STATEMENT OF CHRISTOPHER W. YOUNG

I am the Founder and CTO of Biotech Restorations LLC. Biotech is an environmental remediation company that utilizes an exclusively licensed biological bacterial formulation to naturally remediate soil and sediment contaminants known to be harmful to humans and the environment. We have been in business since 2000. Our solutions facilitate the remediation of the contaminants in place at the original site, by reducing pollutants to levels that are at, and typically well below, required regulatory levels. On-site remediation is normally at a fraction of the cost of traditional soil excavation and haul solutions. It eliminates the long-term liability and risks associated with the bury and cap solution that only covers the pollutants. For example, in 2017, Biotech's process was successfully utilized to eliminate PCBs from 20,000 tons of soil that was illegally dumped on a property near San Francisco. The remediated property is now the location of a middle school.

Biotech proposed a remedy for the cleanup of the Housatonic River that called for the dredging of PCB impacted sediments, dewatering the sediments at several shoreline locations, and the ex-situ windrow treatment of the sediments to reduce PCB levels to a point where the sediments carried no risk to human health or the environment. Upland areas, vernal pools and wetlands impacted by PCBs would be treated in-situ to reduce PCBs to safe level (see Attachment 1). The cost for treatment to reduce and eliminate the PCB impacts was projected to be half the $800M projected by GE to create one or more on-site disposal facilities.

Biotech performed a bench study on sediment and soil collected from the Housatonic River, which confirmed that the sediment and soil were suitable for treatment and that the PCBs were subject to accelerated destruction following Biotech's treatment (Attachment 2).

The data from this bench study and data from Biotech's successful work on other PCB impacted sites was provided to EPA Region I as justification for field pilot study. The field pilot study was outlined in the Quality Assurance Project Plan (QAPP) required by EPA. In 2014, Biotech completed and submitted a draft QAPP to EPA describing the team members and the process proposed to demonstrate the efficacy and the scalability of Biotech's treatment of PCB impacted soil and sediment (Attachment 3).

Following weeks of silence by the agency, Biotech was informed that the QAPP had been misplaced and lost. The draft QAPP was resubmitted to EPA's review team headed by Dr. David Charters. EPA then hired the Isosceles Group in Boston to vet Biotech and our work. Biotech provided volumes of performance data to the Isosceles Group (Attachment 4). Isoceles reported its findings to EPA, confirming the success of Biotech's work. EPA, however, never responded to Biotech's draft QAPP or provided any feedback on the proposal or the findings of the Isosceles Group. We simply fell into a black hole.

It was discovered months later that EPA and GE were in closed door negotiations on the Rest of River Plan and that a determination had already been made on a remedy. (Attachment 5). Indeed, GE had already made clear to Biotech that it had no interest in the alternative technology we presented (Attachment 6). Likewise, EPA gave no consideration to Biotech's QAPP, even though Biotech was prepared to perform the field pilot study at no cost to EPA or MA DEP. In the end, Biotech spent hundreds of thousands of dollars that could have used to make a positive impact where the outcome wasn't a forgone conclusion.

Signed this 1st day of March, 2021.

Chris Young
Christopher W. Young

Attachment 1

Biotech Restorations

Overview of the Alternative Housatonic River Cleanup Plan

GE's and stakeholder group's objections to EPA's proposed "Rest of River Cleanup Plan" (ROR).

1. ROR Plan only calls for a 25% reduction in PCBs in sediment and floodplain soils
2. ROR Plan would allow soil/sediment exceeding 800 ppm to remain
3. ROR Plan will take up to 13 years to implement
4. ROR Plan will disrupt commercial, recreational and tourist activities
5. ROR Plan will destroy the river's natural appearance (clear cutting trees and roads built)
6. ROR Plan will utilize heavy equipment and truck traffic that will damage secondary roads
7. ROR Plan calls for capping PCB sediments in place
8. ROR Plan calls for removal, dewatering and rail transport of sediments in Woods Pond
9. ROR Plan for Woods Pond will adversely impact Town of Lenox's tourist rail plans
10. ROR Plan is too expensive for the low level of PCB removal projected

The Alternative Plan (AP**)** utilizing a Factor Remedy for the on-site in-situ or ex-situ treatments of PCB impacted soil/sediment addresses each of GE's and the stakeholder group's objections.

1. The AP would remove 75% to 90% of the PCBs in the river's soil and floodplain soil
2. In-situ treatments will reduce/eliminate PCB hotspots exceeding 800 ppm
3. The AP plan could be achieved in as few as five years
4. The AP plan would not disrupt commercial, recreational or tourist activities, it may increase tourist activity by virtue of the plan's low impact, green and restorative nature
5. The AP calls for piping dredged sediments downstream to several takeout and treatment areas. Drench treatments sprayed from the river onto floodplain soils and in-situ injection treatments will eliminate the need to construct roads on both sides of the river or clear cutting natural growth as specified in the ROR Plan.
6. Piping sediments downstream to the treatment areas will eliminate heavy truck traffic on secondary roads and the on-site treatment will consolidate equipment usage to just the treatment areas.
7. The AP plan eliminates the need for capping in the river where spring flooding and increased water velocities in the river could degrade or destroy any cap and release PCBs downstream.
8. On site treatment of PCB impacted sediment from Woods Pond would eliminate the need to use Town of Lenox land for geo-tube dewatering, sediment staging and loading onto railcars for remote disposal.
9. Vacant land situated away from the Town of Lenox can be temporarily permitted to treat the estimated 250,000 cu/yd of PCB impacted sediment expected to be removed from Woods Pond.
10. The AP at $600 million is 25% less expensive than the ROR Plan and eliminates the PCBs as opposed to the ROR Plan which caps, buries or removes the liability to a remote landfill.

