TETRA TECH

December 3, 2015

Mr. Brian Englert and Mr. Carter Williamson
On-Scene Coordinator (OSC)
U.S. Environmental Protection Agency (EPA), Region 4
61 Forsyth Street, SW, 11th Floor
Atlanta, Georgia 30303

Subject: **Draft Emergency Response Letter Report**
Old Barwick Mill Plant Fire
LaFayette, Walker County, Georgia
Contract Number (No.) EP-S4-14-03
TDD No. TT-01-040

Dear Mr. Englert and Mr. Williamson:

The Tetra Tech, Inc. Superfund Technical Assessment and Response Team (Tetra Tech START) is submitting this emergency response (ER) letter report summarizing activities conducted from November 14 through November 18, 2015, at the Old Barwick Mill Plant Fire (Site) located in LaFayette, Walker County, Georgia (see Figure 1 in Enclosure 1). This report includes seven enclosures. Enclosure 1 contains figures illustrating the site location and layout, as well as multi-media sampling and air monitoring locations. Enclosure 2 contains tables summarizing the air monitoring results that were generated during ER activities. Enclosure 3 contains tables summarizing the laboratory analytical results for multi-media samples collected during ER activities. Enclosure 4 contains the photographic log. Enclosure 5 contains the Tetra Tech START field logbook notes. Enclosure 6 provides the laboratory analytical data package for air samples collected during ER activities. Enclosure 7 provides the data validation reports and laboratory analytical data packages for surface water samples collected during ER activities.

SITE BACKGROUND

On Saturday, November 14, 2015, the U.S. Environmental Protection Agency (EPA) Region 4 received a request to provide assistance with a large warehouse fire in LaFayette, Georgia. Incident report #1133436, which was filed with the National Response Center by a railroad representative, indicated that the rail traffic through LaFayette was to be avoided because of the fire. Subsequent correspondence with city officials revealed that the fire was burning at the Old Barwick Mill located at 412 McLemore Street in LaFayette. The fire was reportedly fully-involved, and concerns existed regarding two 10,000-gallon aboveground storage tanks (AST) present at the Site, as well as numerous drums potentially containing hazardous materials. In addition, runoff from the firefighting efforts was accumulating in the low-lying area to the south and east of the warehouse before draining into the Chattooga River that flows generally from north to south along the eastern edge of the Site.

EPA mobilized On Scene Coordinator (OSC) Brian Englert to the Site to further assess the situation. OSC Englert subsequently tasked Tetra Tech START to mobilize and provide technical support during ER activities, including assistance with air monitoring and multi-media sampling activities. In addition, OSC Carter Williamson arrived onsite the morning of Sunday, November 15 to transition with OSC Englert, who returned to Atlanta for other regional commitments on Monday, November 16. OSCs Englert and Williamson coordinated with city officials, including the city manager and representatives from the fire department, as well as officials from the city's publicly-owned treatment works (POTW), which owns and

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operates a wastewater treatment facility located approximately 1,000 feet southeast of the Site. The POTW reportedly receives discharges directly from the Site.

EMERGENCY RESPONSE ACTIVITIES

During ER activities, numerous agencies and organizations provided support with site operations. A brief list of agencies and organizations participating in the response is provided below:

- City of LaFayette (city manager, fire department, and representatives from the city's POTW)
- Georgia Environmental Protection Division (GA EPD)
- EPA Region 4 Emergency Response, Removal, and Prevention Branch (ERRPB)
- Agency for Toxic Substances and Disease Registry (ATSDR)
- Global Environmental (contractor for the facility operator)

Firefighting Operations

According to available information, the fire was discovered at approximately 14:30 hours on Saturday, November 14. The source of the fire was unknown, but personnel were concerned about the potential presence of hazardous materials inside the building. During the evening of November 14, numerous drums were observed detonating within the fire, and large plumes of smoke were visible rising from the area. In addition, runoff and discharges from the Site were observed both at onsite locations and in the Chattooga River to be colored a milky blue color, and the color was traced back to liquids observed emanating from various points in and around the burning warehouse. Available information indicated that dyes and calcium carbonate were present in the building.

Firefighters initially used water to try to extinguish the fire, but discovered that collapsed sections of the building prevented them from gaining sufficient access to all affected areas. Responders subsequently focused on gaining better access to the burning materials, and utilized a trackhoe and other heavy equipment to eventually clear paths and remove obstacles, and ultimately extinguish the fire. Teams of firefighters provided water suppression of flare-ups, while the heavy equipment worked to clear paths to the collapsed portions of the building. Generally, firefighting activities proceeded from south to north; Figure 2 of Enclosure 1 illustrates the approximate extent of the impacted areas of the building. Concurrent with the firefighting operations, responders worked to identify and plug the sources (i.e. drains, discharge pipes) of the blue liquid found emanating from various locations in and around the warehouse in an attempt to stop the discharges to the Chattooga River and the local POTW.

Firefighting operations continued at the Site from November 14 through the morning hours of November 18, when the fire was deemed to be extinguished.

Air Monitoring – Deployment and Continuous Operation

During the evening of November 14, EPA and Tetra Tech START initiated air monitoring activities at various locations in the vicinity of the Site. Equipment deployed at each monitoring location included a DataRAM 4000 (particulate monitoring [PM]) and an AreaRAE (volatile organic compounds [VOC], carbon monoxide, hydrogen sulfide, oxygen, and lower explosive limit). Fixed monitoring locations were established to provide air monitoring data that could be used to evaluate air quality and make recommendations for the protection of human health. Specific locations were determined based on the

prevailing winds and the direction of travel for the smoke plume. The locations were occasionally adjusted based on shifts in the wind direction and observations of the smoke plume.

A brief description of the air monitoring and sampling locations is provided below (see Figure 2 of Enclosure 1). Air sampling activities are described in detail later in this report.

- Location 1: Fixed monitoring location situated on the south side of McLemore Street directly across from the warehouse fire (south of the Site). This location was operational from approximately 23:30 hours on November 14 through 17:30 on November 16.
- Location 2: Fixed monitoring and sampling location situated on the southwest corner of McLemore Street and South Chattanooga Street (southwest of the Site). This location was operational from approximately 23:30 hours on November 14 through 09:00 hours on November 18. In addition, this location was supplemented with a single point monitor (SPM) to measure concentrations of hydrogen chloride (HCL) from approximately 09:00 hours on November 17 through 09:00 hours on November 18.
- Location 3: Fixed monitoring location situated on the northeast corner of Magnolia Street and Thornton Street (southwest of the Site). This location was operational from approximately 23:30 hours on November 14 through 09:00 hours on November 18.
- Location 4: Mobile monitoring location (see Figure 3 of Enclosure 1 for extent) attached to the Tetra Tech START vehicle, which was intentionally biased and used to periodically monitor worst-case conditions within the smoke plume. This location was operational from approximately 23:30 hours on November 14 through 09:00 hours on November 18. This location was also used to conduct air monitoring in areas where officials received requests from public entities, including the Roper Corporation facility located approximately two miles south of the Site, where facility representatives requested monitoring assistance after observing a smoke plume in the area.
- Location 5: Fixed sampling location situated near the northwest corner of Main Street and South Chattanooga Street (northwest of the Site).
- Location 6: Fixed monitoring and sampling location situated near the northeast corner of Main Street and Magnolia Street (northwest of the Site). This location was operational from approximately 17:30 hours on November 16 through 09:00 hours on November 18.

During ER activities, air monitoring equipment was linked to the VIPER telemetry system, a remote air monitoring system used to provide personnel with a real-time display of PM and VOC concentrations. From the evening of November 14 through the early morning hours of November 15, particulate monitoring was conducted to measure concentrations of total suspended particulates (TSP). Beginning at approximately 06:00 hours on November 15, each DataRAM 4000 unit was affixed with an impactor head to allow the measurement of fine particulate matter ($PM_{2.5}$), which consists of particles measuring 2.5 micrometers and smaller in diameter.

Air Monitoring – Results and Screening Level Comparisons

Enclosure 4 provides tables that were generated during ER activities to summarize the air monitoring results. Air monitoring results were evaluated by comparing concentrations to EPA standards or common health exposure limit guidelines. During ER activities, specific screening levels were selected based on the time period being evaluated (i.e. 1-hour versus 24-hour) and are applicable for the community. The table below provides a summary of the screening levels:

Table 1
Screening Levels for the Community

Analyte	Source	Screening Level	Period of Exposure
Respirable Particulates ($PM_{2.5}$)	AQI[1]	80.1 to 175.0 µg/m^3	1-hour TWA
Respirable Particulates ($PM_{2.5}$)	EPA AQI	35.5 to 55.5 µg/m^3	24-hour TWA
Carbon Monoxide	PAC-1	83 ppm	1-hour TWA
Carbon Monoxide	AEGL-1	27 ppm	8-hour TWA
Hydrogen Chloride	AEGL-1	1.8 ppm	1-hour and 8-hour TWAs
Hydrogen Sulfide	PAC-2	27 ppm	1-hour TWA
Hydrogen Sulfide	AEGL-2	17 ppm	8-hour TWA
VOCs[1]	site-specific[a]	5 ppm	8-hour TWA

Notes:

[a]	Site-specific standard derived from health and safety protocols
AEGL-1	acute exposure guideline levels (Airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.)
AEGL-2	acute exposure guideline levels (Airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.)
AQI[1]	air quality index (Idaho State's Department of Environmental Quality developed health indices based on 1-hour averages.)
EPA	Environmental Protection Agency
eV	Electron volts
PAC-1	Protective Action Criteria (maximum concentration in air below which it is believed nearly all individuals could be exposed for up to one hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined objectionable odor).
PAC-2	Protective Action Criteria (maximum concentration in air below which it is believed nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms that could impair their abilities to take protective action).
PID	Photoionization detector
$PM_{2.5}$	particulate matter with a maximum diameter of 2.5 micrometers
µg/m^3	micrograms per cubic meter
ppm	parts per million
TWA	time-weighted average
VOCs[1]	volatile organic compounds (Tetra Tech START utilized a PID installed with a 10.6 eV lamp to detect VOCs. The instrument was capable of detecting VOCs with an ionizing potential of 10.6 eV or less. The VOC concentration reported represents the total quantity of VOCs detected by the instrument.)

As the summary tables in Enclosure 4 indicate, PM is the only parameter that consistently exceeded screening levels under time-weighted average (TWA) conditions. The maximum 8-hour TWA for VOCs was detected at Location 1 slightly above the screening level of 5 ppm during the operational period from November 15 at 09:30 hours through November 16 at 09:00 hours. This peak occurred during the timeframe of approximately November 15 at 20:30 hours through November 16 at 04:30 hours. A review of VOC concentrations at Location 2 and 3 during this time period also shows an increased detection of VOCs, although not as pronounced as Location 1. Photoionization detector lamps are known to be influenced by increased humidity. During the time these fluctuations were observed, humidity increased from 79 to 93 percent based on a review of local weather data. Based on this information, VOC concentrations were attributed to sensor drift. Local weather data indicated that, by daybreak, the atmosphere warmed and humidity decreased concurrently with VOC concentrations. Routine maintenance of the air monitoring equipment at this location subsequently resulted in a significant reduction in the VOC concentrations. All other TWA concentrations for VOCs were below the screening level.

Based on the daily, 24-hour $PM_{2.5}$ results obtained at fixed monitoring locations (as recorded through approximately 09:00 hours each day), Table 2 below provides a summary of the observations regarding air

quality in the vicinity of the Site that were communicated by EPA to officials managing the response to the incident.

Table 2
Air Quality Based on $PM_{2.5}$ Concentrations

Time Period	Location 1	Location 2	Location 3	Location 6
11/14 at 23:30 through 11/15 at 09:40	Unhealthy for Sensitive Groups	Unhealthy	Moderate	Not operational [a]
11/15 at 09:30 through 11/16 at 09:00	Unhealthy	Unhealthy	Unhealthy	Not operational [a]
11/16 at 09:00 through 11/17 at 09:00	Moderate	Unhealthy for Sensitive Groups	Unhealthy for Sensitive Groups	Moderate
11/17 at 09:00 through 11/18 at 09:00	Not Operational [a]	Good	Good	Good

Notes:
[a] Air monitoring at Location 1 was stopped and the associated air monitoring equipment was moved to Location 6 at approximately 17:30 on November 16 because of a shift in the direction of the smoke plume.

As Table 2 indicates, the air quality in the vicinity of the Site was impacted by smoke from the fire, particularly when firefighting operations became more aggressive on November 15 and 16 in an attempt to uncover and extinguish smoldering portions of the fire that were more difficult to access (i.e. beneath collapsed portions of the building). After that time, air quality improved to "Good" by the morning of November 18, when the fire was determined to be extinguished. During ER activities, $PM_{2.5}$ concentrations was relayed to local officials to assist in making recommendations for public safety.

Mobile Air Monitoring

During ER activities, mobile air monitoring activities were also conducted using equipment that was mounted to the Tetra Tech START vehicle, which was then driven through residential areas in the vicinity of the Site. Designated as Location 4, mobile air monitoring activities were intentionally biased and routinely used to follow the smoke plume in residential neighborhoods as it shifted due to variable wind directions. As such, the mobile monitoring results do not represent an actual exposure scenario, but rather an instantaneous worst-case scenario. Figure 3 in Enclosure 1 illustrates the locations of mobile air monitoring activities. Table 3 below briefly summarizes the mobile air monitoring results.

Table 3
Summary of Mobile Air Monitoring Results (Location 4)

Time Period	TWA Concentration ($\mu g/m^3$)	Concentration Range ($\mu g/m^3$)
11/14 at 23:30 through 11/15 at 09:40	22.48	0 to 1,359.1
11/15 at 09:30 through 11/16 at 09:00	50.8	4.9 to 2,236.7
11/16 at 09:00 through 11/17 at 09:00	292.45	2.8 to 8,389.9
11/17 at 09:00 through 11/18 at 09:00	15.33	0.1 to 76.1

Notes:
$\mu g/m^3$ Micrograms per cubic meter

As Table 3 indicates, the mobile air monitoring results appear to be consistent with those obtained for fixed monitoring locations, as illustrated by the spike in concentrations during November 15 and 16. During the day shifts for each of these two days, firefighting efforts became more aggressive with a trackhoe and other heavy equipment in use at the fire location to knock down partially collapsed portions of the building and uncover smoldering sections of the fire so they could be extinguished. These activities resulted in significantly more smoke rising from the area.

Air Sampling

On Tuesday, November 17, Tetra Tech START deployed air sampling equipment at each of four locations in the vicinity of the Site. Sampling equipment at each location included a Gilian AirCon2 high-volume air sampling pump fitted with a 25-millimeter, 0.8-micrometer, mixed cellulose ester filter cassette. Prior to deployment, each pump was calibrated to a flow rate that resulted in the collection of at least 3,000 liters of air during an 8-hour work shift. A brief description of the samples collected is provided below (see Figure 2 in Enclosure 1).

- Location 2: Air sample co-located with air monitoring equipment at the fixed location near the southwest corner of McLemore Street and South Chattanooga Street (southwest of the Site).
- Location 5: Air sample located at the fixed location near the northwest corner of Main Street and South Chattanooga Street (northwest of the Site).
- Location 6: Air sample co-located with air monitoring equipment at the fixed location near the northeast corner of Main Street and Magnolia Street (northwest of the Site).
- POTW: Air sample located near the entrance to the POTW located approximately 1,000 feet from the Site (southeast of the Site).

The purpose of the air samples was to assess the presence or absence of airborne fibers that might be migrating off site during ER activities. In accordance with the Office of Solid Waste and Emergency Response (OSWER) Directive #9200.0-68 (Framework for Investigating Asbestos-Contaminated Superfund Sites), a site action level of 0.001 fibers per cubic centimeter (f/cc) was established by EPA for each of the air sampling locations, which were considered residential areas. The air samples were analyzed by Material Analytical Services (MAS), located in Suwanee, Georgia, using phase contrast microscopy (PCM) in accordance with the guidelines established in CFR 1926.1101, Safety and Health Regulations for Construction - Asbestos, Appendix A and Appendix B, using the National Institute of Occupational Safety

and Health (NIOSH) Method 7400. None of the PCM air sampling results exceeded the residential action level, and therefore, analysis by transmission electron microscopy (TEM) using the NIOSH Method 7402, Asbestos by Transmission Electron Microscopy, was not conducted. Table 1 in Enclosure 3 provides a summary of the PCM analytical results. Enclosure 6 contains a copy of the analytical data package provided by MAS.

Surface Water Assessment and Sampling

During ER activities, an unknown blue liquid was discovered emanating from various locations at the Site and entering the Chattooga River. Concerns were raised by local officials regarding the discharge of contaminated water from the Site, which is channeled directly to the nearby POTW, and its potential effects on the POTW's discharge limits as established under their National Pollutant Discharge Elimination System (NPDES) permit. As a result, EPA directed Tetra Tech START to collect the following samples (see Figure 4 in Enclosure 1):

- OBM-RUNOFF-01: Surface water sample collected from the Chattooga River where it flows beneath McLemore Street. This sample was collected to characterize surface water at a point downstream of where the blue liquid was entering the river.
- OBM-BLUELIQUID-01: Waste sample collected from the blue liquid observed emanating from the Site along the eastern side of the building.

Surface water samples were submitted to Analytical Environmental Services (AES) in Atlanta, Georgia for laboratory analyses, including VOCs, semi-volatile organic compounds, metals, and a series of water quality parameters associated with the POTW's NPDES discharge permit. Table 2 in Enclosure 3 provides a summary of the analytical results for these samples. Enclosure 7 contains copies of the Tetra Tech START data validation reports and the associated laboratory analytical data packages for these samples.

Also during ER activities, representatives from the GA EPD conducted assessments of the Chattooga River downstream of the Site to assess the impacts to the waterway and wildlife associated with runoff from the Site. Details of the GA EPD assessment activities were not available at the time this report was prepared.

Community Involvement

During ER activities, EPA Region 4 provided assistance to local officials regarding community involvement activities, including conducting media interviews and communicating with local residents. EPA Community Involvement Coordinator (CIC) Angela Miller coordinated with ATSDR representatives and local officials to arrange a public availability session (PAS) that was held at the LaFayette-Walker County Public Library on Tuesday, November 17. The PAS was hosted by ATSDR representatives and supported by OSC Williamson and CIC Miller along with representatives from GA EPD and city officials. A total of 16 people attended the PAS, during which the hosts provided one-on-one consultation with attendees to respond to their questions and concerns regarding health concerns associated with the fire.

If you have any questions or need additional copies of this letter report, please call me at 678-775-3106.

Sincerely,

Brian Croft
START IV Team Member

Andrew F. Johnson
START IV Program Manager

Enclosures (7)

cc: Katrina Jones, EPA Project Officer
Angel Reed, START IV Document Control Coordinator

ENCLOSURE 1

FIGURES

(Four Pages)

ENCLOSURE 2

TABLES

AIR MONITORING RESULTS

(Eight Pages)

ENCLOSURE 3

TABLES

MULTI-MEDIA SAMPLING RESULTS

(Five Pages)

ENCLOSURE 4

PHOTOGRAPHIC LOG

(36 Pages)

ENCLOSURE 5

TETRA TECH FIELD LOGBOOK NOTES

(12 Sheets)

ENCLOSURE 6

DATA VALIDATION REPORTS AND LABORATORY ANALYTICAL DATA PACKAGES

SURFACE WATER SAMPLES

(92 Pages)

ENCLOSURE 7

LABORATORY ANALYTICAL DATA PACKAGE

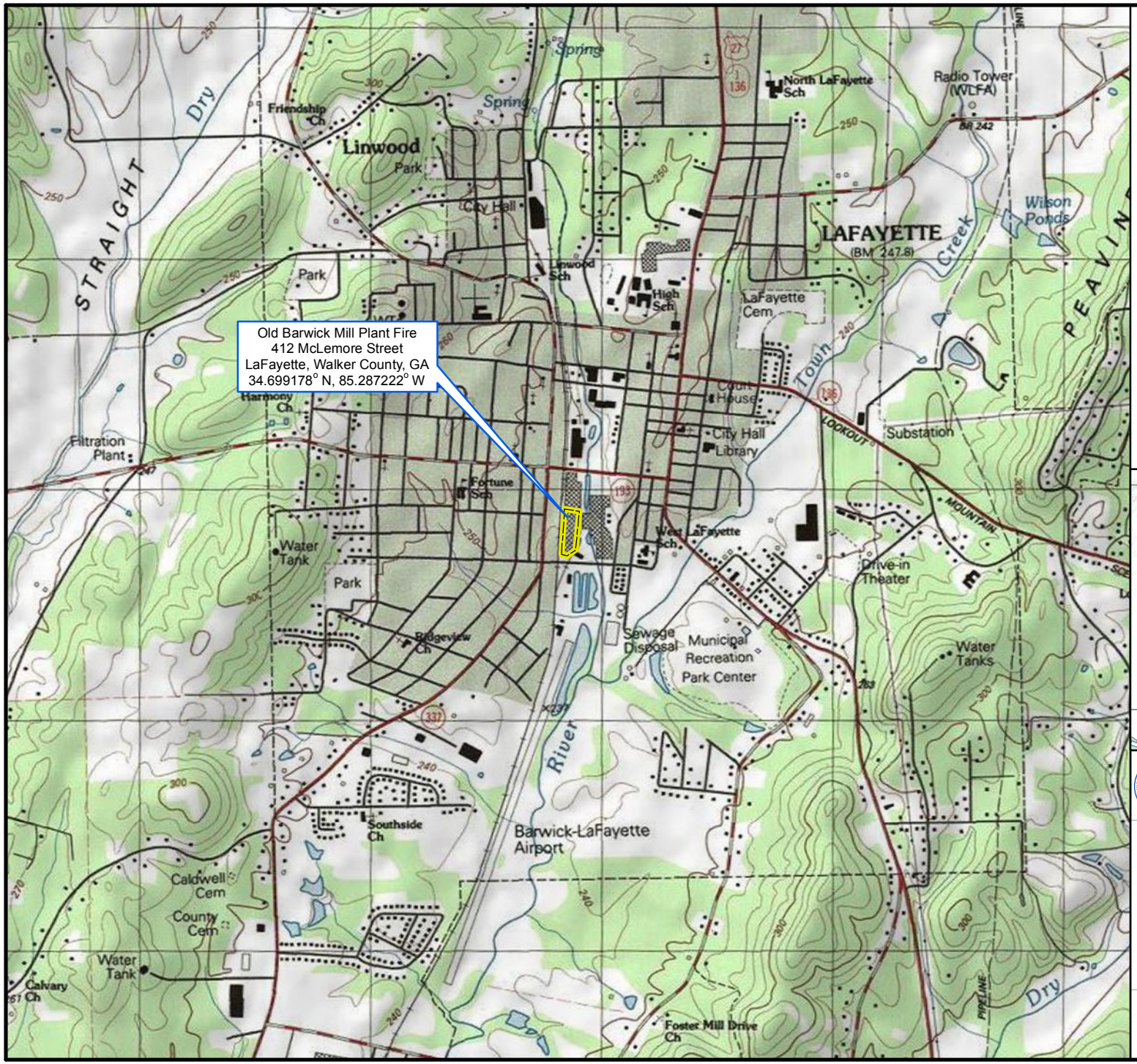
AIR SAMPLES

(Two Pages)

ENCLOSURE 1

FIGURES

(Four Pages)



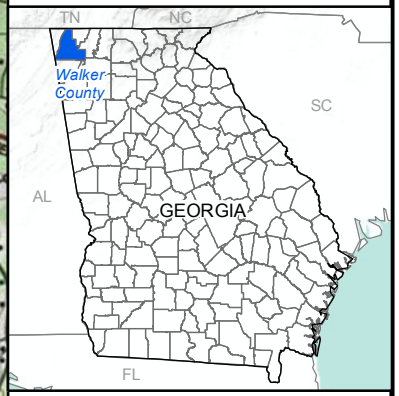
Legend

Approximate Extent of Fire

N
W E
S

0 1,000 2,000
Feet

Map Source:
USGS Topographic Quadrangle,
Estelle, GA 1984.



United States Environmental Protection Agency
Region 4

FIGURE 1

Site Location

TDD Name: Old Barwick Mill Plant Fire

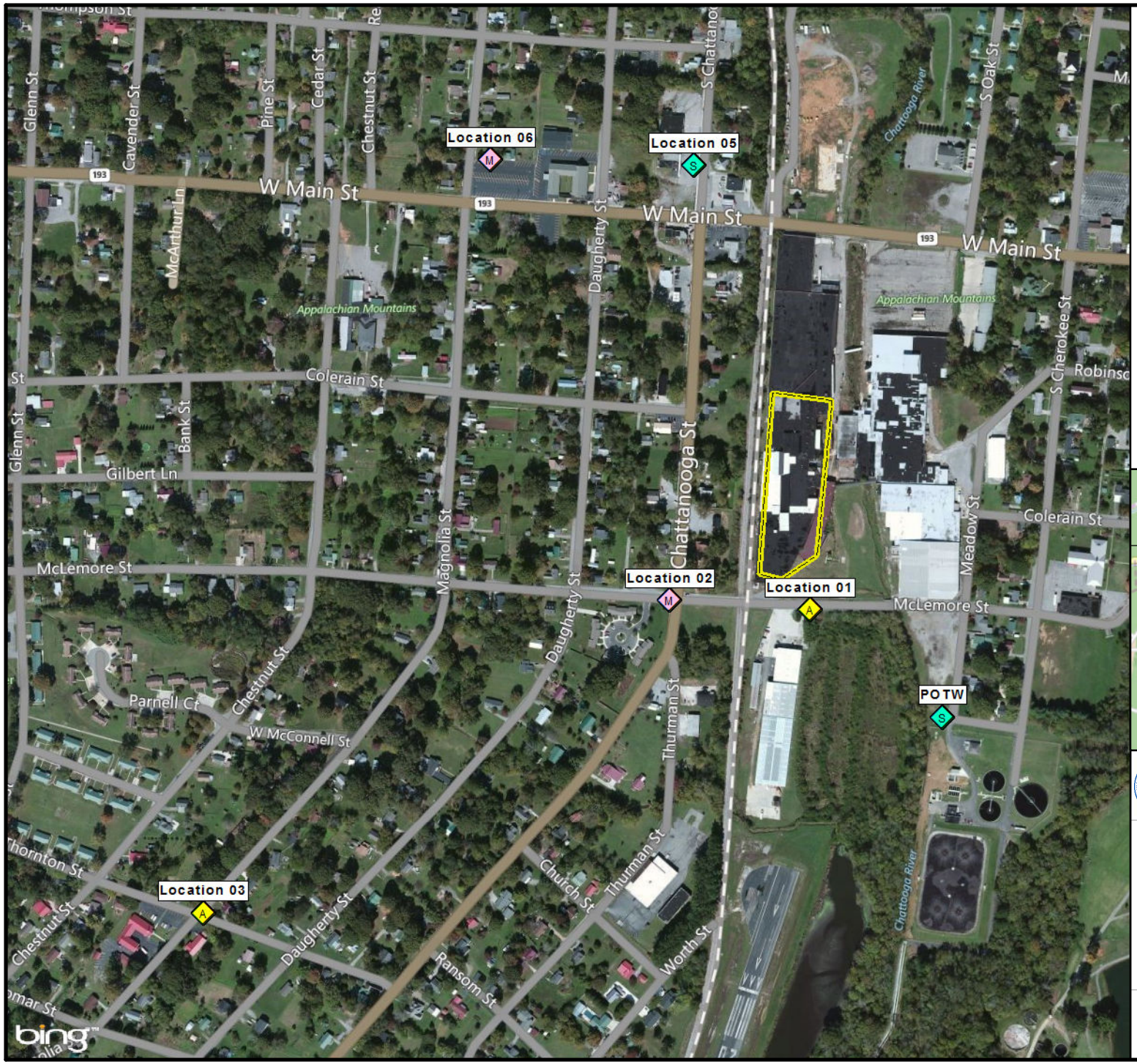
TDD No.: TT-01-040

City:	County:	State:
LaFayette	Walker	Georgia

TETRA TECH

Date: 11/29/2015
Analyst: dale.vonbusch

File: L:\TT-01-040_Old_Barwick_Mill_Plant_Fire\mxd\site_location.mxd



Legend

- Air Monitoring Location
- Air Sampling Location
- Air Monitoring & Sampling Location
- Approximate Extent of Fire

N
W E
S

0 250 500
Feet

Map Source:
USGS Topographic Quadrangle,
Estelle, GA 1984.

