Analytical Method:	EPA Method 1613B
Extraction Method:	SW846 3540C
Analytical Batch Number:	21574
Clean Up Batch Number:	21573
Extraction Batch Number:	21572

Sample Analysis

The following samples were analyzed using the analytical protocol as established in EPA Method 1613B:

Sample ID	Client ID
3782001	SFPR-001
3782002	SFPR-002
12006427	Method Blank (MB)
12006428	Laboratory Control Sample (LCS)
12006429	Laboratory Control Sample Duplicate (LCSD)
12006430	3782001(SFPR-001) Matrix Spike (MS)
12006431	3782001(SFPR-001) Matrix Spike Duplicate (MSD)
12006437	3778001(129178-13-0657) Sample Duplicate (DUP)

The samples in this SDG were analyzed on a "dry weight" basis.

Preparation/Analytical Method Verification

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-002 REV# 9.

Raw data reports are processed and reviewed by the analyst using the TargetLynx software package.

Calibration Information

Initial Calibration

All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement
The test results presented in this document are certified to meet all requirements of the 2003 NELAC Standard.

Method Blank (MB) Statement
The MB(s) analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries
All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery
The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement
The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation
Sample 3782001 (SFPR-001)- Batch 21574 was selected for analysis as the matrix spike and matrix spike duplicate.

Matrix Spike/Duplicate (MS/MSD) Recovery Statement
Two MS/MSD recoveries were outside the acceptance limits. Sample data is validated based on acceptable LCS/LCSD results. 12006430 (SFPR-001) and 12006431 (SFPR-001)- Batch 21574.

MS/MSD Relative Percent Difference (RPD) Statement
The RPD(s) between the MS and MSD met the acceptance limits.

Technical Information

Holding Time Specifications
CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification

All procedures were performed as stated in the SOP.

Sample Dilutions
Sample 3782002 (SFPR-002) was diluted due to the presence of overrange target analytes.

Sample Re-extraction/Re-analysis
Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Nonconformance (NCR) Documentation
A NCR was not required for this SDG.

Manual Integrations
Certain standards and QC samples required manual integrations to correctly position the baseline as set in the calibration standard injections. Where manual integrations were performed, copies of all manual integration peak profiles are included in the raw data section of this fraction. Manual integrations were required for data files in this SDG.

Sample preparation
No difficulties were encountered during sample preparation.

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Sample Data Summary

Cape Fear Analytical, LLC
3306 Kitty Hawk Road Suite 120, Wilmington, NC 28405 - (910) 795-0421 - www.capefearanalytical.com

Certificate of Analysis Report
for

TETR001 Tetra Tech EM Incorporated

Client SDG: 3782 CFA Work Order: 3782

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
E Value is estimated - Concentration of the target analyte exceeds the instrument calibration range
J Value is estimated
U Analyte was analyzed for , but not detected above the specified detection limit.

Review/Validation

Cape Fear Analytical requires all analytical data to be verified by a qualified data reviewer.

The following data validator verified the information presented in this case narrative:

Signature:  **Name: Heather Patterson**

Date: 19 JUL 2012 **Title: Analyst III**

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**3782**	**Client:**	**TETR001**	**Project:**	**TETR00111**
Lab Sample ID:	**3782001**	**Date Collected:**	**07/16/2012 14:30**	**Matrix:**	**SOLID**
Client Sample:	**1613B Soil**	**Date Received:**	**07/17/2012 09:51**	**%Moisture:**	**8.5**
Client ID:	**SFPR-001**			**Prep Basis:**	**Dry Weight**
Batch ID:	**21574**	**Method:**	**EPA Method 1613B**		
Run Date:	**07/19/2012 02:56**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A17JUL12A_6-4**			**Dilution:**	**1**
Prep Batch:	**21572**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**17-JUL-12**	**Aliquot:**	**11.46 g**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	J	0.540	pg/g	0.149	0.953
40321-76-4	1,2,3,7,8-PeCDD	J	0.637	pg/g	0.151	4.77
39227-28-6	1,2,3,4,7,8-HxCDD	J	1.85	pg/g	0.427	4.77
57653-85-7	1,2,3,6,7,8-HxCDD		5.19	pg/g	0.419	4.77
19408-74-3	1,2,3,7,8,9-HxCDD	J	3.51	pg/g	0.437	4.77
35822-46-9	1,2,3,4,6,7,8-HpCDD		447	pg/g	2.27	4.77
3268-87-9	1,2,3,4,6,7,8,9-OCDD	E	7450	pg/g	2.12	9.53
51207-31-9	2,3,7,8-TCDF		1.03	pg/g	0.208	0.953
57117-41-6	1,2,3,7,8-PeCDF	J	0.623	pg/g	0.177	4.77
57117-31-4	2,3,4,7,8-PeCDF	J	0.541	pg/g	0.185	4.77
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.843	pg/g	0.250	4.77
57117-44-9	1,2,3,6,7,8-HxCDF	J	0.578	pg/g	0.244	4.77
60851-34-5	2,3,4,6,7,8-HxCDF	J	1.29	pg/g	0.288	4.77
72918-21-9	1,2,3,7,8,9-HxCDF	U	.313	pg/g	0.313	4.77
67562-39-4	1,2,3,4,6,7,8-HpCDF		34.9	pg/g	0.343	4.77
55673-89-7	1,2,3,4,7,8,9-HpCDF	J	1.55	pg/g	0.681	4.77
39001-02-0	1,2,3,4,6,7,8,9-OCDF		180	pg/g	0.419	9.53

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		127	191	pg/g	66.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		122	191	pg/g	64.1	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		119	191	pg/g	62.3	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		121	191	pg/g	63.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		119	191	pg/g	62.2	(23%-140%)
13C-OCDD		262	381	pg/g	68.6	(17%-157%)
13C-2,3,7,8-TCDF		121	191	pg/g	63.3	(24%-169%)
13C-1,2,3,7,8-PeCDF		125	191	pg/g	65.4	(24%-185%)
13C-2,3,4,7,8-PeCDF		127	191	pg/g	66.6	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		120	191	pg/g	62.8	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		119	191	pg/g	62.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		108	191	pg/g	56.6	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		130	191	pg/g	68.3	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		126	191	pg/g	66.2	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF		111	191	pg/g	58.1	(26%-138%)
37Cl-2,3,7,8-TCDD		16.0	19.1	pg/g	83.7	(35%-197%)

Comments:

E **Value is estimated - Concentration of the target analyte exceeds the instrument calibration range**

J **Value is estimated**

U **Analyte was analyzed for , but not detected above the specified detection limit.**

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**3782**	**Client:**	**TETR001**	**Project:**	**TETR00111**
Lab Sample ID:	**3782001**	**Date Collected:**	**07/16/2012 14:30**	**Matrix:**	**SOLID**
Client Sample:	**1613B Soil**	**Date Received:**	**07/17/2012 09:51**	**%Moisture:**	**8.5**
Client ID:	**SFPR-001**			**Prep Basis:**	**Dry Weight**
Batch ID:	**21574**	**Method:**	**EPA Method 1613B**		
Run Date:	**07/19/2012 09:32**	**Analyst:**	**MJC**	**Instrument:**	**HRP763**
Data File:	**b19jul12a-4**			**Dilution:**	**1**
Prep Batch:	**21572**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**17-JUL-12**	**Aliquot:**	**11.46 g**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
51207-31-9	2,3,7,8-TCDF		1.04	pg/g	0.307	0.953

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits

Comments:

E **Value is estimated - Concentration of the target analyte exceeds the instrument calibration range**

J **Value is estimated**

U **Analyte was analyzed for , but not detected above the specified detection limit.**

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**3782**	**Client:**	**TETR001**	**Project:**	**TETR00111**
Lab Sample ID:	**3782002**	**Date Collected:**	**07/16/2012 14:55**	**Matrix:**	**SOLID**
Client Sample:	**1613B Soil**	**Date Received:**	**07/17/2012 09:51**	**%Moisture:**	**9.2**
Client ID:	**SFPR-002**			**Prep Basis:**	**Dry Weight**
Batch ID:	**21574**	**Method:**	**EPA Method 1613B**		
Run Date:	**07/19/2012 09:11**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A17JUL12A_6-12**			**Dilution:**	**20**
Prep Batch:	**21572**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**17-JUL-12**	**Aliquot:**	**11.42 g**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	2.01	pg/g	2.01	19.3
40321-76-4	1,2,3,7,8-PeCDD	U	1.63	pg/g	1.63	96.5
39227-28-6	1,2,3,4,7,8-HxCDD	J	16.4	pg/g	4.75	96.5
57653-85-7	1,2,3,6,7,8-HxCDD		140	pg/g	4.98	96.5
19408-74-3	1,2,3,7,8,9-HxCDD	J	51.6	pg/g	5.04	96.5
35822-46-9	1,2,3,4,6,7,8-HpCDD		17200	pg/g	23.0	96.5
3268-87-9	1,2,3,4,6,7,8,9-OCDD	E	171000	pg/g	33.2	193
51207-31-9	2,3,7,8-TCDF	U	1.63	pg/g	1.63	19.3
57117-41-6	1,2,3,7,8-PeCDF	U	1.33	pg/g	1.33	96.5
57117-31-4	2,3,4,7,8-PeCDF	U	1.36	pg/g	1.36	96.5
70648-26-9	1,2,3,4,7,8-HxCDF	J	7.19	pg/g	2.91	96.5
57117-44-9	1,2,3,6,7,8-HxCDF	J	3.18	pg/g	3.01	96.5
60851-34-5	2,3,4,6,7,8-HxCDF	J	22.4	pg/g	3.38	96.5
72918-21-9	1,2,3,7,8,9-HxCDF	J	4.44	pg/g	4.19	96.5
67562-39-4	1,2,3,4,6,7,8-HpCDF		1110	pg/g	5.48	96.5
55673-89-7	1,2,3,4,7,8,9-HpCDF	J	40.0	pg/g	8.55	96.5
39001-02-0	1,2,3,4,6,7,8,9-OCDF		8100	pg/g	9.90	193

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		169	193	pg/g	87.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		208	193	pg/g	108	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		170	193	pg/g	88.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		170	193	pg/g	88.3	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		188	193	pg/g	97.6	(23%-140%)
13C-OCDD		383	386	pg/g	99.3	(17%-157%)
13C-2,3,7,8-TCDF		164	193	pg/g	85.0	(24%-169%)
13C-1,2,3,7,8-PeCDF		183	193	pg/g	94.7	(24%-185%)
13C-2,3,4,7,8-PeCDF		199	193	pg/g	103	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		177	193	pg/g	91.8	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		169	193	pg/g	87.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		151	193	pg/g	78.5	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		179	193	pg/g	93.0	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		174	193	pg/g	90.3	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF		179	193	pg/g	92.7	(26%-138%)
37Cl-2,3,7,8-TCDD		16.4	19.3	pg/g	85.2	(35%-197%)

Comments:

E Value is estimated - Concentration of the target analyte exceeds the instrument calibration range

J Value is estimated

U Analyte was analyzed for , but not detected above the specified detection limit.

Quality Control Summary

Hi-Res Dioxins/Furans

Surrogate Recovery Report

SDG Number: 3782

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12006428	LCS for batch 21572	13C-2,3,7,8-TCDD		88.2	(20%-175%)
		13C-1,2,3,7,8-PeCDD		86.2	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		83.6	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		92.3	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		87.5	(22%-166%)
		13C-OCDD		81.7	(13%-199%)
		13C-2,3,7,8-TCDF		85.3	(22%-152%)
		13C-1,2,3,7,8-PeCDF		86.0	(21%-192%)
		13C-2,3,4,7,8-PeCDF		87.8	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		86.0	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		89.2	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		80.6	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		90.0	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		84.4	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		83.8	(20%-186%)
		37Cl-2,3,7,8-TCDD		83.9	(31%-191%)
12006429	LCSD for batch 21572	13C-2,3,7,8-TCDD		88.7	(20%-175%)
		13C-1,2,3,7,8-PeCDD		86.7	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		79.3	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		86.9	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		80.3	(22%-166%)
		13C-OCDD		80.3	(13%-199%)
		13C-2,3,7,8-TCDF		85.7	(22%-152%)
		13C-1,2,3,7,8-PeCDF		87.7	(21%-192%)
		13C-2,3,4,7,8-PeCDF		88.8	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		79.8	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		84.2	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		73.0	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		84.5	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		77.4	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		76.9	(20%-186%)
		37Cl-2,3,7,8-TCDD		87.9	(31%-191%)
12006427	MB for batch 21572	13C-2,3,7,8-TCDD		88.4	(25%-164%)
		13C-1,2,3,7,8-PeCDD		89.2	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		80.3	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		89.9	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		82.9	(23%-140%)
		13C-OCDD		78.0	(17%-157%)
		13C-2,3,7,8-TCDF		86.4	(24%-169%)
		13C-1,2,3,7,8-PeCDF		86.1	(24%-185%)
		13C-2,3,4,7,8-PeCDF		87.8	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		84.1	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		88.0	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		77.6	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		85.9	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		77.6	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		78.6	(26%-138%)
		37Cl-2,3,7,8-TCDD		89.3	(35%-197%)
3782001	SFPR-001	13C-2,3,7,8-TCDD		66.5	(25%-164%)

Surrogate Recovery Report

SDG Number: 3782

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
3782001	SFPR-001	13C-1,2,3,7,8-PeCDD		64.1	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		62.3	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		63.6	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		62.2	(23%-140%)
		13C-OCDD		68.6	(17%-157%)
		13C-2,3,7,8-TCDF		63.3	(24%-169%)
		13C-1,2,3,7,8-PeCDF		65.4	(24%-185%)
		13C-2,3,4,7,8-PeCDF		66.6	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		62.8	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		62.6	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		56.6	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		68.3	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		66.2	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		58.1	(26%-138%)
		37Cl-2,3,7,8-TCDD		83.7	(35%-197%)
12006430	SFPR-001(3782001MS)	13C-2,3,7,8-TCDD		92.1	(25%-164%)
		13C-1,2,3,7,8-PeCDD		90.7	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		89.6	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		88.0	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		86.7	(23%-140%)
		13C-OCDD		101	(17%-157%)
		13C-2,3,7,8-TCDF		88.3	(24%-169%)
		13C-1,2,3,7,8-PeCDF		92.9	(24%-185%)
		13C-2,3,4,7,8-PeCDF		92.8	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		87.3	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		87.5	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		79.9	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		96.4	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		93.2	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		84.3	(26%-138%)
		37Cl-2,3,7,8-TCDD		92.0	(35%-197%)
12006431	SFPR-001(3782001MSD)	13C-2,3,7,8-TCDD		82.9	(25%-164%)
		13C-1,2,3,7,8-PeCDD		81.8	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		81.2	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		84.0	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		82.7	(23%-140%)
		13C-OCDD		96.4	(17%-157%)
		13C-2,3,7,8-TCDF		80.5	(24%-169%)
		13C-1,2,3,7,8-PeCDF		83.3	(24%-185%)
		13C-2,3,4,7,8-PeCDF		82.9	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		84.4	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		83.5	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		74.5	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		88.8	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		87.9	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		78.3	(26%-138%)
		37Cl-2,3,7,8-TCDD		85.4	(35%-197%)
3782002	SFPR-002	13C-2,3,7,8-TCDD	D	87.5	(25%-164%)
		13C-1,2,3,7,8-PeCDD	D	108	(25%-181%)