The Team

Great Lakes Dredging & Dock has agreed to provide sediment dredging, Cardno will provide site engineering, permitting and project oversight, Vtech will provide sediment dewatering and Biotech will provide the formulated products to treat the dewatered sediment, floodplain soils and vernal pools. Local contractors will be utilized to the extent possible for labor, equipment, supplies and materials.

Biotech Restorations

The Alternative Plan

GE has attempted to persuade communities along the Housatonic River to allow the river to clean itself through the process of natural attenuation. Information has been disseminated to the communities by EPA and Massachusetts DEP on the persistence of PCBs and the adverse human health impacts that accrue from long term, low dose PCB exposure. The majority consensus of the community stakeholders, EPA and MA DEP is that removal of the PCB impacted soil and sediment is the preferred remedy. GE has pushed back stating that the proposed ROR Plan "will destroy the river in the process of saving it".

The ROR Plan calls for roads to be built on both sides of the river to accommodate long reach excavators and hundreds of thousands of trucks hauling away the sediment and soil. Trees and vegetation along the river would be cut down to facilitate removal of PCB impacted soils in the floodplain that exceed the remedial goals. This "scorched earth approach" was developed to discourage its implementation and to encourage stakeholders to accept natural attenuation as the lesser of two evils.

The Alternative Plan renders GE's arguments moot by offering a remedy that serves the purpose of reducing PCB environmental impacts and human exposure while leaving intact and preserving the river's natural character. Great Lake Dredging & Dock will provide a smaller barge mounted dredge that will remove sediments from the deeper and wider reaches of the river while GLDD's SedVac system will be employed to surgically remove sediment from shallow areas, backwaters and estuaries thereby minimizing physical disturbance in these ecologically sensitive areas. As a means of sediment transport, piping the dredged sediments downriver for dewatering and treatment is a common method and one that eliminates the need to build roads along the river as well as eliminating the damage to secondary roads from many thousands of heavily loaded trucks.

At three takeout and treatment at locations situated along the river, the Vtech rapid dewatering system will separate the solids from the larger volume of water depositing the solids (now finely grained soil) on shore at ~50% wet and ideal for land farming treatment. The decanted water would receive a final polish before being returned to the river.

Dewatered sediment would be treated using standard land farming techniques where the sediment is laid down in single 24" lift, amended to increase organic carbon and the treated sediment/soil irrigated with water drawn from the river.

PCB impacted soil within the floodplain would be remediated in-situ by a drench treatment applied by a directed spray from a barge on the river. A small flat bottom barge equipped with high volume sprayers would maneuver in shallow water and carry a solution tank of solubilized product that would be mixed with carrier water drawn from the river. Several drench treatments may be required in order to incrementally reduce the PCB levels to the desired cleanup goals.

Vernal pools and areas of very high PCB impacts would be treated from the land side of the river through air pressure injection of product pushed through surface debris and into the subsurface PCB impacted soil. This injection treatment can achieve treatments depths of > 5' below ground surface.

Through these innovative on-site soil and sediment treatment methods, an effective low impact, lower cost cleanup of the river can be achieved that significantly exceeds the remedial goals of the "Rest of River Plan" without destruction of the river's natural character, damage to area's secondary roads, or disruption to the local community's economy or the community's daily routine of life during the term of the river's cleanup.

Attachment 2

RESULTS OF BENCH TOP STUDY FOR SOIL FROM HOUSATONIC RIVER
April 4, 2013
(Data after 10 weeks of treatment; analyses performed by Xenco Labs., GA)

Sample	PCB 1260 ug / Kg at week 0	PCB 1260 ug / Kg at week 10	Percent Reduction in PCB's after 10 weeks of treatment	Moisture content at 10 weeks
HR1-0	1720	788	54 %	38.63
HR2A-0	2090	560	73 %	44.94
HR2B-0	2090	487	77 %	44.75
HR3A-0	2670	581	78 %	45.45
HR3B-0	2670	335	87 %	44.58
HR4A-0	3180	910	71 %	46.59
HR4B-0	3180	1400	56%	43.59

Attachment 3

DRAFT

Housatonic River Site – Rest of River

Housatonic River BioTech Restorations Remediation Phase I Study
Quality Assurance Project Plan

Prepared for
BioTech Restorations

Prepared by
Environmental Stewardship Concepts, LLC

April 2014

TABLE OF CONTENTS

Appendices:

A3. Distribution List

The following individuals will receive copies of the approved Quality Assurance Project Plan (QAPP) and subsequent revisions:

Chris Young, BioTech Restorations LLC
Peter deFur, Environmental Stewardship Concepts, LLC
Susan Svirsky, EPA Region 1
David Charters, EPA, Region 1
Mark Argue, WESTON
Tom Czeksniak, WESTON
Angela Rydelius, McCampbell Analytical Inc.
Michael McGinn, Cardno Entrix

A4. Project/Task Organization

A project organization chart is provided as Attachment E. The individuals participating in the project and their specific roles and responsibilities are discussed below:

Chris Young, BioTech Restorations LLC – Project Manager

- Final approval of QAPP for submission to EPA
- Coordinating field and laboratory activities, including PCB analyses, soil characteristics, and the factor bench study
- Conducting the project activities in accordance with the QAPP and work order.
- Validating the bench study data.
- Reporting to the EPA Project Manager regarding the project status per the work order and preparing interim and final reports to EPA.