United States Environmental Protection Agency
Region 4

FIGURE 2

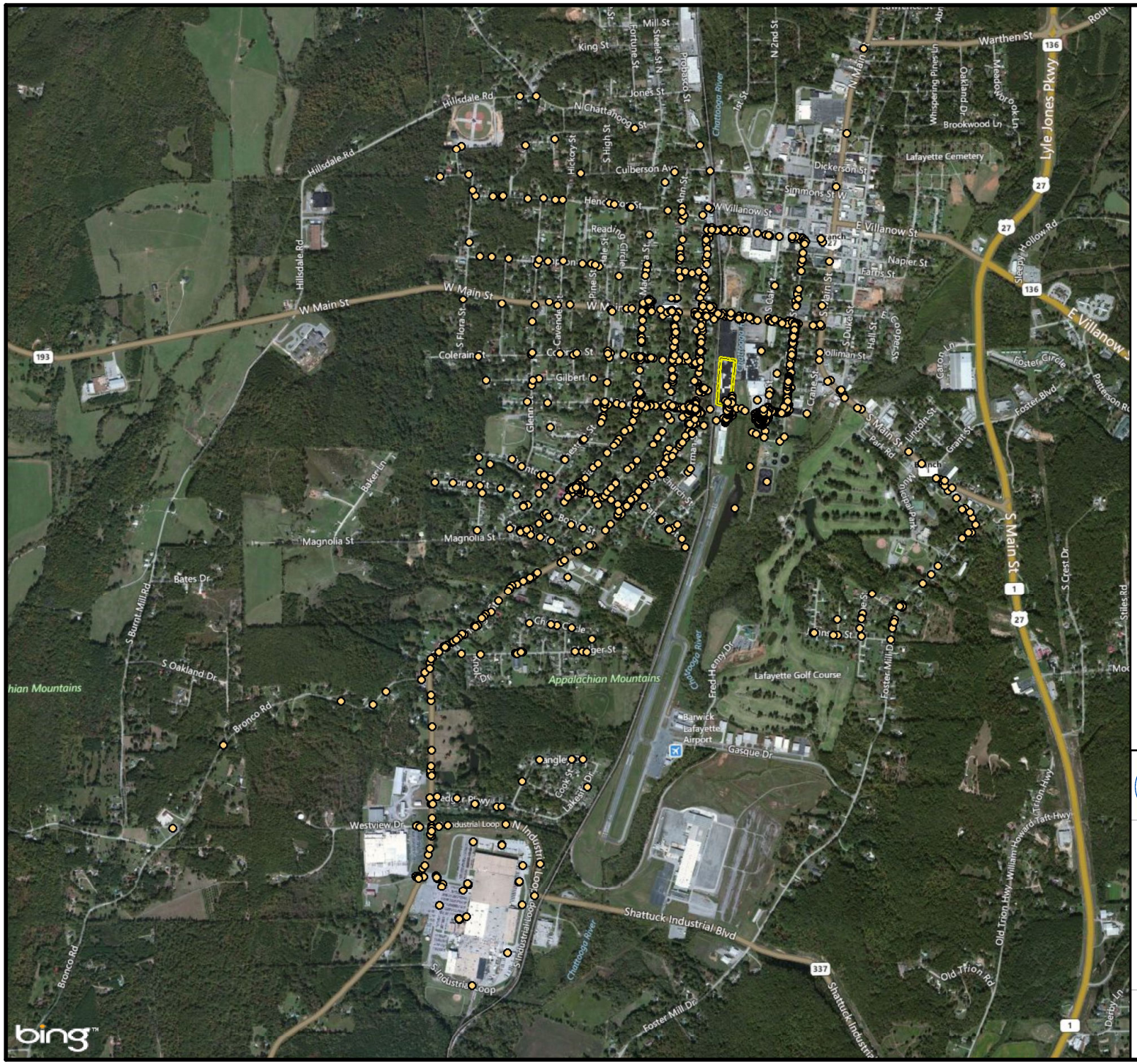
Site Layout with Air Monitoring and Sampling Locations

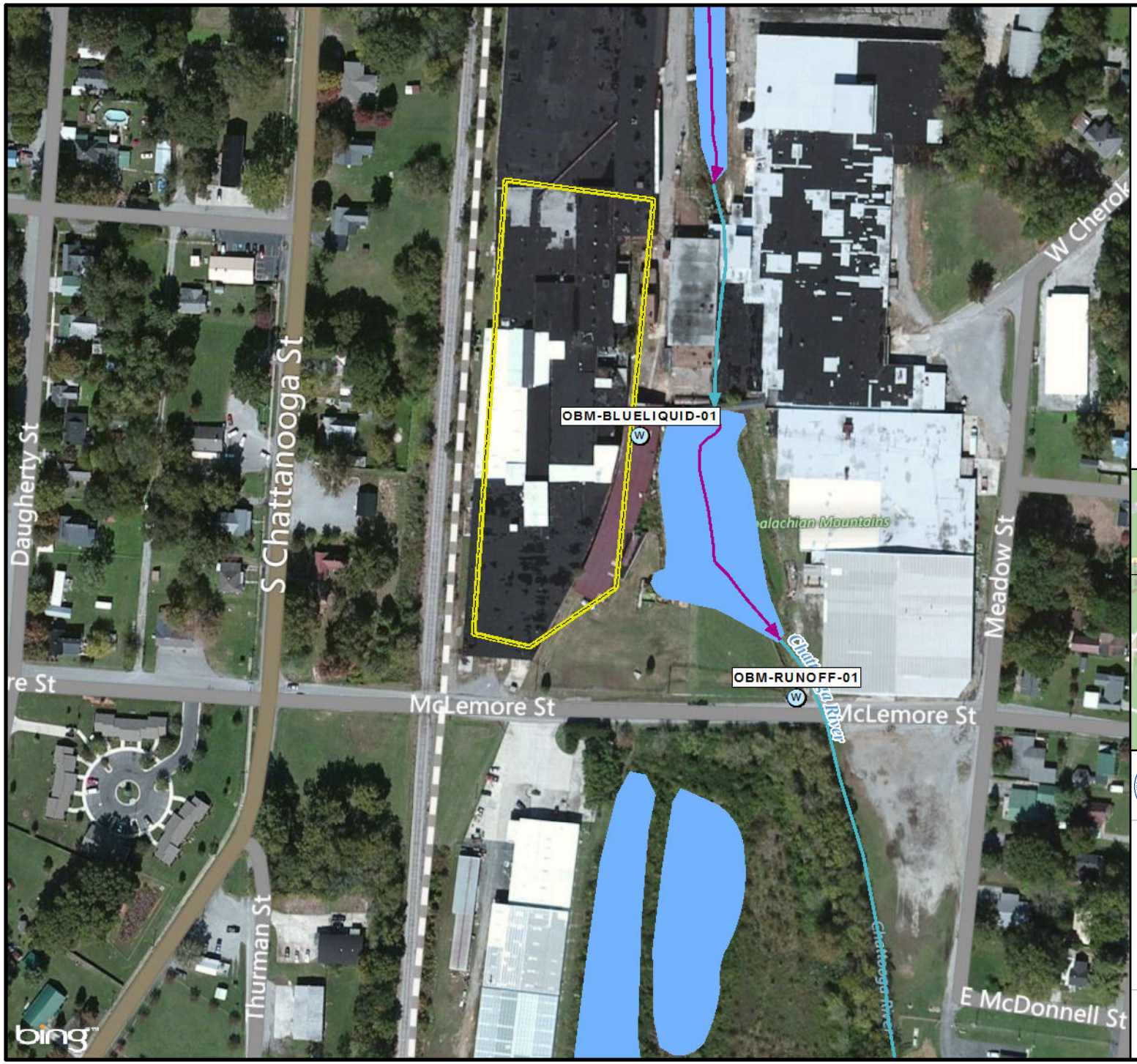
TDD Name: Old Barwick Mill Plant Fire
TDD No.: TT-01-040
City: LaFayette
County: Walker
State: Georgia

TETRA TECH

Date: 12/1/2015
Analyst: dale.vonbusch

File: L:\TT-01-040_Old_Barwick_Mill_Plant_Fire\mxd\site_layout-monitoring-sampling.mxd


Legend
Mobile Air Monitoring Location
Approximate Extent of Fire
N
W
E
S
0
1,000
2,000
Feet
Map Source:
Bing Maps Aerial Imagery, 2010-2012.
United States
Environmental Protection Agency
Region 4
FIGURE 3
Mobile Air Monitoring Extent
11/14/2015 to 11/17/2015
TDD Name: Old Barwick Mill Plant Fire
TDD No.: TT-01-040
City: LaFayette
County: Walker
State: Georgia
TETRA TECH
Date: 12/1/2015
Analyst: dale.vonbusch
File: L:\TT-01-040_Old_Barwick_Mill_Plant_Fire\mxd\mobile_air_monitoring.mxd



Legend

- Surface Water Sample Location
- Approximate Extent of Fire

N
W E
S

0 100 200
Feet

Map Source:
Bing Maps Aerial Imagery, 2010-2012.

United States Environmental Protection Agency Region 4

FIGURE 4

Site Layout with Surface Water Sampling Locations

TDD Name: Old Barwick Mill Plant Fire
TDD No.: TT-01-040
City: LaFayette **County:** Walker **State:** Georgia

TETRA TECH

Date: 12/1/2015
Analyst: dale.vonbusch

File: L:\TT-01-040_Old_Barwick_Mill_Plant_Fire\mxd\site_layout-surface-water.mxd

ENCLOSURE 2

TABLES

AIR MONITORING RESULTS

(Eight Pages)

Particulate (Totals) Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Old Barwick Mill Fire
Date: November 14 to November 15, 2015
Time: 11:30 PM - 9:42 AM

Location 1						
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Operation Period TWA**	**Level of Health Concern**	**Action Level**
Data Ram	TSP	546	15.4 - 476.5 µg/m^3	39.0 µg/m^3	Unhealthy for Sensative Groups	55.5 µg/m^3

Location 2						
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Operation Period TWA**	**Level of Health Concern**	**Action Level**
Data Ram	TSP	467	11.4 - 1001.8 µg/m^3	93.97 µg/m^3	Unhealthy	55.5 µg/m^3

Location 3						
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Operation Period TWA**	**Level of Health Concern**	**Action Level**
Data Ram	TSP	518	16.2 - 101.1 µg/m^3	28.67 µg/m^3	Moderate	55.5 µg/m^3

Location 4 (Roving)*						
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Operation Period TWA**	**Level of Health Concern**	**Action Level**
Data Ram	TSP	470	0 - 1359.1 µg/m^3	22.48 µg/m^3	Moderate	55.5 µg/m^3

Notes:

Location 1 is located south of the facility, across McLemore Street.

Location 2 is located southwest of the facility, at the intersection of South Chattanooga Street and McLemore Street.

Location 3 is located southwest of the facility, at the intersection of Magnolia Street and Thornton Street.

Location 4 is a mobile roving location.

*	Due to the facility fire, a smoke plume was observed in residential areas on the southwestern, western, and northwestern sides of the mill. Due to limited resources, the mobile air monitoring unit focused in these areas to obtain readings in affected residential areas where no fixed locations were stationed.
<	Less than
NA	Not Applicable
ppm	Parts per million
TSP	Total suspended particulates
µg/m^3	micrograms per cubic meter
TWA	Time-weighted average

Volatile Organic Compound (VOC), Carbon Monoxide (CO), and Hydrogen Sulfide (H2S) Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Old Barwick Mill Fire
Date: November 14 to November 15, 2015
Time: 11:30 PM - 9:42 AM

Location 1					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	476	0 ppm	0 ppm	5 ppm
	CO	476	0 ppm	0 ppm	35 ppm
	H2S	476	0 - 0.1 ppm	0.003 ppm	10 ppm

Location 2					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	463	0 - 0.4 ppm	0.07 ppm	5 ppm
	CO	463	0 - 1.6 ppm	0.1 ppm	35 ppm
	H2S	463	0 - 0.2ppm	0 ppm	10 ppm

Location 3					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	465	0 - 1 ppm	0.71 ppm	5 ppm
	CO	465	0 - 3.7 ppm	1.5 ppm	35 ppm
	H2S	465	0 ppm	0.0 ppm	10 ppm

Location 4					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	533	0 - 4 ppm	0.01 ppm	5 ppm
	CO	533	0 - 1.2 ppm	0.003 ppm	35 ppm
	H2S	533	0 - 0.4 ppm	0.19 ppm	10 ppm

Notes:

Location 1 is located south of the facility, across McLemore Street.

Location 2 is located southwest of the facility, at the intersection of South Chattanooga Street and McLemore Street.

Location 3 is located southwest of the facility, at the intersection of Magnolia Street and Thornton Street.

Location 4 is a mobile roving location.

<	Less than
CO	Carbon Monoxide
NA	Not Applicable
H2S	Hydrogen Sulfide
ppm	Parts per million
$\mu g/m^3$	micrograms per cubic meter
TWA	Time-weighted average
VOC	Volatile organic compounds

DataRAM Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Old Barwick Mill Fire
Date: November 15 to November 16, 2015
Time: 9:30 AM - 9:00 AM

Location 1							
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 1-hr TWA**	**24-hr TWA**	**Level of Health Concern**	**Action Level**
Data Ram	PM-2.5	2282	5.2 - 1542.2 µg/m^3	225.7 µg/m^3	81.6 µg/m^3	Unhealthy	55.5 µg/m^3

Location 2							
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 1-hr TWA**	**24-hr TWA**	**Level of Health Concern**	**Action Level**
Data Ram	PM-2.5	2594	7.0 - 1570.7 µg/m^3	1001.8 µg/m^3	149.2 µg/m^3	Unhealthy	55.5 µg/m^3

Location 3							
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 1-hr TWA**	**24-hr TWA**	**Level of Health Concern**	**Action Level**
Data Ram	PM-2.5	2798	13.9 - 521.7 µg/m^3	297.98 µg/m^3	103.7 µg/m^3	Unhealthy	55.5 µg/m^3

Location 4 (Roving)							
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 1-hr TWA**	**24-hr TWA**	**Level of Health Concern**	**Action Level**
Data Ram	PM-2.5	3554	4.9 - 2236.7 µg/m^3	227.4 µg/m^3	50.8 µg/m^3	Unhealthy for Sensitive Groups	55.5 µg/m^3

Notes:

Air Monitoring at each location included monitoring for volitile organic compounds, hydrogen sulfide, oxygen, carbon monoxide, and lower explosive level. No exceedances of the action levels for these parameters were observed.

Location 1 is located south of the facility, across McLemore Street.

Location 2 is located southwest of the facility, at the intersection of South Chattanooga Street and McLemore Street.

Location 3 is located southwest of the facility, at the intersection of Magnolia Street and Thorton Street.

Location 4 is a mobile roving location. Location 4 (Roving) was intentionally biased to focus on obtaining readings from within the smoke plume.

<	Less than
NA	Not Applicable
PM-2.5	Particulate matter with an average diameter less than 2.5 microns
ppm	Parts per million
µg/m^3	micrograms per cubic meter
TWA	Time-weighted average

AreaRAE Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Old Barwick Mill Fire
Date: November 15 to November 16, 2015
Time: 9:30 AM - 9:00 AM

Location 1					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	2241	0 - 9.7 ppm	5.5 ppm	5 ppm
	CO	2244	0 - 13.5 ppm	0.97 ppm	35 ppm
	H2S	2240	0 - 0.2 ppm	0.07 ppm	10 ppm

Location 2					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	2263	0 - 3.5 ppm	0.3 ppm	5 ppm
	CO	2264	0 - 89.4 ppm	0.99 ppm	35 ppm
	H2S	2263	0 ppm	0.05 ppm	10 ppm

Location 3					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	2690	0 - 6.8 ppm	0.38 ppm	5 ppm
	CO	2694	0 - 5.7 ppm	0.3 ppm	35 ppm
	H2S	2688	0 ppm	0.0 ppm	10 ppm

Location 4					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	3868	0 - 6.1 ppm	0.38 ppm	5 ppm
	CO	3874	0 - 93.3 ppm	5.1 ppm	35 ppm
	H2S	3867	0 ppm	0.0 ppm	10 ppm

Notes:

Location 1 is located south of the facility, across McLemore Street.

Location 2 is located southwest of the facility, at the intersection of South Chattanooga Street and McLemore Street.

Location 3 is located southwest of the facility, at the intersection of Magnolia Street and Thorton Street.

Location 4 is a mobile roving location.

<	Less than
CO	Carbon Monoxide
NA	Not Applicable
H2S	Hydrogen Sulfide
ppm	Parts per million
$\mu g/m^3$	micrograms per cubic meter
TWA	Time-weighted average
VOC	Volatile organic compounds

Particluates ($PM_{2.5}$)Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Old Barwick Mill Fire
Date: November 16 to November 17, 2015 (24-hour)
Time: 9:00 AM - 9:00 AM

Location 1*							
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 1-hr TWA**	**Operation Period TWA**	**Level of Health Concern**	**Action Level**
Data Ram	PM-2.5	868	3.6 - 297.4 µg/m^3	80.5 µg/m^3	29.45 µg/m^3	Moderate	55.5 µg/m^3

Location 2							
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 1-hr TWA**	**24-hr TWA**	**Level of Health Concern**	**Action Level**
Data Ram	PM-2.5	2596	2 - 637.1 µg/m^3	132.31 µg/m^3	42.58 µg/m^3	Unhealthy for Sensative Groups	55.5 µg/m^3

Location 3							
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 1-hr TWA**	**24-hr TWA**	**Level of Health Concern**	**Action Level**
Data Ram	PM-2.5	2782	10 - 593.2 µg/m^3	192.95 µg/m^3	50.02 µg/m^3	Unhealthy for Sensative Groups	55.5 µg/m^3

Location 4 (Roving)							
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 1-hr TWA**	**24-hr TWA**	**Level of Health Concern**	**Action Level**
Data Ram	PM-2.5	3748	2.8 - 8389.9 µg/m^3	4600.6 µg/m^3	292.45 µg/m^3	Hazardous	55.5 µg/m^3

Location 6*							
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 1-hr TWA**	**24-hr TWA**	**Level of Health Concern**	**Action Level**
Data Ram	PM-2.5	1796	6.8 - 392 µg/m^3	81.75 µg/m^3	20.33 µg/m^3	Moderate	55.5 µg/m^3

Notes:

Location 4 (Roving) was intentionally biased to focus on obtaining readings from within the smoke plume.

Location 1 is located south of the facility, across McLemore Street.

Location 2 is located southwest of the facility, at the intersection of South Chattanooga Street and McLemore Street.

Location 3 is located southwest of the facility, at the intersection of Magnolia Street and Thorton Street.

Location 4 is a mobile roving location. Location 4 (Roving) was intentionally biased to focus on obtaining readings from within the smoke plume.

*	The instruments located at location 1 were moved to Location 6 at approximately 5:30 PM to address the plume that began drifing northward.
**	Following an attempt to put out a large amount of smoldering materials on November 16, a smoke plume was observed in close proximity to the residential area on the western and northwestern side of the mill. In order to better determine maximum particulate matter readings in this plume and inform decision making by local officials, the mobile air monitoring unit was refocused in the area of the plume to obtain a worst case estimate of PM2.5. Readings for Location 4, incorporate these "worst case" estimates.
<	Less than
NA	Not Applicable
PM-2.5	Particulate matter with an average diameter less than 2.5 microns
ppm	Parts per million
µg/m^3	micrograms per cubic meter
TWA	Time-weighted average

Volatile Organic Compound (VOC), Carbon Monoxide (CO), and Hydrogen Sulfide (H2S) Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Old Barwick Mill Fire
Date: November 16 to November 17, 2015 (24-hour)
Time: 9:00 AM - 9:00 AM

Location 1*					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	977	0 - 3.8 ppm	0.75 ppm	5 ppm
	CO	978	0 - 2.7 ppm	0.96 ppm	35 ppm
	H2S	977	0 - 0.1 ppm	0.01 ppm	10 ppm

Location 2					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	2378	0 - 3.5 ppm	1.13 ppm	5 ppm
	CO	2378	0 - 45.1 ppm	5.8 ppm	35 ppm
	H2S	2378	0 ppm	0 ppm	10 ppm

Location 3					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	3135	0 - 6 ppm	0.33 ppm	5 ppm
	CO	3138	0 - 8.6 ppm	4.6 ppm	35 ppm
	H2S	3130	0 ppm	0.0 ppm	10 ppm

Location 4					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	3017	0 - 5.4 ppm	0.31 ppm	5 ppm
	CO	3018	0 - 72.8 ppm	2.3 ppm	35 ppm
	H2S	3015	0 ppm	0.0 ppm	10 ppm

Location 6*					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	1594	0 - 3.8 ppm	2.58 ppm	5 ppm
	CO	1596	0.6 - 37.9 ppm	9.3 ppm	35 ppm
	H2S	1590	0 - 0.1 ppm	0.03 ppm	10 ppm

Notes:

Location 1 is located south of the facility, across McLemore Street.

Location 2 is located southwest of the facility, at the intersection of South Chattanooga Street and McLemore Street.

Location 3 is located southwest of the facility, at the intersection of Magnolia Street and Thorton Street.

Location 4 is a mobile roving location.

Locaton 5 is located at Magnolia Street and West Main Street

*	The instruments located at location 1 were moved to Location 6 at approximately 5:30 PM to address the plume that began drifing northward.
<	Less than
CO	Carbon Monoxide
NA	Not Applicable
H2S	Hydrogen Sulfide
ppm	Parts per million
µg/m^3	micrograms per cubic meter
TWA	Time-weighted average
VOC	Volatile organic compounds

Particulate ($PM_{2.5}$) Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Old Barwick Mill Fire
Date: November 17 to November 18, 2015 (24-hour)
Time: 9:00 AM to 9:00 AM

Location 2							
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 1-hr TWA**	**Operation Period TWA**	**Level of Health Concern**	**Action Level**
Data Ram	PM-2.5	2430	1.1 - 384.7 µg/m^3	141.4 µg/m^3	9.27 µg/m^3	Good	55.5 µg/m^3

Location 3							
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 1-hr TWA**	**Operation Period TWA**	**Level of Health Concern**	**Action Level**
Data Ram	PM-2.5	2676	7.5 - 63.9 µg/m^3	54.08 µg/m^3	15.3 µg/m^3	Good	55.5 µg/m3

Location 4 (Roving)							
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 1-hr TWA**	**Operation Period TWA**	**Level of Health Concern**	**Action Level**
Data Ram	PM-2.5	1478	0.1 - 76.1 µg/m^3	54.08 µg/m^3	15.33 µg/m^3	Good	55.5 µg/m3

Location 6							
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 1-hr TWA**	**Operation Period TWA**	**Level of Health Concern**	**Action Level**
Data Ram	PM-2.5	2816	1.5 - 236.3 µg/m^3	50.1 µg/m^3	11.42 µg/m^3	Good	55.5 µg/m3

Notes:

Location 2 is located southwest of the facility, at the intersection of South Chattanooga Street and McLemore Street.

Location 3 is located southwest of the facility, at the intersection of Magnolia Street and Thornton Street.

Location 4 is a mobile roving location.

Location 6 is located at Magnolia Street and West Main Street.

<	Less than
NA	Not Applicable
PM-2.5	Particulate matter with an average diameter less than 2.5 microns
µg/m^3	micrograms per cubic meter
TWA	Time-weighted average

Volatile Organic Compound (VOC), Carbon Monoxide (CO), Hydrogen Sulfide (H2S), and Hydrochloric Acid Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Old Barwick Mill Fire
Date: November 17 to November 18, 2015 (24-hour)
Time: 9:00 AM to 9:00 AM

Location 2					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	2534	0 - 2.8 ppm	1.1 ppm	5 ppm
	CO	2540	0 - 12.7 ppm	5.6 ppm	35 ppm
	H2S	2534	0 ppm	0 ppm	10 ppm
SPM	HCl	1722	0 ppm	0 ppm	5 ppm

Location 3					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	3490	0 - 0.9 ppm	0.34 ppm	5 ppm
	CO	3496	0 - 15.8 ppm	0.1 ppm	35 ppm
	H2S	3487	0 ppm	0.0 ppm	10 ppm

Location 4 (Roving)					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	2795	0 - 2 ppm	0.58 ppm	5 ppm
	CO	2800	0 - 5 ppm	0.22 ppm	35 ppm
	H2S	2791	0 ppm	0 ppm	10 ppm

Location 6					
Instrument	**Analyte**	**Number of Readings**	**Concentration Range**	**Max 8-hr TWA**	**Action Level**
AreaRAE	VOC	3758	0 - 2.9 ppm	2.6 ppm	5 ppm
	CO	3764	0.2 - 9.1 ppm	2.6 ppm	35 ppm
	H2S	3759	0.1 ppm	0.03 ppm	10 ppm

Notes:

Location 2 is located southwest of the facility, at the intersection of South Chattanooga Street and McLemore Street.

Location 3 is located southwest of the facility, at the intersection of Magnolia Street and Thornton Street.

Location 4 is a mobile roving location.

Location 6 is located at Magnolia Street and West Main Street.

<	Less than
CO	Carbon Monoxide
HCl	Hydrochloric acid
NA	Not Applicable
H2S	Hydrogen Sulfide
ppm	Parts per million
µg/m^3	micrograms per cubic meter
TWA	Time-weighted average
VOC	Volatile organic compounds

ENCLOSURE 3

TABLES

MULTI-MEDIA SAMPLING RESULTS

(Five Pages)

TABLE 1
RESULTS FOR PHASE CONTRAST MICROSCOPY ANALYSES OF AIR SAMPLES

SAMPLE ID	AIR VOLUME (liters)	TOTAL FIBERS COUNTED	TOTAL FIELDS COUNTED	FIBER DENSITY (f/mm^2)	DETECTION LIMIT (f/cc)	CALCULATED CONCENTRATION (f/cc)
Location 2	3,132	5.5	100	7	0.00086	0.00086
Location 5	3,171	2	100	2.5	0.00085	< 0.00085
Location 6	3,180	4	100	5.1	0.00085	< 0.00085
POTW	3,237	2	100	2.5	0.00083	< 0.00083

Notes

cc cubic centimeter

f Fiber(s)

mm^2 Square millimeter

TABLE 2
VALIDATED ANALYTICAL RESULTS FOR SURFACE WATER SAMPLES

ANALYTE	SAMPLE IDENTIFICATION					
	OBM-RUNOFF-01			OBM-BLUELIQUID-01[a]		
Volatile Organic Compounds						
1,1,1-Trichloroethane	5.0	µg/L	U	2500	µg/kg	U
1,1,2,2-Tetrachloroethane	5.0	µg/L	U	2500	µg/kg	U
1,1,2-Trichloroethane	5.0	µg/L	U	2500	µg/kg	U
1,1-Dichloroethane	5.0	µg/L	U	2500	µg/kg	U
1,1-Dichloroethene	5.0	µg/L	U	2500	µg/kg	U
1,2,4-Trichlorobenzene	5.0	µg/L	U	2500	µg/kg	U
1,2-Dibromo-3-chloropropane	5.0	µg/L	U	2500	µg/kg	U
1,2-Dibromoethane	5.0	µg/L	U	2500	µg/kg	U
1,2-Dichlorobenzene	5.0	µg/L	U	2500	µg/kg	U
1,2-Dichloroethane	5.0	µg/L	U	2500	µg/kg	U
1,2-Dichloropropane	5.0	µg/L	U	2500	µg/kg	U
1,3-Dichlorobenzene	5.0	µg/L	U	2500	µg/kg	U
1,4-Dichlorobenzene	5.0	µg/L	U	2500	µg/kg	U
2-Butanone	50	µg/L	U	25000	µg/kg	U
2-Hexanone	10	µg/L	U	4900	µg/kg	U
4-Methyl-2-pentanone	10	µg/L	U	4900	µg/kg	U
Acetone	**16**	**µg/L**	**J**	25000	µg/kg	U
Benzene	**1.1**	**µg/L**	**J**	2500	µg/kg	U
Bromodichloromethane	5.0	µg/L	U	2500	µg/kg	U
Bromoform	5.0	µg/L	U	2500	µg/kg	U
Bromomethane	5.0	µg/L	U	2500	µg/kg	U
Carbon disulfide	5.0	µg/L	U	4900	µg/kg	U
Carbon tetrachloride	5.0	µg/L	U	2500	µg/kg	U
Chlorobenzene	5.0	µg/L	U	2500	µg/kg	U
Chloroethane	10	µg/L	U	4900	µg/kg	U
Chloroform	5.0	µg/L	U	2500	µg/kg	U
Chloromethane	10	µg/L	U	4900	µg/kg	U
cis-1,2-Dichloroethene	5.0	µg/L	U	2500	µg/kg	U
cis-1,3-Dichloropropene	5.0	µg/L	U	2500	µg/kg	U
Cyclohexane	5.0	µg/L	U	2500	µg/kg	U
Dibromochloromethane	5.0	µg/L	U	2500	µg/kg	U
Dichlorodifluoromethane	10	µg/L	U	4900	µg/kg	U
Ethylbenzene	5.0	µg/L	U	2500	µg/kg	U
Freon-113	10	µg/L	U	4900	µg/kg	U
Isopropylbenzene	5.0	µg/L	U	2500	µg/kg	U
m,p-Xylene	**0.73**	**µg/L**	**J**	2500	µg/kg	U
Methyl acetate	5.0	µg/L	U	2500	µg/kg	U
Methyl tert-butyl ether	5.0	µg/L	U	2500	µg/kg	U
Methylcyclohexane	5.0	µg/L	U	2500	µg/kg	U
Methylene chloride	5.0	µg/L	U	2500	µg/kg	U
o-Xylene	5.0	µg/L	U	2500	µg/kg	U
Styrene	**47**	**µg/L**		**14000**	**µg/kg**	
Tetrachloroethene	**2.8**	**µg/L**	**J**	2500	µg/kg	U
Toluene	**0.57**	**µg/L**	**J**	2500	µg/kg	U
trans-1,2-Dichloroethene	5.0	µg/L	U	2500	µg/kg	U
trans-1,3-Dichloropropene	5.0	µg/L	U	2500	µg/kg	U

TABLE 2
VALIDATED ANALYTICAL RESULTS FOR SURFACE WATER SAMPLES

ANALYTE	SAMPLE IDENTIFICATION					
	OBM-RUNOFF-01			OBM-BLUELIQUID-01		
Volatile Organic Compounds, continued						
Trichloroethene	5.0	µg/L	U	2500	µg/kg	U
Trichlorofluoromethane	5.0	µg/L	U	2500	µg/kg	U
Vinyl chloride	2.0	µg/L	U	4900	µg/kg	U
Semivolatile Organic Compounds						
1,1´-Biphenyl	10	µg/L	U	500	mg/kg	U
2,4,5-Trichlorophenol	25	µg/L	U	2500	mg/kg	U
2,4,6-Trichlorophenol	10	µg/L	U	500	mg/kg	U
2,4-Dichlorophenol	10	µg/L	U	500	mg/kg	U
2,4-Dimethylphenol	10	µg/L	U	500	mg/kg	U
2,4-Dinitrophenol	25	µg/L	U	2500	mg/kg	U
2,4-Dinitrotoluene	10	µg/L	U	500	mg/kg	U
2,6-Dinitrotoluene	10	µg/L	U	500	mg/kg	U
2-Chloronaphthalene	10	µg/L	U	500	mg/kg	U
2-Chlorophenol	10	µg/L	U	500	mg/kg	U
2-Methylnaphthalene	**1.5**	**µg/L**	**J**	500	mg/kg	U
2-Methylphenol	10	µg/L	U	500	mg/kg	U
2-Nitroaniline	25	µg/L	U	2500	mg/kg	U
2-Nitrophenol	10	µg/L	U	500	mg/kg	U
3,3´-Dichlorobenzidine	10	µg/L	U	3400	mg/kg	U
3-Nitroaniline	25	µg/L	U	2500	mg/kg	U
4,6-Dinitro-2-methylphenol	25	µg/L	U	2500	mg/kg	U
4-Bromophenyl phenyl ether	10	µg/L	U	500	mg/kg	U
4-Chloro-3-methylphenol	10	µg/L	U	500	mg/kg	U
4-Chloroaniline	10	µg/L	U	500	mg/kg	U
4-Chlorophenyl phenyl ether	10	µg/L	U	500	mg/kg	U
4-Methylphenol	10	µg/L	U	500	mg/kg	U
4-Nitroaniline	25	µg/L	U	2500	mg/kg	U
4-Nitrophenol	25	µg/L	U	2500	mg/kg	U
Acenaphthene	10	µg/L	U	500	mg/kg	U
Acenaphthylene	10	µg/L	U	500	mg/kg	U
Acetophenone	10	µg/L	U	500	mg/kg	U
Anthracene	10	µg/L	U	500	mg/kg	U
Atrazine	10	µg/L	U	500	mg/kg	U
Benz(a)anthracene	10	µg/L	U	500	mg/kg	U
Benzaldehyde	10	µg/L	U	500	mg/kg	U
Benzo(a)pyrene	10	µg/L	U	500	mg/kg	U
Benzo(b)fluoranthene	10	µg/L	U	500	mg/kg	U
Benzo(g,h,i)perylene	10	µg/L	U	500	mg/kg	U
Benzo(k)fluoranthene	10	µg/L	U	500	mg/kg	U
Bis(2-chloroethoxy)methane	10	µg/L	U	500	mg/kg	U
Bis(2-chloroethyl)ether	10	µg/L	U	500	mg/kg	U
Bis(2-chloroisopropyl)ether	10	µg/L	U	500	mg/kg	U
Bis(2-ethylhexyl)phthalate	10	µg/L	U	500	mg/kg	U
Butyl benzyl phthalate	10	µg/L	U	500	mg/kg	U
Caprolactam	10	µg/L	U	500	mg/kg	U
Carbazole	10	µg/L	U	500	mg/kg	U