Hi-Res Dioxins/Furans

Surrogate Recovery Report

SDG Number: 3782

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)		Acceptance Limits
3782002	SFPR-002	13C-1,2,3,4,7,8-HxCDD		88.1	D	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		88.3	D	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		97.6	D	(23%-140%)
		13C-OCDD		99.3	D	(17%-157%)
		13C-2,3,7,8-TCDF		85.0	D	(24%-169%)
		13C-1,2,3,7,8-PeCDF		94.7	D	(24%-185%)
		13C-2,3,4,7,8-PeCDF		103	D	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		91.8	D	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		87.6	D	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		78.5	D	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		93.0	D	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		90.3	D	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		92.7	D	(26%-138%)
		37Cl-2,3,7,8-TCDD		85.2	D	(35%-197%)

* Recovery outside Acceptance Limits
# Column to be used to flag recovery values
D Sample Diluted

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: 3782 **Sample Type:** Laboratory Control Sample

Client ID: LCS for batch 21572 **Matrix:** SOLID

Lab Sample ID: 12006428

Instrument: HRP750 **Analysis Date:** 07/19/2012 00:36 **Dilution:** 1

Analyst: MJC **Prep Batch ID:** 21572

Batch ID: 21574

CAS No.		Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits
1746-01-6	LCS	2,3,7,8-TCDD	20.0	20.5	103	67-158
40321-76-4	LCS	1,2,3,7,8-PeCDD	100	108	108	70-142
39227-28-6	LCS	1,2,3,4,7,8-HxCDD	100	112	112	70-164
57653-85-7	LCS	1,2,3,6,7,8-HxCDD	100	106	106	76-134
19408-74-3	LCS	1,2,3,7,8,9-HxCDD	100	114	114	64-162
35822-46-9	LCS	1,2,3,4,6,7,8-HpCDD	100	105	105	70-140
3268-87-9	LCS	1,2,3,4,6,7,8,9-OCDD	200	205	102	78-144
51207-31-9	LCS	2,3,7,8-TCDF	20.0	21.6	108	75-158
57117-41-6	LCS	1,2,3,7,8-PeCDF	100	107	107	80-134
57117-31-4	LCS	2,3,4,7,8-PeCDF	100	108	108	68-160
70648-26-9	LCS	1,2,3,4,7,8-HxCDF	100	106	106	72-134
57117-44-9	LCS	1,2,3,6,7,8-HxCDF	100	108	108	84-130
60851-34-5	LCS	2,3,4,6,7,8-HxCDF	100	115	115	70-156
72918-21-9	LCS	1,2,3,7,8,9-HxCDF	100	108	108	78-130
67562-39-4	LCS	1,2,3,4,6,7,8-HpCDF	100	109	109	82-122
55673-89-7	LCS	1,2,3,4,7,8,9-HpCDF	100	109	109	78-138
39001-02-0	LCS	1,2,3,4,6,7,8,9-OCDF	200	203	102	63-170

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: 3782 **Sample Type:** Laboratory Control Sample Duplicate

Client ID: LCSD for batch 21572 **Matrix:** SOLID

Lab Sample ID: 12006429

Instrument: HRP750 **Analysis Date:** 07/19/2012 01:22 **Dilution:** 1

Analyst: MJC **Prep Batch ID:** 21572

Batch ID: 21574

CAS No.		Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	LCSD	2,3,7,8-TCDD	20.0	21.3	107	67-158	3.72	0-20
40321-76-4	LCSD	1,2,3,7,8-PeCDD	100	111	111	70-142	2.32	0-20
39227-28-6	LCSD	1,2,3,4,7,8-HxCDD	100	114	114	70-164	1.97	0-20
57653-85-7	LCSD	1,2,3,6,7,8-HxCDD	100	106	106	76-134	0.00944	0-20
19408-74-3	LCSD	1,2,3,7,8,9-HxCDD	100	111	111	64-162	2.58	0-20
35822-46-9	LCSD	1,2,3,4,6,7,8-HpCDD	100	110	110	70-140	4.28	0-20
3268-87-9	LCSD	1,2,3,4,6,7,8,9-OCDD	200	212	106	78-144	3.34	0-20
51207-31-9	LCSD	2,3,7,8-TCDF	20.0	22.6	113	75-158	4.45	0-20
57117-41-6	LCSD	1,2,3,7,8-PeCDF	100	111	111	80-134	3.36	0-20
57117-31-4	LCSD	2,3,4,7,8-PeCDF	100	110	110	68-160	1.87	0-20
70648-26-9	LCSD	1,2,3,4,7,8-HxCDF	100	111	111	72-134	4.88	0-20
57117-44-9	LCSD	1,2,3,6,7,8-HxCDF	100	111	111	84-130	2.82	0-20
60851-34-5	LCSD	2,3,4,6,7,8-HxCDF	100	121	121	70-156	5.29	0-20
72918-21-9	LCSD	1,2,3,7,8,9-HxCDF	100	108	108	78-130	0.137	0-20
67562-39-4	LCSD	1,2,3,4,6,7,8-HpCDF	100	114	114	82-122	4.90	0-20
55673-89-7	LCSD	1,2,3,4,7,8,9-HpCDF	100	112	112	78-138	2.72	0-20
39001-02-0	LCSD	1,2,3,4,6,7,8,9-OCDF	200	208	104	63-170	2.61	0-20

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: 3782
Client ID: SFPR-001(3782001MS)
Lab Sample ID: 12006430
Instrument: HRP750
Analyst: MJC

Sample Type: Matrix Spike
Matrix: SOLID
%Moisture: 8.5
Analysis Date: 07/19/2012 03:42
Prep Batch ID: 21572
Batch ID: 21574

Dilution: 1

CAS No.		Parmname	Amount Added pg/g		Spike Conc. pg/g	Recovery %	Acceptance Limits
1746-01-6	MS	2,3,7,8-TCDD	19.2	J	20.1	102	70-130
40321-76-4	MS	1,2,3,7,8-PeCDD	96.0	J	106	110	70-130
39227-28-6	MS	1,2,3,4,7,8-HxCDD	96.0	J	105	107	70-130
57653-85-7	MS	1,2,3,6,7,8-HxCDD	96.0		105	104	70-130
19408-74-3	MS	1,2,3,7,8,9-HxCDD	96.0	J	103	104	70-130
35822-46-9	MS	1,2,3,4,6,7,8-HpCDD	96.0		565	122	70-130
3268-87-9	MS	1,2,3,4,6,7,8,9-OCDD	192	E	7890	226 *	70-130
51207-31-9	MS	2,3,7,8-TCDF	19.2		21.4	106	70-130
57117-41-6	MS	1,2,3,7,8-PeCDF	96.0	J	104	108	70-130
57117-31-4	MS	2,3,4,7,8-PeCDF	96.0	J	102	106	70-130
70648-26-9	MS	1,2,3,4,7,8-HxCDF	96.0	J	102	105	70-130
57117-44-9	MS	1,2,3,6,7,8-HxCDF	96.0	J	105	108	70-130
60851-34-5	MS	2,3,4,6,7,8-HxCDF	96.0	J	110	113	70-130
72918-21-9	MS	1,2,3,7,8,9-HxCDF	96.0	U	101	105	70-130
67562-39-4	MS	1,2,3,4,6,7,8-HpCDF	96.0		136	106	70-130
55673-89-7	MS	1,2,3,4,7,8,9-HpCDF	96.0	J	106	109	70-130
39001-02-0	MS	1,2,3,4,6,7,8,9-OCDF	192		351	88.9	70-130

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: 3782
Client ID: SFPR-001(3782001MSD)
Lab Sample ID: 12006431
Instrument: HRP750
Analyst: MJC

Sample Type: Matrix Spike Duplicate
Matrix: SOLID
%Moisture: 8.5
Analysis Date: 07/19/2012 04:29
Dilution: 1
Prep Batch ID: 21572
Batch ID: 21574

CAS No.		Parmname	Amount Added pg/g		Spike Conc. pg/g	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	MSD	2,3,7,8-TCDD	19.1	J	20.3	103	70-130	0.992	0-20
40321-76-4	MSD	1,2,3,7,8-PeCDD	95.7	J	104	108	70-130	2.36	0-20
39227-28-6	MSD	1,2,3,4,7,8-HxCDD	95.7	J	107	110	70-130	2.32	0-20
57653-85-7	MSD	1,2,3,6,7,8-HxCDD	95.7		111	111	70-130	5.68	0-20
19408-74-3	MSD	1,2,3,7,8,9-HxCDD	95.7	J	109	110	70-130	5.17	0-20
35822-46-9	MSD	1,2,3,4,6,7,8-HpCDD	95.7		608	168 *	70-130	7.37	0-20
3268-87-9	MSD	1,2,3,4,6,7,8,9-OCDD	191	E	7990	279 *	70-130	1.26	0-20
51207-31-9	MSD	2,3,7,8-TCDF	19.1		21.1	105	70-130	1.15	0-20
57117-41-6	MSD	1,2,3,7,8-PeCDF	95.7	J	106	110	70-130	1.73	0-20
57117-31-4	MSD	2,3,4,7,8-PeCDF	95.7	J	104	109	70-130	2.04	0-20
70648-26-9	MSD	1,2,3,4,7,8-HxCDF	95.7	J	104	108	70-130	1.66	0-20
57117-44-9	MSD	1,2,3,6,7,8-HxCDF	95.7	J	105	109	70-130	0.703	0-20
60851-34-5	MSD	2,3,4,6,7,8-HxCDF	95.7	J	112	116	70-130	2.47	0-20
72918-21-9	MSD	1,2,3,7,8,9-HxCDF	95.7	U	103	108	70-130	2.18	0-20
67562-39-4	MSD	1,2,3,4,6,7,8-HpCDF	95.7		141	111	70-130	3.66	0-20
55673-89-7	MSD	1,2,3,4,7,8,9-HpCDF	95.7	J	107	110	70-130	0.929	0-20
39001-02-0	MSD	1,2,3,4,6,7,8,9-OCDF	191		372	100	70-130	5.86	0-20

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: 3782
Client ID: SFPR-001(3782001MS)
Lab Sample ID: 12006430
Instrument: HRP763
Analyst: MJC

Sample Type: Matrix Spike
Matrix: SOLID
%Moisture: 8.5
Analysis Date: 07/19/2012 09:52
Prep Batch ID: 21572
Batch ID: 21574

Dilution: 1

CAS No.		Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits
51207-31-9	MS	2,3,7,8-TCDF	19.2	19.5	95.9	70-130

Hi-Res Dioxins/Furans

Quality Control Summary
Spike Recovery Report

SDG Number: 3782
Client ID: SFPR-001(3782001MSD)
Lab Sample ID: 12006431
Instrument: HRP763
Analyst: MJC

Sample Type: Matrix Spike Duplicate
Matrix: SOLID
%Moisture: 8.5
Analysis Date: 07/19/2012 10:11
Dilution: 1
Prep Batch ID: 21572
Batch ID: 21574

CAS No.		Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
51207-31-9	MSD	2,3,7,8-TCDF	19.1	20.2	99.9	70-130	3.62	0-20

Method Blank Summary

SDG Number:	**3782**	**Client:**	**TETR001**	**Matrix:**	**SOLID**
Client ID:	**MB for batch 21572**	**Instrument ID:**	**HRP750**	**Data File:**	**A17JUL12A_6-3**
Lab Sample ID:	**12006427**	**Prep Date:**	**17-JUL-12**	**Analyzed:**	**07/19/12 02:09**
Column:					

This method blank applies to the following samples and quality control samples:

	Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01	LCS for batch 21572	12006428	A17JUL12A_6-1	07/19/12	0036
02	LCSD for batch 21572	12006429	A17JUL12A_6-2	07/19/12	0122
03	SFPR-001	3782001	A17JUL12A_6-4	07/19/12	0256
04	SFPR-001(3782001MS)	12006430	A17JUL12A_6-5	07/19/12	0342
05	SFPR-001(3782001MSD)	12006431	A17JUL12A_6-6	07/19/12	0429
06	SFPR-002	3782002	A17JUL12A_6-12	07/19/12	0911
07	SFPR-001	3782001	b19jul12a-4	07/19/12	0932
08	SFPR-001(3782001MS)	12006430	b19jul12a-5	07/19/12	0952
09	SFPR-001(3782001MSD)	12006431	b19jul12a-6	07/19/12	1011

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**3782**	**Client:**	**TETR001**	**Project:**	**TETR00111**
Lab Sample ID:	**12006427**			**Matrix:**	**SOLID**
Client Sample:	**QC for batch 21572**				
Client ID:	**MB for batch 21572**			**Prep Basis:**	**As Received**
Batch ID:	**21574**	**Method:**	**EPA Method 1613B**		
Run Date:	**07/19/2012 02:09**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A17JUL12A_6-3**			**Dilution:**	**1**
Prep Batch:	**21572**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**17-JUL-12**	**Aliquot:**	**10 g**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.0808	pg/g	0.0808	1.00
40321-76-4	1,2,3,7,8-PeCDD	J	0.088	pg/g	0.0682	5.00
39227-28-6	1,2,3,4,7,8-HxCDD	U	.124	pg/g	0.124	5.00
57653-85-7	1,2,3,6,7,8-HxCDD	U	.122	pg/g	0.122	5.00
19408-74-3	1,2,3,7,8,9-HxCDD	U	.127	pg/g	0.127	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.166	pg/g	0.157	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	0.818	pg/g	0.290	10.0
51207-31-9	2,3,7,8-TCDF	J	0.312	pg/g	0.0934	1.00
57117-41-6	1,2,3,7,8-PeCDF	U	.0608	pg/g	0.0608	5.00
57117-31-4	2,3,4,7,8-PeCDF	J	0.112	pg/g	0.060	5.00
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0694	pg/g	0.0694	5.00
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0664	pg/g	0.0664	5.00
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0812	pg/g	0.0812	5.00
72918-21-9	1,2,3,7,8,9-HxCDF	U	.0992	pg/g	0.0992	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0866	pg/g	0.0866	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.143	pg/g	0.143	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.149	pg/g	0.149	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		177	200	pg/g	88.4	(25%-164%)
13C-1,2,3,7,8-PeCDD		178	200	pg/g	89.2	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		161	200	pg/g	80.3	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		180	200	pg/g	89.9	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		166	200	pg/g	82.9	(23%-140%)
13C-OCDD		312	400	pg/g	78.0	(17%-157%)
13C-2,3,7,8-TCDF		173	200	pg/g	86.4	(24%-169%)
13C-1,2,3,7,8-PeCDF		172	200	pg/g	86.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		176	200	pg/g	87.8	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		168	200	pg/g	84.1	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		176	200	pg/g	88.0	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		155	200	pg/g	77.6	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		172	200	pg/g	85.9	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		155	200	pg/g	77.6	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF		157	200	pg/g	78.6	(26%-138%)
37Cl-2,3,7,8-TCDD		17.9	20.0	pg/g	89.3	(35%-197%)

Comments:

J Value is estimated

U Analyte was analyzed for , but not detected above the specified detection limit.