Peter deFur, Environmental Stewardship Concepts, LLC – Project Manager

- Developing the QAPP

Susan Svirsky, EPA – Project Manager

- Reviewing and approving the QAPP and subsequent revisions in terms of program specific requirements
- Reviewing reports and ensuring plans are implemented according to schedule
- Making final project decisions with the authority to commit the necessary resources to conduct the project

David Charters, EPA – Project Manager

- Final review and approval of the QAPP and subsequent revisions for compliance with the current version of R-5, "EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations"
- QA technical assistance to EPA Project Manager and conduct QA audits of the project, if needed

Tom Czelusniak, WESTON – Project Manager
Mark Argue, WESTON – Project Manager

- Select the field sampling team.
- Conduct the field activities per the approved QAPP and supervise the field sampling team.
- Distribute the approved QAPP and subsequent revisions to the members of the field sampling team.
- Report problems in the field to the Project Leader.

Angela Rydelius, McCampbell Analytical Inc. – Lab coordinator

- Coordinate the soil characteristic and PCB analyses of the samples and laboratory validation of the data
- Coordinate receipt of the samples at the laboratory
- Select analytical team
- Ensure internal laboratory audits are conducted per the lab's QA manual

Michael McGinn, Cardno Entrix – Field QA/QC

- Assist in selecting the field sampling team.
- Conduct the field activities per the approved QAPP and supervise the WESTON field sampling team as Biotech's representative
- Assist in the distribution of the approved QAPP and subsequent revisions to the members of the field sampling team.
- Report observed problems in the field to the Project Leader as Biotech's representative

A5. Problem Definition/Background

The Housatonic River is contaminated with PCBs as a result of releases from GE's transformer plant in Pittsfield, MA that operated from 1932 to 1977. The full extent of the Superfund site covers portions of the river from Pittsfield, MA in the north to Stratford, CT, on Long Island Sound in the south. Testing of groundwater, river sediment, soil, and wildlife shows not only that the area was and is severely contaminated with PCBs, but that other toxic industrial compounds are also present in the ecosystem. Since 1977, there has been a ban on fishing and consuming fish from the Housatonic River. Cleanup of the Housatonic River thus far has been carried out under Resource Conservation and Recovery Act (RCRA) Consent Decree between the EPA and GE. The cleanup process follows Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) procedures.

The Consent Decree for the site, which was approved by the federal court in October of 2000, calls for cleanup of the site to be addressed in three phases: 1.) "Upper ½-Mile Reach" 2.) "1 ½ - Mile Reach" and 3.) "Rest of River." Cleanup of the first half mile of the Housatonic, known as the "Upper ½-Mile Reach Removal Action," addressed the contaminated riverbanks and

sediments in the East Branch of the Housatonic from the Newell Street Bridge to the Lyman Street Bridge. This cleanup was performed by GE, under EPA oversight, from 1999 to 2002. The next section of river, known as the "1 ½ -Mile Reach", stretches from the Lyman Street Bridge to the confluence of the east and west branches of the Housatonic. This area was excavated in September 2002, immediately following GE's cleanup of the first half mile of the river. "Rest of River" is the term used in the Consent Decree to describe the remaining section of the Housatonic, which flows from the confluence of the east and west branches south to Long Island Sound. EPA and GE studies show that the highest concentrations of PCBs in the Housatonic are in the "Rest of River" area, within the ten and a half miles of river and floodplain between the confluence and Woods Pond Dam. This highly contaminated stretch is called the Primary Study Area.

The Human Health Risk Assessment (HHRA), released by the EPA in June of 2003, evaluated the Rest of River area, and found that risks from eating fish from the Housatonic River (from the confluence to Lake Zoar in Connecticut) exceed the EPA risk range. The risks from consuming waterfowl were also found to be above the EPA risk range. The Ecological Risk Assessment (ERA), released in July of 2003, characterized the risks posed to plants and wildlife exposed to PCBs in the Housatonic River. In the ERA, the EPA found: high risk for benthic invertebrates, amphibians, and fish-eating mammals; intermediate to high risk for some fish-eating birds, some omnivorous and carnivorous mammals, and some threatened and endangered species; low to intermediate risk for fish; and low risk for insectivorous birds.

In March of 2008, GE released the Rest of River Corrective Measures Study Report (CMS), which presents options and alternatives for cleaning up PCBs and other chemical contaminants in the Housatonic. After receiving comments from the EPA, HRI, and the public, GE revised the original CMS and re-submitted a new CMS in October of 2010. After another series of comments, EPA conditionally approved the revised Rest of River Corrective Measures Study in January of 2014, based on the acceptability of the underlying data.

Cleanup of the Housatonic River Superfund site will not be complete until a plan is put in place for the Rest of River area cleanup. The EPA is due to release a remedy proposal for the Rest of River cleanup in May 2014. Included in the proposal will be an estimate of how long the remaining cleanup should take.

A6. Project/Task Description and Schedule

This project will be a laboratory assay of Housatonic River sediments and immediately adjacent floodplain soils to determine the optimal factor(s) product formulations for breakdown of PCBs. The treatment options will consist of different protein factors identified by BioTech Restoration as capable of inducing metabolic pathways that allow dechlorination of chlorinated organic

compounds by soil bacteria. This method involves a laboratory assay to optimize the method, followed by remediation or field trials *in situ*.