TABLE 2
VALIDATED ANALYTICAL RESULTS FOR SURFACE WATER SAMPLES

ANALYTE	SAMPLE IDENTIFICATION					
	OBM-RUNOFF-01			OBM-BLUELIQUID-01		
Semivolatile Organic Compounds, continued						
Chrysene	10	µg/L	U	500	mg/kg	U
Di-n-butyl phthalate	10	µg/L	U	500	mg/kg	U
Di-n-octyl phthalate	10	µg/L	U	500	mg/kg	U
Dibenz(a,h)anthracene	10	µg/L	U	500	mg/kg	U
Dibenzofuran	10	µg/L	U	500	mg/kg	U
Diethyl phthalate	10	µg/L	U	500	mg/kg	U
Dimethyl phthalate	10	µg/L	U	500	mg/kg	U
Fluoranthene	10	µg/L	U	500	mg/kg	U
Fluorene	10	µg/L	U	500	mg/kg	U
Hexachlorobenzene	10	µg/L	U	500	mg/kg	U
Hexachlorobutadiene	10	µg/L	U	500	mg/kg	U
Hexachlorocyclopentadiene	10	µg/L	U	500	mg/kg	U
Hexachloroethane	10	µg/L	U	500	mg/kg	U
Indeno(1,2,3-cd)pyrene	10	µg/L	U	500	mg/kg	U
Isophorone	10	µg/L	U	500	mg/kg	U
N-Nitrosodi-n-propylamine	10	µg/L	U	500	mg/kg	U
N-Nitrosodiphenylamine	10	µg/L	U	500	mg/kg	U
Naphthalene	**2.3**	**µg/L**	**J**	500	mg/kg	U
Nitrobenzene	10	µg/L	U	500	mg/kg	U
Pentachlorophenol	25	µg/L	UJ	2500	mg/kg	U
Phenanthrene	**2.6**	**µg/L**	**J**	500	mg/kg	U
Phenol	**12**	**µg/L**		500	mg/kg	U
Pyrene	10	µg/L	U	500	mg/kg	U
Metals						
Arsenic	**0.921**	**µg/L**	**J**	**0.135**	**mg/L**	
Barium	**111**	**µg/L**		**1.23**	**mg/L**	
Cadmium	**0.134**	**µg/L**	**J**	**0.0217**	**mg/L**	
Chromium	**1.39**	**µg/L**	**J**	**0.211**	**mg/L**	
Lead	**0.933**	**µg/L**	**J**	**0.243**	**mg/L**	
Selenium	**1.82**	**µg/L**	**J**	**0.0357**	**mg/L**	
Silver	1.00	µg/L	U	**0.0038**	**mg/L**	**J**
Mercury						
Mercury	**0.00004**	**mg/L**	**J**	**0.01586**	**mg/L**	

TABLE 2
VALIDATED ANALYTICAL RESULTS FOR SURFACE WATER SAMPLES

ANALYTE	SAMPLE IDENTIFICATION					
	OBM-RUNOFF-01			OBM-BLUELIQUID-01		
Water Quality Parameters						
Residue, Suspended (TSS)	**13.5**	**mg/L**		**9600**	**mg/L**	
Biochemical Oxygen Demand	**15.9**	**mg/L**		**12200**	**mg/L**	
Chromium, Hexavalent	0.0100	mg/L	U	2	mg/kg	U
Oil and Grease	5.7	mg/L	U	**573**	**mg/L**	
Phenolics, Total Recoverable	0.05	mg/L	U	**39.6**	**mg/L**	
Surfactants (MBAS)	**0.284**	**mg/L**		**468**	**mg/L**	
Phosphorus, Total (As P)	**0.174**	**mg/L**	**J+**	**202**	**mg/L**	
Nitrogen, total Kjeldahl (TKN)	**1.57**	**mg/L**	**J+**	**834**	**mg/L**	
Nitrogen, Ammonia (As N)	**0.225**	**mg/L**	**J+**	**300**	**mg/L**	
Nitrogen, Nitrate (As N)	**1.22**	**mg/L**		**16.9**	**mg/L**	**J**
Cyanide, Total	0.010	mg/L	U	**0.352**	**mg/L**	
Chlorine, Total Residual	0.200	mg/L	UJ	NA		
Chemical Oxygen Demand	**92.6**	**mg/L**		**73100**	**mg/L**	
Fecal Coliform (Colonies/100 mL)						
Fecal Coliform, (MF)	**330**		**J**	**600**	**mg/L**	**J-**

Notes

[a] Sample OBM-BLUELIQUID-01 was analyzed as a waste sample. As such, results for VOCs and SVOCs were reported in a mass per mass concentration and at dilutions to avoid damage to laboratory equipment.

bold Indicates analyte was positively identified at the associated value.

J The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.

J- The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.

mg/kg Milligrams per kilogram

mg/L Milligrams per liter

mL Milliliter

OBM Old Barwick Mill

µg/kg Micrograms per kilogram

µg/L Micrograms per liter

U The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).

UJ The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

ENCLOSURE 4

PHOTOGRAPHIC LOG

(36 Pages)

OFFICIAL PHOTOGRAPH NO. 1
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-014	**Location:**	LaFayette, Georgia
Orientation:	Southwest	**Date:**	November 14, 2015
Photographer:	Unknown	**Witness:**	Unknown

Subject: Firefighters applying water to the fully-involved fire at the Old Barwick Mill.

OFFICIAL PHOTOGRAPH NO. 2
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northwest	**Date:**	November 14, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Fully-involved fire burning in the southern portion of the Old Barwick Mill.

OFFICIAL PHOTOGRAPH NO. 3
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northwest	**Date:**	November 15, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Smoke plume rising from the fire at the Old Barwick Mill on the morning after the fire erupted. Runoff from the firefighting efforts accumulated in the low-lying area south and east of the building, and is visible in the middle of the photograph.

OFFICIAL PHOTOGRAPH NO. 4
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northwest	**Date:**	November 15, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Smoke plume continues to rise from the Old Barwick Mill. Chattooga River is visible in the right portion of the photograph along with blue liquid that was observed emanating from various locations of the building.

OFFICIAL PHOTOGRAPH NO. 5
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Southwest	**Date:**	November 15, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Tetra Tech, Inc. collecting surface water sample OBM-RUNOFF-01 from the Chattooga River at the point where it flows beneath McLemore Street. Blue liquid observed emanating from various locations of the building is visible in the river.

OFFICIAL PHOTOGRAPH NO. 6
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Southwest	**Date:**	November 15, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Air monitoring equipment deployed at Location 2 situated on the southwest corner of the intersection of McLemore Street and South Chattanooga Street.

OFFICIAL PHOTOGRAPH NO. 7
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northwest	**Date:**	November 16, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Smoke plume continues to rise from the Old Barwick Mill. Chattooga River is visible in the right portion of the photograph along with blue liquid that was observed emanating from various locations of the building.

OFFICIAL PHOTOGRAPH NO. 8
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northwest	**Date:**	November 16, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Smoke plume continues to rise from the Old Barwick Mill. Trackhoe is visible in the background as it clears a path to areas beneath collapsed portions of the building, where the fire continued to smolder.

OFFICIAL PHOTOGRAPH NO. 9
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	North	**Date:**	November 16, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Bulldozer used in conjunction with trackhoe to create a temporary "road" along the western side of the building to provide access for equipment and personnel to reach areas beneath collapsed portions of the building, where the fire continued to smolder.

OFFICIAL PHOTOGRAPH NO. 10
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northeast	**Date:**	November 16, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Smoke plume continues to rise from the Old Barwick Mill. Trackhoe visible within smoke plume working to clear path along the western side of the building and provide access for equipment and personnel to reach areas beneath collapsed portions of the building, where the fire continued to smolder.

OFFICIAL PHOTOGRAPH NO. 11
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northwest	**Date:**	November 16, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Smoke plume continues to rise from the Old Barwick Mill. Firefighters applying water to portions of the fire that continued to smolder.

OFFICIAL PHOTOGRAPH NO. 12
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northeast	**Date:**	November 16, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Smoke plume continues to rise from the Old Barwick Mill. Firefighters applying water to portions of the fire that continued to smolder.

OFFICIAL PHOTOGRAPH NO. 13
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northeast	**Date:**	November 16, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Blue liquid observed emanating from the southern end of the Old Barwick Mill.

OFFICIAL PHOTOGRAPH NO. 14
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northwest	**Date:**	November 17, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Much diminished smoke plume rising from the Old Barwick Mill. Hay bales placed in strategic locations to provide a containment measure for potential runoff from the area. Rains anticipated to begin falling on November 18. Chattooga River is also visible in the right portion of the photograph.

OFFICIAL PHOTOGRAPH NO. 15
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Southwest	**Date:**	November 17, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Blue liquid observed in concrete-lined channels located just east of the primary fire-impacted portion of the Old Barwick Mill. According to available information, the channels were used in the former mill operations, and currently direct water to the publicly-owned treatment works located approximately 1,000 feet southeast of the building.

OFFICIAL PHOTOGRAPH NO. 16
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northwest	**Date:**	November 17, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Blue liquid observed emanating from the Old Barwick Mill where the building meets the covered walkway that connects the facility to the building located to the east.

OFFICIAL PHOTOGRAPH NO. 17
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	North	**Date:**	November 17, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Blue liquid observed in Chattooga River along the eastern portion of the Old Barwick Mill facility. The covered walkway that connects the Old Barwick Mill to the building located to the east is visible in the upper left portion of the photograph.

OFFICIAL PHOTOGRAPH NO. 18
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northeast	**Date:**	November 17, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Blue liquid observed emanating from the Old Barwick Mill near the base of the railroad right-of-way that is present along the western side of the facility. Trackhoe is visible clearing a path to areas of the facility that continue to smolder.

OFFICIAL PHOTOGRAPH NO. 19
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	South	**Date:**	November 17, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Blue liquid observed emanating from the Old Barwick Mill in the area of the loading dock located immediately east of the primary fire-impacted portion of the building.

OFFICIAL PHOTOGRAPH NO. 20
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	West	**Date:**	November 17, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Damage present in the primary fire-impacted portions of the Old Barwick Mill.

OFFICIAL PHOTOGRAPH NO. 21
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	South	**Date:**	November 17, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Drums observed inside the Old Barwick Mill near the northern extent of the fire-impacted areas. Blue liquid also observed.

OFFICIAL PHOTOGRAPH NO. 22
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Southwest	**Date:**	November 17, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Damage present in the primary fire-impacted portions of the Old Barwick Mill. Photograph taken from near the southern end of the loading dock located immediately east of the building.

OFFICIAL PHOTOGRAPH NO. 23
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	West	**Date:**	November 17, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Damage present in the primary fire-impacted portions of the Old Barwick Mill. Photograph taken from near the southern end of the loading dock located immediately east of the building. Firefighters visible in the upper right portion of the photograph applying water to areas that continue to smolder.

OFFICIAL PHOTOGRAPH NO. 24
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northwest	**Date:**	November 17, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Damage and drums observed in the primary fire-impacted portions of the Old Barwick Mill. Photograph taken from near the southern end of the loading dock located immediately east of the building.

OFFICIAL PHOTOGRAPH NO. 25
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Southwest	**Date:**	November 17, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Damage and partially collapsed observed near the northern extent of the primary fire-impacted portions of the Old Barwick Mill.

OFFICIAL PHOTOGRAPH NO. 26
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northwest	**Date:**	November 18, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Fire deemed to be extinguished. Personnel continue to install runoff containment measures in anticipation of rain.

OFFICIAL PHOTOGRAPH NO. 27
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	North	**Date:**	November 18, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Personnel continue to install runoff containment measures in anticipation of rain.

OFFICIAL PHOTOGRAPH NO. 28
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	North	**Date:**	November 18, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Western portion of the Old Barwick Mill facility after firefighting efforts were completed.

OFFICIAL PHOTOGRAPH NO. 29
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	East	**Date:**	November 18, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Drums and debris observed within the fire-impacted areas along the western side of the Old Barwick Mill facility.

OFFICIAL PHOTOGRAPH NO. 30
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	East	**Date:**	November 18, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Drums and debris observed within the fire-impacted areas along the western side of the Old Barwick Mill facility.

OFFICIAL PHOTOGRAPH NO. 31
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	East	**Date:**	November 18, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: OSC Williamson and representative from Globe Environmental survey the damage observed within the fire-impacted areas along the western side of the Old Barwick Mill facility.

OFFICIAL PHOTOGRAPH NO. 32
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	East	**Date:**	November 18, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Drums and debris observed within the fire-impacted areas along the western side of the Old Barwick Mill facility.

OFFICIAL PHOTOGRAPH NO. 33
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northeast	**Date:**	November 18, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Drums and debris observed within the fire-impacted areas along the western side of the Old Barwick Mill facility.

OFFICIAL PHOTOGRAPH NO. 34
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northeast	**Date:**	November 18, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Drums and debris observed within the fire-impacted areas along the western side of the Old Barwick Mill facility.

OFFICIAL PHOTOGRAPH NO. 35
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Northeast	**Date:**	November 18, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Drums and debris observed within the fire-impacted areas along the western side of the Old Barwick Mill facility.

OFFICIAL PHOTOGRAPH NO. 36
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TT-01-040	**Location:**	LaFayette, Georgia
Orientation:	Southeast	**Date:**	November 18, 2015
Photographer:	Tetra Tech, Inc.	**Witness:**	Tetra Tech, Inc.

Subject: Drums and debris observed within the fire-impacted areas along the western side of the Old Barwick Mill facility.

ENCLOSURE 5

TETRA TECH FIELD LOGBOOK NOTES

(12 Sheets)

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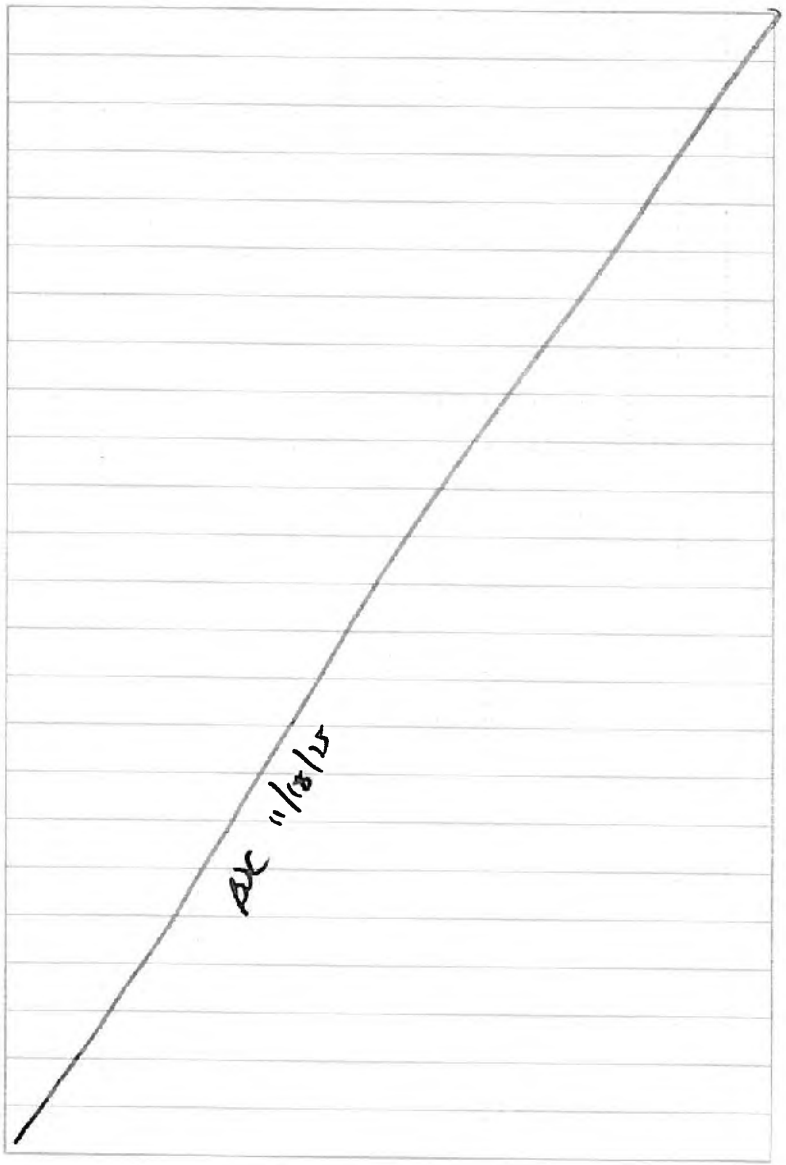


Scale: 1 square = _____

November 14, 2015

2100 START Paul Prys & Carter Owens on site. Briefed on air monitoring goals by OSC Brian Englert. Note: START Prys and Owens arrived on site at 2030.

2130 START Owens and OSC Parker began preparing Area Maps and Diagrams for fixed and mobile monitoring (AIRE). There will be 3 locations (fixed). Also preparing UIPER for deployment. START Prys reviewed area maps for fixed air monitoring locations.

Note: Facility located at 12 McLemore St, LaFayette, GA. Had dyes and calcium carbonate inside. Along with various waste drums with unknown contents. Fire started approx. 1400 on 11/14. Local and county firefighters on scene and using approx. 10,000 gallons of water per hour. Runoff running into tributary of the Chattooga River. Blue patches from dyes and white patches from calcium carbonates visible. Earthen berms have been installed to help contain runoff.

Scale: 1 square = _____

Rite in the Rain

November 14, 2015

Notes (cont): Pond located south of the Facility containing some of the runoff from the tributary. Runoff in bldg discharging to sewer and currently collecting at POTW. Vacuum truck being brought in to pump up some of the runoff. For discharge to POTW.

2245 Discussed fixed monitoring locations with OSC England. Location 1 will be south of the Facility to monitor Firefighter exposures and 2 locations will be placed in a residential area southwest of the Facility.

2345 Departed site to set up fixed monitoring locations in residential areas southwest of site. Note: Location 1 set out at approximately at 2230.

14 Nov 2015

Scale: 1 square = _____

November 15, 2015

Weather: High of 62°F / Low of 39°F, Partly Sunny, Winds light and variable

0100 Completed setting up Area RAEs and DataRams at Fix Locations. Locations are listed as follows:

Location 1: 34.69800, -85.28712. On McLemore St. south of Facility near center of tree line.

Location 2: 34.69807, -85.28874. At corner of McLemore St and S. Chattanooga St.

Location 3: 34.69511, -85.294.29. At corner of Magnolia St. and Thurston St.

Equipment used for air monitoring:

- Area RAE Multiple Gas/multiple Sensor Detector
- Thermo Scientific DataRam 4
- Viper Gateways and Lines

0130 Start PPEs and OWENS conducted mobile air monitoring in the residential areas located southwest, northeast, east, and southeast of the site.

0215 Returned to site trailer and monitored Fixed monitoring locations. Location 2

Scale: 1 square = _____

Rite in the Rain

November 15, 2015

0215 (cont) was not transmitting data. Began troubleshooting.

0300 START Owens and QSI Parker departed site to troubleshoot Location 2. Gateway lost power. connected it to a portable generator and Location 2 began transmitting.

0340 START Owens and QSI Parker conducted mobile monitoring at same areas. Location 2 intermittently transmitting data. Problems with Gateway.

0450 Returned to site. START Pays briefed OSC England on monitoring results and issues with location 2. START will record Location 2 readings during mobile monitoring. OSC England briefed START that there were pipes in basement of facility that discharged directly to the tributary. Values on 2 of the pipes were shut and 2 pipes were quickreged to stop the discharge. Tributary visually looked better. GA-GPD visually inspected downstream. Did not see any fish kills and no dyes (re)entered to

Scale: 1 square =

November 15, 2015

0450 (cont) dissipate. Local Fire Department continued to spray water on Fire. Owner apparently procured waste from area carpet companies for recycling.

0530 START Owens off-site to conduct (PP) mobile air monitoring; Location 2 readings were CO 0ppm; VOC 0.0ppm; H_2S 0 ppm; LEL 0%; O_2 20.9%; total particulate 76.0 $\mu g/m^3$; total particulate TWA 82.6 $\mu g/m^3$.

0620 START Owens returned to site. Site monitoring equipment was running down and needed to be changed out. START Pays and Owens started changing out and troubleshooting equipment issues.

0730 Updated OSC England on site activities OSC Carter Williamson on site.

0815 START Brian Cruft on site.

0900 START Chris Jones on-site. Began troubleshooting VIPER.

1015 START Pays/Owens off-site

Scale: 1 square =

Rite in the Rain

November 15, 2015

1155 Briefing
Attending: FD - Billy Nermore
City Mgr - David Hamilton
EPA - C. Williams
GA EPD - Hugh Galyean
TT - C. Jones & B. Croft
Global Environmental - John Ashworth
City of Lafayette water/sewer - Walley Meeks
" " Jim Speir
Discuss sampling parameters and known chemicals w/ group.
· Parameters on NPDES Permit
1500 Collect runoff sample from drainage vault Analysis: VOC, SVOC, metals, pesticides, & BOD.
34.69919°N -85.28685°W
1730 Collect runoff sample from creek at the bridge on Melemore
Same analysis as above.
· These samples (OBM-Runoff-01) will be relinquished to OSC Englert who will take them back to Atl tonight and give them to TT (D. Wilson) who will drop them off at the lab in the morning.

Scale: 1 square =

November 15, 2015

1835 START PRYS AND OWEN ON SITE. START CROFT AND JONES UPDATED THEM ON SITE ACTIVITIES. START JONES CREATING SUMMARY AIR MONITORING TABLE.
2000 START PRYS DEPARTED SITE TO CONDUCT MOBILE AIR MONITORING. FIRE DEPT NOT SPRAYING WATER ON FIRE. CURRENTLY LETTING IT BURN. WIND DIRECTION SEEMS TO HAVE SHIFTED TOWARD THE NORTHWEST OF THE SITE.
2030 SCOUTED AIR SAMPLING LOCATIONS NORTHWEST OF SITE WITH OSC WILLIAMSON.
2110 PICKED UP AIR MONITORING EQUIPMENT FROM LOCATION 3. TO MOVE TO LOCATION 5.
2120 SET UP AIR MONITORING EQUIPMENT AT LOCATION 5 (NEW LOCATION) AT 310 S. CHATTANOOGA ST (LAFAYETTE AUTO SALES) 34.70240, -85.28833 (NORTHWEST OF S. CHATTANOOGA ST AND HIGHWAY 193 INTERSECTION).
2145 CONTINUED MOBILE AIR MONITORING ALONG NORTHWEST AND SOUTHWEST RESIDENTIAL AREAS.
2245 RETURNED TO SITE. START CONTINUED

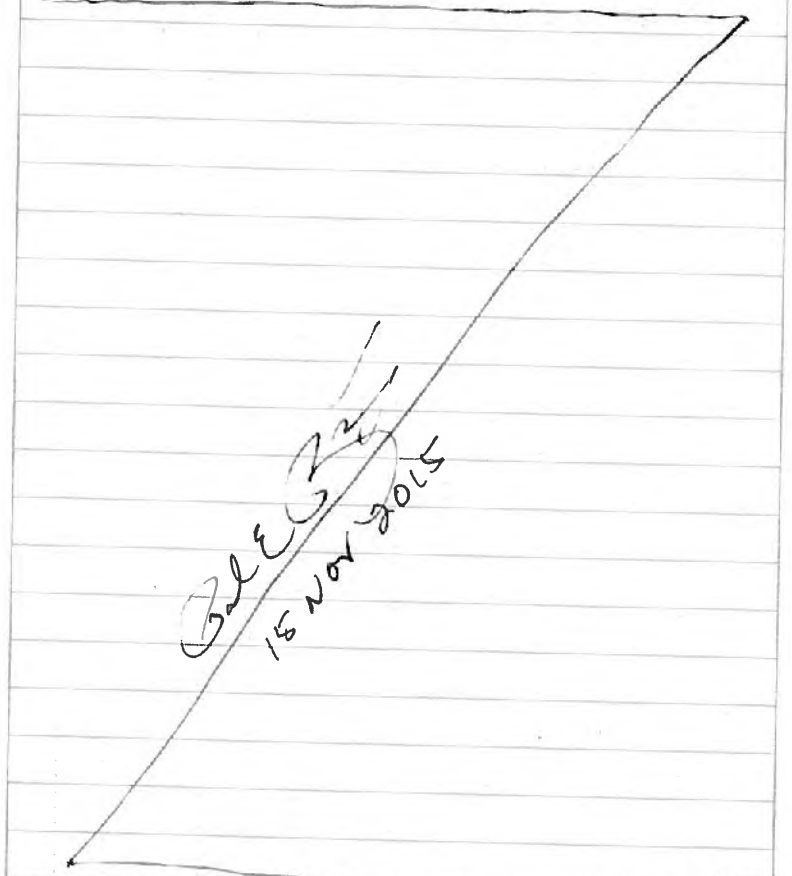
Scale: 1 square =

Rite in the Rain

NOVEMBER 15, 2015

2245 PREPARING DATA FROM TODAY.

2350 START LEOFT AND JONES OFF-SITE. START PRYS AND OWENS DEPARTED SITE TO CHANGE OUT LINE BATTERIES AND FILL UP GENERATORS.



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NOVEMBER 16, 2015

WEATHER: High of 65°F / Low of 50°F, Partly Sunny, Winds Light and Variable.

0045 START OWENS DEPARTED SITE to conduct mobile AIR monitoring.

0150 START OWENS RETURNED TO SITE. OBSERVED HIGH PARTICULATE LEVELS NEAR W. 3RD AVE AND N. Chattanooga St. All other AREAS APPEARED to be moderate.

0350 START OWENS CONDUCTED MOBILE AIR monitoring. Smoke from FIRE APPEARS to be migrating in the southwest/northwest AREAS NEAR the SITE.

0500 DISCUSSED SITE AIR monitoring RESULTS with OSC Williamson.

0525 START OWENS RETURNED TO SITE. Continued monitoring AIR quality via VIPER.

0600 DISCUSSED AIR monitoring RESULTS with OSC Williamson.

0640 START OWENS OFF-SITE to conduct mobile AIR monitoring.

0740 DISCUSSED DIRECTION of smoke plume with OSC Williamson. Plume HEADING southwest, moved Location 5 back to Location 3.

Scale: 1 square = _____

Rite in the Rain

November 16, 2015

0805 Restricted air monitoring equipment at Location 3.

0830 START JONES AND Croft on site.

0900 START RECEIVED AIR monitoring DATA from ERT AND BEGIN PROPOLING summary tables.

1000 START PRYS conducted AIR monitoring at Roper, 1507 Broomtown Rd, LaFayette, GA.

1115 START PRYS AND OWENS OFF SITE.

1245 continue mobile monitoring along S. Chattanooga St. - Site operations are currently focused on use of trackhoe & dozer in fire area to clear path to access areas where fire is smoldering & burning - knocking down brick walls where fall hazards exist - generating lots of smoke

1400 Site operations continue - using dozer to build path for ladder truck on west side of building between building & railroad tracks - trackhoe continues to knock down weakened walls & clear path - fire fighters assisting w/ fire suppression to address →

BJC 11/16/15

flare-ups - FD eqpt also preparing for a train that needs to pass on tracks along east side of building

1620 Location 1 air monitoring station taken off line - mainly equipment to residential area to northwest of fire

1730 redeployed air monitoring/Vapor equipment from Location 1 to Location 6 - NW corner of parking lot located @ NE corner of intersection of W. Main St. and Magnolia St.

1900 START PRYS AND OWENS ON SITE. DISCUSSED SITE ACTIVITIES with day shift. START Howard Beaugh on site with equipment. DISCUSSED SITE ACTIVITIES with BC Williamson. No night fire fighting activities. Smoke plume appears to be heading south to southwest. Note: Location 6 coordinates: 34.702344, -85.290807

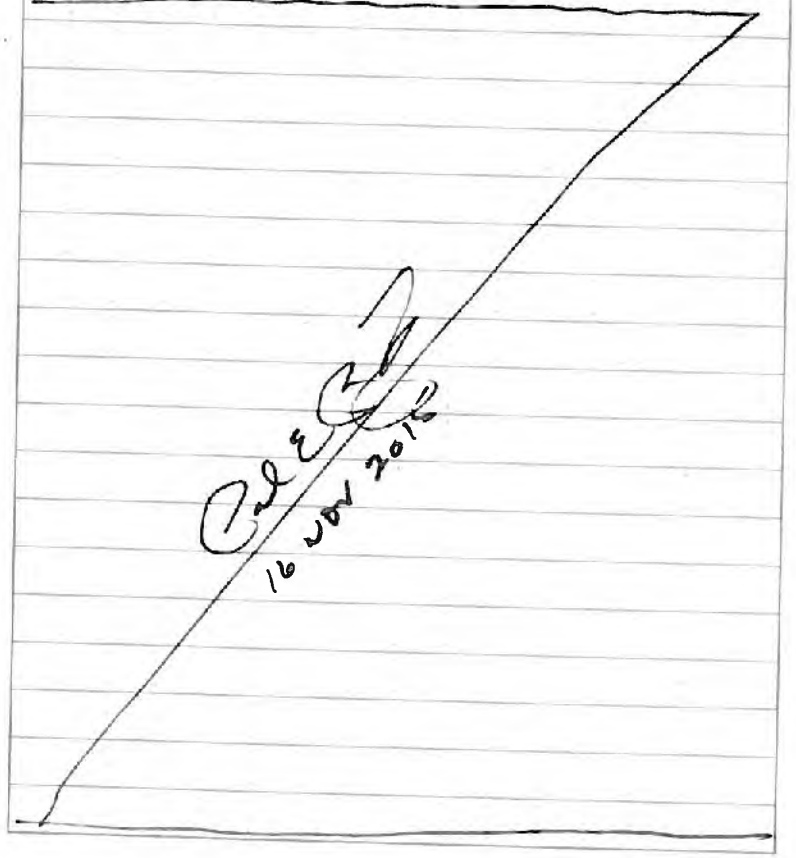
2100 START Croft, Jones, Beaugh off-site. START OWENS' conducted mobile AIR monitoring.

2200 PREPARED SPM for deployment to

November 16, 2015

2200 Location 2.

2230 Deployed SPM to location 2. Conducted troubleshooting and SPM began monitoring. Conducted maintenance on monitoring equipment at other locations.