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**3782**	**Client:**	**TETR001**	**Project:**	**TETR00111**
Lab Sample ID:	**12006428**			**Matrix:**	**SOLID**
Client Sample:	**QC for batch 21572**				
Client ID:	**LCS for batch 21572**			**Prep Basis:**	**As Received**
Batch ID:	**21574**	**Method:**	**EPA Method 1613B**		
Run Date:	**07/19/2012 00:36**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A17JUL12A_6-1**			**Dilution:**	**1**
Prep Batch:	**21572**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**17-JUL-12**	**Aliquot:**	**10 g**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		20.5	pg/g	0.120	1.00
40321-76-4	1,2,3,7,8-PeCDD		108	pg/g	0.171	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		112	pg/g	0.366	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		106	pg/g	0.344	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		114	pg/g	0.366	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		105	pg/g	0.482	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		205	pg/g	0.970	10.0
51207-31-9	2,3,7,8-TCDF		21.6	pg/g	0.133	1.00
57117-41-6	1,2,3,7,8-PeCDF		107	pg/g	0.153	5.00
57117-31-4	2,3,4,7,8-PeCDF		108	pg/g	0.151	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		106	pg/g	0.432	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		108	pg/g	0.428	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		115	pg/g	0.494	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		108	pg/g	0.620	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		109	pg/g	0.404	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		109	pg/g	0.672	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		203	pg/g	0.676	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		176	200	pg/g	88.2	(20%-175%)
13C-1,2,3,7,8-PeCDD		172	200	pg/g	86.2	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		167	200	pg/g	83.6	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		185	200	pg/g	92.3	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		175	200	pg/g	87.5	(22%-166%)
13C-OCDD		327	400	pg/g	81.7	(13%-199%)
13C-2,3,7,8-TCDF		171	200	pg/g	85.3	(22%-152%)
13C-1,2,3,7,8-PeCDF		172	200	pg/g	86.0	(21%-192%)
13C-2,3,4,7,8-PeCDF		176	200	pg/g	87.8	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		172	200	pg/g	86.0	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		178	200	pg/g	89.2	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		161	200	pg/g	80.6	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		180	200	pg/g	90.0	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		169	200	pg/g	84.4	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		168	200	pg/g	83.8	(20%-186%)
37Cl-2,3,7,8-TCDD		16.8	20.0	pg/g	83.9	(31%-191%)

Comments:

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**3782**	**Client:**	**TETR001**	**Project:**	**TETR00111**
Lab Sample ID:	**12006429**			**Matrix:**	**SOLID**
Client Sample:	**QC for batch 21572**				
Client ID:	**LCSD for batch 21572**			**Prep Basis:**	**As Received**
Batch ID:	**21574**	**Method:**	**EPA Method 1613B**		
Run Date:	**07/19/2012 01:22**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A17JUL12A_6-2**			**Dilution:**	**1**
Prep Batch:	**21572**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**17-JUL-12**	**Aliquot:**	**10 g**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		21.3	pg/g	0.134	1.00
40321-76-4	1,2,3,7,8-PeCDD		111	pg/g	0.134	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		114	pg/g	0.452	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		106	pg/g	0.430	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		111	pg/g	0.454	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		110	pg/g	0.514	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		212	pg/g	0.802	10.0
51207-31-9	2,3,7,8-TCDF		22.6	pg/g	0.155	1.00
57117-41-6	1,2,3,7,8-PeCDF		111	pg/g	0.180	5.00
57117-31-4	2,3,4,7,8-PeCDF		110	pg/g	0.195	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		111	pg/g	0.402	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		111	pg/g	0.384	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		121	pg/g	0.482	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		108	pg/g	0.578	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		114	pg/g	0.424	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		112	pg/g	0.690	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		208	pg/g	0.500	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		177	200	pg/g	88.7	(20%-175%)
13C-1,2,3,7,8-PeCDD		173	200	pg/g	86.7	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		159	200	pg/g	79.3	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		174	200	pg/g	86.9	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		161	200	pg/g	80.3	(22%-166%)
13C-OCDD		321	400	pg/g	80.3	(13%-199%)
13C-2,3,7,8-TCDF		171	200	pg/g	85.7	(22%-152%)
13C-1,2,3,7,8-PeCDF		175	200	pg/g	87.7	(21%-192%)
13C-2,3,4,7,8-PeCDF		178	200	pg/g	88.8	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		160	200	pg/g	79.8	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		168	200	pg/g	84.2	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		146	200	pg/g	73.0	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		169	200	pg/g	84.5	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		155	200	pg/g	77.4	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		154	200	pg/g	76.9	(20%-186%)
37Cl-2,3,7,8-TCDD		17.6	20.0	pg/g	87.9	(31%-191%)

Comments:

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**3782**	**Client:**	**TETR001**	**Project:**	**TETR00111**
Lab Sample ID:	**12006430**	**Date Collected:**	**07/16/2012 14:30**	**Matrix:**	**SOLID**
Client Sample:	**QC for batch 21572**	**Date Received:**	**07/17/2012 09:51**	**%Moisture:**	**8.5**
Client ID:	**SFPR-001(3782001MS)**			**Prep Basis:**	**Dry Weight**
Batch ID:	**21574**	**Method:**	**EPA Method 1613B**		
Run Date:	**07/19/2012 03:42**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A17JUL12A_6-5**			**Dilution:**	**1**
Prep Batch:	**21572**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**17-JUL-12**	**Aliquot:**	**11.38 g**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		20.1	pg/g	0.138	0.960
40321-76-4	1,2,3,7,8-PeCDD		106	pg/g	0.159	4.80
39227-28-6	1,2,3,4,7,8-HxCDD		105	pg/g	0.490	4.80
57653-85-7	1,2,3,6,7,8-HxCDD		105	pg/g	0.499	4.80
19408-74-3	1,2,3,7,8,9-HxCDD		103	pg/g	0.513	4.80
35822-46-9	1,2,3,4,6,7,8-HpCDD		565	pg/g	1.94	4.80
3268-87-9	1,2,3,4,6,7,8,9-OCDD	E	7890	pg/g	1.58	9.60
51207-31-9	2,3,7,8-TCDF		21.4	pg/g	0.169	0.960
57117-41-6	1,2,3,7,8-PeCDF		104	pg/g	0.271	4.80
57117-31-4	2,3,4,7,8-PeCDF		102	pg/g	0.261	4.80
70648-26-9	1,2,3,4,7,8-HxCDF		102	pg/g	0.451	4.80
57117-44-9	1,2,3,6,7,8-HxCDF		105	pg/g	0.457	4.80
60851-34-5	2,3,4,6,7,8-HxCDF		110	pg/g	0.530	4.80
72918-21-9	1,2,3,7,8,9-HxCDF		101	pg/g	0.551	4.80
67562-39-4	1,2,3,4,6,7,8-HpCDF		136	pg/g	0.372	4.80
55673-89-7	1,2,3,4,7,8,9-HpCDF		106	pg/g	0.697	4.80
39001-02-0	1,2,3,4,6,7,8,9-OCDF		351	pg/g	0.691	9.60

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		177	192	pg/g	92.1	(25%-164%)
13C-1,2,3,7,8-PeCDD		174	192	pg/g	90.7	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		172	192	pg/g	89.6	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		169	192	pg/g	88.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		166	192	pg/g	86.7	(23%-140%)
13C-OCDD		389	384	pg/g	101	(17%-157%)
13C-2,3,7,8-TCDF		169	192	pg/g	88.3	(24%-169%)
13C-1,2,3,7,8-PeCDF		178	192	pg/g	92.9	(24%-185%)
13C-2,3,4,7,8-PeCDF		178	192	pg/g	92.8	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		168	192	pg/g	87.3	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		168	192	pg/g	87.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		153	192	pg/g	79.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		185	192	pg/g	96.4	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		179	192	pg/g	93.2	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF		162	192	pg/g	84.3	(26%-138%)
37Cl-2,3,7,8-TCDD		17.7	19.2	pg/g	92.0	(35%-197%)

Comments:

E **Value is estimated - Concentration of the target analyte exceeds the instrument calibration range**

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**3782**	**Client:**	**TETR001**	**Project:**	**TETR00111**
Lab Sample ID:	**12006430**	**Date Collected:**	**07/16/2012 14:30**	**Matrix:**	**SOLID**
Client Sample:	**QC for batch 21572**	**Date Received:**	**07/17/2012 09:51**	**%Moisture:**	**8.5**
Client ID:	**SFPR-001(3782001MS)**			**Prep Basis:**	**Dry Weight**
Batch ID:	**21574**	**Method:**	**EPA Method 1613B**		
Run Date:	**07/19/2012 09:52**	**Analyst:**	**MJC**	**Instrument:**	**HRP763**
Data File:	**b19jul12a-5**			**Dilution:**	**1**
Prep Batch:	**21572**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**17-JUL-12**	**Aliquot:**	**11.38 g**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
51207-31-9	2,3,7,8-TCDF		19.5	pg/g	0.303	0.960

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits

Comments:

E **Value is estimated - Concentration of the target analyte exceeds the instrument calibration range**

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**3782**	**Client:**	**TETR001**	**Project:**	**TETR00111**
Lab Sample ID:	**12006431**	**Date Collected:**	**07/16/2012 14:30**	**Matrix:**	**SOLID**
Client Sample:	**QC for batch 21572**	**Date Received:**	**07/17/2012 09:51**	**%Moisture:**	**8.5**
Client ID:	**SFPR-001(3782001MSD)**			**Prep Basis:**	**Dry Weight**
Batch ID:	**21574**	**Method:**	**EPA Method 1613B**		
Run Date:	**07/19/2012 04:29**	**Analyst:**	**MJC**	**Instrument:**	**HRP750**
Data File:	**A17JUL12A_6-6**			**Dilution:**	**1**
Prep Batch:	**21572**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**17-JUL-12**	**Aliquot:**	**11.41 g**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		20.3	pg/g	0.153	0.957
40321-76-4	1,2,3,7,8-PeCDD		104	pg/g	0.184	4.79
39227-28-6	1,2,3,4,7,8-HxCDD		107	pg/g	0.538	4.79
57653-85-7	1,2,3,6,7,8-HxCDD		111	pg/g	0.544	4.79
19408-74-3	1,2,3,7,8,9-HxCDD		109	pg/g	0.561	4.79
35822-46-9	1,2,3,4,6,7,8-HpCDD		608	pg/g	2.01	4.79
3268-87-9	1,2,3,4,6,7,8,9-OCDD	E	7990	pg/g	1.66	9.57
51207-31-9	2,3,7,8-TCDF		21.1	pg/g	0.209	0.957
57117-41-6	1,2,3,7,8-PeCDF		106	pg/g	0.222	4.79
57117-31-4	2,3,4,7,8-PeCDF		104	pg/g	0.211	4.79
70648-26-9	1,2,3,4,7,8-HxCDF		104	pg/g	0.496	4.79
57117-44-9	1,2,3,6,7,8-HxCDF		105	pg/g	0.507	4.79
60851-34-5	2,3,4,6,7,8-HxCDF		112	pg/g	0.574	4.79
72918-21-9	1,2,3,7,8,9-HxCDF		103	pg/g	0.649	4.79
67562-39-4	1,2,3,4,6,7,8-HpCDF		141	pg/g	0.456	4.79
55673-89-7	1,2,3,4,7,8,9-HpCDF		107	pg/g	0.848	4.79
39001-02-0	1,2,3,4,6,7,8,9-OCDF		372	pg/g	0.701	9.57

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		159	191	pg/g	82.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		157	191	pg/g	81.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		156	191	pg/g	81.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		161	191	pg/g	84.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		158	191	pg/g	82.7	(23%-140%)
13C-OCDD		369	383	pg/g	96.4	(17%-157%)
13C-2,3,7,8-TCDF		154	191	pg/g	80.5	(24%-169%)
13C-1,2,3,7,8-PeCDF		159	191	pg/g	83.3	(24%-185%)
13C-2,3,4,7,8-PeCDF		159	191	pg/g	82.9	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		162	191	pg/g	84.4	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		160	191	pg/g	83.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		143	191	pg/g	74.5	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		170	191	pg/g	88.8	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF		168	191	pg/g	87.9	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF		150	191	pg/g	78.3	(26%-138%)
37Cl-2,3,7,8-TCDD		16.3	19.1	pg/g	85.4	(35%-197%)

Comments:

E **Value is estimated - Concentration of the target analyte exceeds the instrument calibration range**

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number:	**3782**	**Client:**	**TETR001**	**Project:**	**TETR00111**
Lab Sample ID:	**12006431**	**Date Collected:**	**07/16/2012 14:30**	**Matrix:**	**SOLID**
Client Sample:	**QC for batch 21572**	**Date Received:**	**07/17/2012 09:51**	**%Moisture:**	**8.5**
Client ID:	**SFPR-001(3782001MSD)**			**Prep Basis:**	**Dry Weight**
Batch ID:	**21574**	**Method:**	**EPA Method 1613B**		
Run Date:	**07/19/2012 10:11**	**Analyst:**	**MJC**	**Instrument:**	**HRP763**
Data File:	**b19jul12a-6**			**Dilution:**	**1**
Prep Batch:	**21572**	**Prep Method:**	**SW846 3540C**		
Prep Date:	**17-JUL-12**	**Aliquot:**	**11.41 g**		

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
51207-31-9	2,3,7,8-TCDF		20.2	pg/g	0.299	0.957

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits

Comments:

E **Value is estimated - Concentration of the target analyte exceeds the instrument calibration range**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-304-1
Client Project/Site: Waste Characterization

For:
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Attn: Ms. Emily Fisher

Authorized for release by:
7/25/2012 2:57:09 PM

Erika Starman
Project Manager I
erika.starman@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Job ID: 160-304-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Tetra Tech EM Inc.

Project: Waste Characterization

Report Number: 160-304-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 07/17/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.0 C.

TCLP VOLATILE ORGANIC COMPOUNDS (GC-MS)

Sample SFPR-002 (160-304-1) was analyzed for TCLP volatile organic compounds (GC-MS) in accordance with EPA SW846 Method 1311/8260C. The samples were leached on 07/19/2012 and analyzed on 07/22/2012.

Carbon tetrachloride failed the recovery criteria high for the MS of sample SFPR-002MS (160-304-1) in batch 160-6982. Sample is ND for this analyte and data is reported.

The continuing calibration verification (CCV) for analytical batch 6982 exceeded control criteria for Acetone, Diethyl ether, 2-Nitropropane, Nonanal, Naphthalene and 1,2,3-Trichlorobenzene. The data have been qualified and reported. CCV exceedances for non-requested analytes do not impact data quality.

Refer to the QC report for details.

No other difficulties were encountered during the VOCs analysis.

Job ID: 160-304-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

All other quality control parameters were within the acceptance limits.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Sample SFPR-002 (160-304-1) was analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260C. The samples were prepared on 07/18/2012 and analyzed on 07/19/2012.

2-Nitropropane and Ethyl ether failed the recovery criteria high for the MS of sample SFPR-002MS (160-304-1) in batch 160-6980.

2-Nitropropane failed the recovery criteria high for the MSD of sample SFPR-002MSD (160-304-1) in batch 160-6980. Ethyl acetate exceeded the matrix spike / matrix spike duplicate rpd limit.

The laboratory control sample (LCS) for batch 6980 exceeded control limits for the following analytes: 2-Nitropropane, Acetone, Ethyl acetate, Isobutanol and n-Butyl alcohol . These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Refer to the QC report for details.

No other difficulties were encountered during the VOCs analysis.

All other quality control parameters were within the acceptance limits.

TCLP SEMIVOLATILE ORGANIC COMPOUNDS (GC-MS)

Sample SFPR-002 (160-304-1) was analyzed for TCLP semivolatile organic compounds (GC-MS) in accordance with EPA SW-846 Methods 1311 / 8270D. The samples were leached on 07/19/2012, prepared on 07/20/2012 and analyzed on 07/22/2012.

Pyridine exceeded the rpd limit for the MSD of sample SFPR-002MSD (160-304-1) in batch 160-7018.

Refer to the QC report for details.

No other difficulties were encountered during the SVOCs analysis.

All other quality control parameters were within the acceptance limits.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS)

Sample SFPR-002 (160-304-1) was analyzed for Semivolatile Organic Compounds (GC/MS) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 07/19/2012 and analyzed on 07/22/2012.

No difficulties were encountered during the Semi-VOA analysis.

All quality control parameters were within the acceptance limits.