The purpose of this QAPP is to establish procedures that will ensure project requirements are met and prevent errors. This site-specific QAPP is intended to address sampling and analytical needs specific to selection of the appropriate BioTech treatment factor, and the following schedule will be followed to produce a measurement of the decrease in total PCB within the sampled sediments and soil:

1. WESTON will sample the highest PCB contaminated soil and sediment from the Woods Pond area, the riverbank, and from the floodplain.
2. Samples will be delivered overnight on ice to BioTech Restoration's soil testing lab at Clemson, SC.
3. BioTech will combine and mix soil and sediment samples, respectively, and overnight on ice a portion of the samples for a measurement of baseline PCB concentration and soil characteristics, using an independent certified lab.
4. Incubation time for the sediment assay at BioTech is 8-10 weeks to determine the most effective factor formulation to use. BioTech has developed 8 or more formulations with proven efficacy in reducing PCBs and the goal is to select the best performing one, or two, under the specific soil/bacteria conditions of the specific site.
5. At the end of an 8-10 week incubation period, the assayed soils and sediments will be measured for their total reduction in PCBs relative to baseline.
6. Two options exist after completion of the lab assay:
    a. Option A is to sample the soil for routine compositional data such as nutrients, organic carbon, sand, silt, clay, minerals and PCBs and proceed to remediation after the lab assay. This approach is attractive in saving time and money and cuts down on time in waiting for the next summer season of active bacterial action
    b. Option B is to proceed to field trials with specific acreage/area for remediation and pre-post PCB measurements. The same soil data are needed as in Option A.

Previous laboratory and field investigations followed by *in situ* field treatments have demonstrated the ability of the BioTech treatment factors to significantly reduce PCB concentrations within soils.

Table 1.

Location	Year	Project Name	COC	Status
Brunswick, GA	1998	Hercules Chemical field pilot study	toxaphene	ND ~ 20 wks

Glendale, AZ	2007	Aggregate Products	toxaphene/DDT	ND < 25 wks
Lake Apopka, FL	2007	Lake Apopka field pilot study	toxaphene/DDT	90% reduction in 31 wks
Belle Glade, FL	2008	Belle Glade Airport	DDT	93% reduction in 12 wks
Morgan Hill, CA	2005	Borello Ranch 14 acre treatment	toxaphene, dieldrin	CA EPA clean closure in 12 weeks
Newland, NC	2013	Newland Tree Farm 3 acres	toxaphene, DDT, DDD	86% reduction in 10 weeks
East Palo Alto, CA	2013	Blue Jay Ct. 2 acres	DDD, DDE, DDT, Dieldrin	2013 Clean Closure
Camp Pendleton, CA	2008	Stuart Mesa Ag Lease, 400 acres	DDE, DDT, toxaphene	ND ~12 wks
Hayward, CA	2010	Kellco-Macs Soils	TPH, gasoline, diesel, motor oil	99% reduction in 10 wks
Midland, MI	2007	Michigan DEQ/Dow Chemical Dioxin Study	Dioxin reductions	80% reduction in TCDF, 56% in TCDD < 14 wks
Sunnyside Yard, NYC, NY	2000	Amtrak	PCB 1260	860 ppm to < 70 ppm in 18 wks
Tyndall AFB, FL	2000	US Air Force	PCB 1254	< .5 ppm in 12 wks
Milpitas, CA	2005	American Transformer 5 acres	PCB 1260	clean closure 24 wks
Pittsfield, MA	2012	Housatonic River study	PCB 1260	87% in 10 wks
Woolfolk Chemical	2012	Superfund site test	pesticides	>75% reduction in all congeners in 10 wks
Great Barrington, MA	2012	New England Log Home Bench Study	dioxin, PCPs	99% reduction in 10 wks
Dixon, CA	2007	TSI Dixon Ag Chem Site	toxaphene	Cleanup complete

The project will be conducted in accordance with SOPs and methods in Appendix B. The laboratory analysis for this project should begin May 15, 2014. The project should be completed within 10 weeks.

A7. Data Quality Objectives

Data quality objectives (DQOs) are qualitative and quantitative statements that define the acceptability of data generated by a study. The data generated by this study must be of sufficient quality to be used to identify an effective Factor for the remediation of PCBs under the ambient

and amended conditions of the Housatonic's contaminated sediment and upland soils. The DQOs are used for designing the sampling plan and data collection program for BioTech Restoration's bench study.

1. Confirm the breakdown of PCBs in soil from the Housatonic River watershed within the bounds of the "Rest of the River" using BioTech Restoration Factors to stimulate bacterial dechlorination.

2. Confirm the breakdown of PCBs in sediments from the Housatonic River within the bounds of the "Rest of the River" using BioTech Restoration Factors to stimulate bacterial dechlorination.

3. Determine which of the BioTech Restoration Factors is most effective in stimulating bacterial dechlorination of PCBs from soils and sediments of the Housatonic River "Rest of the River" segment of the GE Housatonic River Site.

4. Determine soil and sediment characteristics necessary to conduct the assays, including moisture content, TOC, nutrients and humic content.

Data Quality Indicators: The following data quality indicators will be utilized to assess whether data generated is useable and meets the data quality objectives:

Precision
Precision is agreement among individual measurements of the same property under similar conditions. Precision is tested through the use of field and laboratory duplicate or replicate analyses. Precision of the data generated will be assessed as the relative percent difference (RPD) for field duplicates and laboratory dilutions for the samples.

All duplicates and dilutions should fall within a 25% RPD in order for data quality objectives to be met.

Accuracy
Accuracy means agreement between a known value and a measured value. This is normally expressed as percent recovery of a surrogate, matrix spike, and/or analytical control sample.

Accuracy will be determined by comparing the reduction in total PCB concentration from the samples to a control spiked with a known concentration of PCB.

Representativeness
Representativeness is a measure of the degree to which the measured values accurately and precisely reflect the medium being sampled. Representativeness is largely the result of the appropriate selection of sampling locations and sampling methods.

Representativeness will be achieved by sampling from three areas that have the highest known concentrations of PCBs in the area: Woods Pond, riverbank, floodplain (vernal pools) (see Figures 1A through 2B), with 33 samples (out of a total of 99 samples) being collected at each.