Scale: 1 square = _____

November 17, 2015

Weather: High of 68°F/Low of 57°F, Cloudy, Winds From southeast at 10-20 mph, 40% chance of Rain later at night

0100 START OWENS conducted mobile MIA monitoring southwest, west, and northwest of the site.

0245 START OWENS returned to site. Smoke plume did not appear to be visible southwest, west, or northwest of the site. Conducted maintenance on generators.

0400 START OWENS conducted mobile MIA monitoring in some areas.

0525 START OWENS returned to site. Smoke plume was somewhat visible south of the site near the airport and Rogers, but very low in residential neighborhoods southwest, west, and northwest.

0620 $PM_{2.5}$ levels at Location 2 increased, partially due to the smoke and to the vehicle exhaust from increased traffic. S. Chattanooga St from McLemore St. to West Main was closed. START OWENS conducted another round of mobile

Scale: 1 square = _____

November 17, 2015

0620 (cont) Air monitoring.

0730 Departed site to scope out air sampling locations based on projected winds from Southeast.

0800 START Croft, Jones, Brough on site. Began preparing data summary and briefing on mobile monitoring locations.

0845 START Pays and Croft off-site to set up perimeter air sampling pumps.

0853 Started collecting sample OBM-AA-LOC-111715 at Location 5.

0904 Started collecting sample OBM-AA-LOC-111715 at Location 6

0911 started collecting sample OBM-AA-LOC-111715 at Location 2.

0934 started collecting sample OBM-AA-POTW-111715 at northwest area of POTW (outside of fence) (34.69683, -85.28561)

1115 START Pays and Owens off-site.

1200 Continued preparing air monitoring summary sheets. Conducted mobile air monitoring. Took site photos. Site crews continued using an excavator

Scale: 1 square =

November 17, 2015

1200 (cont) to dig through fire debris to help fire department (Walker County) extinguish/cool areas still burning.

1650 START Croft departed site offices to pick up perimeter area air samples. See COC for stop times and flow rates. Samples will be analyzed by MAS via NIOSH 7400 method. If Locations 2, 5, or 6 are > 0.001 F/cc or Location POTW is > 0.01 F/cc, those samples will be analyzed by NIOSH 7402 for PCM-E reporting. A water sample collected on 11/15/2015 with [illegible] will be sent to AES for analysis based on Walker County POTW NPDES permit.

1930 START Pays and Owens arrived on site. Global Environmental continued removing water runoff from fire fighting activities with a vacuum tanker. Fire appeared to be out, but informed by local firefighters there was a minor flare up at the north end of the bldg. and they would attend to it tomorrow.

~~2000 START Pays and Brough departed site for~~

Scale: 1 square =

Rite in the Rain

November 17, 2015

2000 START Beaugh demobilized from the site to the Duluth, GA office, to deliver the samples for analysis.

2045 START Croft and Jones departed site.

2100 START Owens conducted mobile air monitoring. Particulate levels appeared to be low and smoke was not visible from the site.

2345 START Owens conducted mobile air monitoring. START Prys monitored stations via VIPER.

17 NOV 2015

Scale: 1 square =

November 18, 2015

Weather: High of 67°F / low of 45°F, 100% chance of rain, winds from south, southeast at 15-25 mph.

0015 START Prys and Owen walked site perimeter. There appeared to be minor smoke along the northwest area of the bldg and Global Env. was using a skid steer to move debris along the west side.

0200 START Owen conducted mobile air monitoring and maintenance on air monitoring equipment.

0415 START Prys conducted mobile air monitoring. Slight smell of smoke at bank at corner of W. Main and S. Chattanooga St.

0630 START Owens conducted mobile air monitoring.

0740 MAS contacted START Prys with the perimeter air sampling results. All results were <0.001 f/cc.

0800 START Croft and Jones on site. Discussed site activities.

0830 Briefed OSC Williamson on site activities and air monitoring/sampling results.

Scale: 1 square =

November 18, 2015

0900 START JONES BEGAN PREPARING DATA SUMMARY TABLES FOR AIR MONITORING.

1040 START SUBMITTED AIR MONITORING SUMMARY RESULTS. RESULTS FOR THE PM2.5 PARTICULATES WERE IN THE "GOOD" CATEGORY AND VOCs RANGED FROM 0-2.8 ppm. REVIEWED by OSC WILLIAMSON AND START ALLOWED TO REMOVE AIR MONITORING STATIONS FOR DEMOBILIZATION.

1145 START DEMOBILIZED FROM THE SITE to the Duluth, GA office.

13 Nov 2015

Scale: 1 square = _____

END of LOGBOOK
BSL 11/16/15

Scale: 1 square = _____

ENCLOSURE 6

DATA VALIDATION REPORTS AND LABORATORY ANALYTICAL DATA PACKAGES

SURFACE WATER SAMPLES

(92 Pages)

DATA VALIDATION CHECKLIST – STAGE 2A

Site Name	Old Barwick Mill Plant Fire	**Project No.**	TT-01-040
Data Reviewer (signature and date)	Jessica A. Vickers November 24, 2015	**Laboratory/ Report No.**	Analytical Environmental Services, Inc./1511E55
Analyses	Volatile Organic Compounds (VOCs) – SW8260B, Semivolatile Organic Compounds (SVOCs) – SW8270D, Resource Conservation Recovery Act (RCRA) Metals – EPA 200.8/245.1, Ammonia – EPA 350.1, Biological Oxygen Demand (BOD) – SM 5210B, Chemical Oxygen Demand (COD) – EPA 410.4, Cyanide – SM 4500-CN-C, Fecal Coliform – SM 9222D, Hexavalent Chromium – SW7196A, Nitrate – EPA 300.0, Oil and Grease – EPA 1664B, Phosphorus – EPA 365.1, Residual Chlorine – SM 4500-Cl-G, Surfactants – SM 5540C, Total Kjeldahl Nitrogen (TKN) – EPA 351.2, Total Recoverable Phenolics – EPA 420.1, and Total Suspended Solids (TSS) – SM 2540D		
Samples	OBM-RUNOFF-01		

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *CLP NFG for Inorganic Superfund Data Review* (August 2014) data validation guidance documents, as well as the above referenced methods.

OVERALL EVALUATION:

Rejection of data was not required for this data package. Results were qualified due to exceedances for holding times and matrix spike/matrix spike duplicates (MS/MSD). The data can be used with the qualifications indicated in this checklist.

Data completeness:

Within Criteria	Exceedance/Notes
Y	

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www.tetratech.com

TETRA TECH

DATA VALIDATION CHECKLIST – STAGE 2A

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
N	Holding times were exceeded for residual chlorine and fecal coliform – flag "J-/UJ"

Method blanks:

Within Criteria	Exceedance/Notes
N	Ammonia = 0.0618 mg/L, oil & grease = 1.3 mg/L, phosphorus = 0.0192 mg/L, and TKN = 0.281 mg/L – flag "J+" for ammonia, phosphorus, and TKN; and raise to the RL and flag "U" for oil & grease

Field blanks:

Within Criteria	Exceedance/Notes
NA	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
Y	

MS/MSD:

Within Criteria	Exceedance/Notes
N	MS/MSDs performed on non-project samples were not evaluated. Low %R for pentachlorophenol and residual chlorine – flag "J-/UJ"

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Post digestion spikes:

Within Criteria	Exceedance/Notes
NA	

Serial dilutions:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	Duplicates performed on non-project samples were not evaluated.

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

Total versus dissolved metals results evaluation:

Within Criteria	Exceedance/Notes
NA	

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LCSs/LCSDs:

Within Criteria	Exceedance/Notes
N	High %R for selenium – no action (associated result non-detect)

Toxicity equivalents (TEQs) and isomer specificity (dioxins/furans, cBaP, and PCB congeners only):

Within Criteria	Exceedance/Notes
NA	

Sample dilutions:

Within Criteria	Exceedance/Notes
Y	10x: fecal coliform

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

Estimated detection limit (EDL), estimated maximum possible concentration (EMPC), and target analyte identification (dioxins/furans only):

Within Criteria	Exceedance/Notes
NA	

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MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Results between the MDL and RL were flagged "J" by laboratory.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

Analytical Environmental Services, Inc **Date:** 24-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-RUNOFF-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/15/2015 5:30:00 PM
Lab ID:	1511E55-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Trace Elements by ICP/MS E200.8				(E200.2)					
Arsenic	0.921	J	0.145	5.00	ug/L	215937	1	11/16/2015 18:11	JS
Barium	111		0.166	10.0	ug/L	215937	1	11/16/2015 18:11	JS
Cadmium	0.134	J	0.0195	0.700	ug/L	215937	1	11/16/2015 18:11	JS
Chromium	1.39	J	0.139	5.00	ug/L	215937	1	11/16/2015 18:11	JS
Lead	0.933	J	0.260	1.00	ug/L	215937	1	11/16/2015 18:11	JS
Selenium	1.82	J	0.312	5.00	ug/L	215937	1	11/16/2015 18:11	JS
Silver	~~BRL~~		0.0185	1.00 U	ug/L	215937	1	11/16/2015 18:11	JS
Total Residual Chlorine by SM4500-Cl-G									
Chlorine, Total Residual	BRL	H	0.0336	0.200 UJ	mg/L	R304426	1	11/16/2015 11:00	CH
Total Phosphorus E365.1				(E365.1)					
Phosphorus, Total (As P)	0.174	J+	0.010	0.050	mg/L	215750	1	11/16/2015 17:02	FS
Total Oil and Grease (HEM) E1664B				(E1664)					
Oil and Grease	~~5.0~~ J		1.0	5.7 U	mg/L	215895	1	11/16/2015 08:30	GR
Total Mercury E245.1				(E245.1)					
Mercury	0.00004	J	0.00004	0.00020	mg/L	215967	1	11/16/2015 15:51	TA
Total Cyanide (SM4500 CN-C, E)				(SM4500-CN-E)					
Cyanide, Total	BRL		0.001	0.010 U	mg/L	215972	1	11/16/2015 15:30	PF
TCL-SEMIVOLATILE ORGANICS SW8270D				(SW3510C)					
1,1´-Biphenyl	BRL		1.5	10 U	ug/L	215950	1	11/16/2015 16:04	YH
2,4,5-Trichlorophenol	BRL		1.7	25	ug/L	215950	1	11/16/2015 16:04	YH
2,4,6-Trichlorophenol	BRL		1.5	10	ug/L	215950	1	11/16/2015 16:04	YH
2,4-Dichlorophenol	BRL		1.5	10	ug/L	215950	1	11/16/2015 16:04	YH
2,4-Dimethylphenol	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
2,4-Dinitrophenol	BRL		0.74	25	ug/L	215950	1	11/16/2015 16:04	YH
2,4-Dinitrotoluene	BRL		0.88	10	ug/L	215950	1	11/16/2015 16:04	YH
2,6-Dinitrotoluene	BRL		1.4	10	ug/L	215950	1	11/16/2015 16:04	YH
2-Chloronaphthalene	BRL		1.3	10	ug/L	215950	1	11/16/2015 16:04	YH
2-Chlorophenol	BRL		1.4	10	ug/L	215950	1	11/16/2015 16:04	YH
2-Methylnaphthalene	1.5	J	1.3	10	ug/L	215950	1	11/16/2015 16:04	YH
2-Methylphenol	BRL		1.2	10 U	ug/L	215950	1	11/16/2015 16:04	YH
2-Nitroaniline	BRL		1.3	25	ug/L	215950	1	11/16/2015 16:04	YH
2-Nitrophenol	BRL		0.95	10	ug/L	215950	1	11/16/2015 16:04	YH
3,3´-Dichlorobenzidine	BRL		1.7	10	ug/L	215950	1	11/16/2015 16:04	YH
3-Nitroaniline	BRL		1.2	25	ug/L	215950	1	11/16/2015 16:04	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed
- E Estimated value above quantitation range
- S Spike Recovery outside limits due to matrix
- J Estimated value detected below Reporting Limit
- > Greater than Result value
- < Less than Result value
- Narr See case narrative

11/24/15

Analytical Environmental Services, Inc **Date:** 24-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-RUNOFF-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/15/2015 5:30:00 PM
Lab ID:	1511E55-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D					(SW3510C)				
4,6-Dinitro-2-methylphenol	BRL		0.89	25 U	ug/L	215950	1	11/16/2015 16:04	YH
4-Bromophenyl phenyl ether	BRL		1.5	10	ug/L	215950	1	11/16/2015 16:04	YH
4-Chloro-3-methylphenol	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
4-Chloroaniline	BRL		1.5	10	ug/L	215950	1	11/16/2015 16:04	YH
4-Chlorophenyl phenyl ether	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
4-Methylphenol	BRL		2.1	10	ug/L	215950	1	11/16/2015 16:04	YH
4-Nitroaniline	BRL		0.76	25	ug/L	215950	1	11/16/2015 16:04	YH
4-Nitrophenol	BRL		0.75	25	ug/L	215950	1	11/16/2015 16:04	YH
Acenaphthene	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Acenaphthylene	BRL		1.4	10	ug/L	215950	1	11/16/2015 16:04	YH
Acetophenone	BRL		0.84	10	ug/L	215950	1	11/16/2015 16:04	YH
Anthracene	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Atrazine	BRL		1.3	10	ug/L	215950	1	11/16/2015 16:04	YH
Benz(a)anthracene	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Benzaldehyde	BRL		2.3	10	ug/L	215950	1	11/16/2015 16:04	YH
Benzo(a)pyrene	BRL		0.64	10	ug/L	215950	1	11/16/2015 16:04	YH
Benzo(b)fluoranthene	BRL		1.0	10	ug/L	215950	1	11/16/2015 16:04	YH
Benzo(g,h,i)perylene	BRL		0.83	10	ug/L	215950	1	11/16/2015 16:04	YH
Benzo(k)fluoranthene	BRL		1.0	10	ug/L	215950	1	11/16/2015 16:04	YH
Bis(2-chloroethoxy)methane	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Bis(2-chloroethyl)ether	BRL		2.0	10	ug/L	215950	1	11/16/2015 16:04	YH
Bis(2-chloroisopropyl)ether	BRL		0.98	10	ug/L	215950	1	11/16/2015 16:04	YH
Bis(2-ethylhexyl)phthalate	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Butyl benzyl phthalate	BRL		1.0	10	ug/L	215950	1	11/16/2015 16:04	YH
Caprolactam	BRL		0.92	10	ug/L	215950	1	11/16/2015 16:04	YH
Carbazole	BRL		0.99	10	ug/L	215950	1	11/16/2015 16:04	YH
Chrysene	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Di-n-butyl phthalate	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Di-n-octyl phthalate	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Dibenz(a,h)anthracene	BRL		0.80	10	ug/L	215950	1	11/16/2015 16:04	YH
Dibenzofuran	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Diethyl phthalate	BRL		0.88	10	ug/L	215950	1	11/16/2015 16:04	YH
Dimethyl phthalate	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Fluoranthene	BRL		0.94	10	ug/L	215950	1	11/16/2015 16:04	YH
Fluorene	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Hexachlorobenzene	BRL		1.6	10	ug/L	215950	1	11/16/2015 16:04	YH
Hexachlorobutadiene	BRL		1.3	10	ug/L	215950	1	11/16/2015 16:04	YH
Hexachlorocyclopentadiene	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Hexachloroethane	BRL		1.4	10	ug/L	215950	1	11/16/2015 16:04	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed
- E Estimated value above quantitation range
- S Spike Recovery outside limits due to matrix
- J Estimated value detected below Reporting Limit
- > Greater than Result value
- < Less than Result value
- Narr See case narrative

11/24/15

Analytical Environmental Services, Inc **Date:** 24-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-RUNOFF-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/15/2015 5:30:00 PM
Lab ID:	1511E55-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				(SW3510C)					
Indeno(1,2,3-cd)pyrene	BRL		1.3	10 U	ug/L	215950	1	11/16/2015 16:04	YH
Isophorone	BRL		1.5	10	ug/L	215950	1	11/16/2015 16:04	YH
N-Nitrosodi-n-propylamine	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
N-Nitrosodiphenylamine	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Naphthalene	2.3	J	1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Nitrobenzene	BRL		1.2	10 U	ug/L	215950	1	11/16/2015 16:04	YH
Pentachlorophenol	BRL		0.93	25 UJ	ug/L	215950	1	11/16/2015 16:04	YH
Phenanthrene	2.6	J	1.0	10	ug/L	215950	1	11/16/2015 16:04	YH
Phenol	12		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Pyrene	BRL		1.1	10 U	ug/L	215950	1	11/16/2015 16:04	YH
Surr: 2,4,6-Tribromophenol	72.5		0	51.5-141	%REC	215950	1	11/16/2015 16:04	YH
Surr: 2-Fluorobiphenyl	75.9		0	50.8-122	%REC	215950	1	11/16/2015 16:04	YH
Surr: 2-Fluorophenol	67		0	28.1-120	%REC	215950	1	11/16/2015 16:04	YH
Surr: 4-Terphenyl-d14	80.4		0	47.2-131	%REC	215950	1	11/16/2015 16:04	YH
Surr: Nitrobenzene-d5	82.4		0	42.1-124	%REC	215950	1	11/16/2015 16:04	YH
Surr: Phenol-d5	58.4		0	16-120	%REC	215950	1	11/16/2015 16:04	YH
TCL VOLATILE ORGANICS SW8260B				(SW5030B)					
1,1,1-Trichloroethane	BRL		0.67	5.0 U	ug/L	215970	1	11/16/2015 12:20	MD
1,1,2,2-Tetrachloroethane	BRL		0.93	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,1,2-Trichloroethane	BRL		1.3	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,1-Dichloroethane	BRL		0.91	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,1-Dichloroethene	BRL		1.5	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,2,4-Trichlorobenzene	BRL		0.79	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,2-Dibromo-3-chloropropane	BRL		0.25	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,2-Dibromoethane	BRL		0.52	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,2-Dichlorobenzene	BRL		0.68	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,2-Dichloroethane	BRL		0.79	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,2-Dichloropropane	BRL		0.84	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,3-Dichlorobenzene	BRL		0.61	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,4-Dichlorobenzene	BRL		0.83	5.0	ug/L	215970	1	11/16/2015 12:20	MD
2-Butanone	BRL		8.1	50	ug/L	215970	1	11/16/2015 12:20	MD
2-Hexanone	BRL		3.5	10	ug/L	215970	1	11/16/2015 12:20	MD
4-Methyl-2-pentanone	BRL		1.9	10	ug/L	215970	1	11/16/2015 12:20	MD
Acetone	16	J	3.2	50	ug/L	215970	1	11/16/2015 12:20	MD
Benzene	1.1	J	0.61	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Bromodichloromethane	BRL		0.78	5.0 U	ug/L	215970	1	11/16/2015 12:20	MD
Bromoform	BRL		0.66	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Bromomethane	BRL		1.1	5.0	ug/L	215970	1	11/16/2015 12:20	MD

Qualifiers:

- * Value exceeds maximum contaminant level
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- N Analyte not NELAC certified
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- E Estimated value above quantitation range
- S Spike Recovery outside limits due to matrix
- J Estimated value detected below Reporting Limit
- > Greater than Result value
- < Less than Result value
- Narr See case narrative

11/24/15

Analytical Environmental Services, Inc **Date:** 24-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-RUNOFF-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/15/2015 5:30:00 PM
Lab ID:	1511E55-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)					
Carbon disulfide	BRL		1.9	5.0 U	ug/L	215970	1	11/16/2015 12:20	MD
Carbon tetrachloride	BRL		0.42	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Chlorobenzene	BRL		0.35	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Chloroethane	BRL		0.91	10	ug/L	215970	1	11/16/2015 12:20	MD
Chloroform	BRL		0.79	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Chloromethane	BRL		1.3	10	ug/L	215970	1	11/16/2015 12:20	MD
cis-1,2-Dichloroethene	BRL		0.80	5.0	ug/L	215970	1	11/16/2015 12:20	MD
cis-1,3-Dichloropropene	BRL		1.1	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Cyclohexane	BRL		1.2	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Dibromochloromethane	BRL		0.68	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Dichlorodifluoromethane	BRL		0.71	10	ug/L	215970	1	11/16/2015 12:20	MD
Ethylbenzene	BRL		0.29	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Freon-113	BRL		1.0	10	ug/L	215970	1	11/16/2015 12:20	MD
Isopropylbenzene	BRL		0.72	5.0	ug/L	215970	1	11/16/2015 12:20	MD
m,p-Xylene	0.73	J	0.42	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Methyl acetate	BRL		0.60	5.0 U	ug/L	215970	1	11/16/2015 12:20	MD
Methyl tert-butyl ether	BRL		0.62	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Methylcyclohexane	BRL		0.70	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Methylene chloride	BRL		0.94	5.0	ug/L	215970	1	11/16/2015 12:20	MD
o-Xylene	BRL		0.24	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Styrene	47		0.57	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Tetrachloroethene	2.8	J	0.93	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Toluene	0.57	J	0.49	5.0	ug/L	215970	1	11/16/2015 12:20	MD
trans-1,2-Dichloroethene	BRL		0.89	5.0 U	ug/L	215970	1	11/16/2015 12:20	MD
trans-1,3-Dichloropropene	BRL		1.0	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Trichloroethene	BRL		0.80	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Trichlorofluoromethane	BRL		0.98	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Vinyl chloride	BRL		0.74	2.0	ug/L	215970	1	11/16/2015 12:20	MD
Surr: 4-Bromofluorobenzene	84.7		0	70.7-125	%REC	215970	1	11/16/2015 12:20	MD
Surr: Dibromofluoromethane	105		0	82.2-120	%REC	215970	1	11/16/2015 12:20	MD
Surr: Toluene-d8	95.1		0	81.8-120	%REC	215970	1	11/16/2015 12:20	MD
Surfactants (MBAS) by SM5540C									
MBAS	0.284		0.0217	0.100	mg/L-LAS	215991	1	11/16/2015 17:00	JS
Residue, Suspended (TSS) by SM2540D									
Residue, Suspended (TSS)	13.5		1.0	5.0	mg/L	215969	1	11/16/2015 13:05	JS
Phenolics, Total Recoverable E420.1				(E420.1)					

Qualifiers:

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11/24/15

Analytical Environmental Services, Inc **Date:** 24-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-RUNOFF-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/15/2015 5:30:00 PM
Lab ID:	1511E55-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Phenolics, Total Recoverable E420.1					(E420.1)				
Phenolics, Total Recoverable	BRL		0.01	0.05 U	mg/L	215990	1	11/16/2015 15:00	JS
Nitrogen, total Kjeldahl (TKN) E351.2					(E351.2)				
Nitrogen, total Kjeldahl (TKN)	1.57 J+		0.275	0.500	mg/L	215931	1	11/16/2015 18:26	TL
Nitrogen, Ammonia (as N) E350.1					(E350.1)				
Nitrogen, Ammonia (As N)	0.225 J+		0.040	0.200	mg/L	215939	1	11/16/2015 16:26	FS
Inorganic Anions by IC E300.0									
Nitrogen, Nitrate (As N)	1.22		0.106	0.250	mg/L	R304465	1	11/16/2015 11:18	JW
Hexavalent Chromium in Water SW7196A									
Chromium, Hexavalent	BRL		0.00130	0.0100 U	mg/L	R304490	1	11/16/2015 12:45	JC
Fecal Coliform (MF) SM9222D-1997									
Fecal Coliform, (MF)	330 J H		20	20	Colonies/100 ml	R304588	10	11/16/2015 15:50	MU
Chemical Oxygen Demand (COD) E410.4									
Chemical Oxygen Demand	92.6		5.29	10.0	mg/L	R304451	1	11/16/2015 10:30	CH
Biochemical Oxygen Demand (5 Day) by SM5210B									
Biochemical Oxygen Demand	15.9		5.0	5.0	mg/L	216282	1	11/16/2015 11:00	CH

JW 11/24/15

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- Narr See case narrative

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

November 24, 2015

Jessica Vickers
Tetra Tech EM Inc.
1955 Evergreen Blvd.
Duluth GA 30096

TEL: (678) 775-3104
FAX: (678) 775-3138

RE: Old Barnwick Mill Fire

Dear Jessica Vickers: Order No: 1511E55

Analytical Environmental Services, Inc. received 1 samples on 11/16/2015 7:44:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Dorothy deBruyn
Project Manager

Revision 11/24/2015

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 15K1555

Date: _____ Page 1 of 1

COMPANY: Tetra Tech EMI – Jessica Vickers	ADDRESS: 1955 Evergreen Blvd. Duluth, GA 30096
PHONE: 662.681.5727	FAX:
SAMPLED BY: Brian Crabb	SIGNATURE: B Scrabb

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs/SVOCs/Metals + Hg	TSS	Surfactants - MBAS	Oil & Grease	Ammonia - NH3	Phosphorus	Phenols	Hex. Chromium	Cyanide	BOD/COD/TKN	Total residual chlorine	Nitrate - as N	Coliform	No # of Containers
	PRESERVATION (See codes)																			
1	OBM-RUNOFF-01	11/15/2015	1730	X		SW	X	X	X	X	X	X	X	X	X	X	X	X	X	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				

REMARKS

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	11/16/15 7:49	1: M. Kararic	11/16/15 7:49
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:
- only metals have been preserved (HNO_3)
- all other bottle ware is unpreserved

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

(CLIENT) FedEx UPS MAIL COURIER

GREYHOUND OTHER_____

PROJECT INFORMATION

PROJECT NAME: Old Barwick Mill Fire

PROJECT #:

SITE ADDRESS: LaGayette, GA

SEND REPORT TO: Jessica Vickers

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #:_____ PO#:_____

RECEIPT

Total # of Containers

Turnaround Time Request

○ Standard 5 Business Days

○ 2 Business Day Rush

○ Next Business Day Rush

○ Same Day Rush (auth req.)

⊗ Other ASAP

STATE PROGRAM (if any): _____

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: Tetra Tech EM Inc.
Project: Old Barnwick Mill Fire
Lab ID: 1511E55

Case Narrative

The client sent unpreserved bottles, they were preserved with the appropriate acid in the lab also the client sent improper container for COLIFORM
The samples for CHLORINE_RES and SM9222D were analyzed out of hold

Metals Analysis by Method 200.8:

LCS-215937 recovery for selenium was outside control limits biased high. Target analyte was not detected in the analytical samples and data is reportable with high bias.

Fecal Coliform Analysis by method SM9222D:

Sample 1511E55-001H was reported prior to completion of confirmation steps, to meet client's rush turnaround request.

Sample 1511E55-001H was received and extracted and/or analyzed outside holding time of 8hrs.