ORGANICS BY DIRECT AQUEOUS INJECTION-METHANOL

Sample SFPR-002 (160-304-1) was analyzed for organics by direct aqueous injection in accordance with EPA SW-846 Method 8015B - DAI. The samples were leached on 07/20/2012 and analyzed on 07/23/2012.

No difficulties were encountered during the DAI analysis.

All quality control parameters were within the acceptance limits.

TCLP CHLORINATED PESTICIDES

Sample SFPR-002 (160-304-1) was analyzed for TCLP chlorinated pesticides in accordance with EPA SW-846 Methods 1311/ 8081B. The samples were leached on 07/19/2012, and prepared and analyzed on 07/23/2012.

The %RPD between the primary and confirmation column exceeded 40% for Methoxychlor for the following sampl: SFPR-002 (160-304-1). The lower value has been reported and qualified in accordance with the laboratory's SOP.

Job ID: 160-304-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

DCB Decachlorobiphenyl (Surr) failed the surrogate recovery criteria low for MB. All associated sample surrogates with batch 7050 fell within acceptance criteria; therefore, the data have been reported. Refer to the QC report for details.

No other difficulties were encountered during the pesticides analysis.

All quality control parameters were within the acceptance limits.

POLYCHLORINATED BIPHENYLS (PCBS)

Sample SFPR-002 (160-304-1) was analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA SW-846 Method 8082. The samples were prepared on 07/19/2012 and analyzed on 07/23/2012.

No difficulties were encountered during the PCBs analysis.

All quality control parameters were within the acceptance limits.

TCLP CHLORINATED HERBICIDES

Sample SFPR-002 (160-304-1) was analyzed for TCLP chlorinated herbicides in accordance with EPA SW-846 Methods 1311/ 8151A. The samples were leached on 07/19/2012, prepared on 07/20/2012 and analyzed on 07/23/2012.

No difficulties were encountered during the herbicides analysis.

All quality control parameters were within the acceptance limits.

TCLP METALS (ICP)

Sample SFPR-002 (160-304-1) was analyzed for TCLP metals (ICP) in accordance with EPA SW-846 Method 1311/6010C. The samples were leached on 07/19/2012, prepared on 07/20/2012 and analyzed on 07/23/2012.

The samples were run with one of the calibration standards, as well as the ICSA and ICSAB having expired two days prior to being run. The parent standards were not expired, and all of the QC in the batch was acceptable, showing that the expired standards did not adversely affect the data.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

TCLP MERCURY

Sample SFPR-002 (160-304-1) was analyzed for TCLP mercury in accordance with EPA SW-846 Methods 1311/7470A. The samples were leached on 07/19/2012, and prepared and analyzed on 07/23/2012.

No difficulties were encountered during the mercury analysis.

All quality control parameters were within the acceptance limits.

IGNITABILITY,PENSKY-MARTENS CLOSED CUP METHOD

Sample SFPR-002 (160-304-1) was analyzed for Ignitability,Pensky-Martens Closed Cup Method in accordance with EPA SW-846 Method 1010. The samples were analyzed on 07/23/2012.

No other difficulties were encountered during the Ignitability, CCM analysis.

All other quality control parameters were within the acceptance limits.

REACTIVE CYANIDE

Sample SFPR-002 (160-304-1) was analyzed for reactive cyanide in accordance with EPA SW-846 Method 7.3.3. The samples were prepared on 07/23/2012 and analyzed on 07/24/2012.

Job ID: 160-304-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

The following sample was diluted to bring the concentration of the target analyte within the expected calibration range: (LCS 160-7013/2-A ^2). Elevated reporting limits (RLs) are provided.

No difficulties were encountered during the Reactive cynide analysis.

All quality control parameters were within the acceptance limits.

REACTIVE SULFIDE

Sample SFPR-002 (160-304-1) was analyzed for reactive sulfide in accordance with EPA SW-846 Method 7.3.4. The samples were prepared on 07/23/2012 and analyzed on 07/24/2012.

Sulfide, Reactive was detected in method blank MB 160-7014/1-A at a level exceeding the reporting limit.

Sulfide, Reactive failed the recovery criteria high for LCS 160-7014/2-A. The analyte was not detected in the associated sample; therefore, the data has been reported.

Sulfide, Reactive failed the recovery criteria low for the MS of sample SFPR-002MS (160-304-1) in batch 160-7054.

Refer to the QC report for details.

No other difficulties were encountered during the sulfide analysis.

All other quality control parameters were within the acceptance limits.

PH

Sample SFPR-002 (160-304-1) was analyzed for pH in accordance with EPA SW-846 Method 9045D. The samples were prepared and analyzed on 07/23/2012.

No difficulties were encountered during the pH analysis.

All quality control parameters were within the acceptance limits.

PHENOLICS, TOTAL RECOVERABLE

Sample SFPR-002 (160-304-1) was analyzed for phenolics, total recoverable in accordance with EPA SW-846 Method 9066. The samples were prepared on 07/20/2012 and analyzed on 07/24/2012.

No difficulties were encountered during the total phenols analysis.

All quality control parameters were within the acceptance limits.

PAINT FILTER

Sample SFPR-002 (160-304-1) was analyzed for Paint Filter in accordance with EPA SW-846 Method 9095B. The samples were analyzed on 07/23/2012.

No difficulties were encountered during the Paint Filter analysis.

All quality control parameters were within the acceptance limits.

PERCENT SOLIDS

Sample SFPR-002 (160-304-1) was analyzed for percent solids in accordance with EPA Method 160.3 MOD. The samples were analyzed on 07/18/2012.

No difficulties were encountered during the % solids analysis.

Job ID: 160-304-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

All quality control parameters were within the acceptance limits.

Tetra Tech
EPA Region 7 START

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

Tetra Tech
Internal PC
X9604.12.0293.000

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Jim Silver Dave Kinsath	Strecker Forest	16 / 7 / 12	1 of 1

CONTENTS OF SHIPMENT: Post Removal Sampling

SAMPLE NUMBER	TYPE OF CONTAINERS (NUMBERS OF CONTAINERS PER SAMPLE NUMBER)					SAMPLED MEDIA					RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	CUBITAINER	32oz BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	water	soil	sediment	dust	other + debris	
SFPR-002		1					X			X	Code R Parameters list attached plus TCLP Pesticides/Herb

Dave Kinsath
7/17/12

DESCRIPTION OF SHIPMENT	MODE OF SHIPMENT
1 PIECE(S) CONSISTING OF ____ BOX(ES)	____ COMMERCIAL CARRIER: ____
1 ICE CHEST(S); OTHER ____	____ COURIER
	____ SAMPLER CONVEYED (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Dave Kinsath ☐ SEALED ☒ UNSEALED	7/17/12	1100	BR Daniels ☐ SEALED ☐ UNSEALED	7/17/12 1100 Transport to Lab for Analysis
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

CODE R

Standard analytical required at all our landfills with the exceptions shown below

State of Illinois Permit

pH
Paint Filter (Free Liquids)
Reactive Cyanide
Reactive Sulfide
Total Phenolics
Flash Point (Open Cup)
PCB's (if suspect or unknown)
F-Code Solvent Scan (if suspect or unknown)
TOX (required only for Five Oaks, Milam, Tazewell, and Cottonwood Hills for liquids for solidification)

also add TCLP Pesticides / Herbicides

TCLP Organics	**TCLP Metals**
Benzene	Arsenic
Carbon Tetrachloride	Barium
Chlorobenzene	Cadmium
Chloroform	Chromium
o-Cresol	Lead
m-Cresol	Mercury
p-Cresol	Selenium
1,4-Dichlorobenzene	Silver
1,2-Dichlorethane	
1,1-Dichloroethene	
2,4-Dinitrotoluene	
Hexachlorobenzene	
Hexachloro-1,3 butadiene	
Hexachloroethane	
Methyl Ethyl Ketone	
Nitrobenzene	
Pentachlorophenol	
Pyridine	
Tetrachloroethylene	
Trichloroethylene	
2,4,5-Trichlorophenol	
2,4,6-Trichlorophenol	
Vinyl Chloride	

EXCEPTIONS

Not required for UST petroleum fuel product contamination. What is required for UST petroleum fuel product contamination is pH, paint filter, flash point, and TCLP lead. Not required for wood material contaminated with creosol. For creosol contamination, if the waste is over 10 years old and is weathered, no analytical is required. If less than 10 years and/or not weathered, TCLP Arsenic, TCLP Creosol, and TCLP Pentachlorophenol are required.

Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 160-304-1

Login Number: 304

List Number: 1

Creator: Daniels, Brian

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background		
The cooler's custody seal, if present, is intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the sample IDs on the containers and the COC.		
Samples are received within Holding Time.		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
F	RPD of the MS and MSD exceeds the control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
F	MS or MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: Tetra Tech EM Inc.
Project/Site: Waste Characterization

TestAmerica Job ID: 160-304-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SL
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SL
8015B	Nonhalogenated Organic Compounds - Direct Injection (GC)	SW846	TAL SL
8081B	Organochlorine Pesticides (GC)	SW846	TAL SL
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL SL
8151A	Herbicides (GC)	SW846	TAL SL
6010C	Metals (ICP)	SW846	TAL SL
7470A	Mercury (CVAA)	SW846	TAL SL
1010A	Ignitability,Pensky-Martens Closed Cup Method	SW846	TAL SL
9012	Cyanide, Reactive	SW846	TAL SL
9034	Sulfide, Reactive	SW846	TAL SL
9045D	pH	SW846	TAL SL
9066	Phenolics, Total Recoverable	SW846	TAL SL
9095B	Paint Filter	SW846	TAL SL
Moisture	Percent Moisture	EPA	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Waste Characterization

TestAmerica Job ID: 160-304-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-304-1	SFPR-002	Solid	07/16/12 00:00	07/17/12 11:00

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Waste Characterization

TestAmerica Job ID: 160-304-1

Client Sample ID: SFPR-002

Lab Sample ID: 160-304-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methoxychlor	0.097	J p	1.0	0.050	ug/L	1		8081B	TCLP
Barium	720		130	9.9	ug/L	1		6010C	TCLP
Lead	5.3	J	250	3.2	ug/L	1		6010C	TCLP
Flashpoint	>60		25	25	Degrees C	1		1010A	Total/NA
pH	5.69		0.100	0.100	SU	1		9045D	Total/NA
Free Liquid	pass		0.10	0.10	NONE	1		9095B	Total/NA

Client: Tetra Tech EM Inc.
Project/Site: Waste Characterization

TestAmerica Job ID: 160-304-1

Client Sample ID: SFPR-002
Date Collected: 07/16/12 00:00
Date Received: 07/17/12 11:00

Lab Sample ID: 160-304-1
Matrix: Solid
Percent Solids: 91.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	*	22	7.0	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Benzene	ND		5.4	0.27	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
n-Butyl alcohol	ND	*	110	18	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Methyl Ethyl Ketone	ND		22	2.1	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Carbon disulfide	ND		5.4	0.75	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Carbon tetrachloride	ND		5.4	0.55	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Chlorobenzene	ND		5.4	0.41	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Cyclohexanone	ND		110	19	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
1,2-Dichlorobenzene	ND		5.4	0.30	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Ethyl acetate	ND	*	22	9.6	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Ethylbenzene	ND		5.4	0.33	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Ethyl ether	ND		11	2.4	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.4	1.8	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Isobutanol	ND	*	220	28	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Methylene Chloride	ND		5.4	1.7	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
methyl isobutyl ketone	ND		22	0.79	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
2-Nitropropane	ND	*	11	2.0	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Tetrachloroethylene	ND		5.4	0.35	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Toluene	ND		5.4	0.76	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
1,1,1-Trichloroethane	ND		5.4	0.47	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
1,1,2-Trichloroethane	ND		5.4	0.62	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Trichloroethylene	ND		5.4	0.42	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Trichlorofluoromethane	ND		5.4	0.54	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1
Xylenes, Total	ND		11	0.92	ug/Kg	☼	07/18/12 12:00	07/19/12 01:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*67 - 147*	*07/18/12 12:00*	*07/19/12 01:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*51 - 150*	*07/18/12 12:00*	*07/19/12 01:15*	*1*
Toluene-d8 (Surr)	*108*		*49 - 150*	*07/18/12 12:00*	*07/19/12 01:15*	*1*
Dibromofluoromethane (Surr)	*103*		*49 - 150*	*07/18/12 12:00*	*07/19/12 01:15*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		50	3.7	ug/L			07/22/12 19:09	1
1,2-Dichloroethane	ND		50	3.7	ug/L			07/22/12 19:09	1
Methyl Ethyl Ketone	ND		50	3.9	ug/L			07/22/12 19:09	1
Benzene	ND		50	2.5	ug/L			07/22/12 19:09	1
Carbon tetrachloride	ND		50	3.6	ug/L			07/22/12 19:09	1
Chlorobenzene	ND		50	3.8	ug/L			07/22/12 19:09	1
Chloroform	ND		50	0.92	ug/L			07/22/12 19:09	1
Tetrachloroethylene	ND		50	2.8	ug/L			07/22/12 19:09	1
Trichloroethylene	ND		50	2.9	ug/L			07/22/12 19:09	1
Vinyl chloride	ND		100	4.3	ug/L			07/22/12 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*84 - 120*		*07/22/12 19:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*83 - 117*		*07/22/12 19:09*	*1*
Toluene-d8 (Surr)	*103*		*85 - 115*		*07/22/12 19:09*	*1*
Dibromofluoromethane (Surr)	*102*		*85 - 115*		*07/22/12 19:09*	*1*

Client Sample ID: SFPR-002
Date Collected: 07/16/12 00:00
Date Received: 07/17/12 11:00

Lab Sample ID: 160-304-1
Matrix: Solid
Percent Solids: 91.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Cresol	ND		360	36	ug/Kg	☼	07/19/12 12:26	07/22/12 04:00	1
m & p - Cresol	ND		720	72	ug/Kg	☼	07/19/12 12:26	07/22/12 04:00	1
Nitrobenzene	ND		360	36	ug/Kg	☼	07/19/12 12:26	07/22/12 04:00	1
Pyridine	ND		720	72	ug/Kg	☼	07/19/12 12:26	07/22/12 04:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*72*		*44 - 95*	*07/19/12 12:26*	*07/22/12 04:00*	*1*
2,4,6-Tribromophenol (Surr)	*83*		*44 - 117*	*07/19/12 12:26*	*07/22/12 04:00*	*1*
Nitrobenzene-d5 (Surr)	*76*		*46 - 98*	*07/19/12 12:26*	*07/22/12 04:00*	*1*
Phenol-d5 (Surr)	*76*		*46 - 99*	*07/19/12 12:26*	*07/22/12 04:00*	*1*
Terphenyl-d14 (Surr)	*83*		*47 - 127*	*07/19/12 12:26*	*07/22/12 04:00*	*1*
2-Fluorobiphenyl (Surr)	*77*		*50 - 103*	*07/19/12 12:26*	*07/22/12 04:00*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		50	5.0	ug/L		07/20/12 15:23	07/22/12 02:21	1
2,4-Dinitrotoluene	ND		50	5.0	ug/L		07/20/12 15:23	07/22/12 02:21	1
Hexachlorobenzene	ND		50	5.0	ug/L		07/20/12 15:23	07/22/12 02:21	1
Hexachloro-1,3-butadiene	ND		50	5.0	ug/L		07/20/12 15:23	07/22/12 02:21	1
Hexachloroethane	ND		50	5.0	ug/L		07/20/12 15:23	07/22/12 02:21	1
o-Cresol	ND		50	10	ug/L		07/20/12 15:23	07/22/12 02:21	1
m & p - Cresol	ND		100	5.0	ug/L		07/20/12 15:23	07/22/12 02:21	1
Nitrobenzene	ND		50	5.0	ug/L		07/20/12 15:23	07/22/12 02:21	1
Pentachlorophenol	ND		250	10	ug/L		07/20/12 15:23	07/22/12 02:21	1
Pyridine	ND		100	25	ug/L		07/20/12 15:23	07/22/12 02:21	1
2,4,5-Trichlorophenol	ND		50	10	ug/L		07/20/12 15:23	07/22/12 02:21	1
2,4,6-Trichlorophenol	ND		50	10	ug/L		07/20/12 15:23	07/22/12 02:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*73*		*50 - 101*	*07/20/12 15:23*	*07/22/12 02:21*	*1*
Nitrobenzene-d5 (Surr)	*64*		*45 - 102*	*07/20/12 15:23*	*07/22/12 02:21*	*1*
Phenol-d5 (Surr)	*51*		*40 - 95*	*07/20/12 15:23*	*07/22/12 02:21*	*1*
Terphenyl-d14 (Surr)	*98*		*56 - 118*	*07/20/12 15:23*	*07/22/12 02:21*	*1*
2-Fluorobiphenyl (Surr)	*59*		*42 - 95*	*07/20/12 15:23*	*07/22/12 02:21*	*1*
2-Fluorophenol (Surr)	*56*		*38 - 98*	*07/20/12 15:23*	*07/22/12 02:21*	*1*