Completeness

Completeness is a measure of the amount of valid data obtained compared to the amount of valid data expected to be obtained under normal conditions.

To ensure completeness, 95% of the planned sampling must take place. If all the critical samples are not collected and analyzed, re-sampling will occur.

Comparability

Comparability is the confidence with which one data set can be compared to another.

Comparability will be controlled by using common and accepted sampling and analytical techniques and by reporting data in standard units.

A8. Special Training Requirements/Certification

Specialized training for field sampling and analyses and off-site analyses and validation has not been identified as necessary during the planning of this project. The WESTON and Cardno Entrix field team leads will be responsible for ensuring that all members of the field team have valid and current specialized training required by the OSHA regulations. The EPA Project Manager will be responsible for ensuring that all EPA personnel have valid and current specialized training required by the OSHA regulations as a pre-requisite for site visit(s). The participating analytical labs, McCampbell Analytical and BioTech, will be responsible for ensuring that their personnel have the required training to conduct the necessary soil and sediment testing.

Samples will be shipped to BioTech Restoration from the site as directed by the site health and safety plan (HSP) prepared by the contractor and approved by the EPA Project Manager. These transporting and shipping procedures will be written in compliance with the Department of Transportation regulations. Biotech Restorations' EPA PCB ID number is NCW000152983 form OMB No. 2070-0112.

A9. Documents and Records

The records for this project will include miscellaneous correspondence, field logs and field data worksheets, laboratory analytical reports, a field activity report, and a final report. All reports will be submitted to the EPA Project Manager. Field logs will be recorded with no more than one entry per page, in bound notebooks with pre-numbered pages. Field logs will include observations about weather conditions at the site when samples are collected and field analyses are conducted. Any other pertinent observations or deviations from the procedures in this QAPP, deemed noteworthy by any member of the field team will also be recorded in the field log book. Field data worksheets will be used to record all field measurements. Each page of the field logs and field data worksheets will be dated and signed by the person making the entries.

Laboratory analytical reports will be generated for all the samples received by the laboratory and signed by the respective Analytical Services Director from each lab (BioTech and McCampbell Analytical). The analytical data report will include an original signed report of the analytical results, a narrative report about the analysis, original complete chain of custody forms, and any other documentation received with the samples. A summary of the calibration data and laboratory quality control data will also be included in the analytical report. The raw analytical data (e.g., instrument printouts and manual records) will be available upon request. Laboratory analytical reports from McCampbell Analytical will be submitted to BioTech within 30 calendar days after receipt of samples, who will then forward the analytical report to the EPA Project Manager upon verification of its completeness. The narrative report will describe at least:

1. Dates of sample receipt, preparation, and analysis
2. Condition of the samples upon receipt
3. Sample preparation and analytical procedures
4. Any problems encountered during sample handling, storage, preparation, or analysis, and their solutions
5. Any deviations from standard operating procedures
6. A discussion of the quality of the reported analytical

A field activity report will be generated by the WESTON Project Leader, and submitted to the EPA Project Manager within 60 days of completion of the field activities described in this QAPP. This report will include the analytical data report, a signed narrative about field activities, a summary of all field data collected, a written report of the audit of field activities, and all the original field log books and field data worksheets for this project. The narrative report will include at least discussions of all field activities, any problems encountered and their solutions, any deviations from procedures described in this QAPP, and a discussion of the quality of all field data.

The EPA Project Manager will disseminate copies of the QAPP to the people listed in the distribution list once it is approved. Any revisions to the QAPP will be numbered sequentially. It will be the responsibility of the EPA Project Manager to see to it that each person on the distribution list receives copies of any revisions.

BioTech will manage the original raw data from this project (both hard copy and electronic) except that they will maintain records from this project at least six years and the EPA Project Manager will be consulted before they are disposed. These SOPs include information about where records will be stored, who will be responsible for records management, and how long specific types of records and documents will be retained. BioTech will submit all original records to the EPA Project Manager with the field activity report, so they will have no long term records' management for this project. Any deviations from these procedures will be approved by the EPA Project Manager before implementation.

B1. Sampling

The purpose of this site sampling is to provide soil and sediment from the contaminated Housatonic River and floodplain for use by BioTech Restorations in a bench scale study. This

study will produce the most effective Factor product formulations capable of breaking down the PCB contamination to the lowest levels possible within these representative samples.

Samples will be collected from each of the three highest PCB contaminated areas: Woods Pond area, riverbank, and floodplain (vernal pools) (see Figures 1A through 2B), with 33 samples (out of a total of 99 samples) being collected at each and a mean will be determined from the individual results. Collection of random samples will assure that the results are representative within each decision unit. Use of standard methods and technically accepted methods will assure that data may be comparable to other sources of data.

Schedule
Sample collection will begin as soon as possible following QAPP approval by EPA. Samples will be collected by WESTON and shipped overnight on ice to BioTech Restorations.

Laboratory results should be sent to BioTech Restoration within 30 days of sample receipt by McCampbell Analytical. EPA will receive the final report from BioTech Restorations within 60 days of completion of the bench scale study.

Equipment
Ponar dredge, steel spoon or trowel, 5-gallon buckets, field sheets, hip waders; Utilizing a soil core sampling device as may be determined by the field team, the field geologist or field technician will log each boring according to the United Soil Classification System (USCS) and evaluate each sample for odor, staining, and determine which soil samples are to be retained.

Procedure
Samples will be randomly collected and a mean value calculated from the results. A total of 99 samples will be collected, 33 each from the floodplain (soil), Woods Pond area (sediment) and riverbank (soil), respectively.