Analytical Environmental Services, Inc **Date:** 24-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-RUNOFF-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/15/2015 5:30:00 PM
Lab ID:	1511E55-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Trace Elements by ICP/MS E200.8					**(E200.2)**				
Arsenic	0.921	J	0.145	5.00	ug/L	215937	1	11/16/2015 18:11	JS
Barium	111		0.166	10.0	ug/L	215937	1	11/16/2015 18:11	JS
Cadmium	0.134	J	0.0195	0.700	ug/L	215937	1	11/16/2015 18:11	JS
Chromium	1.39	J	0.139	5.00	ug/L	215937	1	11/16/2015 18:11	JS
Lead	0.933	J	0.260	1.00	ug/L	215937	1	11/16/2015 18:11	JS
Selenium	1.82	J	0.312	5.00	ug/L	215937	1	11/16/2015 18:11	JS
Silver	BRL		0.0185	1.00	ug/L	215937	1	11/16/2015 18:11	JS
Total Residual Chlorine by SM4500-Cl-G									
Chlorine, Total Residual	BRL	H	0.0336	0.200	mg/L	R304426	1	11/16/2015 11:00	CH
Total Phosphorus E365.1					**(E365.1)**				
Phosphorus, Total (As P)	0.174		0.010	0.050	mg/L	215750	1	11/16/2015 17:02	FS
Total Oil and Grease (HEM) E1664B					**(E1664)**				
Oil and Grease	5.0	J	1.0	5.7	mg/L	215895	1	11/16/2015 08:30	GR
Total Mercury E245.1					**(E245.1)**				
Mercury	0.00004	J	0.00004	0.00020	mg/L	215967	1	11/16/2015 15:51	TA
Total Cyanide (SM4500 CN-C, E)					**(SM4500-CN-E)**				
Cyanide, Total	BRL		0.001	0.010	mg/L	215972	1	11/16/2015 15:30	PF
TCL-SEMIVOLATILE ORGANICS SW8270D					**(SW3510C)**				
1,1´-Biphenyl	BRL		1.5	10	ug/L	215950	1	11/16/2015 16:04	YH
2,4,5-Trichlorophenol	BRL		1.7	25	ug/L	215950	1	11/16/2015 16:04	YH
2,4,6-Trichlorophenol	BRL		1.5	10	ug/L	215950	1	11/16/2015 16:04	YH
2,4-Dichlorophenol	BRL		1.5	10	ug/L	215950	1	11/16/2015 16:04	YH
2,4-Dimethylphenol	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
2,4-Dinitrophenol	BRL		0.74	25	ug/L	215950	1	11/16/2015 16:04	YH
2,4-Dinitrotoluene	BRL		0.88	10	ug/L	215950	1	11/16/2015 16:04	YH
2,6-Dinitrotoluene	BRL		1.4	10	ug/L	215950	1	11/16/2015 16:04	YH
2-Chloronaphthalene	BRL		1.3	10	ug/L	215950	1	11/16/2015 16:04	YH
2-Chlorophenol	BRL		1.4	10	ug/L	215950	1	11/16/2015 16:04	YH
2-Methylnaphthalene	1.5	J	1.3	10	ug/L	215950	1	11/16/2015 16:04	YH
2-Methylphenol	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
2-Nitroaniline	BRL		1.3	25	ug/L	215950	1	11/16/2015 16:04	YH
2-Nitrophenol	BRL		0.95	10	ug/L	215950	1	11/16/2015 16:04	YH
3,3´-Dichlorobenzidine	BRL		1.7	10	ug/L	215950	1	11/16/2015 16:04	YH
3-Nitroaniline	BRL		1.2	25	ug/L	215950	1	11/16/2015 16:04	YH

Qualifiers:

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Analytical Environmental Services, Inc **Date:** 24-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-RUNOFF-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/15/2015 5:30:00 PM
Lab ID:	1511E55-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D					**(SW3510C)**				
4,6-Dinitro-2-methylphenol	BRL		0.89	25	ug/L	215950	1	11/16/2015 16:04	YH
4-Bromophenyl phenyl ether	BRL		1.5	10	ug/L	215950	1	11/16/2015 16:04	YH
4-Chloro-3-methylphenol	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
4-Chloroaniline	BRL		1.5	10	ug/L	215950	1	11/16/2015 16:04	YH
4-Chlorophenyl phenyl ether	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
4-Methylphenol	BRL		2.1	10	ug/L	215950	1	11/16/2015 16:04	YH
4-Nitroaniline	BRL		0.76	25	ug/L	215950	1	11/16/2015 16:04	YH
4-Nitrophenol	BRL		0.75	25	ug/L	215950	1	11/16/2015 16:04	YH
Acenaphthene	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Acenaphthylene	BRL		1.4	10	ug/L	215950	1	11/16/2015 16:04	YH
Acetophenone	BRL		0.84	10	ug/L	215950	1	11/16/2015 16:04	YH
Anthracene	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Atrazine	BRL		1.3	10	ug/L	215950	1	11/16/2015 16:04	YH
Benz(a)anthracene	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Benzaldehyde	BRL		2.3	10	ug/L	215950	1	11/16/2015 16:04	YH
Benzo(a)pyrene	BRL		0.64	10	ug/L	215950	1	11/16/2015 16:04	YH
Benzo(b)fluoranthene	BRL		1.0	10	ug/L	215950	1	11/16/2015 16:04	YH
Benzo(g,h,i)perylene	BRL		0.83	10	ug/L	215950	1	11/16/2015 16:04	YH
Benzo(k)fluoranthene	BRL		1.0	10	ug/L	215950	1	11/16/2015 16:04	YH
Bis(2-chloroethoxy)methane	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Bis(2-chloroethyl)ether	BRL		2.0	10	ug/L	215950	1	11/16/2015 16:04	YH
Bis(2-chloroisopropyl)ether	BRL		0.98	10	ug/L	215950	1	11/16/2015 16:04	YH
Bis(2-ethylhexyl)phthalate	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Butyl benzyl phthalate	BRL		1.0	10	ug/L	215950	1	11/16/2015 16:04	YH
Caprolactam	BRL		0.92	10	ug/L	215950	1	11/16/2015 16:04	YH
Carbazole	BRL		0.99	10	ug/L	215950	1	11/16/2015 16:04	YH
Chrysene	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Di-n-butyl phthalate	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Di-n-octyl phthalate	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Dibenz(a,h)anthracene	BRL		0.80	10	ug/L	215950	1	11/16/2015 16:04	YH
Dibenzofuran	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Diethyl phthalate	BRL		0.88	10	ug/L	215950	1	11/16/2015 16:04	YH
Dimethyl phthalate	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Fluoranthene	BRL		0.94	10	ug/L	215950	1	11/16/2015 16:04	YH
Fluorene	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Hexachlorobenzene	BRL		1.6	10	ug/L	215950	1	11/16/2015 16:04	YH
Hexachlorobutadiene	BRL		1.3	10	ug/L	215950	1	11/16/2015 16:04	YH
Hexachlorocyclopentadiene	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Hexachloroethane	BRL		1.4	10	ug/L	215950	1	11/16/2015 16:04	YH

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Analytical Environmental Services, Inc **Date:** 24-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-RUNOFF-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/15/2015 5:30:00 PM
Lab ID:	1511E55-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D					**(SW3510C)**				
Indeno(1,2,3-cd)pyrene	BRL		1.3	10	ug/L	215950	1	11/16/2015 16:04	YH
Isophorone	BRL		1.5	10	ug/L	215950	1	11/16/2015 16:04	YH
N-Nitrosodi-n-propylamine	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
N-Nitrosodiphenylamine	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Naphthalene	2.3	J	1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Nitrobenzene	BRL		1.2	10	ug/L	215950	1	11/16/2015 16:04	YH
Pentachlorophenol	BRL		0.93	25	ug/L	215950	1	11/16/2015 16:04	YH
Phenanthrene	2.6	J	1.0	10	ug/L	215950	1	11/16/2015 16:04	YH
Phenol	12		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Pyrene	BRL		1.1	10	ug/L	215950	1	11/16/2015 16:04	YH
Surr: 2,4,6-Tribromophenol	72.5		0	51.5-141	%REC	215950	1	11/16/2015 16:04	YH
Surr: 2-Fluorobiphenyl	75.9		0	50.8-122	%REC	215950	1	11/16/2015 16:04	YH
Surr: 2-Fluorophenol	67		0	28.1-120	%REC	215950	1	11/16/2015 16:04	YH
Surr: 4-Terphenyl-d14	80.4		0	47.2-131	%REC	215950	1	11/16/2015 16:04	YH
Surr: Nitrobenzene-d5	82.4		0	42.1-124	%REC	215950	1	11/16/2015 16:04	YH
Surr: Phenol-d5	58.4		0	16-120	%REC	215950	1	11/16/2015 16:04	YH
TCL VOLATILE ORGANICS SW8260B					**(SW5030B)**				
1,1,1-Trichloroethane	BRL		0.67	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,1,2,2-Tetrachloroethane	BRL		0.93	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,1,2-Trichloroethane	BRL		1.3	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,1-Dichloroethane	BRL		0.91	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,1-Dichloroethene	BRL		1.5	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,2,4-Trichlorobenzene	BRL		0.79	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,2-Dibromo-3-chloropropane	BRL		0.25	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,2-Dibromoethane	BRL		0.52	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,2-Dichlorobenzene	BRL		0.68	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,2-Dichloroethane	BRL		0.79	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,2-Dichloropropane	BRL		0.84	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,3-Dichlorobenzene	BRL		0.61	5.0	ug/L	215970	1	11/16/2015 12:20	MD
1,4-Dichlorobenzene	BRL		0.83	5.0	ug/L	215970	1	11/16/2015 12:20	MD
2-Butanone	BRL		8.1	50	ug/L	215970	1	11/16/2015 12:20	MD
2-Hexanone	BRL		3.5	10	ug/L	215970	1	11/16/2015 12:20	MD
4-Methyl-2-pentanone	BRL		1.9	10	ug/L	215970	1	11/16/2015 12:20	MD
Acetone	16	J	3.2	50	ug/L	215970	1	11/16/2015 12:20	MD
Benzene	1.1	J	0.61	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Bromodichloromethane	BRL		0.78	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Bromoform	BRL		0.66	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Bromomethane	BRL		1.1	5.0	ug/L	215970	1	11/16/2015 12:20	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed
- E Estimated value above quantitation range
- S Spike Recovery outside limits due to matrix
- J Estimated value detected below Reporting Limit
- > Greater than Result value
- < Less than Result value
- Narr See case narrative

Analytical Environmental Services, Inc **Date:** 24-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-RUNOFF-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/15/2015 5:30:00 PM
Lab ID:	1511E55-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**					
Carbon disulfide	BRL		1.9	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Carbon tetrachloride	BRL		0.42	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Chlorobenzene	BRL		0.35	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Chloroethane	BRL		0.91	10	ug/L	215970	1	11/16/2015 12:20	MD
Chloroform	BRL		0.79	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Chloromethane	BRL		1.3	10	ug/L	215970	1	11/16/2015 12:20	MD
cis-1,2-Dichloroethene	BRL		0.80	5.0	ug/L	215970	1	11/16/2015 12:20	MD
cis-1,3-Dichloropropene	BRL		1.1	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Cyclohexane	BRL		1.2	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Dibromochloromethane	BRL		0.68	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Dichlorodifluoromethane	BRL		0.71	10	ug/L	215970	1	11/16/2015 12:20	MD
Ethylbenzene	BRL		0.29	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Freon-113	BRL		1.0	10	ug/L	215970	1	11/16/2015 12:20	MD
Isopropylbenzene	BRL		0.72	5.0	ug/L	215970	1	11/16/2015 12:20	MD
m,p-Xylene	0.73	J	0.42	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Methyl acetate	BRL		0.60	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Methyl tert-butyl ether	BRL		0.62	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Methylcyclohexane	BRL		0.70	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Methylene chloride	BRL		0.94	5.0	ug/L	215970	1	11/16/2015 12:20	MD
o-Xylene	BRL		0.24	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Styrene	47		0.57	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Tetrachloroethene	2.8	J	0.93	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Toluene	0.57	J	0.49	5.0	ug/L	215970	1	11/16/2015 12:20	MD
trans-1,2-Dichloroethene	BRL		0.89	5.0	ug/L	215970	1	11/16/2015 12:20	MD
trans-1,3-Dichloropropene	BRL		1.0	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Trichloroethene	BRL		0.80	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Trichlorofluoromethane	BRL		0.98	5.0	ug/L	215970	1	11/16/2015 12:20	MD
Vinyl chloride	BRL		0.74	2.0	ug/L	215970	1	11/16/2015 12:20	MD
Surr: 4-Bromofluorobenzene	84.7		0	70.7-125	%REC	215970	1	11/16/2015 12:20	MD
Surr: Dibromofluoromethane	105		0	82.2-120	%REC	215970	1	11/16/2015 12:20	MD
Surr: Toluene-d8	95.1		0	81.8-120	%REC	215970	1	11/16/2015 12:20	MD
Surfactants (MBAS) by SM5540C									
MBAS	0.284		0.0217	0.100	mg/L-LAS	215991	1	11/16/2015 17:00	JS
Residue, Suspended (TSS) by SM2540D									
Residue, Suspended (TSS)	13.5		1.0	5.0	mg/L	215969	1	11/16/2015 13:05	JS
Phenolics, Total Recoverable E420.1				**(E420.1)**					

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated value above quantitation range
BRL	Not detected at MDL	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	J	Estimated value detected below Reporting Limit
N	Analyte not NELAC certified	>	Greater than Result value
B	Analyte detected in the associated method blank	<	Less than Result value
NC	Not confirmed	Narr	See case narrative

Analytical Environmental Services, Inc **Date:** 24-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-RUNOFF-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/15/2015 5:30:00 PM
Lab ID:	1511E55-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Phenolics, Total Recoverable E420.1					**(E420.1)**				
Phenolics, Total Recoverable	BRL		0.01	0.05	mg/L	215990	1	11/16/2015 15:00	JS
Nitrogen, total Kjeldahl (TKN) E351.2					**(E351.2)**				
Nitrogen, total Kjeldahl (TKN)	1.57		0.275	0.500	mg/L	215931	1	11/16/2015 18:26	TL
Nitrogen, Ammonia (as N) E350.1					**(E350.1)**				
Nitrogen, Ammonia (As N)	0.225		0.040	0.200	mg/L	215939	1	11/16/2015 16:26	FS
Inorganic Anions by IC E300.0									
Nitrogen, Nitrate (As N)	1.22		0.106	0.250	mg/L	R304465	1	11/16/2015 11:18	JW
Hexavalent Chromium in Water SW7196A									
Chromium, Hexavalent	BRL		0.00130	0.0100	mg/L	R304490	1	11/16/2015 12:45	JC
Fecal Coliform (MF) SM9222D-1997									
Fecal Coliform, (MF)	330	H	20	20	Colonies/100 ml	R304588	10	11/16/2015 15:50	MU
Chemical Oxygen Demand (COD) E410.4									
Chemical Oxygen Demand	92.6		5.29	10.0	mg/L	R304451	1	11/16/2015 10:30	CH
Biochemical Oxygen Demand (5 Day) by SM5210B									
Biochemical Oxygen Demand	15.9		5.0	5.0	mg/L	216282	1	11/16/2015 11:00	CH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed
- E Estimated value above quantitation range
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- J Estimated value detected below Reporting Limit
- > Greater than Result value
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- Narr See case narrative

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client Tetra tech FOM Work Order Number 1511E55

Checklist completed by [signature] 11/16/15
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition?	Yes ✓	No __	Not Present __
Custody seals intact on shipping container/cooler?	Yes __	No __	Not Present ✓
Custody seals intact on sample bottles?	Yes __	No __	Not Present ✓
Container/Temp Blank temperature in compliance? (0°≤6°C)*	Yes ✓	No __	

Cooler #1 4.0 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present?	Yes ✓	No __
Chain of custody signed when relinquished and received?	Yes ✓	No __
Chain of custody agrees with sample labels?	Yes ✓	No __
Samples in proper container/bottle?	Yes __	No ✓
Sample containers intact?	Yes ✓	No __
Sufficient sample volume for indicated test?	Yes ✓	No __
All samples received within holding time?	Yes __	No ✓
Was TAT marked on the COC?	Yes ✓	No __
Proceed with Standard TAT as per project history?	Yes __	No __ Not Applicable ✓
Water - VOA vials have zero headspace?	No VOA vials submitted __	Yes ✓ No __
Water - pH acceptable upon receipt?	Yes ✓ TD 11/16	No ✓ Not Applicable __

Adjusted? No Checked by TD

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Lab Order: 1511E55

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1511E55-001A	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	TCL VOLATILE ORGANICS		11/16/2015 9:05:00 AM	11/16/2015
1511E55-001B	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	TCL-SEMIVOLATILE ORGANICS		11/16/2015 10:30:00 AM	11/16/2015
1511E55-001C	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	Trace Elements by ICP/MS		11/16/2015 12:30:00 PM	11/16/2015
1511E55-001C	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	TOTAL MERCURY		11/16/2015 12:33:00 PM	11/16/2015
1511E55-001C	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	TOTAL MERCURY		11/16/2015 12:33:00 PM	11/16/2015
1511E55-001D	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	Hexavalent Chromium			11/16/2015
1511E55-001D	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	Biochemical Oxygen Demand by SM5210		11/16/2015 11:00:00 AM	11/16/2015
1511E55-001D	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	Residue, Suspended (TSS) by SM2540D		11/16/2015 10:00:00 AM	11/16/2015
1511E55-001E	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	Oil and Grease		11/16/2015 8:30:00 AM	11/16/2015
1511E55-001F	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	Phenolics, Total Recoverable		11/16/2015 8:40:00 AM	11/16/2015
1511E55-001F	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	Surfactants (MBAS) by SM5540C		11/16/2015 4:00:00 PM	11/16/2015
1511E55-001G	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	Inorganic Anions by IC			11/16/2015
1511E55-001G	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	Nitrogen, Ammonia (as N)		11/16/2015 10:50:00 AM	11/16/2015
1511E55-001G	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	Nitrogen, total Kjeldahl (TKN)		11/16/2015 10:50:00 AM	11/16/2015
1511E55-001G	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	Phosphorus , Total		11/16/2015 11:00:00 AM	11/16/2015
1511E55-001H	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	Chemical Oxygen Demand (COD)			11/16/2015
1511E55-001H	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	Total Residual Chlorine by SM4500-Cl-G			11/16/2015
1511E55-001H	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	Total Cyanide		11/16/2015 1:30:00 PM	11/16/2015
1511E55-001H	OBM-RUNOFF-01	11/15/2015 5:30:00PM	Surface Water	FECAL COLIFORM-MF			11/16/2015

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215750

Sample ID: **MB-215750**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304442**	
SampleType: **MBLK**	TestCode: **Total Phosphorus E365.1**				BatchID: **215750**		Analysis Date: **11/16/2015**		Seq No: **6519398**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phosphorus, Total (As P)	0.01920	0.050									J

Sample ID: **LCS-215750**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304442**	
SampleType: **LCS**	TestCode: **Total Phosphorus E365.1**				BatchID: **215750**		Analysis Date: **11/16/2015**		Seq No: **6519399**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phosphorus, Total (As P)	2.130	0.050	2.000	0.01920	106	90	110				

Sample ID: **1511C66-001AMS**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304442**	
SampleType: **MS**	TestCode: **Total Phosphorus E365.1**				BatchID: **215750**		Analysis Date: **11/16/2015**		Seq No: **6519401**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phosphorus, Total (As P)	2.150	0.050	2.000	0.2390	95.6	90	110				

Sample ID: **1511C66-001AMSD**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304442**	
SampleType: **MSD**	TestCode: **Total Phosphorus E365.1**				BatchID: **215750**		Analysis Date: **11/16/2015**		Seq No: **6519402**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phosphorus, Total (As P)	2.090	0.050	2.000	0.2390	92.6	90	110	2.150	2.83	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215895

Sample ID: **MB-215895**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304466**
SampleType: **MBLK**	TestCode: **Total Oil and Grease (HEM) E1664B**			BatchID: **215895**	Analysis Date: **11/16/2015**	Seq No: **6519197**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Oil and Grease	1.300	5.0									J

Sample ID: **LCS-215895**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304466**
SampleType: **LCS**	TestCode: **Total Oil and Grease (HEM) E1664B**			BatchID: **215895**	Analysis Date: **11/16/2015**	Seq No: **6519201**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Oil and Grease	36.00	5.0	40.00	1.300	86.8	78	114				

Sample ID: **LCSD-215895**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304466**
SampleType: **LCSD**	TestCode: **Total Oil and Grease (HEM) E1664B**			BatchID: **215895**	Analysis Date: **11/16/2015**	Seq No: **6519204**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Oil and Grease	36.50	5.0	40.00	1.300	88.0	78	114	36.00	1.38	18	

Sample ID: **1511D27-001BMS**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304466**
SampleType: **MS**	TestCode: **Total Oil and Grease (HEM) E1664B**			BatchID: **215895**	Analysis Date: **11/16/2015**	Seq No: **6519193**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Oil and Grease	23.80	5.0	40.00	2.000	54.5	78	114				S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215931

Sample ID: **MB-215931**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304411**
SampleType: **MBLK**	TestCode: **Nitrogen, total Kjeldahl (TKN) E351.2**				BatchID: **215931**		Analysis Date: **11/16/2015**		Seq No: **6519574**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, total Kjeldahl (TKN)	0.2810	0.500									J

Sample ID: **LCS-215931**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304411**
SampleType: **LCS**	TestCode: **Nitrogen, total Kjeldahl (TKN) E351.2**				BatchID: **215931**		Analysis Date: **11/16/2015**		Seq No: **6519575**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, total Kjeldahl (TKN)	10.50	0.500	10.00	0.2810	102	90	110				

Sample ID: **1511B71-001AMS**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304411**
SampleType: **MS**	TestCode: **Nitrogen, total Kjeldahl (TKN) E351.2**				BatchID: **215931**		Analysis Date: **11/16/2015**		Seq No: **6519580**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, total Kjeldahl (TKN)	2.550	0.500	10.00		25.5	90	110				S

Sample ID: **1511D27-001CMS**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304411**
SampleType: **MS**	TestCode: **Nitrogen, total Kjeldahl (TKN) E351.2**				BatchID: **215931**		Analysis Date: **11/16/2015**		Seq No: **6519595**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, total Kjeldahl (TKN)	10.80	0.500	10.00	0.7810	100	90	110				

Sample ID: **1511B71-001AMSD**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304411**
SampleType: **MSD**	TestCode: **Nitrogen, total Kjeldahl (TKN) E351.2**				BatchID: **215931**		Analysis Date: **11/16/2015**		Seq No: **6519581**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, total Kjeldahl (TKN)	2.510	0.500	10.00		25.1	90	110	2.550	1.58	30	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215937

Sample ID: **MB-215937** Client ID: Units: **ug/L** Prep Date: **11/16/2015** Run No: **304493**
SampleType: **MBLK** TestCode: **Trace Elements by ICP/MS E200.8** BatchID: **215937** Analysis Date: **11/16/2015** Seq No: **6519995**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	5.00									
Barium	BRL	10.0									
Cadmium	BRL	0.700									
Chromium	BRL	5.00									
Lead	BRL	1.00									
Selenium	BRL	5.00									
Silver	BRL	1.00									

Sample ID: **LCS-215937** Client ID: Units: **ug/L** Prep Date: **11/16/2015** Run No: **304493**
SampleType: **LCS** TestCode: **Trace Elements by ICP/MS E200.8** BatchID: **215937** Analysis Date: **11/16/2015** Seq No: **6520002**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	104.3	5.00	100.0		104	85	115				
Barium	102.8	10.0	100.0		103	85	115				
Cadmium	97.31	0.700	100.0		97.3	85	115				
Chromium	87.35	5.00	100.0		87.4	85	115				
Lead	93.62	1.00	100.0		93.6	85	115				
Selenium	116.0	5.00	100.0		116	85	115				S
Silver	9.660	1.00	10.00		96.6	85	115				

Sample ID: **1511E55-001CMS** Client ID: **OBM-RUNOFF-01** Units: **ug/L** Prep Date: **11/16/2015** Run No: **304493**
SampleType: **MS** TestCode: **Trace Elements by ICP/MS E200.8** BatchID: **215937** Analysis Date: **11/16/2015** Seq No: **6519998**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	103.8	5.00	100.0	0.9214	103	70	130				
Barium	214.7	10.0	100.0	111.0	104	70	130				
Cadmium	94.86	0.700	100.0	0.1344	94.7	70	130				
Chromium	87.50	5.00	100.0	1.388	86.1	70	130				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215937

Sample ID: **1511E55-001CMS** Client ID: **OBM-RUNOFF-01** Units: **ug/L** Prep Date: **11/16/2015** Run No: **304493**
SampleType: **MS** TestCode: **Trace Elements by ICP/MS E200.8** BatchID: **215937** Analysis Date: **11/16/2015** Seq No: **6519998**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Lead	90.92	1.00	100.0	0.9326	90.0	70	130				
Selenium	111.1	5.00	100.0	1.823	109	70	130				
Silver	9.325	1.00	10.00		93.3	70	130				

Sample ID: **1511E55-001CMSD** Client ID: **OBM-RUNOFF-01** Units: **ug/L** Prep Date: **11/16/2015** Run No: **304493**
SampleType: **MSD** TestCode: **Trace Elements by ICP/MS E200.8** BatchID: **215937** Analysis Date: **11/16/2015** Seq No: **6519999**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	104.5	5.00	100.0	0.9214	104	70	130	103.8	0.679	20	
Barium	216.8	10.0	100.0	111.0	106	70	130	214.7	1.00	20	
Cadmium	101.9	0.700	100.0	0.1344	102	70	130	94.86	7.13	20	
Chromium	86.88	5.00	100.0	1.388	85.5	70	130	87.50	0.709	20	
Lead	90.96	1.00	100.0	0.9326	90.0	70	130	90.92	0.042	20	
Selenium	111.5	5.00	100.0	1.823	110	70	130	111.1	0.352	20	
Silver	9.246	1.00	10.00		92.5	70	130	9.325	0.859	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215939

Sample ID: **MB-215939**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304488**
SampleType: **MBLK**	TestCode: **Nitrogen, Ammonia (as N)** **E350.1**				BatchID: **215939**		Analysis Date: **11/16/2015**		Seq No: **6519785**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	0.06180	0.200									J

Sample ID: **LCS-215939**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304488**
SampleType: **LCS**	TestCode: **Nitrogen, Ammonia (as N)** **E350.1**				BatchID: **215939**		Analysis Date: **11/16/2015**		Seq No: **6519786**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	5.320	0.200	5.000	0.06180	105	90	110				

Sample ID: **1511A93-002CMS**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304488**
SampleType: **MS**	TestCode: **Nitrogen, Ammonia (as N)** **E350.1**				BatchID: **215939**		Analysis Date: **11/16/2015**		Seq No: **6519802**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	4.330	0.200	5.000	0.09720	84.7	90	110				S

Sample ID: **1511B19-001AMS**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304488**
SampleType: **MS**	TestCode: **Nitrogen, Ammonia (as N)** **E350.1**				BatchID: **215939**		Analysis Date: **11/16/2015**		Seq No: **6519789**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	5.690	0.200	5.000	1.150	90.8	90	110				

Sample ID: **1511B19-001AMSD**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304488**
SampleType: **MSD**	TestCode: **Nitrogen, Ammonia (as N)** **E350.1**				BatchID: **215939**		Analysis Date: **11/16/2015**		Seq No: **6519790**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	6.390	0.200	5.000	1.150	105	90	110	5.690	11.6	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215950

Sample ID: **MB-215950**	Client ID:		Units: **ug/L**	Prep Date: **11/16/2015**	Run No: **304457**
SampleType: **MBLK**	TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D**		BatchID: **215950**	Analysis Date: **11/16/2015**	Seq No: **6518993**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1´-Biphenyl	BRL	10									
2,4,5-Trichlorophenol	BRL	25									
2,4,6-Trichlorophenol	BRL	10									
2,4-Dichlorophenol	BRL	10									
2,4-Dimethylphenol	BRL	10									
2,4-Dinitrophenol	BRL	25									
2,4-Dinitrotoluene	BRL	10									
2,6-Dinitrotoluene	BRL	10									
2-Chloronaphthalene	BRL	10									
2-Chlorophenol	BRL	10									
2-Methylnaphthalene	BRL	10									
2-Methylphenol	BRL	10									
2-Nitroaniline	BRL	25									
2-Nitrophenol	BRL	10									
3,3´-Dichlorobenzidine	BRL	10									
3-Nitroaniline	BRL	25									
4,6-Dinitro-2-methylphenol	BRL	25									
4-Bromophenyl phenyl ether	BRL	10									
4-Chloro-3-methylphenol	BRL	10									
4-Chloroaniline	BRL	10									
4-Chlorophenyl phenyl ether	BRL	10									
4-Methylphenol	BRL	10									
4-Nitroaniline	BRL	25									
4-Nitrophenol	BRL	25									
Acenaphthene	BRL	10									
Acenaphthylene	BRL	10									
Acetophenone	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215950

Sample ID: **MB-215950**	Client ID:		Units: **ug/L**	Prep Date: **11/16/2015**	Run No: **304457**
SampleType: **MBLK**	TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D**		BatchID: **215950**	Analysis Date: **11/16/2015**	Seq No: **6518993**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Anthracene	BRL	10									
Atrazine	BRL	10									
Benz(a)anthracene	BRL	10									
Benzaldehyde	BRL	10									
Benzo(a)pyrene	BRL	10									
Benzo(b)fluoranthene	BRL	10									
Benzo(g,h,i)perylene	BRL	10									
Benzo(k)fluoranthene	BRL	10									
Bis(2-chloroethoxy)methane	BRL	10									
Bis(2-chloroethyl)ether	BRL	10									
Bis(2-chloroisopropyl)ether	BRL	10									
Bis(2-ethylhexyl)phthalate	BRL	10									
Butyl benzyl phthalate	BRL	10									
Caprolactam	BRL	10									
Carbazole	BRL	10									
Chrysene	BRL	10									
Di-n-butyl phthalate	BRL	10									
Di-n-octyl phthalate	BRL	10									
Dibenz(a,h)anthracene	BRL	10									
Dibenzofuran	BRL	10									
Diethyl phthalate	BRL	10									
Dimethyl phthalate	BRL	10									
Fluoranthene	BRL	10									
Fluorene	BRL	10									
Hexachlorobenzene	BRL	10									
Hexachlorobutadiene	BRL	10									
Hexachlorocyclopentadiene	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215950

Sample ID: **MB-215950** Client ID: Units: **ug/L** Prep Date: **11/16/2015** Run No: **304457**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **215950** Analysis Date: **11/16/2015** Seq No: **6518993**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Hexachloroethane	BRL	10									
Indeno(1,2,3-cd)pyrene	BRL	10									
Isophorone	BRL	10									
N-Nitrosodi-n-propylamine	BRL	10									
N-Nitrosodiphenylamine	BRL	10									
Naphthalene	BRL	10									
Nitrobenzene	BRL	10									
Pentachlorophenol	BRL	25									
Phenanthrene	BRL	10									
Phenol	BRL	10									
Pyrene	BRL	10									
Surr: 2,4,6-Tribromophenol	70.66	0	100.0		70.7	51.5	141				
Surr: 2-Fluorobiphenyl	37.02	0	50.00		74.0	50.8	122				
Surr: 2-Fluorophenol	57.60	0	100.0		57.6	28.1	120				
Surr: 4-Terphenyl-d14	44.40	0	50.00		88.8	47.2	131				
Surr: Nitrobenzene-d5	38.47	0	50.00		76.9	42.1	124				
Surr: Phenol-d5	38.14	0	100.0		38.1	16	120				

Sample ID: **LCS-215950** Client ID: Units: **ug/L** Prep Date: **11/16/2015** Run No: **304457**
SampleType: **LCS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **215950** Analysis Date: **11/16/2015** Seq No: **6519171**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	73.30	10	100.0		73.3	71.3	129				
2-Chlorophenol	81.85	10	100.0		81.8	58.1	120				
4-Chloro-3-methylphenol	92.08	10	100.0		92.1	69.2	123				
4-Nitrophenol	41.11	25	100.0		41.1	20.2	120				
Acenaphthene	82.07	10	100.0		82.1	71.5	120				
N-Nitrosodi-n-propylamine	103.2	10	100.0		103	68.8	134				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215950

Sample ID: **LCS-215950** Client ID: Units: **ug/L** Prep Date: **11/16/2015** Run No: **304457**
SampleType: **LCS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **215950** Analysis Date: **11/16/2015** Seq No: **6519171**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pentachlorophenol	63.38	25	100.0		63.4	50.5	130				
Phenol	32.85	10	100.0		32.8	27	120				
Pyrene	91.36	10	100.0		91.4	71.1	133				
Surr: 2,4,6-Tribromophenol	77.18	0	100.0		77.2	51.5	141				
Surr: 2-Fluorobiphenyl	41.52	0	50.00		83.0	50.8	122				
Surr: 2-Fluorophenol	46.43	0	100.0		46.4	28.1	120				
Surr: 4-Terphenyl-d14	43.05	0	50.00		86.1	47.2	131				
Surr: Nitrobenzene-d5	46.22	0	50.00		92.4	42.1	124				
Surr: Phenol-d5	36.31	0	100.0		36.3	16	120				

Sample ID: **1511E55-001BMS** Client ID: **OBM-RUNOFF-01** Units: **ug/L** Prep Date: **11/16/2015** Run No: **304457**
SampleType: **MS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **215950** Analysis Date: **11/16/2015** Seq No: **6521114**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	63.40	50	100.0		63.4	51.4	126				
2-Chlorophenol	66.50	50	100.0		66.5	49.6	120				
4-Chloro-3-methylphenol	84.90	50	100.0		84.9	50.7	130				
4-Nitrophenol	57.55	130	100.0		57.6	20.2	120				J
Acenaphthene	72.45	50	100.0		72.4	49.2	123				
N-Nitrosodi-n-propylamine	86.20	50	100.0		86.2	49	135				
Pentachlorophenol	44.15	130	100.0		44.2	41.5	131				J
Phenol	59.70	50	100.0		59.7	30.6	120				
Pyrene	76.85	50	100.0		76.8	50.5	130				
Surr: 2,4,6-Tribromophenol	65.75	0	100.0		65.8	51.5	141				
Surr: 2-Fluorobiphenyl	33.90	0	50.00		67.8	50.8	122				
Surr: 2-Fluorophenol	65.05	0	100.0		65.0	28.1	120				
Surr: 4-Terphenyl-d14	35.95	0	50.00		71.9	47.2	131				
Surr: Nitrobenzene-d5	44.20	0	50.00		88.4	42.1	124				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215950

Sample ID: **1511E55-001BMS**	Client ID: **OBM-RUNOFF-01**				Units: **ug/L**		Prep Date: **11/16/2015**		Run No: **304457**	
SampleType: **MS**	TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D**				BatchID: **215950**		Analysis Date: **11/16/2015**		Seq No: **6521114**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Phenol-d5	52.40	0	100.0		52.4	16	120				