Method: 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methanol	ND		540	170	mg/Kg	☼		07/23/12 16:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isobutyl alcohol	*54*		*40 - 140*		*07/23/12 16:00*	*1*

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND		0.50	0.015	ug/L		07/23/12 14:45	07/23/12 22:07	1
Endrin	ND		0.50	0.050	ug/L		07/23/12 14:45	07/23/12 22:07	1
Heptachlor	ND		0.50	0.015	ug/L		07/23/12 14:45	07/23/12 22:07	1
Heptachlor epoxide	ND		0.50	0.050	ug/L		07/23/12 14:45	07/23/12 22:07	1
Methoxychlor	**0.097**	**J p**	1.0	0.050	ug/L		07/23/12 14:45	07/23/12 22:07	1
Toxaphene	ND		20	0.050	ug/L		07/23/12 14:45	07/23/12 22:07	1
Technical Chlordane	ND		5.0	0.20	ug/L		07/23/12 14:45	07/23/12 22:07	1

Client Sample ID: SFPR-002
Date Collected: 07/16/12 00:00
Date Received: 07/17/12 11:00

Lab Sample ID: 160-304-1
Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*72*		*69 - 131*	*07/23/12 14:45*	*07/23/12 22:07*	*1*
Tetrachloro-m-xylene	*84*		*74 - 121*	*07/23/12 14:45*	*07/23/12 22:07*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		36	9.5	ug/Kg	☼	07/19/12 12:41	07/23/12 08:35	1
PCB-1221	ND		36	9.5	ug/Kg	☼	07/19/12 12:41	07/23/12 08:35	1
PCB-1232	ND		36	9.5	ug/Kg	☼	07/19/12 12:41	07/23/12 08:35	1
PCB-1242	ND		36	9.5	ug/Kg	☼	07/19/12 12:41	07/23/12 08:35	1
PCB-1248	ND		36	9.5	ug/Kg	☼	07/19/12 12:41	07/23/12 08:35	1
PCB-1254	ND		36	6.0	ug/Kg	☼	07/19/12 12:41	07/23/12 08:35	1
PCB-1260	ND		36	6.0	ug/Kg	☼	07/19/12 12:41	07/23/12 08:35	1
Polychlorinated biphenyls, Total	ND		330	71	ug/Kg	☼	07/19/12 12:41	07/23/12 08:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*124*		*54 - 150*	*07/19/12 12:41*	*07/23/12 08:35*	*1*

Method: 8151A - Herbicides (GC) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		40	20	ug/L		07/20/12 15:36	07/23/12 11:42	1
Silvex (2,4,5-TP)	ND		10	3.0	ug/L		07/20/12 15:36	07/23/12 11:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*120*		*56 - 147*	*07/20/12 15:36*	*07/23/12 11:42*	*1*

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		500	4.9	ug/L		07/20/12 12:32	07/23/12 09:55	1
Barium	**720**		130	9.9	ug/L		07/20/12 12:32	07/23/12 09:55	1
Cadmium	ND		13	2.3	ug/L		07/20/12 12:32	07/23/12 09:55	1
Chromium	ND		25	7.9	ug/L		07/20/12 12:32	07/23/12 09:55	1
Lead	**5.3**	**J**	250	3.2	ug/L		07/20/12 12:32	07/23/12 09:55	1
Selenium	ND		500	6.7	ug/L		07/20/12 12:32	07/23/12 09:55	1
Silver	ND		25	15	ug/L		07/20/12 12:32	07/23/12 09:55	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		1.0	0.079	ug/L		07/23/12 08:04	07/23/12 12:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	**>60**		25	25	Degrees C			07/23/12 15:55	1
Cyanide, Reactive	ND		0.25	0.25	mg/Kg		07/23/12 15:32	07/24/12 12:31	1
Sulfide, Reactive	ND	*	22	22	mg/Kg		07/23/12 15:35	07/24/12 11:34	1
pH	**5.69**		0.100	0.100	SU		07/23/12 14:50	07/23/12 18:15	1
Phenols, Total	ND		5.4	4.8	mg/Kg	☼	07/20/12 13:15	07/24/12 16:13	1
Free Liquid	**pass**		0.10	0.10	NONE			07/23/12 15:05	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 160-6980/1
Matrix: Solid
Analysis Batch: 6980

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	6.5	ug/Kg			07/18/12 22:22	1
n-Butyl alcohol	ND		100	16	ug/Kg			07/18/12 22:22	1
Benzene	ND		5.0	0.25	ug/Kg			07/18/12 22:22	1
Methyl Ethyl Ketone	ND		20	1.9	ug/Kg			07/18/12 22:22	1
Carbon disulfide	ND		5.0	0.69	ug/Kg			07/18/12 22:22	1
Carbon tetrachloride	ND		5.0	0.51	ug/Kg			07/18/12 22:22	1
Chlorobenzene	ND		5.0	0.38	ug/Kg			07/18/12 22:22	1
Cyclohexanone	ND		100	18	ug/Kg			07/18/12 22:22	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/Kg			07/18/12 22:22	1
Ethyl acetate	ND		20	8.9	ug/Kg			07/18/12 22:22	1
Ethylbenzene	ND		5.0	0.30	ug/Kg			07/18/12 22:22	1
Ethyl ether	ND		10	2.2	ug/Kg			07/18/12 22:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	1.7	ug/Kg			07/18/12 22:22	1
Isobutanol	ND		200	25	ug/Kg			07/18/12 22:22	1
Methylene Chloride	ND		5.0	1.6	ug/Kg			07/18/12 22:22	1
methyl isobutyl ketone	ND		20	0.73	ug/Kg			07/18/12 22:22	1
2-Nitropropane	ND		10	1.8	ug/Kg			07/18/12 22:22	1
Tetrachloroethylene	ND		5.0	0.32	ug/Kg			07/18/12 22:22	1
Toluene	ND		5.0	0.70	ug/Kg			07/18/12 22:22	1
1,1,1-Trichloroethane	ND		5.0	0.43	ug/Kg			07/18/12 22:22	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/Kg			07/18/12 22:22	1
Trichloroethylene	ND		5.0	0.39	ug/Kg			07/18/12 22:22	1
Trichlorofluoromethane	ND		5.0	0.50	ug/Kg			07/18/12 22:22	1
Xylenes, Total	ND		10	0.85	ug/Kg			07/18/12 22:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*67 - 147*		*07/18/12 22:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*51 - 150*		*07/18/12 22:22*	*1*
Toluene-d8 (Surr)	*102*		*49 - 150*		*07/18/12 22:22*	*1*
Dibromofluoromethane (Surr)	*101*		*49 - 150*		*07/18/12 22:22*	*1*

Lab Sample ID: LCS 160-6980/2
Matrix: Solid
Analysis Batch: 6980

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	50.0	65.0	*	ug/Kg		130	62 - 129
n-Butyl alcohol	500	629	*	ug/Kg		126	73 - 122
Benzene	50.0	51.2		ug/Kg		102	85 - 115
Methyl Ethyl Ketone	50.0	58.0		ug/Kg		116	73 - 121
Carbon disulfide	50.0	55.3		ug/Kg		111	74 - 118
Carbon tetrachloride	50.0	58.7		ug/Kg		117	85 - 119
Chlorobenzene	50.0	48.7		ug/Kg		97	85 - 115
Cyclohexanone	500	649		ug/Kg		130	64 - 140
1,2-Dichlorobenzene	50.0	48.1		ug/Kg		96	85 - 115
Ethyl acetate	100	129	*	ug/Kg		129	73 - 127
Ethylbenzene	50.0	53.7		ug/Kg		107	85 - 117
Ethyl ether	100	132		ug/Kg		132	68 - 135
Isobutanol	1000	1330	*	ug/Kg		133	75 - 124

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 160-6980/2
Matrix: Solid
Analysis Batch: 6980

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	50.0	50.3		ug/Kg		101	79 - 119
methyl isobutyl ketone	50.0	56.8		ug/Kg		114	75 - 126
2-Nitropropane	100	165	*	ug/Kg		165	69 - 130
Tetrachloroethylene	50.0	52.9		ug/Kg		106	85 - 118
Toluene	50.0	51.8		ug/Kg		104	83 - 118
1,1,1-Trichloroethane	50.0	52.9		ug/Kg		106	85 - 116
1,1,2-Trichloroethane	50.0	51.6		ug/Kg		103	85 - 115
Trichloroethylene	50.0	51.3		ug/Kg		103	85 - 115
Trichlorofluoromethane	50.0	57.6		ug/Kg		115	70 - 131
Xylenes, Total	150	152		ug/Kg		102	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*67 - 147*
1,2-Dichloroethane-d4 (Surr)	*110*		*51 - 150*
Toluene-d8 (Surr)	*107*		*49 - 150*
Dibromofluoromethane (Surr)	*110*		*49 - 150*

Lab Sample ID: 160-304-1 MS
Matrix: Solid
Analysis Batch: 6980

Client Sample ID: SFPR-002
Prep Type: Total/NA
Prep Batch: 6981

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND	*	54.4	68.3		ug/Kg	☼	126	31 - 150
n-Butyl alcohol	ND	*	544	514		ug/Kg	☼	95	32 - 150
Benzene	ND		54.4	53.9		ug/Kg	☼	99	83 - 123
Methyl Ethyl Ketone	ND		54.4	62.0		ug/Kg	☼	114	39 - 150
Carbon disulfide	ND		54.4	53.3		ug/Kg	☼	98	48 - 136
Carbon tetrachloride	ND		54.4	54.7		ug/Kg	☼	100	62 - 139
Chlorobenzene	ND		54.4	48.6		ug/Kg	☼	89	64 - 141
Cyclohexanone	ND		544	660		ug/Kg	☼	121	36 - 150
1,2-Dichlorobenzene	ND		54.4	47.7		ug/Kg	☼	88	73 - 134
Ethyl acetate	ND	*	109	86.6		ug/Kg	☼	80	10 - 150
Ethylbenzene	ND		54.4	53.8		ug/Kg	☼	99	63 - 146
Ethyl ether	ND		109	170	F	ug/Kg	☼	157	14 - 150
Isobutanol	ND	*	1090	1260		ug/Kg	☼	116	41 - 150
Methylene Chloride	ND		54.4	58.1		ug/Kg	☼	107	62 - 147
methyl isobutyl ketone	ND		54.4	63.4		ug/Kg	☼	117	58 - 150
2-Nitropropane	ND	*	109	168	F	ug/Kg	☼	154	34 - 150
Tetrachloroethylene	ND		54.4	49.6		ug/Kg	☼	91	51 - 150
Toluene	ND		54.4	54.2		ug/Kg	☼	100	64 - 150
1,1,1-Trichloroethane	ND		54.4	54.2		ug/Kg	☼	100	70 - 140
1,1,2-Trichloroethane	ND		54.4	60.8		ug/Kg	☼	112	18 - 150
Trichloroethylene	ND		54.4	50.4		ug/Kg	☼	93	74 - 125
Trichlorofluoromethane	ND		54.4	56.4		ug/Kg	☼	104	57 - 150
Xylenes, Total	ND		163	150		ug/Kg	☼	92	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*67 - 147*
1,2-Dichloroethane-d4 (Surr)	*117*		*51 - 150*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 160-304-1 MS
Matrix: Solid
Analysis Batch: 6980

Client Sample ID: SFPR-002
Prep Type: Total/NA
Prep Batch: 6981

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	*114*		*49 - 150*
Dibromofluoromethane (Surr)	*114*		*49 - 150*

Lab Sample ID: 160-304-1 MSD
Matrix: Solid
Analysis Batch: 6980

Client Sample ID: SFPR-002
Prep Type: Total/NA
Prep Batch: 6981

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND	*	54.3	62.8		ug/Kg	☼	116	31 - 150	8	20
n-Butyl alcohol	ND	*	543	477		ug/Kg	☼	88	32 - 150	8	20
Benzene	ND		54.3	54.2		ug/Kg	☼	100	83 - 123	0	20
Methyl Ethyl Ketone	ND		54.3	56.9		ug/Kg	☼	105	39 - 150	8	20
Carbon disulfide	ND		54.3	57.2		ug/Kg	☼	105	48 - 136	7	20
Carbon tetrachloride	ND		54.3	60.2		ug/Kg	☼	111	62 - 139	10	20
Chlorobenzene	ND		54.3	49.9		ug/Kg	☼	92	64 - 141	3	20
Cyclohexanone	ND		543	696		ug/Kg	☼	128	36 - 150	5	20
1,2-Dichlorobenzene	ND		54.3	49.2		ug/Kg	☼	91	73 - 134	3	20
Ethyl acetate	ND	*	109	49.7	F	ug/Kg	☼	46	10 - 150	54	20
Ethylbenzene	ND		54.3	57.1		ug/Kg	☼	105	63 - 146	6	20
Ethyl ether	ND		109	158		ug/Kg	☼	146	14 - 150	7	20
Isobutanol	ND	*	1090	1190		ug/Kg	☼	110	41 - 150	6	20
Methylene Chloride	ND		54.3	57.8		ug/Kg	☼	106	62 - 147	0	20
methyl isobutyl ketone	ND		54.3	62.0		ug/Kg	☼	114	58 - 150	2	20
2-Nitropropane	ND	*	109	166	F	ug/Kg	☼	152	34 - 150	1	20
Tetrachloroethylene	ND		54.3	53.7		ug/Kg	☼	99	51 - 150	8	20
Toluene	ND		54.3	59.0		ug/Kg	☼	109	64 - 150	8	20
1,1,1-Trichloroethane	ND		54.3	56.9		ug/Kg	☼	105	70 - 140	5	20
1,1,2-Trichloroethane	ND		54.3	59.9		ug/Kg	☼	110	18 - 150	1	20
Trichloroethylene	ND		54.3	52.2		ug/Kg	☼	96	74 - 125	3	20
Trichlorofluoromethane	ND		54.3	61.1		ug/Kg	☼	113	57 - 150	8	20
Xylenes, Total	ND		163	161		ug/Kg	☼	99	70 - 130	7	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*123*		*67 - 147*
1,2-Dichloroethane-d4 (Surr)	*111*		*51 - 150*
Toluene-d8 (Surr)	*115*		*49 - 150*
Dibromofluoromethane (Surr)	*108*		*49 - 150*