Soil samples for the floodplain and the riverbank will be collected using the procedure described below.

1.) Identify areas to be sampled and create a 20 ft. by 20 ft. grid.
2.) At sample site, remove the top 3 inches of soil from the surface and set aside.
3.) Sampling will take place at each corner of the grid and, using a random number generator, the coordinates for a middle sampling point will be determined.
4.) Using a stainless steel scoop or trowel (6 cups per sample), sample at each of the five grid points, collecting samples in an unused 5-gallon container
5.) Remove soil to one foot below ground surface and sample the five grid points again, collecting samples in the same 5-gallon container. Label container appropriately.
6.) Fill gallon-sized sealable plastic bags with ice, seal them, and place them on top of the soil.
7.) Cover the sample containers and seal.
8.) Ship to BioTech lab facility in Clemson, SC.
9.) Keep refrigerated at 4°C when not being tested.

Sediment samples for Woods Pond will be collected using the procedure described below.

1.) Identify areas to be sampled and create a 20 ft. by 20 ft. grid.
2.) Sampling will take place at each corner of the grid and, using a random number generator, the coordinates for a middle sampling point will be determined.
3.) Samples will be taken with a Ponar dredge, totaling 12 cups of sediment per location.
4.) Samples will be collected in a 5-gallon bucket and labeled appropriately.
5.) Fill gallon-sized sealable plastic bags with ice, seal them, and place them on top of the sediment.
6.) Cover the sample containers and seal.
7.) Ship to BioTech lab facility in Clemson, SC; The ice-chest will be kept at a temperature of approximately 4 degrees Celsius for temporary storage before being delivered by overnight express to Dr. Valerie Paynter at 116 Liberty Place, Suite 107, Clemson, SC. 29631. McCampbell Analytical, Inc. (McCampbell, Certification No. 1644) located in Pittsburg, California for analysis.
8.) Keep refrigerated at 4°C when not being tested.

B2. Sampling Methods Requirements

Sediment collection volume will be measured to ensure critical amounts are available for initial PCB analysis, initial soil characteristics, and for the bench study. The sediment tested during the course of the bench study will also undergo a final PCB analysis to test for total PCB reductions.

B3. Sample Handling and Custody Requirements

WESTON SOPs will be followed which describe the sample handling and custody requirements for this activity.

A sample shall be considered to be in the custody of a person if it is in his or her possession, in his or her sight or secured by that person in an approved location accessible only to authorized personnel.

The following procedures will be used to document, establish, and maintain custody of the field samples:

- Sample labels will be completed for each sample using waterproof ink, making sure that the labels are legible and affixed firmly to the sample container
- All sample-related information will be recorded in the field logbooks
- The field sample custodian will retain custody of the samples until they are transferred or properly dispatched
- A chain of custody (COC) document will be completed by the field technician using a waterproof ink. The COC will include the data and time of sample collection, the sample identification, matrix, preservative, requested analytical procedures, site location, field sampler's name and signature. The field sample custodian will retain custody of the samples until they are transferred or properly dispatched. Upon each transfer of custody, the COC will be signed and date by the relinquished and receiver of custody.

A COC record accompanies the sample container from the laboratory to the field where the sample is contained, preserved, and then returned to the laboratory. The laboratory's sample custody program meets the criteria listed below.

- The laboratory has designated a sample custodian who is responsible for maintaining sample custody and for maintaining all associated records documenting sample custody.
- Upon receipt of the samples, the custodian checks the original COC documents and compares them with the labeled contents of each sample container for correctness and traceability. The custodian signs the COC record and records the date and time the samples are received. The sample temperatures will be recorded; if more than 2 degrees Celsius outside of the 4 degree Celsius target, BioTech will be notified.
- A qualitative assessment of each sample container is performed to note any anomalies, such as broken or leaking containers. This assessment will be recorded as part of incoming COC procedures.
- The samples are stored in a secured area at a temperature of approximately 4°C until analyses begin.
- A copy of the COC form accompanies the laboratory report and becomes a permanent part of the project records.

B4. Analytical Methods Requirements

Once the samples are received and logged in at BioTech, a portion of the samples will be overnighted on ice to McCampbell Analytical for PCB analysis and another portion of the samples overnighted on ice to McCampbell Analytical for soil characteristics. EPA Method 8082A and McCampbells SOP ___ describes the sample preparation for PCB analyses; EPA Method _____ and McCampbell SOPs ___ describe the sample preparation for soil characteristics.

If any data are lost or do not meet the method performance criteria, the labs' Analytical Services Director will contact BioTech prior to submission of the data.

B5. Quality Control Requirements

The laboratory quality control (QC) procedures and associated criteria are contained in SOP _____. The laboratory QC samples and control limits identified in the SOP were reviewed by the project personnel. The quality of the data generated using this SOP will provide analytical data of a sufficient quality for this project. The field QC samples will be a field blank and ____.

Laboratory Quality Control

The lab will be required to analyze a method blank, a matrix spike/matrix spike duplicate set and a calibration curve verification (CCV) sample for each matrix. The method blank must be below the reporting limit; the CCV and PE sample must be within 10% of the expected value.

Biotech Restorations Basic Bench Study Protocol and Quality Control

Upon receipt of the Housatonic River's representative soil/sediment samples, stones and vegetative debris (roots etc.) will be removed and the remaining soil/sediment thoroughly mixed. From the mixed sample, 200g of each, soil and sediment, will be collected and sent to McCampbell certified lab for analysis to obtain a PCB baseline and a profile of the soil/sediment in terms of its chemistry and its microbiology.