Sample ID: **1511E55-001BMSD**	Client ID: **OBM-RUNOFF-01**				Units: **ug/L**		Prep Date: **11/16/2015**		Run No: **304457**	
SampleType: **MSD**	TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D**				BatchID: **215950**		Analysis Date: **11/16/2015**		Seq No: **6521115**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	62.55	50	100.0		62.6	51.4	126	63.40	1.35	29.2	
2-Chlorophenol	60.15	50	100.0		60.2	49.6	120	66.50	10.0	28.2	
4-Chloro-3-methylphenol	83.45	50	100.0		83.4	50.7	130	84.90	1.72	29.7	
4-Nitrophenol	59.40	130	100.0		59.4	20.2	120	57.55	0	38.6	J
Acenaphthene	67.85	50	100.0		67.8	49.2	123	72.45	6.56	29.3	
N-Nitrosodi-n-propylamine	82.75	50	100.0		82.8	49	135	86.20	4.08	37.6	
Pentachlorophenol	38.10	130	100.0		38.1	41.5	131	44.15	0	33.5	JS
Phenol	61.10	50	100.0		61.1	30.6	120	59.70	2.32	36.3	
Pyrene	75.75	50	100.0		75.8	50.5	130	76.85	1.44	27.3	
Surr: 2,4,6-Tribromophenol	53.85	0	100.0		53.8	51.5	141	65.75	0	0	
Surr: 2-Fluorobiphenyl	33.00	0	50.00		66.0	50.8	122	33.90	0	0	
Surr: 2-Fluorophenol	64.75	0	100.0		64.8	28.1	120	65.05	0	0	
Surr: 4-Terphenyl-d14	34.45	0	50.00		68.9	47.2	131	35.95	0	0	
Surr: Nitrobenzene-d5	39.80	0	50.00		79.6	42.1	124	44.20	0	0	
Surr: Phenol-d5	59.40	0	100.0		59.4	16	120	52.40	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215967

Sample ID: **MB-215967**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304434**
SampleType: **MBLK**	TestCode: **Total Mercury E245.1**				BatchID: **215967**		Analysis Date: **11/16/2015**		Seq No: **6519413**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-215967**	Client ID:				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304434**
SampleType: **LCS**	TestCode: **Total Mercury E245.1**				BatchID: **215967**		Analysis Date: **11/16/2015**		Seq No: **6519414**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005097	0.00020	0.0050		102	85	115				

Sample ID: **1511C18-009BMS**	Client ID:				Units: **mg/L**		Prep Date: **11/17/2015**		Run No: **304434**
SampleType: **MS**	TestCode: **Total Mercury E245.1**				BatchID: **215967**		Analysis Date: **11/17/2015**		Seq No: **6521795**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005133	0.00020	0.0050		103	70	130				

Sample ID: **1511E55-001CMS**	Client ID: **OBM-RUNOFF-01**				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304434**
SampleType: **MS**	TestCode: **Total Mercury E245.1**				BatchID: **215967**		Analysis Date: **11/16/2015**		Seq No: **6519416**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005531	0.00020	0.0050	0.00004310	110	70	130				

Sample ID: **1511E55-001CMSD**	Client ID: **OBM-RUNOFF-01**				Units: **mg/L**		Prep Date: **11/16/2015**		Run No: **304434**
SampleType: **MSD**	TestCode: **Total Mercury E245.1**				BatchID: **215967**		Analysis Date: **11/16/2015**		Seq No: **6519417**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005271	0.00020	0.0050	0.00004310	105	70	130	0.005531	4.81	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215969

Sample ID: **MB-215969**	Client ID:				Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304447**
SampleType: **MBLK**	TestCode: **Residue, Suspended (TSS) by SM2540D**				BatchID: **215969**	Analysis Date: **11/16/2015**	Seq No: **6518656**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	BRL	5.0									

Sample ID: **1511D20-001ADUP**	Client ID:				Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304447**
SampleType: **DUP**	TestCode: **Residue, Suspended (TSS) by SM2540D**				BatchID: **215969**	Analysis Date: **11/16/2015**	Seq No: **6518671**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	39.50	5.0						39.00	1.27	5	

Sample ID: **1511D20-002ADUP**	Client ID:				Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304447**
SampleType: **DUP**	TestCode: **Residue, Suspended (TSS) by SM2540D**				BatchID: **215969**	Analysis Date: **11/16/2015**	Seq No: **6518659**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	46.00	5.0						45.50	1.09	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215970

Sample ID: **MB-215970** Client ID: Units: **ug/L** Prep Date: **11/16/2015** Run No: **304400**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **215970** Analysis Date: **11/16/2015** Seq No: **6518682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215970

Sample ID: **MB-215970** Client ID: Units: **ug/L** Prep Date: **11/16/2015** Run No: **304400**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **215970** Analysis Date: **11/16/2015** Seq No: **6518682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
o-Xylene	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	41.89	0	50.00		83.8	70.7	125				
Surr: Dibromofluoromethane	55.14	0	50.00		110	82.2	120				
Surr: Toluene-d8	48.06	0	50.00		96.1	81.8	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215970

Sample ID: **LCS-215970** Client ID: Units: **ug/L** Prep Date: **11/16/2015** Run No: **304400**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **215970** Analysis Date: **11/16/2015** Seq No: **6518681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	51.80	5.0	50.00		104	64.2	137				
Benzene	53.88	5.0	50.00		108	72.8	128				
Chlorobenzene	56.09	5.0	50.00		112	72.3	126				
Toluene	52.90	5.0	50.00		106	74.9	127				
Trichloroethene	58.78	5.0	50.00		118	70.5	134				
Surr: 4-Bromofluorobenzene	42.61	0	50.00		85.2	70.7	125				
Surr: Dibromofluoromethane	52.48	0	50.00		105	82.2	120				
Surr: Toluene-d8	48.20	0	50.00		96.4	81.8	120				

Sample ID: **1511E55-001AMS** Client ID: **OBM-RUNOFF-01** Units: **ug/L** Prep Date: **11/16/2015** Run No: **304400**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **215970** Analysis Date: **11/16/2015** Seq No: **6520174**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	52.73	5.0	50.00		105	60.5	156				
Benzene	53.79	5.0	50.00	1.090	105	70	135				
Chlorobenzene	53.49	5.0	50.00		107	70.5	132				
Toluene	51.85	5.0	50.00	0.5700	103	70.5	137				
Trichloroethene	56.36	5.0	50.00		113	71.8	139				
Surr: 4-Bromofluorobenzene	43.49	0	50.00		87.0	70.7	125				
Surr: Dibromofluoromethane	57.17	0	50.00		114	82.2	120				
Surr: Toluene-d8	48.07	0	50.00		96.1	81.8	120				

Sample ID: **1511E55-001AMSD** Client ID: **OBM-RUNOFF-01** Units: **ug/L** Prep Date: **11/16/2015** Run No: **304400**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **215970** Analysis Date: **11/16/2015** Seq No: **6520175**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	47.82	5.0	50.00		95.6	60.5	156	52.73	9.77	20	
Benzene	52.56	5.0	50.00	1.090	103	70	135	53.79	2.31	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215970

Sample ID: **1511E55-001AMSD** Client ID: **OBM-RUNOFF-01** Units: **ug/L** Prep Date: **11/16/2015** Run No: **304400**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **215970** Analysis Date: **11/16/2015** Seq No: **6520175**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	51.71	5.0	50.00		103	70.5	132	53.49	3.38	20	
Toluene	49.97	5.0	50.00	0.5700	98.8	70.5	137	51.85	3.69	20	
Trichloroethene	54.03	5.0	50.00		108	71.8	139	56.36	4.22	20	
Surr: 4-Bromofluorobenzene	43.09	0	50.00		86.2	70.7	125	43.49	0	0	
Surr: Dibromofluoromethane	54.65	0	50.00		109	82.2	120	57.17	0	0	
Surr: Toluene-d8	48.63	0	50.00		97.3	81.8	120	48.07	0	0	

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215972

Sample ID: **MB-215972**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304475**
SampleType: **MBLK**	TestCode: **Total Cyanide (SM4500 CN-C, E)**			BatchID: **215972**	Analysis Date: **11/16/2015**	Seq No: **6519424**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-215972**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304475**
SampleType: **LCS**	TestCode: **Total Cyanide (SM4500 CN-C, E)**			BatchID: **215972**	Analysis Date: **11/16/2015**	Seq No: **6519425**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2500	0.010	0.2500		100	90	110				

Sample ID: **1511909-002AMS**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304475**
SampleType: **MS**	TestCode: **Total Cyanide (SM4500 CN-C, E)**			BatchID: **215972**	Analysis Date: **11/16/2015**	Seq No: **6519433**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2444	0.010	0.2500		97.8	90	110				

Sample ID: **1511A53-001DMS**	Client ID:			Units: **mg/L**	Prep Date: **11/17/2015**	Run No: **304475**
SampleType: **MS**	TestCode: **Total Cyanide (SM4500 CN-C, E)**			BatchID: **215972**	Analysis Date: **11/17/2015**	Seq No: **6522699**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2402	0.010	0.2500		96.1	90	110				

Sample ID: **1511909-002AMSD**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304475**
SampleType: **MSD**	TestCode: **Total Cyanide (SM4500 CN-C, E)**			BatchID: **215972**	Analysis Date: **11/16/2015**	Seq No: **6519434**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2464	0.010	0.2500		98.6	90	110	0.2444	0.815	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215990

Sample ID: **MB-215990**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304481**
SampleType: **MBLK**	TestCode: **Phenolics, Total Recoverable E420.1**			BatchID: **215990**	Analysis Date: **11/16/2015**	Seq No: **6519643**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenolics, Total Recoverable	BRL	0.05									

Sample ID: **LCS-215990**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304481**
SampleType: **LCS**	TestCode: **Phenolics, Total Recoverable E420.1**			BatchID: **215990**	Analysis Date: **11/16/2015**	Seq No: **6519644**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenolics, Total Recoverable	0.3903	0.05	0.4000		97.6	80	120				

Sample ID: **1511B00-001EMS**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304481**
SampleType: **MS**	TestCode: **Phenolics, Total Recoverable E420.1**			BatchID: **215990**	Analysis Date: **11/16/2015**	Seq No: **6519649**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenolics, Total Recoverable	0.3995	0.05	0.4000		99.9	80	120				

Sample ID: **1511B00-001EMSD**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **304481**
SampleType: **MSD**	TestCode: **Phenolics, Total Recoverable E420.1**			BatchID: **215990**	Analysis Date: **11/16/2015**	Seq No: **6519650**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenolics, Total Recoverable	0.4086	0.05	0.4000		102	80	120	0.3995	2.25	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 215991

Sample ID: **MB-215991**	Client ID:		Units: **mg/L-LAS**	Prep Date: **11/16/2015**	Run No: **304482**
SampleType: **MBLK**	TestCode: **Surfactants (MBAS) by SM5540C**		BatchID: **215991**	Analysis Date: **11/16/2015**	Seq No: **6519663**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
MBAS	BRL	0.100									

Sample ID: **LCS-215991**	Client ID:		Units: **mg/L-LAS**	Prep Date: **11/16/2015**	Run No: **304482**
SampleType: **LCS**	TestCode: **Surfactants (MBAS) by SM5540C**		BatchID: **215991**	Analysis Date: **11/16/2015**	Seq No: **6519664**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
MBAS	0.4809	0.100	0.5000		96.2	80	120				

Sample ID: **1511E55-001FMS**	Client ID: **OBM-RUNOFF-01**		Units: **mg/L-LAS**	Prep Date: **11/16/2015**	Run No: **304482**
SampleType: **MS**	TestCode: **Surfactants (MBAS) by SM5540C**		BatchID: **215991**	Analysis Date: **11/16/2015**	Seq No: **6519671**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
MBAS	0.7040	0.100	0.5000	0.2839	84.0	70	130				

Sample ID: **1511E55-001FMSD**	Client ID: **OBM-RUNOFF-01**		Units: **mg/L-LAS**	Prep Date: **11/16/2015**	Run No: **304482**
SampleType: **MSD**	TestCode: **Surfactants (MBAS) by SM5540C**		BatchID: **215991**	Analysis Date: **11/16/2015**	Seq No: **6519673**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
MBAS	0.7096	0.100	0.5000	0.2839	85.1	70	130	0.7040	0.792	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 216282

Sample ID: **MB-216282**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **305018**
SampleType: **MBLK**	TestCode: **Biochemical Oxygen Demand (5 Day) by SM5210B**			BatchID: **216282**	Analysis Date: **11/16/2015**	Seq No: **6533476**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Biochemical Oxygen Demand	BRL	0.2									

Sample ID: **LCS-216282**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **305018**
SampleType: **LCS**	TestCode: **Biochemical Oxygen Demand (5 Day) by SM5210B**			BatchID: **216282**	Analysis Date: **11/16/2015**	Seq No: **6533477**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Biochemical Oxygen Demand	202.3	5.0	198.0		102	85	115				

Sample ID: **LCSD-216282**	Client ID:			Units: **mg/L**	Prep Date: **11/16/2015**	Run No: **305018**
SampleType: **LCSD**	TestCode: **Biochemical Oxygen Demand (5 Day) by SM5210B**			BatchID: **216282**	Analysis Date: **11/16/2015**	Seq No: **6533496**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Biochemical Oxygen Demand	200.8	5.0	198.0		101	85	115	202.3	0.744	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: R304426

Sample ID: **MB-R304426**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **304426**	
SampleType: **MBLK**	TestCode: **Total Residual Chlorine by SM4500-Cl-G**				BatchID: **R304426**		Analysis Date: **11/16/2015**		Seq No: **6518145**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorine, Total Residual	BRL	0.200									

Sample ID: **LCS-R304426**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **304426**	
SampleType: **LCS**	TestCode: **Total Residual Chlorine by SM4500-Cl-G**				BatchID: **R304426**		Analysis Date: **11/16/2015**		Seq No: **6518146**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorine, Total Residual	0.6480	0.200	0.7000		92.6	85	115				

Sample ID: **1511B00-001GMS**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **304426**	
SampleType: **MS**	TestCode: **Total Residual Chlorine by SM4500-Cl-G**				BatchID: **R304426**		Analysis Date: **11/16/2015**		Seq No: **6518159**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorine, Total Residual	0.3230	0.200	0.5000		64.6	80	120				SH

Sample ID: **1511B00-001GMSD**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **304426**	
SampleType: **MSD**	TestCode: **Total Residual Chlorine by SM4500-Cl-G**				BatchID: **R304426**		Analysis Date: **11/16/2015**		Seq No: **6518163**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorine, Total Residual	0.3100	0.200	0.5000		62.0	80	120	0.3230	4.11	40	SH

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: R304451

Sample ID: **MB-R304451**	Client ID:				Units: **mg/L**	Prep Date:		Run No: **304451**
SampleType: **MBLK**	TestCode: **Chemical Oxygen Demand (COD) E410.4**				BatchID: **R304451**	Analysis Date: **11/16/2015**		Seq No: **6518790**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	BRL	10.0									

Sample ID: **LCS-R304451**	Client ID:				Units: **mg/L**	Prep Date:		Run No: **304451**
SampleType: **LCS**	TestCode: **Chemical Oxygen Demand (COD) E410.4**				BatchID: **R304451**	Analysis Date: **11/16/2015**		Seq No: **6518791**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	495.8	10.0	500.0		99.2	90	110				

Sample ID: **1511839-022DMS**	Client ID:				Units: **mg/L**	Prep Date:		Run No: **304451**
SampleType: **MS**	TestCode: **Chemical Oxygen Demand (COD) E410.4**				BatchID: **R304451**	Analysis Date: **11/16/2015**		Seq No: **6519780**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	444.1	12.5	375.0	64.90	101	90	110				

Sample ID: **1511B38-001AMS**	Client ID:				Units: **mg/L**	Prep Date:		Run No: **304451**
SampleType: **MS**	TestCode: **Chemical Oxygen Demand (COD) E410.4**				BatchID: **R304451**	Analysis Date: **11/16/2015**		Seq No: **6518799**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	392.2	12.5	375.0	11.90	101	90	110				

Sample ID: **1511B38-001AMSD**	Client ID:				Units: **mg/L**	Prep Date:		Run No: **304451**
SampleType: **MSD**	TestCode: **Chemical Oxygen Demand (COD) E410.4**				BatchID: **R304451**	Analysis Date: **11/16/2015**		Seq No: **6518800**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	392.2	12.5	375.0	11.90	101	90	110	392.2	0	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: R304465

Sample ID: **MB-R304465**	Client ID:			Units: **mg/L**	Prep Date:	Run No: **304465**
SampleType: **MBLK**	TestCode: **Inorganic Anions by IC**	**E300.0**		BatchID: **R304465**	Analysis Date: **11/16/2015**	Seq No: **6519173**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	BRL	0.250									

Sample ID: **LCS-R304465**	Client ID:			Units: **mg/L**	Prep Date:	Run No: **304465**
SampleType: **LCS**	TestCode: **Inorganic Anions by IC**	**E300.0**		BatchID: **R304465**	Analysis Date: **11/16/2015**	Seq No: **6519172**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	5.294	0.250	5.000		106	90	110				

Sample ID: **1511E55-001GMS**	Client ID: **OBM-RUNOFF-01**			Units: **mg/L**	Prep Date:	Run No: **304465**
SampleType: **MS**	TestCode: **Inorganic Anions by IC**	**E300.0**		BatchID: **R304465**	Analysis Date: **11/16/2015**	Seq No: **6519176**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	6.634	0.250	5.000	1.216	108	90	110				

Sample ID: **1511E55-001GMSD**	Client ID: **OBM-RUNOFF-01**			Units: **mg/L**	Prep Date:	Run No: **304465**
SampleType: **MSD**	TestCode: **Inorganic Anions by IC**	**E300.0**		BatchID: **R304465**	Analysis Date: **11/16/2015**	Seq No: **6519177**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	6.671	0.250	5.000	1.216	109	90	110	6.634	0.553	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: R304490

Sample ID: **MB-R304490**	Client ID:			Units: **mg/L**	Prep Date:	Run No: **304490**
SampleType: **MBLK**	TestCode: **Hexavalent Chromium in Water SW7196A**			BatchID: **R304490**	Analysis Date: **11/16/2015**	Seq No: **6519773**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chromium, Hexavalent	BRL	0.0100									

Sample ID: **LCS-R304490**	Client ID:			Units: **mg/L**	Prep Date:	Run No: **304490**
SampleType: **LCS**	TestCode: **Hexavalent Chromium in Water SW7196A**			BatchID: **R304490**	Analysis Date: **11/16/2015**	Seq No: **6519774**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.5210	0.0100	0.5000		104	90	110				

Sample ID: **1511E55-001DMS**	Client ID: **OBM-RUNOFF-01**			Units: **mg/L**	Prep Date:	Run No: **304490**
SampleType: **MS**	TestCode: **Hexavalent Chromium in Water SW7196A**			BatchID: **R304490**	Analysis Date: **11/16/2015**	Seq No: **6519778**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.4755	0.0100	0.5000		95.1	85	115				

Sample ID: **1511E55-001DMSD**	Client ID: **OBM-RUNOFF-01**			Units: **mg/L**	Prep Date:	Run No: **304490**
SampleType: **MSD**	TestCode: **Hexavalent Chromium in Water SW7196A**			BatchID: **R304490**	Analysis Date: **11/16/2015**	Seq No: **6519779**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.4568	0.0100	0.5000		91.4	85	115	0.4755	4.01	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511E55

ANALYTICAL QC SUMMARY REPORT

BatchID: R304588

Sample ID: **MB-R304588**	Client ID:			Units: **Colonies/100ml**	Prep Date:	Run No: **304588**
SampleType: **MBLK**	TestCode: **Fecal Coliform (MF)**	**SM9222D-1997**		BatchID: **R304588**	Analysis Date: **11/16/2015**	Seq No: **6522254**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Fecal Coliform, (MF)	BRL	2									

Sample ID: **MB-R304588-2**	Client ID:			Units: **Colonies/100ml**	Prep Date:	Run No: **304588**
SampleType: **MBLK**	TestCode: **Fecal Coliform (MF)**	**SM9222D-1997**		BatchID: **R304588**	Analysis Date: **11/16/2015**	Seq No: **6522257**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Fecal Coliform, (MF)	BRL	2									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

DATA VALIDATION CHECKLIST – STAGE 2A

Site Name	Old Barwick Mill Plant Fire	**Project No.**	TT-01-040
Data Reviewer (signature and date)	Jessica A. Vickers November 30, 2015	**Laboratory/ Report No.**	Analytical Environmental Services, Inc./1511G22
Analyses	Volatile Organic Compounds (VOCs) – SW8260B, Semivolatile Organic Compounds (SVOCs) – SW8270D, Resource Conservation Recovery Act (RCRA) Metals – EPA 200.8/245.1, Ammonia – EPA 350.1, Biological Oxygen Demand (BOD) – SM 5210B, Chemical Oxygen Demand (COD) – EPA 410.4, Cyanide – SM 4500-CN-C, Fecal Coliform – SM 9222D, Hexavalent Chromium – SW7196A, Nitrate – EPA 300.0, Oil and Grease – EPA 1664B, Phosphorus – EPA 365.1, Surfactants – SM 5540C, Total Kjeldahl Nitrogen (TKN) – EPA 351.2, Total Recoverable Phenolics – EPA 420.1, and Total Suspended Solids (TSS) – SM 2540D		
Samples	OBM-BLUELIQUID-01		

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *CLP NFG for Inorganic Superfund Data Review* (August 2014) data validation guidance documents, as well as the above referenced methods.

OVERALL EVALUATION:

Rejection of data was not required for this data package. Results were qualified due to exceedances for holding times. The data can be used with the qualifications indicated in this checklist.

Data completeness:

Within Criteria	Exceedance/Notes
Y	

1955 Evergreen Blvd., Ste. 300, Duluth, GA 30096
Tel 678.775.3080 Fax 678.775.3138
www.tetratech.com

TETRA TECH

DATA VALIDATION CHECKLIST – STAGE 2A

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
N	Holding time was exceeded for fecal coliform – flag "J-"

Method blanks:

Within Criteria	Exceedance/Notes
Y	Oil & grease = 1.3 mg/L – no action (associated result greater than ten times blank value)

Field blanks:

Within Criteria	Exceedance/Notes
NA	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
Y	

MS/MSD:

Within Criteria	Exceedance/Notes
Y	MS/MSDs performed on non-project samples were not evaluated.

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Post digestion spikes:

Within Criteria	Exceedance/Notes
NA	

Serial dilutions:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	Duplicates performed on non-project samples were not evaluated.

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

Total versus dissolved metals results evaluation:

Within Criteria	Exceedance/Notes
NA	

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LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Toxicity equivalents (TEQs) and isomer specificity (dioxins/furans, cBaP, and PCB congeners only):

Within Criteria	Exceedance/Notes
NA	

Sample dilutions:

Within Criteria	Exceedance/Notes
Y	5x: SVOCs 10x: mercury 50x: VOCs 100x: ammonia, BOD, COD, fecal coliform, nitrate, and total phenolics 500x: surfactants

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

Estimated detection limit (EDL), estimated maximum possible concentration (EMPC), and target analyte identification (dioxins/furans only):

Within Criteria	Exceedance/Notes
NA	

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MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Results between the MDL and RL were flagged "J" by laboratory.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

Analytical Environmental Services, Inc **Date:** 25-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-BLUELIQUID-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/17/2015 12:00:00 PM
Lab ID:	1511G22-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Total Phosphorus E365.1					(E365.1)				
Phosphorus, Total (As P)	202		0.505	2.50	mg/L	216008	1	11/18/2015 12:23	FS
Total Oil and Grease (HEM) E1664B					(E1664)				
Oil and Grease	573		1.1	5.9	mg/L	216061	1	11/18/2015 13:40	GR
Total Metals by ICP E200.7					(E200.7)				
Arsenic	0.135		0.0031	0.0500	mg/L	216040	1	11/18/2015 17:45	TA
Barium	1.23		0.0013	0.0100	mg/L	216040	1	11/18/2015 17:45	TA
Cadmium	0.0217		0.0003	0.0050	mg/L	216040	1	11/18/2015 17:45	TA
Chromium	0.211		0.0003	0.0100	mg/L	216040	1	11/18/2015 17:45	TA
Lead	0.243		0.0025	0.0100	mg/L	216040	1	11/18/2015 17:45	TA
Selenium	0.0357		0.0025	0.0200	mg/L	216040	1	11/18/2015 17:45	TA
Silver	0 0038	J	0.0006	0.0050	mg/L	216040	1	11/18/2015 17:45	TA
Total Mercury E245.1					(E245.1)				
Mercury	0.01586		0.00036	0.00200	mg/L	216085	10	11/18/2015 15:50	TA
Total Cyanide (SM4500 CN-C, E)					(SM4500-CN-E)				
Cyanide, Total	0.352		0.001	0.010	mg/L	216129	1	11/18/2015 15:06	PF
TCL-SEMIVOLATILE ORGANICS SW8270D					(SW3580A)				
1,1′-Biphenyl	BRL		500	500 U	mg/Kg	216106	5	11/18/2015 15:55	YH
2,4,5-Trichlorophenol	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
2,4,6-Trichlorophenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2,4-Dichlorophenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2,4-Dimethylphenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2,4-Dinitrophenol	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
2,4-Dinitrotoluene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2,6-Dinitrotoluene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2-Chloronaphthalene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2-Chlorophenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2-Methylnaphthalene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2-Methylphenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2-Nitroaniline	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
2-Nitrophenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
3,3′-Dichlorobenzidine	BRL		3400	3400	mg/Kg	216106	5	11/18/2015 15:55	YH
3-Nitroaniline	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
4,6-Dinitro-2-methylphenol	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
4-Bromophenyl phenyl ether	BRL		500	500 U	mg/Kg	216106	5	11/18/2015 15:55	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed
- E Estimated value above quantitation range
- S Spike Recovery outside limits due to matrix
- J Estimated value detected below Reporting Limit
- > Greater than Result value
- < Less than Result value
- Narr See case narrative

11/30/15

Analytical Environmental Services, Inc **Date:** 25-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-BLUELIQUID-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/17/2015 12:00:00 PM
Lab ID:	1511G22-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D					**(SW3580A)**				
4-Chloro-3-methylphenol	BRL		500	500 U	mg/Kg	216106	5	11/18/2015 15:55	YH
4-Chloroaniline	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
4-Chlorophenyl phenyl ether	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
4-Methylphenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
4-Nitroaniline	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
4-Nitrophenol	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
Acenaphthene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Acenaphthylene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Acetophenone	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Anthracene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Atrazine	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Benz(a)anthracene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Benzaldehyde	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Benzo(a)pyrene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Benzo(b)fluoranthene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Benzo(g,h,i)perylene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Benzo(k)fluoranthene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Bis(2-chloroethoxy)methane	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Bis(2-chloroethyl)ether	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Bis(2-chloroisopropyl)ether	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Bis(2-ethylhexyl)phthalate	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Butyl benzyl phthalate	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Caprolactam	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Carbazole	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Chrysene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Di-n-butyl phthalate	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Di-n-octyl phthalate	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Dibenz(a,h)anthracene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Dibenzofuran	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Diethyl phthalate	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Dimethyl phthalate	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Fluoranthene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Fluorene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Hexachlorobenzene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Hexachlorobutadiene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Hexachlorocyclopentadiene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Hexachloroethane	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Indeno(1,2,3-cd)pyrene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Isophorone	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH

Qualifiers:

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- Narr See case narrative

11/30/15

Analytical Environmental Services, Inc **Date:** 25-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-BLUELIQUID-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/17/2015 12:00:00 PM
Lab ID:	1511G22-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D					**(SW3580A)**				
N-Nitrosodi-n-propylamine	BRL		500	500 U	mg/Kg	216106	5	11/18/2015 15:55	YH
N-Nitrosodiphenylamine	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Naphthalene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Nitrobenzene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Pentachlorophenol	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
Phenanthrene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Phenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Pyrene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Surr: 2,4,6-Tribromophenol	84.6		0	60.1-153	%REC	216106	5	11/18/2015 15:55	YH
Surr: 2-Fluorobiphenyl	95.3		0	72.6-136	%REC	216106	5	11/18/2015 15:55	YH
Surr: 2-Fluorophenol	88.4		0	61-137	%REC	216106	5	11/18/2015 15:55	YH
Surr: 4-Terphenyl-d14	95.4		0	72.7-149	%REC	216106	5	11/18/2015 15:55	YH
Surr: Nitrobenzene-d5	90.2		0	58.9-136	%REC	216106	5	11/18/2015 15:55	YH
Surr: Phenol-d5	89.8		0	54-137	%REC	216106	5	11/18/2015 15:55	YH
TCL VOLATILE ORGANICS SW8260B					**(SW5035)**				
1,1,1-Trichloroethane	BRL		2500	2500 U	ug/Kg	216125	50	11/18/2015 15:19	MD
1,1,2,2-Tetrachloroethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,1,2-Trichloroethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,1-Dichloroethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,1-Dichloroethene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,2,4-Trichlorobenzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,2-Dibromo-3-chloropropane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,2-Dibromoethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,2-Dichlorobenzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,2-Dichloroethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,2-Dichloropropane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,3-Dichlorobenzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,4-Dichlorobenzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
2-Butanone	BRL		25000	25000	ug/Kg	216125	50	11/18/2015 15:19	MD
2-Hexanone	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
4-Methyl-2-pentanone	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
Acetone	BRL		25000	25000	ug/Kg	216125	50	11/18/2015 15:19	MD
Benzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Bromodichloromethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Bromoform	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Bromomethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Carbon disulfide	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
Carbon tetrachloride	BRL		2500	2500 U	ug/Kg	216125	50	11/18/2015 15:19	MD

Qualifiers:

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11/30/15

Analytical Environmental Services, Inc **Date:** 25-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-BLUELIQUID-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/17/2015 12:00:00 PM
Lab ID:	1511G22-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5035)					
Chlorobenzene	BRL		2500	2500 U	ug/Kg	216125	50	11/18/2015 15:19	MD
Chloroethane	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
Chloroform	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Chloromethane	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
cis-1,2-Dichloroethene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
cis-1,3-Dichloropropene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Cyclohexane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Dibromochloromethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Dichlorodifluoromethane	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
Ethylbenzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Freon-113	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
Isopropylbenzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
m,p-Xylene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Methyl acetate	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Methyl tert-butyl ether	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Methylcyclohexane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Methylene chloride	BRL		2500	9800	ug/Kg	216125	50	11/18/2015 15:19	MD
o-Xylene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Styrene	14000		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Tetrachloroethene	BRL		2500	2500 U	ug/Kg	216125	50	11/18/2015 15:19	MD
Toluene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
trans-1,2-Dichloroethene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
trans-1,3-Dichloropropene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Trichloroethene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Trichlorofluoromethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Vinyl chloride	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
Surr: 4-Bromofluorobenzene	86.1		0	70-128	%REC	216125	50	11/18/2015 15:19	MD
Surr: Dibromofluoromethane	102		0	78.2-128	%REC	216125	50	11/18/2015 15:19	MD
Surr: Toluene-d8	96.6		0	76.5-116	%REC	216125	50	11/18/2015 15:19	MD
Surfactants (MBAS) by SM5540C									
MBAS	468		10.8	50.0	mg/L-LAS	216118	500	11/18/2015 15:30	JS
Residue, Suspended (TSS) by SM2540D									
Residue, Suspended (TSS)	9600		40.0	200	mg/L	216124	1	11/18/2015 16:39	JS
Phenolics, Total Recoverable E420.1				(E420.1)					
Phenolics, Total Recoverable	39.6		1.48	5.00	mg/L	216130	100	11/18/2015 17:00	JS

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- < Less than Result value
- Narr See case narrative

11/30/15

Analytical Environmental Services, Inc **Date:** 25-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-BLUELIQUID-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/17/2015 12:00:00 PM
Lab ID:	1511G22-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Nitrogen, total Kjeldahl (TKN) E351.2					(E351.2)				
Nitrogen, total Kjeldahl (TKN)	834		27.5	50.0	mg/L	216141	1	11/19/2015 16:45	TL
Nitrogen, Ammonia (as N) E350.1					(E350.1)				
Nitrogen, Ammonia (As N)	300		4.02	20.0	mg/L	216083	100	11/18/2015 15:33	FS
Inorganic Anions by IC E300.0									
Nitrogen, Nitrate (As N)	16.9	J	10.6	25.0	mg/L	R304700	100	11/18/2015 12:14	JW
Hexavalent Chromium in Soil SW7196A					(SW3060A)				
Chromium, Hexavalent	~~BRL~~		0.580	2.00 U	mg/Kg	216132	1	11/18/2015 11:55	JC
Fecal Coliform (MF) SM9222D-1997									
Fecal Coliform, (MF)	600	J-H	200	200	Colonies/100 ml	R304763	100	11/18/2015 13:40	MU
Chemical Oxygen Demand (COD) E410.4									
Chemical Oxygen Demand	73100		529	1000	mg/L	R304592	100	11/18/2015 10:45	CH
Biochemical Oxygen Demand (5 Day) by SM5210B									
Biochemical Oxygen Demand	12200		500	500	mg/L	216389	100	11/19/2015 07:30	CH

gw
11/30/15

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AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

November 25, 2015

Jessica Vickers
Tetra Tech EM Inc.
1955 Evergreen Blvd.
Duluth GA 30096

TEL: (678) 775-3104
FAX: (678) 775-3138

RE: Old Barnwick Mill Fire

Dear Jessica Vickers: Order No: 1511G22

Analytical Environmental Services, Inc. received 1 samples on 11/18/2015 7:41:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Dorothy deBruyn
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1511622

Date: _____ Page 1 of 1

COMPANY:	ADDRESS:
TetraTech EMI POC Jessica Vickers	1955 Evergreen Blvd Duluth, GA 30096
PHONE: 662.681.5727	FAX:
SAMPLED BY: Brian Croft	SIGNATURE: Brian Croft

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs/SVOCs/TAL Metals + Hg	TSS	Surfactants/MBAS	Oil & Grease	Ammonia - NH3	Phosphorus	Phenols	Hex Chromium	Cyanide	BOD/Cod/TKN	Total residual chlorine	Nitrate - as N	Coliform	No # of Containers
	PRESERVATION (See codes)																			
1	OBM-BLUEMOUND-01	11/17/15	1200	X		SW	X	X	X	X	X	X	X	X	X	X	X	X	X	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

REMARKS

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Hannah Boaz	11/18/15/7:41	1:	11/18/15 7:41
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:
Only metals have been preserved (HNO_3)
all other bottle ware is unpreserved

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

(CLIENT) FedEx UPS MAIL COURIER

GREYHOUND OTHER_____

PROJECT INFORMATION

PROJECT NAME: Old Bedrick MW Fire

PROJECT #:

SITE ADDRESS: Lafayette, GA

SEND REPORT TO: Jessica Vickers

INVOICE TO:
(IF DIFFERENT FROM ABOVE)

QUOTE #:_____ PO#:_____

RECEIPT

Total # of Containers

Turnaround Time Request

- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ⊗ Other ASAP

STATE PROGRAM (if any): _____

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: Tetra Tech EM Inc.
Project: Old Barnwick Mill Fire
Lab ID: 1511G22

Case Narrative

pH Analysis by Method Residual Chlorine:

Sample for Residual Chlorine analysis by Method SM4500-Cl-G was received and analyzed outside holding time requirement of "immediate or 15 minutes."