Lab Sample ID: LCS 160-6982/4
Matrix: Solid
Analysis Batch: 6982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	500	505		ug/L		101	79 - 117
1,2-Dichloroethane	500	476		ug/L		95	80 - 115
Benzene	500	477		ug/L		95	85 - 115
Methyl Ethyl Ketone	500	489		ug/L		98	64 - 117
Carbon tetrachloride	500	574		ug/L		115	79 - 119
Chlorobenzene	500	460		ug/L		92	85 - 115

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 160-6982/4
Matrix: Solid
Analysis Batch: 6982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroform	500	464		ug/L		93	85 - 115
Vinyl chloride	500	486		ug/L		97	72 - 136
Tetrachloroethylene	500	519		ug/L		104	79 - 116
Trichloroethylene	500	492		ug/L		98	85 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*84 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*83 - 117*
Toluene-d8 (Surr)	*105*		*85 - 115*
Dibromofluoromethane (Surr)	*105*		*85 - 115*

Lab Sample ID: LB 160-6863/1-A LB
Matrix: Solid
Analysis Batch: 6982

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		50	3.7	ug/L			07/22/12 18:44	1
1,2-Dichloroethane	ND		50	3.7	ug/L			07/22/12 18:44	1
Benzene	ND		50	2.5	ug/L			07/22/12 18:44	1
Methyl Ethyl Ketone	ND		50	3.9	ug/L			07/22/12 18:44	1
Carbon tetrachloride	ND		50	3.6	ug/L			07/22/12 18:44	1
Chlorobenzene	ND		50	3.8	ug/L			07/22/12 18:44	1
Chloroform	ND		50	0.92	ug/L			07/22/12 18:44	1
Vinyl chloride	ND		100	4.3	ug/L			07/22/12 18:44	1
Tetrachloroethylene	ND		50	2.8	ug/L			07/22/12 18:44	1
Trichloroethylene	ND		50	2.9	ug/L			07/22/12 18:44	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*84 - 120*		*07/22/12 18:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*83 - 117*		*07/22/12 18:44*	*1*
Toluene-d8 (Surr)	*102*		*85 - 115*		*07/22/12 18:44*	*1*
Dibromofluoromethane (Surr)	*100*		*85 - 115*		*07/22/12 18:44*	*1*

Lab Sample ID: 160-304-1 MS
Matrix: Solid
Analysis Batch: 6982

Client Sample ID: SFPR-002
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	ND		500	527		ug/L		105	80 - 115
1,2-Dichloroethane	ND		500	502		ug/L		100	85 - 115
Benzene	ND		500	504		ug/L		101	85 - 115
Methyl Ethyl Ketone	ND		500	449		ug/L		90	67 - 117
Carbon tetrachloride	ND		500	597	F	ug/L		119	79 - 117
Chlorobenzene	ND		500	477		ug/L		95	85 - 115
Chloroform	ND		500	499		ug/L		100	85 - 115
Vinyl chloride	ND		500	466		ug/L		93	75 - 132
Tetrachloroethylene	ND		500	537		ug/L		107	82 - 115
Trichloroethylene	ND		500	511		ug/L		102	84 - 115

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 160-304-1 MS
Matrix: Solid
Analysis Batch: 6982

Client Sample ID: SFPR-002
Prep Type: TCLP

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*101*		*84 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*83 - 117*
Toluene-d8 (Surr)	*104*		*85 - 115*
Dibromofluoromethane (Surr)	*106*		*85 - 115*

Lab Sample ID: 160-304-1 MSD
Matrix: Solid
Analysis Batch: 6982

Client Sample ID: SFPR-002
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	ND		500	497		ug/L		99	80 - 115	6	20
1,2-Dichloroethane	ND		500	505		ug/L		101	85 - 115	0	20
Benzene	ND		500	493		ug/L		99	85 - 115	2	20
Methyl Ethyl Ketone	ND		500	546		ug/L		109	67 - 117	20	20
Carbon tetrachloride	ND		500	571		ug/L		114	79 - 117	4	20
Chlorobenzene	ND		500	469		ug/L		94	85 - 115	2	20
Chloroform	ND		500	482		ug/L		96	85 - 115	3	20
Vinyl chloride	ND		500	478		ug/L		96	75 - 132	3	20
Tetrachloroethylene	ND		500	525		ug/L		105	82 - 115	2	20
Trichloroethylene	ND		500	499		ug/L		100	84 - 115	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*100*		*84 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*83 - 117*
Toluene-d8 (Surr)	*102*		*85 - 115*
Dibromofluoromethane (Surr)	*104*		*85 - 115*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 160-6768/1-A
Matrix: Solid
Analysis Batch: 7018

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6768

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Cresol	ND		330	33	ug/Kg		07/19/12 12:26	07/22/12 00:09	1
m & p - Cresol	ND		660	67	ug/Kg		07/19/12 12:26	07/22/12 00:09	1
Nitrobenzene	ND		330	33	ug/Kg		07/19/12 12:26	07/22/12 00:09	1
Pyridine	ND		660	67	ug/Kg		07/19/12 12:26	07/22/12 00:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	*73*		*44 - 117*	*07/19/12 12:26*	*07/22/12 00:09*	*1*
Nitrobenzene-d5 (Surr)	*78*		*46 - 98*	*07/19/12 12:26*	*07/22/12 00:09*	*1*
Phenol-d5 (Surr)	*83*		*46 - 99*	*07/19/12 12:26*	*07/22/12 00:09*	*1*
Terphenyl-d14 (Surr)	*101*		*47 - 127*	*07/19/12 12:26*	*07/22/12 00:09*	*1*
2-Fluorobiphenyl (Surr)	*77*		*50 - 103*	*07/19/12 12:26*	*07/22/12 00:09*	*1*
2-Fluorophenol (Surr)	*79*		*44 - 95*	*07/19/12 12:26*	*07/22/12 00:09*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 160-6768/2-A
Matrix: Solid
Analysis Batch: 7018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6768

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
o-Cresol			3330	2430		ug/Kg		73	53 - 94		
m & p - Cresol			3330	2750		ug/Kg		83	50 - 108		
Nitrobenzene			3330	2320		ug/Kg		70	51 - 95		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*83*		*44 - 117*
Nitrobenzene-d5 (Surr)	*74*		*46 - 98*
Phenol-d5 (Surr)	*76*		*46 - 99*
Terphenyl-d14 (Surr)	*99*		*47 - 127*
2-Fluorobiphenyl (Surr)	*76*		*50 - 103*
2-Fluorophenol (Surr)	*73*		*44 - 95*

Lab Sample ID: 160-304-1 MS
Matrix: Solid
Analysis Batch: 7018

Client Sample ID: SFPR-002
Prep Type: Total/NA
Prep Batch: 6768

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
o-Cresol	ND		3630	2520		ug/Kg	☼	70	45 - 92		
m & p - Cresol	ND		3630	2890		ug/Kg	☼	80	46 - 103		
Nitrobenzene	ND		3630	2370		ug/Kg	☼	65	43 - 92		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*84*		*44 - 117*
Nitrobenzene-d5 (Surr)	*70*		*46 - 98*
Phenol-d5 (Surr)	*74*		*46 - 99*
Terphenyl-d14 (Surr)	*78*		*47 - 127*
2-Fluorobiphenyl (Surr)	*75*		*50 - 103*
2-Fluorophenol (Surr)	*68*		*44 - 95*

Lab Sample ID: 160-304-1 MSD
Matrix: Solid
Analysis Batch: 7018

Client Sample ID: SFPR-002
Prep Type: Total/NA
Prep Batch: 6768

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Cresol	ND		3630	2790		ug/Kg	☼	77	45 - 92	10	30
m & p - Cresol	ND		3630	3150		ug/Kg	☼	87	46 - 103	8	30
Nitrobenzene	ND		3630	2570		ug/Kg	☼	71	43 - 92	8	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*87*		*44 - 117*
Nitrobenzene-d5 (Surr)	*74*		*46 - 98*
Phenol-d5 (Surr)	*78*		*46 - 99*
Terphenyl-d14 (Surr)	*80*		*47 - 127*
2-Fluorobiphenyl (Surr)	*77*		*50 - 103*
2-Fluorophenol (Surr)	*71*		*44 - 95*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 160-6958/2-A
Matrix: Solid
Analysis Batch: 7018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6958

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	500	351		ug/L		70	40 - 93
2,4-Dinitrotoluene	500	351		ug/L		70	49 - 95
Hexachlorobenzene	500	405		ug/L		81	46 - 87
Hexachloro-1,3-butadiene	500	329		ug/L		66	30 - 95
Hexachloroethane	500	344		ug/L		69	25 - 97
o-Cresol	500	371		ug/L		74	51 - 99
m & p - Cresol	1000	750		ug/L		75	53 - 96
Nitrobenzene	500	356		ug/L		71	45 - 95
Pentachlorophenol	500	363		ug/L		73	35 - 98
Pyridine	500	202		ug/L		40	10 - 72
2,4,5-Trichlorophenol	500	364		ug/L		73	47 - 92
2,4,6-Trichlorophenol	500	362		ug/L		72	47 - 88

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*78*		*50 - 101*
Nitrobenzene-d5 (Surr)	*71*		*45 - 102*
Phenol-d5 (Surr)	*63*		*40 - 95*
Terphenyl-d14 (Surr)	*101*		*56 - 118*
2-Fluorobiphenyl (Surr)	*64*		*42 - 95*
2-Fluorophenol (Surr)	*66*		*38 - 98*

Lab Sample ID: LB 160-6862/1-B LB
Matrix: Solid
Analysis Batch: 7018

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 6958

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		50	5.0	ug/L		07/20/12 15:23	07/21/12 23:03	1
2,4-Dinitrotoluene	ND		50	5.0	ug/L		07/20/12 15:23	07/21/12 23:03	1
Hexachlorobenzene	ND		50	5.0	ug/L		07/20/12 15:23	07/21/12 23:03	1
Hexachloro-1,3-butadiene	ND		50	5.0	ug/L		07/20/12 15:23	07/21/12 23:03	1
Hexachloroethane	ND		50	5.0	ug/L		07/20/12 15:23	07/21/12 23:03	1
o-Cresol	ND		50	10	ug/L		07/20/12 15:23	07/21/12 23:03	1
m & p - Cresol	ND		100	5.0	ug/L		07/20/12 15:23	07/21/12 23:03	1
Nitrobenzene	ND		50	5.0	ug/L		07/20/12 15:23	07/21/12 23:03	1
Pentachlorophenol	ND		250	10	ug/L		07/20/12 15:23	07/21/12 23:03	1
Pyridine	ND		100	25	ug/L		07/20/12 15:23	07/21/12 23:03	1
2,4,5-Trichlorophenol	ND		50	10	ug/L		07/20/12 15:23	07/21/12 23:03	1
2,4,6-Trichlorophenol	ND		50	10	ug/L		07/20/12 15:23	07/21/12 23:03	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*79*		*50 - 101*	*07/20/12 15:23*	*07/21/12 23:03*	*1*
Nitrobenzene-d5 (Surr)	*72*		*45 - 102*	*07/20/12 15:23*	*07/21/12 23:03*	*1*
Phenol-d5 (Surr)	*60*		*40 - 95*	*07/20/12 15:23*	*07/21/12 23:03*	*1*
Terphenyl-d14 (Surr)	*104*		*56 - 118*	*07/20/12 15:23*	*07/21/12 23:03*	*1*
2-Fluorobiphenyl (Surr)	*67*		*42 - 95*	*07/20/12 15:23*	*07/21/12 23:03*	*1*
2-Fluorophenol (Surr)	*65*		*38 - 98*	*07/20/12 15:23*	*07/21/12 23:03*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 160-304-1 MS
Matrix: Solid
Analysis Batch: 7018

Client Sample ID: SFPR-002
Prep Type: TCLP
Prep Batch: 6958

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND		500	308		ug/L		62	35 - 93
2,4-Dinitrotoluene	ND		500	339		ug/L		68	52 - 100
Hexachlorobenzene	ND		500	408		ug/L		82	46 - 90
Hexachloro-1,3-butadiene	ND		500	298		ug/L		60	29 - 96
Hexachloroethane	ND		500	295		ug/L		59	23 - 104
o-Cresol	ND		500	322		ug/L		64	44 - 106
m & p - Cresol	ND		1000	640		ug/L		64	49 - 100
Nitrobenzene	ND		500	326		ug/L		65	44 - 102
Pentachlorophenol	ND		500	336		ug/L		67	35 - 108
Pyridine	ND		500	215		ug/L		43	10 - 80
2,4,5-Trichlorophenol	ND		500	334		ug/L		67	47 - 96
2,4,6-Trichlorophenol	ND		500	332		ug/L		66	48 - 96

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*77*		*50 - 101*
Nitrobenzene-d5 (Surr)	*67*		*45 - 102*
Phenol-d5 (Surr)	*53*		*40 - 95*
Terphenyl-d14 (Surr)	*97*		*56 - 118*
2-Fluorobiphenyl (Surr)	*62*		*42 - 95*
2-Fluorophenol (Surr)	*57*		*38 - 98*

Lab Sample ID: 160-304-1 MSD
Matrix: Solid
Analysis Batch: 7018

Client Sample ID: SFPR-002
Prep Type: TCLP
Prep Batch: 6958

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene	ND		500	353		ug/L		71	35 - 93	13	20
2,4-Dinitrotoluene	ND		500	380		ug/L		76	52 - 100	12	20
Hexachlorobenzene	ND		500	435		ug/L		87	46 - 90	6	20
Hexachloro-1,3-butadiene	ND		500	340		ug/L		68	29 - 96	13	20
Hexachloroethane	ND		500	341		ug/L		68	23 - 104	14	20
o-Cresol	ND		500	362		ug/L		72	44 - 106	12	20
m & p - Cresol	ND		1000	725		ug/L		72	49 - 100	12	20
Nitrobenzene	ND		500	361		ug/L		72	44 - 102	10	20
Pentachlorophenol	ND		500	359		ug/L		72	35 - 108	7	20
Pyridine	ND		500	265	F	ug/L		53	10 - 80	21	20
2,4,5-Trichlorophenol	ND		500	375		ug/L		75	47 - 96	12	20
2,4,6-Trichlorophenol	ND		500	374		ug/L		75	48 - 96	12	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*81*		*50 - 101*
Nitrobenzene-d5 (Surr)	*74*		*45 - 102*
Phenol-d5 (Surr)	*60*		*40 - 95*
Terphenyl-d14 (Surr)	*101*		*56 - 118*
2-Fluorobiphenyl (Surr)	*70*		*42 - 95*
2-Fluorophenol (Surr)	*64*		*38 - 98*

Method: 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC)

Lab Sample ID: MB 160-7049/1-A
Matrix: Solid
Analysis Batch: 7052

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methanol	ND		500	160	mg/Kg			07/23/12 14:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isobutyl alcohol	*105*		*40 - 140*		*07/23/12 14:53*	*1*

Lab Sample ID: LCS 160-7049/2-A
Matrix: Solid
Analysis Batch: 7052

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Methanol			495	529		mg/Kg		107	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Isobutyl alcohol	*97*		*40 - 140*

Lab Sample ID: 160-304-1 MS
Matrix: Solid
Analysis Batch: 7052

Client Sample ID: SFPR-002
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Methanol	ND		539	580		mg/Kg	☼	108	66 - 131		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Isobutyl alcohol	*100*		*40 - 140*

Lab Sample ID: 160-304-1 MSD
Matrix: Solid
Analysis Batch: 7052

Client Sample ID: SFPR-002
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methanol	ND		539	563		mg/Kg	☼	105	66 - 131	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Isobutyl alcohol	*97*		*40 - 140*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 160-7009/1-A
Matrix: Solid
Analysis Batch: 7050