Sufficient soil for the bench study will be transferred to a stainless steel container and mixed to ensure homogeneity. Equal quantities of the soil will then be weighed into inert glass test chambers and arbitrarily labeled 1 through 100 (or as many chambers as are required for the study). Test chamber number one will be designated the control and nothing further will be added to this test chamber.

Various amendments will be added to the experimental chambers as deemed necessary from the results of the preliminary soil profile analysis to ensure a favorable environment for growth of the indigenous microorganisms. The soil in each experimental chamber will then be mixed again. A variety of Factor formulations that have demonstrated efficacy on PCBs will be added and mixed into soil experimental chambers. Water will be added to the experimental chambers to achieve a moisture content of 18-22%. This moisture range is a statistical average for moisture content encountered in the field; actual moisture will depend on the site's soil/sediment moisture when collected and the soil's/sediment's moisture content as received.

An air space of approximately four inches above the soil will be allowed in order to maintain an aerobic atmosphere within the experimental test chambers. All test chambers will be loosely covered with foil to prevent excessive moisture loss. The chambers will be maintained at 25° C throughout the study.

Each week the soil will be mixed in the experimental chambers to ensure that aerobic conditions will be maintained and water added as necessary to maintain optimal moisture levels. After one week post treatment, the pH of the soil in each chamber will be measured and adjustments made to maintain a pH in the 8-8.5 range. The pH will be checked and adjusted at 4 and 8 weeks post treatment.

Initially, and after 6 and 10 weeks, soil samples will be sent to a certified lab for a measurement of the target organic compound(s) content. If the results indicate a statistically significant decrease in the target organic compounds(s) content between day zero and 6 weeks and between 6 and 10 weeks, that Factor formulation treatment will be considered successful and a candidate for the river's remediation effort.

Additional studies may be performed on the successful candidate Factors to determine the lowest concentration at which reliable degradation of PCBs will occur. The Factor(s) demonstrating the highest degree of PCB degradation will be selected for the field remediation effort.

In bench studies where degradation does not continue between 4 and 8 weeks, additional tests may be run to determine which essential elements may be required to support optimal microbial activity and degradation of the target organic compound(s). A second treatment of the Factor(s)

may be added. The bench study will then continue for an additional 4 weeks (a total of 14 weeks) or longer until a satisfactory outcome is achieved.

The bench study is designed to serve as only a guide to allow BioTech Restorations to select the best possible Factor(s) for degradation of PCBs in the Housatonic River and its upland soils. Although regulatory mandated cleanup goals are often achieved during a bench study, the bench study is not designed to reduce targeted organic compounds to non-detect levels during the term of the bench study. The bench study's primary objective is to develop, test and validate candidate Factors that will, within a predictable timeframe achieve PCB reductions that are consistent with Massachusetts DEP and EPA's mandated remediation goals.

Field Quality Control for Sediment Samples – Don't see how this section applies

B6. Instrument/Equipment Testing, Inspection, and Maintenance Requirements
Equipment, instruments, tools, gauges, and other items requiring preventive maintenance will be serviced in accordance with the manufacturer's specified recommendation and written procedures developed by the operators. Written procedures will identify the schedule for servicing critical items to minimize the downtime of the measurement system. It will be the operator's responsibility to adhere to this maintenance schedule and to arrange any necessary service promptly. Service to the equipment instruments, tools, etc., shall be performed by qualified personnel. In the absence of any manufacturer's recommended maintenance criteria, a maintenance procedure will be developed by the operator based upon experience and previous use of the equipment.

B7. Instrument Calibration and Frequency
Instruments and equipment used to gather, generate, or measure environmental data will be calibrated with sufficient frequency and in such a manner that accuracy and reproducibility of results are consistent with the standard operating procedures. Calibration procedures and frequency for the analytical procedures are summarized in ____ and in the standard methods. The calibration procedures will meet or exceed the calibration requirements specified in the respective analytical methods. Calibration standards used as reference standards will be traceable to the NIST, USEPA, or AEC when possible. Calibration, repair, or replacement records will be filed and maintained by the laboratory's personnel performing quality control activities. Calibration records of the assigned laboratory will be filed and maintained at the laboratory location where the work is performed.

Calibration of field instruments and equipment will be performed at approved intervals as specified in the standard operating procedures or more frequently as conditions dictate.

B8. Inspection/Acceptance Requirements for Supplies and Consumables
The field team leader will be responsible for inspecting sample containers before leaving for the field. Only new sample containers accompanied by the manufacturer's certification of re-cleaning will be used. The sample containers will also be inspected for cracks, ill-fitting lids, and other obvious defects before use and will be discarded if defects are found to be present.

BioTech will inspect equipment and supplies upon receipt. The manufacturer's specifications for product performance and purity will be used as the acceptance criteria.

B9. Data Management

Data for this project will be produced in several locations: onsite, BioTech Restoration's Clemson SC lab, and McCampbell Analytical. Data collected onsite will be recorded on field data worksheets and into field logbooks. These field data worksheets and logbooks will be submitted by the WESTON Project Leader to the EPA Project Manager with the field activity report when field activities are complete, and will become a part of the project file. Laboratory data will be submitted by McCampbell Analytical to BioTech Restoration within 30 calendar days of the laboratory's receipt of the samples. BioTech will be responsible for ensuring the analytical report meets the requirements in section A9 and for forwarding it to the EPA Project Manager. All laboratory records will be managed according to records management SOPs at McCampbell Analytical. All field records and the analytical report will be submitted to the EPA Project Manager, so there will be no long-term management of project records by the field contractor. Adherence to these SOPs will assure that applicable information resource management requirements are satisfied.