IC Analysis by Method 300.0:

Due to sample matrix, sample 1511G22-001D required a dilution during preparation and/or analysis resulting in elevated reporting limits.

Semi-Volatile Organics Analysis by Method 8270D:

Due to sample matrix, sample 1511G22-001H required dilution during preparation and/or analysis resulting in elevated reporting limits.

OIL & GREASE ANALYSIS BY METHOD 1664B:

Matrix spike analysis was not performed with Batch 216061 due to insufficient sample volume.

Fecal Coliform Analysis by Method SM9222D:

Sample 1511G22-001A was reported prior to completion of confirmation steps, to meet client's rush turn around request. In addition, sample 1511G22-001A was received and analyzed out of hold (8 hours) for FECAL coliform analysis by method SM9222. Laboratory will proceed with analysis per project history.

Analytical Environmental Services, Inc **Date:** 25-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-BLUELIQUID-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/17/2015 12:00:00 PM
Lab ID:	1511G22-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Total Phosphorus E365.1					**(E365.1)**				
Phosphorus, Total (As P)	202		0.505	2.50	mg/L	216008	1	11/18/2015 12:23	FS
Total Oil and Grease (HEM) E1664B					**(E1664)**				
Oil and Grease	573		1.1	5.9	mg/L	216061	1	11/18/2015 13:40	GR
Total Metals by ICP E200.7					**(E200.7)**				
Arsenic	0.135		0.0031	0.0500	mg/L	216040	1	11/18/2015 17:45	TA
Barium	1.23		0.0013	0.0100	mg/L	216040	1	11/18/2015 17:45	TA
Cadmium	0.0217		0.0003	0.0050	mg/L	216040	1	11/18/2015 17:45	TA
Chromium	0.211		0.0003	0.0100	mg/L	216040	1	11/18/2015 17:45	TA
Lead	0.243		0.0025	0.0100	mg/L	216040	1	11/18/2015 17:45	TA
Selenium	0.0357		0.0025	0.0200	mg/L	216040	1	11/18/2015 17:45	TA
Silver	0.0038	J	0.0006	0.0050	mg/L	216040	1	11/18/2015 17:45	TA
Total Mercury E245.1					**(E245.1)**				
Mercury	0.01586		0.00036	0.00200	mg/L	216085	10	11/18/2015 15:50	TA
Total Cyanide (SM4500 CN-C, E)					**(SM4500-CN-E)**				
Cyanide, Total	0.352		0.001	0.010	mg/L	216129	1	11/18/2015 15:06	PF
TCL-SEMIVOLATILE ORGANICS SW8270D					**(SW3580A)**				
1,1´-Biphenyl	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2,4,5-Trichlorophenol	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
2,4,6-Trichlorophenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2,4-Dichlorophenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2,4-Dimethylphenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2,4-Dinitrophenol	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
2,4-Dinitrotoluene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2,6-Dinitrotoluene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2-Chloronaphthalene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2-Chlorophenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2-Methylnaphthalene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2-Methylphenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
2-Nitroaniline	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
2-Nitrophenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
3,3´-Dichlorobenzidine	BRL		3400	3400	mg/Kg	216106	5	11/18/2015 15:55	YH
3-Nitroaniline	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
4,6-Dinitro-2-methylphenol	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
4-Bromophenyl phenyl ether	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed
- E Estimated value above quantitation range
- S Spike Recovery outside limits due to matrix
- J Estimated value detected below Reporting Limit
- > Greater than Result value
- < Less than Result value
- Narr See case narrative

Analytical Environmental Services, Inc **Date:** 25-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-BLUELIQUID-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/17/2015 12:00:00 PM
Lab ID:	1511G22-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D					**(SW3580A)**				
4-Chloro-3-methylphenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
4-Chloroaniline	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
4-Chlorophenyl phenyl ether	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
4-Methylphenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
4-Nitroaniline	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
4-Nitrophenol	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
Acenaphthene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Acenaphthylene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Acetophenone	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Anthracene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Atrazine	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Benz(a)anthracene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Benzaldehyde	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Benzo(a)pyrene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Benzo(b)fluoranthene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Benzo(g,h,i)perylene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Benzo(k)fluoranthene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Bis(2-chloroethoxy)methane	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Bis(2-chloroethyl)ether	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Bis(2-chloroisopropyl)ether	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Bis(2-ethylhexyl)phthalate	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Butyl benzyl phthalate	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Caprolactam	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Carbazole	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Chrysene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Di-n-butyl phthalate	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Di-n-octyl phthalate	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Dibenz(a,h)anthracene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Dibenzofuran	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Diethyl phthalate	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Dimethyl phthalate	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Fluoranthene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Fluorene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Hexachlorobenzene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Hexachlorobutadiene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Hexachlorocyclopentadiene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Hexachloroethane	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Indeno(1,2,3-cd)pyrene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Isophorone	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH

Qualifiers:

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Analytical Environmental Services, Inc **Date:** 25-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-BLUELIQUID-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/17/2015 12:00:00 PM
Lab ID:	1511G22-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D					**(SW3580A)**				
N-Nitrosodi-n-propylamine	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
N-Nitrosodiphenylamine	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Naphthalene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Nitrobenzene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Pentachlorophenol	BRL		2500	2500	mg/Kg	216106	5	11/18/2015 15:55	YH
Phenanthrene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Phenol	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Pyrene	BRL		500	500	mg/Kg	216106	5	11/18/2015 15:55	YH
Surr: 2,4,6-Tribromophenol	84.6		0	60.1-153	%REC	216106	5	11/18/2015 15:55	YH
Surr: 2-Fluorobiphenyl	95.3		0	72.6-136	%REC	216106	5	11/18/2015 15:55	YH
Surr: 2-Fluorophenol	88.4		0	61-137	%REC	216106	5	11/18/2015 15:55	YH
Surr: 4-Terphenyl-d14	95.4		0	72.7-149	%REC	216106	5	11/18/2015 15:55	YH
Surr: Nitrobenzene-d5	90.2		0	58.9-136	%REC	216106	5	11/18/2015 15:55	YH
Surr: Phenol-d5	89.8		0	54-137	%REC	216106	5	11/18/2015 15:55	YH
TCL VOLATILE ORGANICS SW8260B					**(SW5035)**				
1,1,1-Trichloroethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,1,2,2-Tetrachloroethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,1,2-Trichloroethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,1-Dichloroethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,1-Dichloroethene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,2,4-Trichlorobenzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,2-Dibromo-3-chloropropane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,2-Dibromoethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,2-Dichlorobenzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,2-Dichloroethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,2-Dichloropropane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,3-Dichlorobenzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
1,4-Dichlorobenzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
2-Butanone	BRL		25000	25000	ug/Kg	216125	50	11/18/2015 15:19	MD
2-Hexanone	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
4-Methyl-2-pentanone	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
Acetone	BRL		25000	25000	ug/Kg	216125	50	11/18/2015 15:19	MD
Benzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Bromodichloromethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Bromoform	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Bromomethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Carbon disulfide	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
Carbon tetrachloride	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Not detected at MDL
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- NC Not confirmed
- E Estimated value above quantitation range
- S Spike Recovery outside limits due to matrix
- J Estimated value detected below Reporting Limit
- > Greater than Result value
- < Less than Result value
- Narr See case narrative

Analytical Environmental Services, Inc **Date:** 25-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-BLUELIQUID-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/17/2015 12:00:00 PM
Lab ID:	1511G22-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B					**(SW5035)**				
Chlorobenzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Chloroethane	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
Chloroform	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Chloromethane	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
cis-1,2-Dichloroethene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
cis-1,3-Dichloropropene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Cyclohexane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Dibromochloromethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Dichlorodifluoromethane	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
Ethylbenzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Freon-113	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
Isopropylbenzene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
m,p-Xylene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Methyl acetate	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Methyl tert-butyl ether	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Methylcyclohexane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Methylene chloride	BRL		2500	9800	ug/Kg	216125	50	11/18/2015 15:19	MD
o-Xylene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Styrene	14000		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Tetrachloroethene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Toluene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
trans-1,2-Dichloroethene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
trans-1,3-Dichloropropene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Trichloroethene	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Trichlorofluoromethane	BRL		2500	2500	ug/Kg	216125	50	11/18/2015 15:19	MD
Vinyl chloride	BRL		4900	4900	ug/Kg	216125	50	11/18/2015 15:19	MD
Surr: 4-Bromofluorobenzene	86.1		0	70-128	%REC	216125	50	11/18/2015 15:19	MD
Surr: Dibromofluoromethane	102		0	78.2-128	%REC	216125	50	11/18/2015 15:19	MD
Surr: Toluene-d8	96.6		0	76.5-116	%REC	216125	50	11/18/2015 15:19	MD
Surfactants (MBAS) by SM5540C									
MBAS	468		10.8	50.0	mg/L-LAS	216118	500	11/18/2015 15:30	JS
Residue, Suspended (TSS) by SM2540D									
Residue, Suspended (TSS)	9600		40.0	200	mg/L	216124	1	11/18/2015 16:39	JS
Phenolics, Total Recoverable E420.1					**(E420.1)**				
Phenolics, Total Recoverable	39.6		1.48	5.00	mg/L	216130	100	11/18/2015 17:00	JS

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated value above quantitation range
BRL	Not detected at MDL	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	J	Estimated value detected below Reporting Limit
N	Analyte not NELAC certified	>	Greater than Result value
B	Analyte detected in the associated method blank	<	Less than Result value
NC	Not confirmed	Narr	See case narrative

Analytical Environmental Services, Inc **Date:** 25-Nov-15

Client:	Tetra Tech EM Inc.	**Client Sample ID:**	OBM-BLUELIQUID-01
Project Name:	Old Barnwick Mill Fire	**Collection Date:**	11/17/2015 12:00:00 PM
Lab ID:	1511G22-001	**Matrix:**	Surface Water

Analyses	Result	Qual	MDL	Reporting Limit	Units	BatchID	DF	Date Analyzed	Analyst
Nitrogen, total Kjeldahl (TKN) E351.2					**(E351.2)**				
Nitrogen, total Kjeldahl (TKN)	834		27.5	50.0	mg/L	216141	1	11/19/2015 16:45	TL
Nitrogen, Ammonia (as N) E350.1					**(E350.1)**				
Nitrogen, Ammonia (As N)	300		4.02	20.0	mg/L	216083	100	11/18/2015 15:33	FS
Inorganic Anions by IC E300.0									
Nitrogen, Nitrate (As N)	16.9	J	10.6	25.0	mg/L	R304700	100	11/18/2015 12:14	JW
Hexavalent Chromium in Soil SW7196A					**(SW3060A)**				
Chromium, Hexavalent	BRL		0.580	2.00	mg/Kg	216132	1	11/18/2015 11:55	JC
Fecal Coliform (MF) SM9222D-1997									
Fecal Coliform, (MF)	600	H	200	200	Colonies/100 ml	R304763	100	11/18/2015 13:40	MU
Chemical Oxygen Demand (COD) E410.4									
Chemical Oxygen Demand	73100		529	1000	mg/L	R304592	100	11/18/2015 10:45	CH
Biochemical Oxygen Demand (5 Day) by SM5210B									
Biochemical Oxygen Demand	12200		500	500	mg/L	216389	100	11/19/2015 07:30	CH

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- Narr See case narrative

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client TETRA TECH Work Order Number 1511622

Checklist completed by Signature 11/18/2015 Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.6°C Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes __ No ✓

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes __ No ✓

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes __ No __ Not Applicable ✓

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\l\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Analytical Environmental Services, Inc

Date: 25-Nov-15

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Lab Order: 1511G22

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1511G22-001A	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	FECAL COLIFORM-MF			11/18/2015
1511G22-001B	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	Total Metals by ICP		11/18/2015 1:55:00PM	11/18/2015
1511G22-001B	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	TOTAL MERCURY		11/18/2015 1:05:00PM	11/18/2015
1511G22-001C	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	TCL VOLATILE ORGANICS		11/18/2015 12:19:00PM	11/18/2015
1511G22-001D	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	Inorganic Anions by IC			11/18/2015
1511G22-001D	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	Nitrogen, Ammonia (as N)		11/18/2015 11:25:00AM	11/18/2015
1511G22-001D	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	Nitrogen, total Kjeldahl (TKN)		11/19/2015 9:50:00AM	11/19/2015
1511G22-001D	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	Phosphorus , Total		11/18/2015 11:00:00AM	11/18/2015
1511G22-001E	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	Chemical Oxygen Demand (COD)			11/18/2015
1511G22-001E	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	Total Cyanide		11/18/2015 1:30:00PM	11/18/2015
1511G22-001E	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	Residue, Suspended (TSS) by SM2540D		11/18/2015 2:20:00PM	11/18/2015
1511G22-001F	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	Hexavalent Chromium-Soils		11/18/2015 11:55:00AM	11/18/2015
1511G22-001F	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	Biochemical Oxygen Demand by SM5210		11/19/2015 7:30:00AM	11/19/2015
1511G22-001F	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	Surfactants (MBAS) by SM5540C		11/18/2015 3:30:00PM	11/18/2015
1511G22-001G	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	Phenolics, Total Recoverable		11/18/2015 2:15:00PM	11/18/2015
1511G22-001H	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	TCL-SEMIVOLATILE ORGANICS		11/18/2015 2:00:00PM	11/18/2015
1511G22-001I	OBM-BLUELIQUID-01	11/17/2015 12:00:00PM	Surface Water	Oil and Grease		11/18/2015 1:40:00PM	11/18/2015

AES, Inc.
5080 Presidential Drive
Atlanta GA 30340

pH Adjustment Sheet

AES Sample ID number	Test Requested	pH as Received	Required pH	Preservative Required	Lot # of Preservative	Amount Added mL or Pellets*	Final pH	Tech's Initials	Date	Time
1511G22-001I	1664-W	6	<2	HCl(1:1)	IN-1644-95-22580	10 mL Pellets	1	GR	11/18/15	1:45PM
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
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						mL Pellets				
						mL Pellets				
						mL Pellets				

*** Number of Pellets when adding NAOH**

DWM 8/22/2014 10:01 AM

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216008

Sample ID: **MB-216008**	Client ID:				Units: **mg/L**		Prep Date: **11/17/2015**		Run No: **304652**
SampleType: **MBLK**	TestCode: **Total Phosphorus E365.1**				BatchID: **216008**		Analysis Date: **11/18/2015**		Seq No: **6524685**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phosphorus, Total (As P)	BRL	0.050									

Sample ID: **LCS-216008**	Client ID:				Units: **mg/L**		Prep Date: **11/17/2015**		Run No: **304652**
SampleType: **LCS**	TestCode: **Total Phosphorus E365.1**				BatchID: **216008**		Analysis Date: **11/18/2015**		Seq No: **6524686**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phosphorus, Total (As P)	2.070	0.050	2.000		104	90	110				

Sample ID: **1511F11-001BMS**	Client ID:				Units: **mg/L**		Prep Date: **11/17/2015**		Run No: **304652**
SampleType: **MS**	TestCode: **Total Phosphorus E365.1**				BatchID: **216008**		Analysis Date: **11/18/2015**		Seq No: **6524690**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phosphorus, Total (As P)	2.080	0.050	2.000	0.05400	101	90	110				

Sample ID: **1511F11-002BMS**	Client ID:				Units: **mg/L**		Prep Date: **11/17/2015**		Run No: **304652**
SampleType: **MS**	TestCode: **Total Phosphorus E365.1**				BatchID: **216008**		Analysis Date: **11/18/2015**		Seq No: **6524709**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phosphorus, Total (As P)	2.030	0.050	2.000	0.02350	100	90	110				

Sample ID: **1511F11-001BMSD**	Client ID:				Units: **mg/L**		Prep Date: **11/17/2015**		Run No: **304652**
SampleType: **MSD**	TestCode: **Total Phosphorus E365.1**				BatchID: **216008**		Analysis Date: **11/18/2015**		Seq No: **6524691**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phosphorus, Total (As P)	2.040	0.050	2.000	0.05400	99.3	90	110	2.080	1.94	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216040

Sample ID: **MB-216040** Client ID: Units: **mg/L** Prep Date: **11/17/2015** Run No: **304701**
SampleType: **MBLK** TestCode: **Total Metals by ICP E200.7** BatchID: **216040** Analysis Date: **11/18/2015** Seq No: **6525282**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	0.0500									
Barium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Lead	BRL	0.0100									
Selenium	BRL	0.0200									
Silver	BRL	0.0050									

Sample ID: **LCS-216040** Client ID: Units: **mg/L** Prep Date: **11/17/2015** Run No: **304701**
SampleType: **LCS** TestCode: **Total Metals by ICP E200.7** BatchID: **216040** Analysis Date: **11/18/2015** Seq No: **6525283**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.008	0.0500	1.000		101	85	115				
Barium	1.026	0.0100	1.000		103	85	115				
Cadmium	1.055	0.0050	1.000		105	85	115				
Chromium	1.024	0.0100	1.000		102	85	115				
Lead	1.016	0.0100	1.000		102	85	115				
Selenium	1.026	0.0200	1.000		103	85	115				
Silver	0.1062	0.0050	0.1000		106	85	115				

Sample ID: **1511E17-011BMS** Client ID: **MW-3 (11132015)** Units: **mg/L** Prep Date: **11/17/2015** Run No: **304701**
SampleType: **MS** TestCode: **Total Metals by ICP E200.7** BatchID: **216040** Analysis Date: **11/18/2015** Seq No: **6525298**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	0.9825	0.0500	1.000		98.3	70	130				
Barium	1.032	0.0100	1.000	0.02522	101	70	130				
Cadmium	1.045	0.0050	1.000		105	70	130				
Chromium	0.9721	0.0100	1.000		97.2	70	130				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216040

Sample ID: **1511E17-011BMS** Client ID: **MW-3 (11132015)** Units: **mg/L** Prep Date: **11/17/2015** Run No: **304701**
SampleType: **MS** TestCode: **Total Metals by ICP E200.7** BatchID: **216040** Analysis Date: **11/18/2015** Seq No: **6525298**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Lead	0.9887	0.0100	1.000		98.9	70	130				
Selenium	0.9837	0.0200	1.000		98.4	70	130				
Silver	0.1068	0.0050	0.1000		107	70	130				

Sample ID: **1511E52-001AMS** Client ID: Units: **mg/L** Prep Date: **11/17/2015** Run No: **304701**
SampleType: **MS** TestCode: **Total Metals by ICP E200.7** BatchID: **216040** Analysis Date: **11/18/2015** Seq No: **6525285**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	0.9963	0.0500	1.000		99.6	70	130				
Barium	1.032	0.0100	1.000	0.02140	101	70	130				
Cadmium	1.042	0.0050	1.000		104	70	130				
Chromium	0.9995	0.0100	1.000		100.0	70	130				
Lead	0.9882	0.0100	1.000		98.8	70	130				
Selenium	1.019	0.0200	1.000		102	70	130				
Silver	0.1052	0.0050	0.1000		105	70	130				

Sample ID: **1511E52-001AMSD** Client ID: Units: **mg/L** Prep Date: **11/17/2015** Run No: **304701**
SampleType: **MSD** TestCode: **Total Metals by ICP E200.7** BatchID: **216040** Analysis Date: **11/18/2015** Seq No: **6525286**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.003	0.0500	1.000		100	70	130	0.9963	0.661	20	
Barium	1.035	0.0100	1.000	0.02140	101	70	130	1.032	0.322	20	
Cadmium	1.045	0.0050	1.000		105	70	130	1.042	0.288	20	
Chromium	1.005	0.0100	1.000		100	70	130	0.9995	0.532	20	
Lead	0.9958	0.0100	1.000		99.6	70	130	0.9882	0.765	20	
Selenium	1.010	0.0200	1.000		101	70	130	1.019	0.856	20	
Silver	0.1043	0.0050	0.1000		104	70	130	0.1052	0.812	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216061

Sample ID: **MB-216061**	Client ID:				Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304680**
SampleType: **MBLK**	TestCode: **Total Oil and Grease (HEM) E1664B**				BatchID: **216061**		Analysis Date: **11/18/2015**		Seq No: **6524656**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Oil and Grease	1.300	5.0									J

Sample ID: **LCS-216061**	Client ID:				Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304680**
SampleType: **LCS**	TestCode: **Total Oil and Grease (HEM) E1664B**				BatchID: **216061**		Analysis Date: **11/18/2015**		Seq No: **6524657**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Oil and Grease	34.60	5.0	40.00	1.300	83.2	78	114				

Sample ID: **LCSD-216061**	Client ID:				Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304680**
SampleType: **LCSD**	TestCode: **Total Oil and Grease (HEM) E1664B**				BatchID: **216061**		Analysis Date: **11/18/2015**		Seq No: **6524658**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Oil and Grease	36.90	5.0	40.00	1.300	89.0	78	114	34.60	6.43	18	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216083

Sample ID: **MB-216083**	Client ID:				Units: **mg/L**	Prep Date: **11/18/2015**	Run No: **304689**
SampleType: **MBLK**	TestCode: **Nitrogen, Ammonia (as N)** **E350.1**				BatchID: **216083**	Analysis Date: **11/18/2015**	Seq No: **6524868**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	BRL	0.200									

Sample ID: **LCS-216083**	Client ID:				Units: **mg/L**	Prep Date: **11/18/2015**	Run No: **304689**
SampleType: **LCS**	TestCode: **Nitrogen, Ammonia (as N)** **E350.1**				BatchID: **216083**	Analysis Date: **11/18/2015**	Seq No: **6524988**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	5.310	0.200	5.000		106	90	110				

Sample ID: **1511E64-001BMS**	Client ID:				Units: **mg/L**	Prep Date: **11/18/2015**	Run No: **304689**
SampleType: **MS**	TestCode: **Nitrogen, Ammonia (as N)** **E350.1**				BatchID: **216083**	Analysis Date: **11/18/2015**	Seq No: **6524871**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	5.200	0.200	5.000	0.1180	102	90	110				

Sample ID: **1511F58-002CMS**	Client ID:				Units: **mg/L**	Prep Date: **11/18/2015**	Run No: **304689**
SampleType: **MS**	TestCode: **Nitrogen, Ammonia (as N)** **E350.1**				BatchID: **216083**	Analysis Date: **11/18/2015**	Seq No: **6524896**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	4.850	0.200	5.000	0.05200	96.0	90	110				

Sample ID: **1511E64-001BMSD**	Client ID:				Units: **mg/L**	Prep Date: **11/18/2015**	Run No: **304689**
SampleType: **MSD**	TestCode: **Nitrogen, Ammonia (as N)** **E350.1**				BatchID: **216083**	Analysis Date: **11/18/2015**	Seq No: **6524904**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	5.130	0.200	5.000	0.1180	100	90	110	5.200	1.36	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216085

Sample ID: **MB-216085**	Client ID:				Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304628**
SampleType: **MBLK**	TestCode: **Total Mercury E245.1**				BatchID: **216085**		Analysis Date: **11/18/2015**		Seq No: **6524824**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-216085**	Client ID:				Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304628**
SampleType: **LCS**	TestCode: **Total Mercury E245.1**				BatchID: **216085**		Analysis Date: **11/18/2015**		Seq No: **6524825**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004849	0.00020	0.0050		97.0	85	115				

Sample ID: **1511E07-001DMS**	Client ID:				Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304628**
SampleType: **MS**	TestCode: **Total Mercury E245.1**				BatchID: **216085**		Analysis Date: **11/18/2015**		Seq No: **6524827**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005064	0.00020	0.0050		101	70	130				

Sample ID: **1511E80-001AMS**	Client ID:				Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304628**
SampleType: **MS**	TestCode: **Total Mercury E245.1**				BatchID: **216085**		Analysis Date: **11/18/2015**		Seq No: **6524835**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005101	0.00020	0.0050		102	70	130				

Sample ID: **1511E07-001DMSD**	Client ID:				Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304628**
SampleType: **MSD**	TestCode: **Total Mercury E245.1**				BatchID: **216085**		Analysis Date: **11/18/2015**		Seq No: **6524828**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005014	0.00020	0.0050		100	70	130	0.005064	0.980	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216106

Sample ID: **MB-216106** Client ID: Units: **mg/Kg** Prep Date: **11/18/2015** Run No: **304678**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **216106** Analysis Date: **11/18/2015** Seq No: **6524655**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1´-Biphenyl	BRL	100									
2,4,5-Trichlorophenol	BRL	500									
2,4,6-Trichlorophenol	BRL	100									
2,4-Dichlorophenol	BRL	100									
2,4-Dimethylphenol	BRL	100									
2,4-Dinitrophenol	BRL	500									
2,4-Dinitrotoluene	BRL	100									
2,6-Dinitrotoluene	BRL	100									
2-Chloronaphthalene	BRL	100									
2-Chlorophenol	BRL	100									
2-Methylnaphthalene	BRL	100									
2-Methylphenol	BRL	100									
2-Nitroaniline	BRL	500									
2-Nitrophenol	BRL	100									
3,3´-Dichlorobenzidine	BRL	670									
3-Nitroaniline	BRL	500									
4,6-Dinitro-2-methylphenol	BRL	500									
4-Bromophenyl phenyl ether	BRL	100									
4-Chloro-3-methylphenol	BRL	100									
4-Chloroaniline	BRL	100									
4-Chlorophenyl phenyl ether	BRL	100									
4-Methylphenol	BRL	100									
4-Nitroaniline	BRL	500									
4-Nitrophenol	BRL	500									
Acenaphthene	BRL	100									
Acenaphthylene	BRL	100									
Acetophenone	BRL	100									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216106

Sample ID: **MB-216106** Client ID: Units: **mg/Kg** Prep Date: **11/18/2015** Run No: **304678**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **216106** Analysis Date: **11/18/2015** Seq No: **6524655**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Anthracene	BRL	100									
Atrazine	BRL	100									
Benz(a)anthracene	BRL	100									
Benzaldehyde	BRL	100									
Benzo(a)pyrene	BRL	100									
Benzo(b)fluoranthene	BRL	100									
Benzo(g,h,i)perylene	BRL	100									
Benzo(k)fluoranthene	BRL	100									
Bis(2-chloroethoxy)methane	BRL	100									
Bis(2-chloroethyl)ether	BRL	100									
Bis(2-chloroisopropyl)ether	BRL	100									
Bis(2-ethylhexyl)phthalate	BRL	100									
Butyl benzyl phthalate	BRL	100									
Caprolactam	BRL	100									
Carbazole	BRL	100									
Chrysene	BRL	100									
Di-n-butyl phthalate	BRL	100									
Di-n-octyl phthalate	BRL	100									
Dibenz(a,h)anthracene	BRL	100									
Dibenzofuran	BRL	100									
Diethyl phthalate	BRL	100									
Dimethyl phthalate	BRL	100									
Fluoranthene	BRL	100									
Fluorene	BRL	100									
Hexachlorobenzene	BRL	100									
Hexachlorobutadiene	BRL	100									
Hexachlorocyclopentadiene	BRL	100									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216106