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7009

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND		0.50	0.015	ug/L		07/23/12 14:45	07/23/12 21:06	1
Endrin	ND		0.50	0.050	ug/L		07/23/12 14:45	07/23/12 21:06	1
Heptachlor	ND		0.50	0.015	ug/L		07/23/12 14:45	07/23/12 21:06	1
Heptachlor epoxide	ND		0.50	0.050	ug/L		07/23/12 14:45	07/23/12 21:06	1
Methoxychlor	ND		1.0	0.050	ug/L		07/23/12 14:45	07/23/12 21:06	1
Toxaphene	ND		20	0.050	ug/L		07/23/12 14:45	07/23/12 21:06	1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 160-7009/1-A
Matrix: Solid
Analysis Batch: 7050

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7009

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Technical Chlordane	ND		5.0	0.20	ug/L		07/23/12 14:45	07/23/12 21:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*63*	*X*	*69 - 131*	*07/23/12 14:45*	*07/23/12 21:06*	*1*
Tetrachloro-m-xylene	*78*		*74 - 121*	*07/23/12 14:45*	*07/23/12 21:06*	*1*

Lab Sample ID: LCS 160-7009/2-A
Matrix: Solid
Analysis Batch: 7050

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7009

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
gamma-BHC (Lindane)	5.00	4.47		ug/L		89	81 - 135
Endrin	5.00	4.90		ug/L		98	79 - 140
Heptachlor	5.00	4.51		ug/L		90	65 - 140
Heptachlor epoxide	5.00	4.25		ug/L		85	79 - 132
Methoxychlor	5.00	4.67		ug/L		93	74 - 138

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*70*		*69 - 131*
Tetrachloro-m-xylene	*79*		*74 - 121*

Lab Sample ID: LCSD 160-7009/3-A
Matrix: Solid
Analysis Batch: 7050

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7009

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
gamma-BHC (Lindane)	5.00	4.42		ug/L		88	81 - 135	1	20
Endrin	5.00	4.95		ug/L		99	79 - 140	1	20
Heptachlor	5.00	3.96		ug/L		79	65 - 140	13	20
Heptachlor epoxide	5.00	4.29		ug/L		86	79 - 132	1	20
Methoxychlor	5.00	4.59		ug/L		92	74 - 138	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*70*		*69 - 131*
Tetrachloro-m-xylene	*82*		*74 - 121*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 160-6772/1-A
Matrix: Solid
Analysis Batch: 6993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6772

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		33	8.7	ug/Kg		07/19/12 12:41	07/23/12 07:58	1
PCB-1221	ND		33	8.7	ug/Kg		07/19/12 12:41	07/23/12 07:58	1
PCB-1232	ND		33	8.7	ug/Kg		07/19/12 12:41	07/23/12 07:58	1
PCB-1242	ND		33	8.7	ug/Kg		07/19/12 12:41	07/23/12 07:58	1
PCB-1248	ND		33	8.7	ug/Kg		07/19/12 12:41	07/23/12 07:58	1
PCB-1254	ND		33	5.5	ug/Kg		07/19/12 12:41	07/23/12 07:58	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 160-6772/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 6993 — **Prep Batch: 6772**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1260	ND		33	5.5	ug/Kg		07/19/12 12:41	07/23/12 07:58	1
Polychlorinated biphenyls, Total	ND		300	66	ug/Kg		07/19/12 12:41	07/23/12 07:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*89*		*54 - 150*	*07/19/12 12:41*	*07/23/12 07:58*	*1*

Lab Sample ID: LCS 160-6772/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 6993 — **Prep Batch: 6772**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	167	144		ug/Kg		86	76 - 131
PCB-1260	167	153		ug/Kg		92	74 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*92*		*54 - 150*

Lab Sample ID: 160-304-1 MS — **Client Sample ID: SFPR-002**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 6993 — **Prep Batch: 6772**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	ND		181	179		ug/Kg	☼	99	35 - 150
PCB-1260	ND		181	157		ug/Kg	☼	86	43 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*114*		*54 - 150*

Lab Sample ID: 160-304-1 MSD — **Client Sample ID: SFPR-002**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 6993 — **Prep Batch: 6772**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	ND		181	159		ug/Kg	☼	88	35 - 150	NC	30
PCB-1260	ND		181	156		ug/Kg	☼	86	43 - 150	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*129*		*54 - 150*

Method: 8151A - Herbicides (GC)

Lab Sample ID: LCS 160-6960/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7002 — **Prep Batch: 6960**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-D	250	322		ug/L		129	46 - 140
Silvex (2,4,5-TP)	25.0	28.7		ug/L		115	42 - 140

Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 160-6960/2-A
Matrix: Solid
Analysis Batch: 7002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6960

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid	126		56 - 147

Lab Sample ID: LB 160-6862/1-D LB
Matrix: Solid
Analysis Batch: 7002

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 6960

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		40	20	ug/L		07/20/12 15:36	07/23/12 10:39	1
Silvex (2,4,5-TP)	ND		10	3.0	ug/L		07/20/12 15:36	07/23/12 10:39	1

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	117		56 - 147	07/20/12 15:36	07/23/12 10:39	1

Lab Sample ID: 160-304-1 MS
Matrix: Solid
Analysis Batch: 7002

Client Sample ID: SFPR-002
Prep Type: TCLP
Prep Batch: 6960

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-D	ND		250	320		ug/L		128	52 - 150
Silvex (2,4,5-TP)	ND		25.0	28.6		ug/L		114	45 - 150

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4-Dichlorophenylacetic acid	124		56 - 147

Lab Sample ID: 160-304-1 MSD
Matrix: Solid
Analysis Batch: 7002

Client Sample ID: SFPR-002
Prep Type: TCLP
Prep Batch: 6960

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-D	ND		250	316		ug/L		126	52 - 150	1	20
Silvex (2,4,5-TP)	ND		25.0	28.0		ug/L		112	45 - 150	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4-Dichlorophenylacetic acid	123		56 - 147

Method: 6010C - Metals (ICP)

Lab Sample ID: LCS 160-6950/2-A
Matrix: Solid
Analysis Batch: 6988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6950

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2500	2430		ug/L		97	80 - 120
Barium	2500	2470		ug/L		99	80 - 120
Cadmium	2500	2420		ug/L		97	80 - 120
Chromium	2500	2350		ug/L		94	80 - 120
Lead	2500	2310		ug/L		92	80 - 120
Selenium	2500	2500		ug/L		100	80 - 120

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 160-6950/2-A
Matrix: Solid
Analysis Batch: 6988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6950

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	250	253		ug/L		101	80 - 120

Lab Sample ID: LB 160-6943/1-B LB
Matrix: Solid
Analysis Batch: 6988

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 6950

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		500	4.9	ug/L		07/20/12 12:32	07/23/12 09:47	1
Barium	ND		130	9.9	ug/L		07/20/12 12:32	07/23/12 09:47	1
Cadmium	ND		13	2.3	ug/L		07/20/12 12:32	07/23/12 09:47	1
Chromium	ND		25	7.9	ug/L		07/20/12 12:32	07/23/12 09:47	1
Lead	ND		250	3.2	ug/L		07/20/12 12:32	07/23/12 09:47	1
Selenium	ND		500	6.7	ug/L		07/20/12 12:32	07/23/12 09:47	1
Silver	ND		25	15	ug/L		07/20/12 12:32	07/23/12 09:47	1

Lab Sample ID: 160-304-1 MS
Matrix: Solid
Analysis Batch: 6988

Client Sample ID: SFPR-002
Prep Type: TCLP
Prep Batch: 6950

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		2500	2430		ug/L		97	75 - 125
Barium	720		2500	3190		ug/L		99	75 - 125
Cadmium	ND		2500	2410		ug/L		97	75 - 125
Chromium	ND		2500	2350		ug/L		94	75 - 125
Lead	5.3	J	2500	2310		ug/L		92	75 - 125
Selenium	ND		2500	2500		ug/L		100	75 - 125
Silver	ND		250	254		ug/L		102	75 - 125

Lab Sample ID: 160-304-1 MSD
Matrix: Solid
Analysis Batch: 6988

Client Sample ID: SFPR-002
Prep Type: TCLP
Prep Batch: 6950

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		2500	2430		ug/L		97	75 - 125	0	20
Barium	720		2500	3230		ug/L		100	75 - 125	1	20
Cadmium	ND		2500	2390		ug/L		96	75 - 125	1	20
Chromium	ND		2500	2330		ug/L		93	75 - 125	1	20
Lead	5.3	J	2500	2280		ug/L		91	75 - 125	1	20
Selenium	ND		2500	2470		ug/L		99	75 - 125	1	20
Silver	ND		250	253		ug/L		101	75 - 125	0	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: LCS 160-6985/2-A
Matrix: Solid
Analysis Batch: 6998

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6985

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	25.0	25.2		ug/L		101	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LB 160-6922/1-B LB — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 6998 — **Prep Batch: 6985**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		1.0	0.079	ug/L		07/23/12 08:04	07/23/12 12:21	1

Lab Sample ID: 160-304-1 MS — **Client Sample ID: SFPR-002**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 6998 — **Prep Batch: 6985**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		25.0	24.8		ug/L		99	70 - 130

Lab Sample ID: 160-304-1 MSD — **Client Sample ID: SFPR-002**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 6998 — **Prep Batch: 6985**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		25.0	24.0		ug/L		96	70 - 130	3	20

Method: 1010A - Ignitability,Pensky-Martens Closed Cup Method

Lab Sample ID: MB 160-7017/2 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7017

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>60		25	25	Degrees C			07/23/12 15:55	1

Lab Sample ID: LCS 160-7017/3 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7017

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Flashpoint	25.0	26.0		Degrees C		104	95.9 - 104

Lab Sample ID: 160-304-1 DU — **Client Sample ID: SFPR-002**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7017

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Flashpoint	>60		>60		Degrees C		NC	20

Method: 9012 - Cyanide, Reactive

Lab Sample ID: MB 160-7013/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7163 — **Prep Batch: 7013**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Reactive	ND		0.25	0.25	mg/Kg		07/23/12 15:32	07/24/12 12:25	1

Method: 9012 - Cyanide, Reactive (Continued)

Lab Sample ID: LCS 160-7013/2-A ^2
Matrix: Solid
Analysis Batch: 7163

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7013

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Reactive			6.25	2.01		mg/Kg		32	10 - 75		

Lab Sample ID: 160-304-1 MS
Matrix: Solid
Analysis Batch: 7163

Client Sample ID: SFPR-002
Prep Type: Total/NA
Prep Batch: 7013

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Reactive	ND		6.25	0.989		mg/Kg		16	10 - 45		

Lab Sample ID: 160-304-1 DU
Matrix: Solid
Analysis Batch: 7163

Client Sample ID: SFPR-002
Prep Type: Total/NA
Prep Batch: 7013

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Cyanide, Reactive	ND			ND		mg/Kg				NC	30

Method: 9034 - Sulfide, Reactive

Lab Sample ID: MB 160-7014/1-A
Matrix: Solid
Analysis Batch: 7054

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7014

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	93.5		22	22	mg/Kg		07/23/12 15:35	07/24/12 11:34	1

Lab Sample ID: LCS 160-7014/2-A
Matrix: Solid
Analysis Batch: 7054

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7014

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide, Reactive			202	294	*	mg/Kg		146	10 - 128		

Lab Sample ID: 160-304-1 MS
Matrix: Solid
Analysis Batch: 7054

Client Sample ID: SFPR-002
Prep Type: Total/NA
Prep Batch: 7014

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide, Reactive	ND	*	202	ND	F	mg/Kg		0	10 - 121		

Lab Sample ID: 160-304-1 DU
Matrix: Solid
Analysis Batch: 7054

Client Sample ID: SFPR-002
Prep Type: Total/NA
Prep Batch: 7014

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Sulfide, Reactive	ND	*		ND	*	mg/Kg				NC	20

Method: 9045D - pH

Lab Sample ID: 160-304-1 DU — **Client Sample ID: SFPR-002**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7016 — **Prep Batch: 7015**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	5.69			5.660		SU				0.5	

Lab Sample ID: LCS 160-7016/5 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7016

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.050		SU		101			

Method: 9066 - Phenolics, Total Recoverable

Lab Sample ID: MB 160-6946/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7275 — **Prep Batch: 6946**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenols, Total	ND		4.9	4.4	mg/Kg		07/20/12 13:15	07/24/12 16:09	1

Lab Sample ID: LCS 160-6946/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7275 — **Prep Batch: 6946**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Phenols, Total			19.5	19.6		mg/Kg		101	76 - 113		

Lab Sample ID: 160-304-1 MS — **Client Sample ID: SFPR-002**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7275 — **Prep Batch: 6946**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Phenols, Total	ND		21.7	22.4		mg/Kg	☼	103	69 - 118		

Lab Sample ID: 160-304-1 DU — **Client Sample ID: SFPR-002**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7275 — **Prep Batch: 6946**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Phenols, Total	ND			ND		mg/Kg	☼			NC	30

Method: 9095B - Paint Filter

Lab Sample ID: 160-304-1 DU — **Client Sample ID: SFPR-002**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7012

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Free Liquid	pass			pass		NONE				NC	

GC/MS VOA

Leach Batch: 6863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	1311	
160-304-1 MS	SFPR-002	TCLP	Solid	1311	
160-304-1 MSD	SFPR-002	TCLP	Solid	1311	
LB 160-6863/1-A LB	Method Blank	TCLP	Solid	1311	

Analysis Batch: 6980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	8260C	6981
160-304-1 MS	SFPR-002	Total/NA	Solid	8260C	6981
160-304-1 MSD	SFPR-002	Total/NA	Solid	8260C	6981
LCS 160-6980/2	Lab Control Sample	Total/NA	Solid	8260C	
MB 160-6980/1	Method Blank	Total/NA	Solid	8260C	

Prep Batch: 6981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	5030C	
160-304-1 MS	SFPR-002	Total/NA	Solid	5030C	
160-304-1 MSD	SFPR-002	Total/NA	Solid	5030C	

Analysis Batch: 6982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	8260C	6863
160-304-1 MS	SFPR-002	TCLP	Solid	8260C	6863
160-304-1 MSD	SFPR-002	TCLP	Solid	8260C	6863
LB 160-6863/1-A LB	Method Blank	TCLP	Solid	8260C	6863
LCS 160-6982/4	Lab Control Sample	Total/NA	Solid	8260C	

GC/MS Semi VOA

Prep Batch: 6768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	3550C	
160-304-1 MS	SFPR-002	Total/NA	Solid	3550C	
160-304-1 MSD	SFPR-002	Total/NA	Solid	3550C	
LCS 160-6768/2-A	Lab Control Sample	Total/NA	Solid	3550C	
MB 160-6768/1-A	Method Blank	Total/NA	Solid	3550C	

Leach Batch: 6862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	1311	
160-304-1 MS	SFPR-002	TCLP	Solid	1311	
160-304-1 MSD	SFPR-002	TCLP	Solid	1311	
LB 160-6862/1-B LB	Method Blank	TCLP	Solid	1311	

Prep Batch: 6958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	3510C	6862
160-304-1 MS	SFPR-002	TCLP	Solid	3510C	6862
160-304-1 MSD	SFPR-002	TCLP	Solid	3510C	6862
LB 160-6862/1-B LB	Method Blank	TCLP	Solid	3510C	6862
LCS 160-6958/2-A	Lab Control Sample	Total/NA	Solid	3510C	

GC/MS Semi VOA (Continued)

Analysis Batch: 7018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	8270D	6768
160-304-1	SFPR-002	TCLP	Solid	8270D	6958
160-304-1 MS	SFPR-002	Total/NA	Solid	8270D	6768
160-304-1 MS	SFPR-002	TCLP	Solid	8270D	6958
160-304-1 MSD	SFPR-002	Total/NA	Solid	8270D	6768
160-304-1 MSD	SFPR-002	TCLP	Solid	8270D	6958
LB 160-6862/1-B LB	Method Blank	TCLP	Solid	8270D	6958
LCS 160-6768/2-A	Lab Control Sample	Total/NA	Solid	8270D	6768
LCS 160-6958/2-A	Lab Control Sample	Total/NA	Solid	8270D	6958
MB 160-6768/1-A	Method Blank	Total/NA	Solid	8270D	6768

GC VOA

Leach Batch: 7049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Soluble	Solid	DI Leach	
160-304-1 MS	SFPR-002	Soluble	Solid	DI Leach	
160-304-1 MSD	SFPR-002	Soluble	Solid	DI Leach	
LCS 160-7049/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
MB 160-7049/1-A	Method Blank	Soluble	Solid	DI Leach	

Analysis Batch: 7052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Soluble	Solid	8015B	7049
160-304-1 MS	SFPR-002	Soluble	Solid	8015B	7049
160-304-1 MSD	SFPR-002	Soluble	Solid	8015B	7049
LCS 160-7049/2-A	Lab Control Sample	Soluble	Solid	8015B	7049
MB 160-7049/1-A	Method Blank	Soluble	Solid	8015B	7049

GC Semi VOA

Prep Batch: 6772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	3550C	
160-304-1 MS	SFPR-002	Total/NA	Solid	3550C	
160-304-1 MSD	SFPR-002	Total/NA	Solid	3550C	
LCS 160-6772/2-A	Lab Control Sample	Total/NA	Solid	3550C	
MB 160-6772/1-A	Method Blank	Total/NA	Solid	3550C	

Leach Batch: 6862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	1311	
160-304-1 MS	SFPR-002	TCLP	Solid	1311	
160-304-1 MSD	SFPR-002	TCLP	Solid	1311	
LB 160-6862/1-D LB	Method Blank	TCLP	Solid	1311	

Prep Batch: 6960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	8151A	6862
160-304-1 MS	SFPR-002	TCLP	Solid	8151A	6862
160-304-1 MSD	SFPR-002	TCLP	Solid	8151A	6862
LB 160-6862/1-D LB	Method Blank	TCLP	Solid	8151A	6862

GC Semi VOA (Continued)

Prep Batch: 6960 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 160-6960/2-A	Lab Control Sample	Total/NA	Solid	8151A	

Analysis Batch: 6993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	8082A	6772
160-304-1 MS	SFPR-002	Total/NA	Solid	8082A	6772
160-304-1 MSD	SFPR-002	Total/NA	Solid	8082A	6772
LCS 160-6772/2-A	Lab Control Sample	Total/NA	Solid	8082A	6772
MB 160-6772/1-A	Method Blank	Total/NA	Solid	8082A	6772

Analysis Batch: 7002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	8151A	6960
160-304-1 MS	SFPR-002	TCLP	Solid	8151A	6960
160-304-1 MSD	SFPR-002	TCLP	Solid	8151A	6960
LB 160-6862/1-D LB	Method Blank	TCLP	Solid	8151A	6960
LCS 160-6960/2-A	Lab Control Sample	Total/NA	Solid	8151A	6960

Prep Batch: 7009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	3510C	6862
LCS 160-7009/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 160-7009/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	
MB 160-7009/1-A	Method Blank	Total/NA	Solid	3510C	

Analysis Batch: 7050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	8081B	7009
LCS 160-7009/2-A	Lab Control Sample	Total/NA	Solid	8081B	7009
LCSD 160-7009/3-A	Lab Control Sample Dup	Total/NA	Solid	8081B	7009
MB 160-7009/1-A	Method Blank	Total/NA	Solid	8081B	7009

Metals

Leach Batch: 6922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	1311	
160-304-1 MS	SFPR-002	TCLP	Solid	1311	
160-304-1 MSD	SFPR-002	TCLP	Solid	1311	
LB 160-6922/1-B LB	Method Blank	TCLP	Solid	1311	

Leach Batch: 6943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	1311	
160-304-1 MS	SFPR-002	TCLP	Solid	1311	
160-304-1 MSD	SFPR-002	TCLP	Solid	1311	
LB 160-6943/1-B LB	Method Blank	TCLP	Solid	1311	

Prep Batch: 6950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	3010A	6943
160-304-1 MS	SFPR-002	TCLP	Solid	3010A	6943

Metals (Continued)

Prep Batch: 6950 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1 MSD	SFPR-002	TCLP	Solid	3010A	6943
LB 160-6943/1-B LB	Method Blank	TCLP	Solid	3010A	6943
LCS 160-6950/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Prep Batch: 6985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	7470A	6922
160-304-1 MS	SFPR-002	TCLP	Solid	7470A	6922
160-304-1 MSD	SFPR-002	TCLP	Solid	7470A	6922
LB 160-6922/1-B LB	Method Blank	TCLP	Solid	7470A	6922
LCS 160-6985/2-A	Lab Control Sample	Total/NA	Solid	7470A	

Analysis Batch: 6988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	6010C	6950
160-304-1 MS	SFPR-002	TCLP	Solid	6010C	6950
160-304-1 MSD	SFPR-002	TCLP	Solid	6010C	6950
LB 160-6943/1-B LB	Method Blank	TCLP	Solid	6010C	6950
LCS 160-6950/2-A	Lab Control Sample	Total/NA	Solid	6010C	6950

Analysis Batch: 6998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	TCLP	Solid	7470A	6985
160-304-1 MS	SFPR-002	TCLP	Solid	7470A	6985
160-304-1 MSD	SFPR-002	TCLP	Solid	7470A	6985
LB 160-6922/1-B LB	Method Blank	TCLP	Solid	7470A	6985
LCS 160-6985/2-A	Lab Control Sample	Total/NA	Solid	7470A	6985

General Chemistry

Analysis Batch: 6716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	Moisture	

Prep Batch: 6946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	Distill/Phenol	
160-304-1 DU	SFPR-002	Total/NA	Solid	Distill/Phenol	
160-304-1 MS	SFPR-002	Total/NA	Solid	Distill/Phenol	
LCS 160-6946/2-A	Lab Control Sample	Total/NA	Solid	Distill/Phenol	
MB 160-6946/1-A	Method Blank	Total/NA	Solid	Distill/Phenol	

Analysis Batch: 7012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	9095B	
160-304-1 DU	SFPR-002	Total/NA	Solid	9095B	

Prep Batch: 7013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	7.3.3	
160-304-1 DU	SFPR-002	Total/NA	Solid	7.3.3	
160-304-1 MS	SFPR-002	Total/NA	Solid	7.3.3	

General Chemistry (Continued)

Prep Batch: 7013 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 160-7013/2-A ^2	Lab Control Sample	Total/NA	Solid	7.3.3	
MB 160-7013/1-A	Method Blank	Total/NA	Solid	7.3.3	

Prep Batch: 7014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	7.3.4	
160-304-1 DU	SFPR-002	Total/NA	Solid	7.3.4	
160-304-1 MS	SFPR-002	Total/NA	Solid	7.3.4	
LCS 160-7014/2-A	Lab Control Sample	Total/NA	Solid	7.3.4	
MB 160-7014/1-A	Method Blank	Total/NA	Solid	7.3.4	

Prep Batch: 7015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	DILeach_Prep	
160-304-1 DU	SFPR-002	Total/NA	Solid	DILeach_Prep	

Analysis Batch: 7016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	9045D	7015
160-304-1 DU	SFPR-002	Total/NA	Solid	9045D	7015
LCS 160-7016/5	Lab Control Sample	Total/NA	Solid	9045D	

Analysis Batch: 7017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	1010A	
160-304-1 DU	SFPR-002	Total/NA	Solid	1010A	
LCS 160-7017/3	Lab Control Sample	Total/NA	Solid	1010A	
MB 160-7017/2	Method Blank	Total/NA	Solid	1010A	

Analysis Batch: 7054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	9034	7014
160-304-1 DU	SFPR-002	Total/NA	Solid	9034	7014
160-304-1 MS	SFPR-002	Total/NA	Solid	9034	7014
LCS 160-7014/2-A	Lab Control Sample	Total/NA	Solid	9034	7014
MB 160-7014/1-A	Method Blank	Total/NA	Solid	9034	7014

Analysis Batch: 7163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	9012	7013
160-304-1 DU	SFPR-002	Total/NA	Solid	9012	7013
160-304-1 MS	SFPR-002	Total/NA	Solid	9012	7013
LCS 160-7013/2-A ^2	Lab Control Sample	Total/NA	Solid	9012	7013
MB 160-7013/1-A	Method Blank	Total/NA	Solid	9012	7013

Analysis Batch: 7275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-304-1	SFPR-002	Total/NA	Solid	9066	6946
160-304-1 DU	SFPR-002	Total/NA	Solid	9066	6946
160-304-1 MS	SFPR-002	Total/NA	Solid	9066	6946
LCS 160-6946/2-A	Lab Control Sample	Total/NA	Solid	9066	6946
MB 160-6946/1-A	Method Blank	Total/NA	Solid	9066	6946

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Waste Characterization

TestAmerica Job ID: 160-304-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	12DCE	TOL	DBFM
Lab Sample ID	Client Sample ID	(67-147)	(51-150)	(49-150)	(49-150)
160-304-1	SFPR-002	111	116	108	103
160-304-1 MS	SFPR-002	117	117	114	114
160-304-1 MSD	SFPR-002	123	111	115	108
LCS 160-6980/2	Lab Control Sample	105	110	107	110
MB 160-6980/1	Method Blank	101	109	102	101

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	12DCE	TOL	DBFM
Lab Sample ID	Client Sample ID	(84-120)	(83-117)	(85-115)	(85-115)
LCS 160-6982/4	Lab Control Sample	99	101	105	105

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	12DCE	TOL	DBFM
Lab Sample ID	Client Sample ID	(84-120)	(83-117)	(85-115)	(85-115)
160-304-1	SFPR-002	101	103	103	102
160-304-1 MS	SFPR-002	101	104	104	106
160-304-1 MSD	SFPR-002	100	103	102	104
LB 160-6863/1-A LB	Method Blank	101	102	102	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		2FP	TBP	NBZ	PHL	TPH	FBP
Lab Sample ID	Client Sample ID	(44-95)	(44-117)	(46-98)	(46-99)	(47-127)	(50-103)
160-304-1	SFPR-002	72	83	76	76	83	77
160-304-1 MS	SFPR-002	68	84	70	74	78	75
160-304-1 MSD	SFPR-002	71	87	74	78	80	77

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		2FP	TBP	NBZ	PHL	TPH	FBP
Lab Sample ID	Client Sample ID	(44-95)	(44-117)	(46-98)	(46-99)	(47-127)	(50-103)
LCS 160-6768/2-A	Lab Control Sample	73	83	74	76	99	76
MB 160-6768/1-A	Method Blank	79	73	78	83	101	77

Surrogate Legend

2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)
FBP = 2-Fluorobiphenyl (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	NBZ	PHL	TPH	FBP	2FP
Lab Sample ID	Client Sample ID	(50-101)	(45-102)	(40-95)	(56-118)	(42-95)	(38-98)
LCS 160-6958/2-A	Lab Control Sample	78	71	63	101	64	66

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	NBZ	PHL	TPH	FBP	2FP
Lab Sample ID	Client Sample ID	(50-101)	(45-102)	(40-95)	(56-118)	(42-95)	(38-98)
160-304-1	SFPR-002	73	64	51	98	59	56
160-304-1 MS	SFPR-002	77	67	53	97	62	57
160-304-1 MSD	SFPR-002	81	74	60	101	70	64
LB 160-6862/1-B LB	Method Blank	79	72	60	104	67	65

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)

Method: 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC)

Matrix: Solid **Prep Type: Soluble**

		Percent Surrogate Recovery (Acceptance Limits)							
		IBA1							
Lab Sample ID	Client Sample ID	(40-140)							
160-304-1	SFPR-002	54							
160-304-1 MS	SFPR-002	100							
160-304-1 MSD	SFPR-002	97							
LCS 160-7049/2-A	Lab Control Sample	97							
MB 160-7049/1-A	Method Blank	105							

Surrogate Legend

IBA = Isobutyl alcohol

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		DCB1	DCB2	TCX1	TCX2				
Lab Sample ID	Client Sample ID	(69-131)	(69-131)	(74-121)	(74-121)				
LCS 160-7009/2-A	Lab Control Sample	70	70	79	75				
LCSD 160-7009/3-A	Lab Control Sample Dup	70	71	82	78				
MB 160-7009/1-A	Method Blank	63 X	64 X	78	74				

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)							
		DCB1	DCB2	TCX1	TCX2				
Lab Sample ID	Client Sample ID	(69-131)	(69-131)	(74-121)	(74-121)				
160-304-1	SFPR-002	72	71	84	81				

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		DCB1							
Lab Sample ID	Client Sample ID	(54-150)							
160-304-1	SFPR-002	124							
160-304-1 MS	SFPR-002	114							
160-304-1 MSD	SFPR-002	129							
LCS 160-6772/2-A	Lab Control Sample	92							
MB 160-6772/1-A	Method Blank	89							

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Waste Characterization

TestAmerica Job ID: 160-304-1

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
		DCPA1								
Lab Sample ID	Client Sample ID	(56-147)								
LCS 160-6960/2-A	Lab Control Sample	126								

Surrogate Legend

DCPA = 2,4-Dichlorophenylacetic acid

Method: 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)								
		DCPA1								
Lab Sample ID	Client Sample ID	(56-147)								
160-304-1	SFPR-002	120								
160-304-1 MS	SFPR-002	124								
160-304-1 MSD	SFPR-002	123								
LB 160-6862/1-D LB	Method Blank	117								

Surrogate Legend

DCPA = 2,4-Dichlorophenylacetic acid

Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Waste Characterization

TestAmerica Job ID: 160-304-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-304-1	SFPR-002	Solid	07/16/12 00:00	07/17/12 11:00

APPENDIX E

DIOXIN TEQ CALCULATIONS (CD)

APPENDIX F

EXCAVATED SOIL/DEBRIS DISPOSAL RECORDS

Saint Louis COUNTY HEALTH

Special Waste Permit

The following special waste stream has been approved for disposal at : IESI MO CHAMP LF

Registration Number: 5213s - 121107

Waste Description: dioxin contaminated soil & waste roofing shingles

Generation Rate: 20 *cubic yards*

Waste Location: 173 Strecker Rd Zip 63011

Generator: CLAYMONT DEVELOPMENT
WESLEY BYRNE
[redacted]

Environmental Company: SEAGULL ENVIRONMENTAL TECH

The approved special waste hauler* is: IESI

**In order to ensure that only licensed special waste haulers are utilized, changes to the hauling company must be preapproved by Department of Health staff.*

Your special waste permit is due to expire on: 11/7/2012

Box Checked if Approved as ADC ☐

Andrea Moss for Date: 8/7/2012

Signeture of Director of Health or Authorized Agent

Comments

Andrea Moss, Environmental Representative

Print Name and Title

IESI MO CHAMP LANDFILL

NON HAZARDOUS SPECIAL WASTE MANIFEST

Generator Name: Claymont Development

Generator Address: 173 Strecker Road, Wildwood, MO

St. Louis County Permit #: 5213 **Expires:** 11/7/2012

Generator/Authorized Signature: [signature] **Date:** 8/7/12

Transporter Name: IESI North **Truck #:**

Driver Signature:

Designated Landfill – IESI MO Champ Landfill

Landfill Signature: **Date:**

Quantity: (Tons) **IESI Ticket #**

Bill To: IESI North (# 46055) **Job #:** 5213