Sample ID: **MB-216106** Client ID: Units: **mg/Kg** Prep Date: **11/18/2015** Run No: **304678**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **216106** Analysis Date: **11/18/2015** Seq No: **6524655**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Hexachloroethane	BRL	100									
Indeno(1,2,3-cd)pyrene	BRL	100									
Isophorone	BRL	100									
N-Nitrosodi-n-propylamine	BRL	100									
N-Nitrosodiphenylamine	BRL	100									
Naphthalene	BRL	100									
Nitrobenzene	BRL	100									
Pentachlorophenol	BRL	500									
Phenanthrene	BRL	100									
Phenol	BRL	100									
Pyrene	BRL	100									
Surr: 2,4,6-Tribromophenol	959.4	0	1000		95.9	60.1	153				
Surr: 2-Fluorobiphenyl	440.8	0	500.0		88.2	72.6	136				
Surr: 2-Fluorophenol	887.6	0	1000		88.8	61	137				
Surr: 4-Terphenyl-d14	464.2	0	500.0		92.8	72.7	149				
Surr: Nitrobenzene-d5	491.2	0	500.0		98.2	58.9	136				
Surr: Phenol-d5	925.7	0	1000		92.6	54	137				

Sample ID: **LCS-216106** Client ID: Units: **mg/Kg** Prep Date: **11/18/2015** Run No: **304678**
SampleType: **LCS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **216106** Analysis Date: **11/18/2015** Seq No: **6524794**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	1018	100	1000		102	72	130				
2-Chlorophenol	1018	100	1000		102	78.5	128				
4-Chloro-3-methylphenol	1054	100	1000		105	70.2	130				
4-Nitrophenol	845.0	500	1000		84.5	51.2	120				
Acenaphthene	1031	100	1000		103	76.3	128				
N-Nitrosodi-n-propylamine	1170	100	1000		117	71.8	135				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216106

Sample ID: **LCS-216106** Client ID: Units: **mg/Kg** Prep Date: **11/18/2015** Run No: **304678**
SampleType: **LCS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **216106** Analysis Date: **11/18/2015** Seq No: **6524794**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pentachlorophenol	940.9	500	1000		94.1	53.1	128				
Phenol	947.1	100	1000		94.7	68.1	118				
Pyrene	1089	100	1000		109	66.8	135				
Surr: 2,4,6-Tribromophenol	1215	0	1000		122	60.1	153				
Surr: 2-Fluorobiphenyl	526.5	0	500.0		105	72.6	136				
Surr: 2-Fluorophenol	1041	0	1000		104	61	137				
Surr: 4-Terphenyl-d14	567.5	0	500.0		114	72.7	149				
Surr: Nitrobenzene-d5	568.2	0	500.0		114	58.9	136				
Surr: Phenol-d5	1062	0	1000		106	54	137				

Sample ID: **1511G22-001HMS** Client ID: **OBM-BLUELIQUID-01** Units: **mg/Kg** Prep Date: **11/18/2015** Run No: **304678**
SampleType: **MS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **216106** Analysis Date: **11/18/2015** Seq No: **6525961**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	704.0	500	1000		70.4	42	133				
2-Chlorophenol	976.5	500	1000		97.6	62.3	135				
4-Chloro-3-methylphenol	983.0	500	1000		98.3	53.9	134				
4-Nitrophenol	507.0	2500	1000		50.7	31.9	123				J
Acenaphthene	1020	500	1000		102	63.6	146				
N-Nitrosodi-n-propylamine	1164	500	1000		116	62.6	134				
Pentachlorophenol	594.0	2500	1000		59.4	29.6	155				J
Phenol	877.5	500	1000		87.8	53.2	120				
Pyrene	1004	500	1000		100	55.9	144				
Surr: 2,4,6-Tribromophenol	997.0	0	1000		99.7	60.1	153				
Surr: 2-Fluorobiphenyl	499.0	0	500.0		99.8	72.6	136				
Surr: 2-Fluorophenol	965.5	0	1000		96.6	61	137				
Surr: 4-Terphenyl-d14	507.5	0	500.0		102	72.7	149				
Surr: Nitrobenzene-d5	510.0	0	500.0		102	58.9	136				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216106

Sample ID: **1511G22-001HMS** Client ID: **OBM-BLUELIQUID-01** Units: **mg/Kg** Prep Date: **11/18/2015** Run No: **304678**
SampleType: **MS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **216106** Analysis Date: **11/18/2015** Seq No: **6525961**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Phenol-d5	957.0	0	1000		95.7	54	137				

Sample ID: **1511G22-001HMSD** Client ID: **OBM-BLUELIQUID-01** Units: **mg/Kg** Prep Date: **11/18/2015** Run No: **304678**
SampleType: **MSD** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **216106** Analysis Date: **11/18/2015** Seq No: **6525962**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	799.0	500	1000		79.9	42	133	704.0	12.6	20	
2-Chlorophenol	1075	500	1000		108	62.3	135	976.5	9.60	20	
4-Chloro-3-methylphenol	1104	500	1000		110	53.9	134	983.0	11.6	31.6	
4-Nitrophenol	683.0	2500	1000		68.3	31.9	123	0	0	20	J
Acenaphthene	1104	500	1000		110	63.6	146	1020	8.00	20	
N-Nitrosodi-n-propylamine	1270	500	1000		127	62.6	134	1164	8.71	20	
Pentachlorophenol	626.5	2500	1000		62.6	29.6	155	594.0	0	20	J
Phenol	991.5	500	1000		99.2	53.2	120	877.5	12.2	20	
Pyrene	1116	500	1000		112	55.9	144	1004	10.5	20	
Surr: 2,4,6-Tribromophenol	1106	0	1000		111	60.1	153	997.0	0	0	
Surr: 2-Fluorobiphenyl	560.0	0	500.0		112	72.6	136	499.0	0	0	
Surr: 2-Fluorophenol	1058	0	1000		106	61	137	965.5	0	0	
Surr: 4-Terphenyl-d14	571.5	0	500.0		114	72.7	149	507.5	0	0	
Surr: Nitrobenzene-d5	575.5	0	500.0		115	58.9	136	510.0	0	0	
Surr: Phenol-d5	1079	0	1000		108	54	137	957.0	0	0	

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216118

Sample ID: **MB-216118**	Client ID:				Units: **mg/L-LAS**	Prep Date: **11/18/2015**	Run No: **304684**
SampleType: **MBLK**	TestCode: **Surfactants (MBAS) by SM5540C**				BatchID: **216118**	Analysis Date: **11/18/2015**	Seq No: **6524673**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
MBAS	BRL	0.100									

Sample ID: **LCS-216118**	Client ID:				Units: **mg/L-LAS**	Prep Date: **11/18/2015**	Run No: **304684**
SampleType: **LCS**	TestCode: **Surfactants (MBAS) by SM5540C**				BatchID: **216118**	Analysis Date: **11/18/2015**	Seq No: **6524674**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
MBAS	0.5534	0.100	0.5000		111	80	120				

Sample ID: **1511F87-001EMS**	Client ID:				Units: **mg/L-LAS**	Prep Date: **11/18/2015**	Run No: **304684**
SampleType: **MS**	TestCode: **Surfactants (MBAS) by SM5540C**				BatchID: **216118**	Analysis Date: **11/18/2015**	Seq No: **6524678**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
MBAS	7.226	1.00	5.000	1.147	122	70	130				

Sample ID: **1511F87-001EMSD**	Client ID:				Units: **mg/L-LAS**	Prep Date: **11/18/2015**	Run No: **304684**
SampleType: **MSD**	TestCode: **Surfactants (MBAS) by SM5540C**				BatchID: **216118**	Analysis Date: **11/18/2015**	Seq No: **6524680**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
MBAS	7.300	1.00	5.000	1.147	123	70	130	7.226	1.02	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216124

Sample ID: **MB-216124**	Client ID:				Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304704**
SampleType: **MBLK**	TestCode: **Residue, Suspended (TSS) by SM2540D**				BatchID: **216124**		Analysis Date: **11/18/2015**		Seq No: **6525136**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	BRL	5.0									

Sample ID: **1511F11-001ADUP**	Client ID:				Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304704**
SampleType: **DUP**	TestCode: **Residue, Suspended (TSS) by SM2540D**				BatchID: **216124**		Analysis Date: **11/18/2015**		Seq No: **6525138**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	6.500	5.0						6.500	0	5	

Sample ID: **1511H15-001ADUP**	Client ID:				Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304704**
SampleType: **DUP**	TestCode: **Residue, Suspended (TSS) by SM2540D**				BatchID: **216124**		Analysis Date: **11/18/2015**		Seq No: **6525141**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Residue, Suspended (TSS)	206.0	10.0						203.0	1.47	5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216125

Sample ID: **MB-216125** Client ID: Units: **ug/Kg** Prep Date: **11/18/2015** Run No: **304659**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **216125** Analysis Date: **11/18/2015** Seq No: **6524928**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	250									
1,1,2,2-Tetrachloroethane	BRL	250									
1,1,2-Trichloroethane	BRL	250									
1,1-Dichloroethane	BRL	250									
1,1-Dichloroethene	BRL	250									
1,2,4-Trichlorobenzene	BRL	250									
1,2-Dibromo-3-chloropropane	BRL	250									
1,2-Dibromoethane	BRL	250									
1,2-Dichlorobenzene	BRL	250									
1,2-Dichloroethane	BRL	250									
1,2-Dichloropropane	BRL	250									
1,3-Dichlorobenzene	BRL	250									
1,4-Dichlorobenzene	BRL	250									
2-Butanone	BRL	2500									
2-Hexanone	BRL	500									
4-Methyl-2-pentanone	BRL	500									
Acetone	BRL	2500									
Benzene	BRL	250									
Bromodichloromethane	BRL	250									
Bromoform	BRL	250									
Bromomethane	BRL	250									
Carbon disulfide	BRL	500									
Carbon tetrachloride	BRL	250									
Chlorobenzene	BRL	250									
Chloroethane	BRL	500									
Chloroform	BRL	250									
Chloromethane	BRL	500									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216125

Sample ID: **MB-216125** Client ID: Units: **ug/Kg** Prep Date: **11/18/2015** Run No: **304659**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **216125** Analysis Date: **11/18/2015** Seq No: **6524928**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	250									
cis-1,3-Dichloropropene	BRL	250									
Cyclohexane	BRL	250									
Dibromochloromethane	BRL	250									
Dichlorodifluoromethane	BRL	500									
Ethylbenzene	BRL	250									
Freon-113	BRL	500									
Isopropylbenzene	BRL	250									
m,p-Xylene	BRL	250									
Methyl acetate	BRL	250									
Methyl tert-butyl ether	BRL	250									
Methylcyclohexane	BRL	250									
Methylene chloride	BRL	1000									
o-Xylene	BRL	250									
Styrene	BRL	250									
Tetrachloroethene	BRL	250									
Toluene	BRL	250									
trans-1,2-Dichloroethene	BRL	250									
trans-1,3-Dichloropropene	BRL	250									
Trichloroethene	BRL	250									
Trichlorofluoromethane	BRL	250									
Vinyl chloride	BRL	500									
Surr: 4-Bromofluorobenzene	1976	0	2500		79.0	70	128				
Surr: Dibromofluoromethane	2714	0	2500		109	78.2	128				
Surr: Toluene-d8	2404	0	2500		96.2	76.5	116				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216125

Sample ID: **LCS-216125** Client ID: Units: **ug/Kg** Prep Date: **11/18/2015** Run No: **304659**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **216125** Analysis Date: **11/18/2015** Seq No: **6524925**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	1470	250	1250		118	69.9	145				
Benzene	1364	250	1250		109	72.3	130				
Chlorobenzene	1489	250	1250		119	69	130				
Toluene	1346	250	1250		108	71.1	130				
Trichloroethene	1492	250	1250		119	71.7	136				
Surr: 4-Bromofluorobenzene	2055	0	2500		82.2	70	128				
Surr: Dibromofluoromethane	2603	0	2500		104	78.2	128				
Surr: Toluene-d8	2398	0	2500		95.9	76.5	116				

Sample ID: **1511G22-001CMS** Client ID: **OBM-BLUELIQUID-01** Units: **ug/Kg** Prep Date: **11/18/2015** Run No: **304659**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **216125** Analysis Date: **11/18/2015** Seq No: **6524939**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	16350	4900	24510		66.7	56.6	151				
Benzene	19670	4900	24510		80.2	70.4	130				
Chlorobenzene	21750	4900	24510		88.7	67.5	132				
Toluene	19480	4900	24510		79.5	70.4	130				
Trichloroethene	20220	4900	24510		82.5	70.1	137				
Surr: 4-Bromofluorobenzene	41300	0	49020		84.3	70	128				
Surr: Dibromofluoromethane	53140	0	49020		108	78.2	128				
Surr: Toluene-d8	47710	0	49020		97.3	76.5	116				

Sample ID: **1511G22-001CMSD** Client ID: **OBM-BLUELIQUID-01** Units: **ug/Kg** Prep Date: **11/18/2015** Run No: **304659**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **216125** Analysis Date: **11/18/2015** Seq No: **6524940**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	15030	4900	24510		61.3	56.6	151	16350	8.43	20.4	
Benzene	18440	4900	24510		75.2	70.4	130	19670	6.43	16.9	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216125

Sample ID: **1511G22-001CMSD** Client ID: **OBM-BLUELIQUID-01** Units: **ug/Kg** Prep Date: **11/18/2015** Run No: **304659**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **216125** Analysis Date: **11/18/2015** Seq No: **6524940**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	20940	4900	24510		85.4	67.5	132	21750	3.77	14.6	
Toluene	18340	4900	24510		74.8	70.4	130	19480	6.01	16.6	
Trichloroethene	18240	4900	24510		74.4	70.1	137	20220	10.3	17	
Surr: 4-Bromofluorobenzene	40580	0	49020		82.8	70	128	41300	0	0	
Surr: Dibromofluoromethane	50300	0	49020		103	78.2	128	53140	0	0	
Surr: Toluene-d8	46760	0	49020		95.4	76.5	116	47710	0	0	

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216129

Sample ID: **MB-216129**	Client ID:					Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304709**	
SampleType: **MBLK**	TestCode: **Total Cyanide (SM4500 CN-C, E)**					BatchID: **216129**		Analysis Date: **11/18/2015**		Seq No: **6525207**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-216129**	Client ID:					Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304709**	
SampleType: **LCS**	TestCode: **Total Cyanide (SM4500 CN-C, E)**					BatchID: **216129**		Analysis Date: **11/18/2015**		Seq No: **6525208**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2318	0.010	0.2500		92.7	90	110				

Sample ID: **1511B17-004AMS**	Client ID:					Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304709**	
SampleType: **MS**	TestCode: **Total Cyanide (SM4500 CN-C, E)**					BatchID: **216129**		Analysis Date: **11/18/2015**		Seq No: **6525232**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2438	0.010	0.2500		97.5	90	110				

Sample ID: **1511F06-002AMS**	Client ID:					Units: **mg/L**		Prep Date: **11/19/2015**		Run No: **304709**	
SampleType: **MS**	TestCode: **Total Cyanide (SM4500 CN-C, E)**					BatchID: **216129**		Analysis Date: **11/18/2015**		Seq No: **6530962**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2381	0.010	0.2500		95.2	90	110				

Sample ID: **1511B17-004AMSD**	Client ID:					Units: **mg/L**		Prep Date: **11/18/2015**		Run No: **304709**	
SampleType: **MSD**	TestCode: **Total Cyanide (SM4500 CN-C, E)**					BatchID: **216129**		Analysis Date: **11/18/2015**		Seq No: **6525233**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2446	0.010	0.2500		97.8	90	110	0.2438	0.328	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216130

Sample ID: **MB-216130**	Client ID:		Units: **mg/L**	Prep Date: **11/18/2015**	Run No: **304713**
SampleType: **MBLK**	TestCode: **Phenolics, Total Recoverable E420.1**		BatchID: **216130**	Analysis Date: **11/18/2015**	Seq No: **6525327**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenolics, Total Recoverable	BRL	0.05									

Sample ID: **LCS-216130**	Client ID:		Units: **mg/L**	Prep Date: **11/18/2015**	Run No: **304713**
SampleType: **LCS**	TestCode: **Phenolics, Total Recoverable E420.1**		BatchID: **216130**	Analysis Date: **11/18/2015**	Seq No: **6525328**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenolics, Total Recoverable	0.4480	0.05	0.4000		112	80	120				

Sample ID: **1511G22-001GMS**	Client ID: **OBM-BLUELIQUID-01**		Units: **mg/L**	Prep Date: **11/18/2015**	Run No: **304713**
SampleType: **MS**	TestCode: **Phenolics, Total Recoverable E420.1**		BatchID: **216130**	Analysis Date: **11/18/2015**	Seq No: **6525330**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenolics, Total Recoverable	86.69	5.00	40.00	39.64	118	80	120				

Sample ID: **1511G22-001GMSD**	Client ID: **OBM-BLUELIQUID-01**		Units: **mg/L**	Prep Date: **11/18/2015**	Run No: **304713**
SampleType: **MSD**	TestCode: **Phenolics, Total Recoverable E420.1**		BatchID: **216130**	Analysis Date: **11/18/2015**	Seq No: **6525331**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenolics, Total Recoverable	87.30	5.00	40.00	39.64	119	80	120	86.69	0.701	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216132

Sample ID: **MB-216132**	Client ID:			Units: **mg/Kg**	Prep Date: **11/18/2015**	Run No: **304714**
SampleType: **MBLK**	TestCode: **Hexavalent Chromium in Soil SW7196A**			BatchID: **216132**	Analysis Date: **11/18/2015**	Seq No: **6525357**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chromium, Hexavalent	BRL	2.00									

Sample ID: **LCS-216132**	Client ID:			Units: **mg/Kg**	Prep Date: **11/18/2015**	Run No: **304714**
SampleType: **LCS**	TestCode: **Hexavalent Chromium in Soil SW7196A**			BatchID: **216132**	Analysis Date: **11/18/2015**	Seq No: **6525358**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chromium, Hexavalent	103.9	2.00	100.0		104	80	120				

Sample ID: **1511G22-001FMS**	Client ID: **OBM-BLUELIQUID-01**			Units: **mg/Kg**	Prep Date: **11/18/2015**	Run No: **304714**
SampleType: **MS**	TestCode: **Hexavalent Chromium in Soil SW7196A**			BatchID: **216132**	Analysis Date: **11/18/2015**	Seq No: **6525361**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chromium, Hexavalent	106.5	2.00	100.0		107	75	125				

Sample ID: **1511G22-001FMSD**	Client ID: **OBM-BLUELIQUID-01**			Units: **mg/Kg**	Prep Date: **11/18/2015**	Run No: **304714**
SampleType: **MSD**	TestCode: **Hexavalent Chromium in Soil SW7196A**			BatchID: **216132**	Analysis Date: **11/18/2015**	Seq No: **6525362**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chromium, Hexavalent	104.6	2.00	100.0		105	75	125	106.5	1.88	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216141

Sample ID: **MB-216141**	Client ID:			Units: **mg/L**	Prep Date: **11/19/2015**	Run No: **304802**
SampleType: **MBLK**	TestCode: **Nitrogen, total Kjeldahl (TKN) E351.2**			BatchID: **216141**	Analysis Date: **11/19/2015**	Seq No: **6528108**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, total Kjeldahl (TKN)	BRL	0.500									

Sample ID: **LCS-216141**	Client ID:			Units: **mg/L**	Prep Date: **11/19/2015**	Run No: **304802**
SampleType: **LCS**	TestCode: **Nitrogen, total Kjeldahl (TKN) E351.2**			BatchID: **216141**	Analysis Date: **11/19/2015**	Seq No: **6528109**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, total Kjeldahl (TKN)	9.770	0.500	10.00		97.7	90	110				

Sample ID: **1511F54-001BMS**	Client ID:			Units: **mg/L**	Prep Date: **11/19/2015**	Run No: **304802**
SampleType: **MS**	TestCode: **Nitrogen, total Kjeldahl (TKN) E351.2**			BatchID: **216141**	Analysis Date: **11/19/2015**	Seq No: **6528111**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, total Kjeldahl (TKN)	8.160	0.500	10.00	1.260	69.0	90	110				S

Sample ID: **1511F55-001BMS**	Client ID:			Units: **mg/L**	Prep Date: **11/19/2015**	Run No: **304802**
SampleType: **MS**	TestCode: **Nitrogen, total Kjeldahl (TKN) E351.2**			BatchID: **216141**	Analysis Date: **11/19/2015**	Seq No: **6528126**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, total Kjeldahl (TKN)	18.70	0.500	10.00	7.120	116	90	110				S

Sample ID: **1511F54-001BMSD**	Client ID:			Units: **mg/L**	Prep Date: **11/19/2015**	Run No: **304802**
SampleType: **MSD**	TestCode: **Nitrogen, total Kjeldahl (TKN) E351.2**			BatchID: **216141**	Analysis Date: **11/19/2015**	Seq No: **6528113**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, total Kjeldahl (TKN)	10.40	0.500	10.00	1.260	91.4	90	110	8.160	24.1	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: 216389

Sample ID: **MB-216389**	Client ID:			Units: **mg/L**	Prep Date: **11/19/2015**	Run No: **305123**
SampleType: **MBLK**	TestCode: **Biochemical Oxygen Demand (5 Day) by SM5210B**			BatchID: **216389**	Analysis Date: **11/19/2015**	Seq No: **6536391**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Biochemical Oxygen Demand	BRL	0.2									

Sample ID: **LCS-216389**	Client ID:			Units: **mg/L**	Prep Date: **11/19/2015**	Run No: **305123**
SampleType: **LCS**	TestCode: **Biochemical Oxygen Demand (5 Day) by SM5210B**			BatchID: **216389**	Analysis Date: **11/19/2015**	Seq No: **6536392**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Biochemical Oxygen Demand	176.3	5.0	198.0		89.0	85	115				

Sample ID: **LCSD-216389**	Client ID:			Units: **mg/L**	Prep Date: **11/19/2015**	Run No: **305123**
SampleType: **LCSD**	TestCode: **Biochemical Oxygen Demand (5 Day) by SM5210B**			BatchID: **216389**	Analysis Date: **11/19/2015**	Seq No: **6536416**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Biochemical Oxygen Demand	184.8	5.0	198.0		93.3	85	115	176.3	4.71	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: R304592

Sample ID: **MB-R304592**	Client ID:				Units: **mg/L**	Prep Date:	Run No: **304592**
SampleType: **MBLK**	TestCode: **Chemical Oxygen Demand (COD) E410.4**				BatchID: **R304592**	Analysis Date: **11/17/2015**	Seq No: **6522473**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	BRL	10.0									

Sample ID: **LCS-R304592**	Client ID:				Units: **mg/L**	Prep Date:	Run No: **304592**
SampleType: **LCS**	TestCode: **Chemical Oxygen Demand (COD) E410.4**				BatchID: **R304592**	Analysis Date: **11/17/2015**	Seq No: **6522474**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	498.1	10.0	500.0		99.6	90	110				

Sample ID: **1511C51-001BMS**	Client ID:				Units: **mg/L**	Prep Date:	Run No: **304592**
SampleType: **MS**	TestCode: **Chemical Oxygen Demand (COD) E410.4**				BatchID: **R304592**	Analysis Date: **11/17/2015**	Seq No: **6522482**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	423.9	12.5	375.0	41.90	102	90	110				

Sample ID: **1511C51-001BMSD**	Client ID:				Units: **mg/L**	Prep Date:	Run No: **304592**
SampleType: **MSD**	TestCode: **Chemical Oxygen Demand (COD) E410.4**				BatchID: **R304592**	Analysis Date: **11/17/2015**	Seq No: **6522483**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	432.5	12.5	375.0	41.90	104	90	110	423.9	2.01	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: R304700

Sample ID: **MB-R304700**	Client ID:				Units: **mg/L**	Prep Date:	Run No: **304700**
SampleType: **MBLK**	TestCode: **Inorganic Anions by IC E300.0**				BatchID: **R304700**	Analysis Date: **11/18/2015**	Seq No: **6525051**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	BRL	0.250									

Sample ID: **LCS-R304700**	Client ID:				Units: **mg/L**	Prep Date:	Run No: **304700**
SampleType: **LCS**	TestCode: **Inorganic Anions by IC E300.0**				BatchID: **R304700**	Analysis Date: **11/18/2015**	Seq No: **6525050**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	5.115	0.250	5.000		102	90	110				

Sample ID: **1511G22-001DMS**	Client ID: **OBM-BLUELIQUID-01**				Units: **mg/L**	Prep Date:	Run No: **304700**
SampleType: **MS**	TestCode: **Inorganic Anions by IC E300.0**				BatchID: **R304700**	Analysis Date: **11/18/2015**	Seq No: **6525053**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	493.7	25.0	500.0	16.88	95.4	90	110				

Sample ID: **1511G22-001DMSD**	Client ID: **OBM-BLUELIQUID-01**				Units: **mg/L**	Prep Date:	Run No: **304700**
SampleType: **MSD**	TestCode: **Inorganic Anions by IC E300.0**				BatchID: **R304700**	Analysis Date: **11/18/2015**	Seq No: **6525054**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	508.6	25.0	500.0	16.88	98.3	90	110	493.7	2.97	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: Tetra Tech EM Inc.
Project Name: Old Barnwick Mill Fire
Workorder: 1511G22

ANALYTICAL QC SUMMARY REPORT

BatchID: R304763

Sample ID: **MB-R304763** Client ID: Units: **Colonies/100ml** Prep Date: Run No: **304763**
SampleType: **MBLK** TestCode: **Fecal Coliform (MF)** **SM9222D-1997** BatchID: **R304763** Analysis Date: **11/18/2015** Seq No: **6526869**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Fecal Coliform, (MF)	BRL	2									

Sample ID: **MB-R304763-2** Client ID: Units: **Colonies/100ml** Prep Date: Run No: **304763**
SampleType: **MBLK** TestCode: **Fecal Coliform (MF)** **SM9222D-1997** BatchID: **R304763** Analysis Date: **11/18/2015** Seq No: **6526871**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Fecal Coliform, (MF)	BRL	2									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ENCLOSURE 7

LABORATORY ANALYTICAL DATA PACKAGE

AIR SAMPLES

(Two Pages)

Tetra Tech EM, Inc.
1955 Evergreen Boulevard
Building 200
Suite 300
Duluth, Georgia 30096

Client Project Name: Old Barwick Mill Fire
Client Project Number: TT-01-040
Date Received: 11/18/2015
Sampling Date: 11/17/2015

MAS Project: M63271
Date Reported: 11/18/2015

NIOSH Method 7400- PCM Analysis Summary

MAS Sample No.	Client Sample ID	Sample Location	Volume (liters)	Total Fibers Counted	Total Fields Counted	Fiber Density (f/mm2)	Detection Limit (f/cc)	Calculated Conc. (f/cc)	Comments
M63271-001	Location 2	S. Chattanooga & McLemore	3132	5.5	100	7.0	0.00086	0.00086	
M63271-002	Location 5	310 S. Chattanooga	3171	2	100	2.5	0.00085	<0.00085	
M63271-003	Location 6	W. Main St. & Magnolia St.	3180	4	100	5.1	0.00085	<0.00085	
M63271-004	POTW	Treatment Plant Entrance	3237	2	100	2.5	0.00083	<0.00083	
M63271-005	Blank	-	0	2	100	2.5	NA	NA	

5-20 fiber range Sr=0.45, >20-50 fiber range Sr = 0.31, >50-100 fiber range Sr = 0.25

NA = Not applicable

Analyst - CJD

Note - Samples with less than 5.5 fibers counted are reported as less than the detection limit

*These results apply only to items tested.

*All samples arrived in good condition unless otherwise stated.

* Volumes are supplied by customer

*Samples are not blank corrected

AIHA LAP, LLC
ACCREDITED LABORATORY
INDUSTRIAL HYGIENE
ISO/IEC 17025:2005
www.aihaaccreditedlabs.org
LAB #100655

Approved Signatory:_____

Materials Analytical Services, LLC.
3945 Lakefield Court
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'16352 T1

TEM / INDUSTRIAL HYGIENE AIR SAMPLING CHAIN OF CUSTODY

MAS

3945 Lakefield Court
Suwanee, GA 30024
Phone: 770-866-3200
Fax: 770-866-3259

COMPANY NAME: Tetra Tech EMI
ADDRESS: 1955 Evergreen Blvd
Duluth, GA 30096
PHONE: 404.849.7136 / 206.300.0301
FAX:

PROJECT NUMBER: TT-01-040
PROJECT NAME: Old Barwick Mill Fire
Email: paul.pays@tetratech.com
brian.croft@tetratech.com
PROJECT REPRESENTATIVE: Jessica Vickers / Paul Pays / Brian Croft
SAMPLING DATE: 11/17/2015

TURNAROUND TIMES: X RUSH/ASAP **SAME DAY** _____ **1 DAY** _____ **3 DAYS** _____ **STANDARD 5 –7 DAYS**

DATE	SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE MEDIA	ANALYSIS DESIRED	START TIME	STOP TIME	TOTAL TIME MINUTES	PRE FLOW RATE LPM	POST FLOW RATE LPM	AVG. FLOW RATE LPM	Total Volume Liters
11/17	Location 2	S. Chattanooga & McLemore	Air *	PCM/TEM - see below	0911	1711	480	6.55	6.50	6.525	3,132
11/17	Location 5	310 S. Chattanooga	Air *	PCM/TEM - see below	0853	1655	482	6.51	6.65	6.58	3,171
11/17	Location 6	W. Main St. & Magnolia St.	Air *	PCM/TEM - see below	0904	1704	480	6.60	6.65	6.625	3,180
~~11/17~~	~~Location~~										
11/17	POTW	treatment plant entrance	Air **	PCM/TEM - see below	0934	1734	480	6.68	6.81	6.745	3,237

BK

* NOTE: for sample number "Location 2", "Location 5", and "Location 6" - use NIOSH Method 7400 - for any sample greater than 0.001 f/cc, please also use NIOSH 7402

** NOTE: for sample number "POTW" - use NIOSH Method 7400 - for any sample greater than 0.001 f/cc, please also use NIOSH 7402

SCANNED

CHAIN OF CUSTODY	NAME	COMPANY	MODE OF TRANSFER	LOG IN DATE	RECEIVED BY	COMPANY
First Transfer by:	Brian Croft	TetraTech	MAS drop box	11/18/15		MAS @ 0600 hrs.
Second Transfer by:						
Third Transfer by:						