C1. Assessment and Response Actions

One audit of field activities and the verification and validation of all reported data (conducted in accordance with sections D1 and D2) will be conducted by WESTON QA Officer, on-site, at the time(s) when samples are being collected for both field and laboratory analysis and when field analyses are conducted. This audit will be conducted in accordance with WESTON's SOP W-G-9 for onsite activities. This SOP covers how on-site assessments for field activities will be planned, conducted, and reported. The purpose of this audit will be to verify conformance with the procedures discussed and referenced in this QAPP. A written report of the findings from this audit will be prepared by the WESTON's QA Officer to be included in the field activity report submitted to the EPA Project Manager. WESTON's QA Officer will have the authority to stop work on-site if he deems the findings from the audit to justify such actions. WESTON's Field Team Leader, in consultation with WESTON's Project Leader, will be responsible for corrective actions relating to field activities.

The narrative report included with each laboratory data report will include a discussion of the quality of the reported laboratory data, which will result from each labs' Analytical Services Director's audit of data quality. The analytical labs' Analytical Services Director will be responsible for corrective actions at the laboratory. The narrative report included with the field activity report will include a discussion of the quality of the reported field data, which will result from WESTON's QA Officer's audit of the field data quality according to WESTON's SOP G-9 "Quality Assurance/Quality Control Sampling." These SOPs both address the process and criteria for evaluating data, and processes for addressing the requirements of specific projects. The EPA Project Manager will review all reported data to verify that it is useable for the purposes of this project, and that it is reasonable when taken with other facts known about the site. Sections D1 and D2 of this QAPP discuss the verification and validation process in detail.

C2. Reports to Management

The reports to management will include a final project report, a field activities report, and analytical data report from McCampbell Analytical and BioTech for all the samples. The final project report will be generated by BioTech for inclusion in the project file at the completion of the project. This report will include a summary description of all project activities, a summary of all data, a discussion of any problems encountered and associated corrective actions, a discussion of the conclusions drawn from the results of this project and the rationale for those conclusions, and the results of the data quality assessment. The field activity report will be generated by the WESTON Project Leader and submitted to the EPA Project Manager at the completion of field activities. Laboratory analytical reports will be generated by McCampbell Analytical and submitted to BioTech 30 calendar days after receipt of the samples, who will then forward the analytical information to the EPA Project Manager in conjunction with the field information. Finally, BioTech will conclude with the factor bench study, which will also be given to the EPA Project Manager in a final report. Any significant QA problems encountered in the laboratory or in the field, as deemed by the lab Analytical Services Directors or the WESTON QA Officer will be reported immediately to BioTech via telephone.

D1. Data Validation and Usability

Data will be accepted if they meet the following criteria:

1. Field data sheets are complete.
2. Field data and laboratory data were validated
3. Actual sample locations and collection procedures match the proposed sample locations and collection procedures identified in sections B1 and B2, respectively.
4. Sample handling procedures documented on chain-of-custody forms, the field activity report, and case narrative match the proposed sample handling procedures identified in sections B2 and B3.
5. Field QC was conducted as planned and meets the acceptance criteria in section B5.
6. Collation and data validation of a final bench study report prepared by Dr Paynter summarizing the performance results of the BioTech Restoration's bench study.

Any deviations from the QAPP are to be reported in the field activity report or analytical data report and the analytical data report will the information described in section A9. The EPA Project Manager will verify the content of these reports.

If the data fails to meet the criteria, they will be flagged by the EPA Project Manager as estimated. Any flagged data will be discussed with the project team and regional Superfund management to determine if the data point will be rejected and re-sampling done.

D2. Data Validation and Verification

The WESTON Project Leader will validate the field data according to SOP #____ pertaining to "Validating Field Data." Any problems identified during this process will be reported to the EPA Project Manager in the field activity report.

The McCampbell Analytical Services Director will validate the laboratory data according to SOP # ____ related to "Data Package Generation, Review, and Validation." Any problems identified during this process will be reported to BioTech Project Leader in the analytical data report.

The EPA Project Manager will review and verify the field sheets, the field activity report, and the analytical data report. Any problems or deviations identified will be discussed with the project team. The EPA Project Manager will calculate the field sheet statistics (mean, standard deviation) and the mean for the sediment collected.

D3. Reconciliation with Data Quality Objectives

1. Confirm the breakdown of PCBs in soil from the Housatonic River watershed within the bounds of the "Rest of the River" using BioTech Restoration Factors to stimulate bacterial dechlorination. Samples of soil for the laboratory assay need to have PCB concentrations that are characteristic of the higher levels in the area, but precise determination of PCB concentrations is not necessary for these assays.

   PCB concentrations measured before and after the treatment with BioTech factors will provide evidence of dechlorination of organochlorine compounds and subsequent reduction of PCB concentrations. Measures of chlorine during the treatment will provide evidence that the chlorine is being removed from the PCBs. Data will be expressed as concentrations and as percent change.

2. Confirm the breakdown of PCBs in sediments from the Housatonic River within the bounds of the "Rest of the River" using BioTech Restoration Factors to stimulate bacterial dechlorination. Samples of sediment for the laboratory assay need to have PCB concentrations that are characteristic of the higher levels in the area, but precise determination of PCB concentrations is not necessary for these assays.

   PCB concentrations measured before and after the treatment with BioTech factors will provide evidence of dechlorination of organochlorine compounds and subsequent reduction of PCB concentrations. Measures of chlorine during the treatment will provide evidence that the chlorine is being removed from the PCBs. Data will be expressed as concentrations and as percent change.

3. Determine which of the BioTech Restoration Factors is most effective in stimulating bacterial dechlorination of PCBs from soils and sediments of the Housatonic River "Rest of the River" segment of the GE Housatonic River Site.

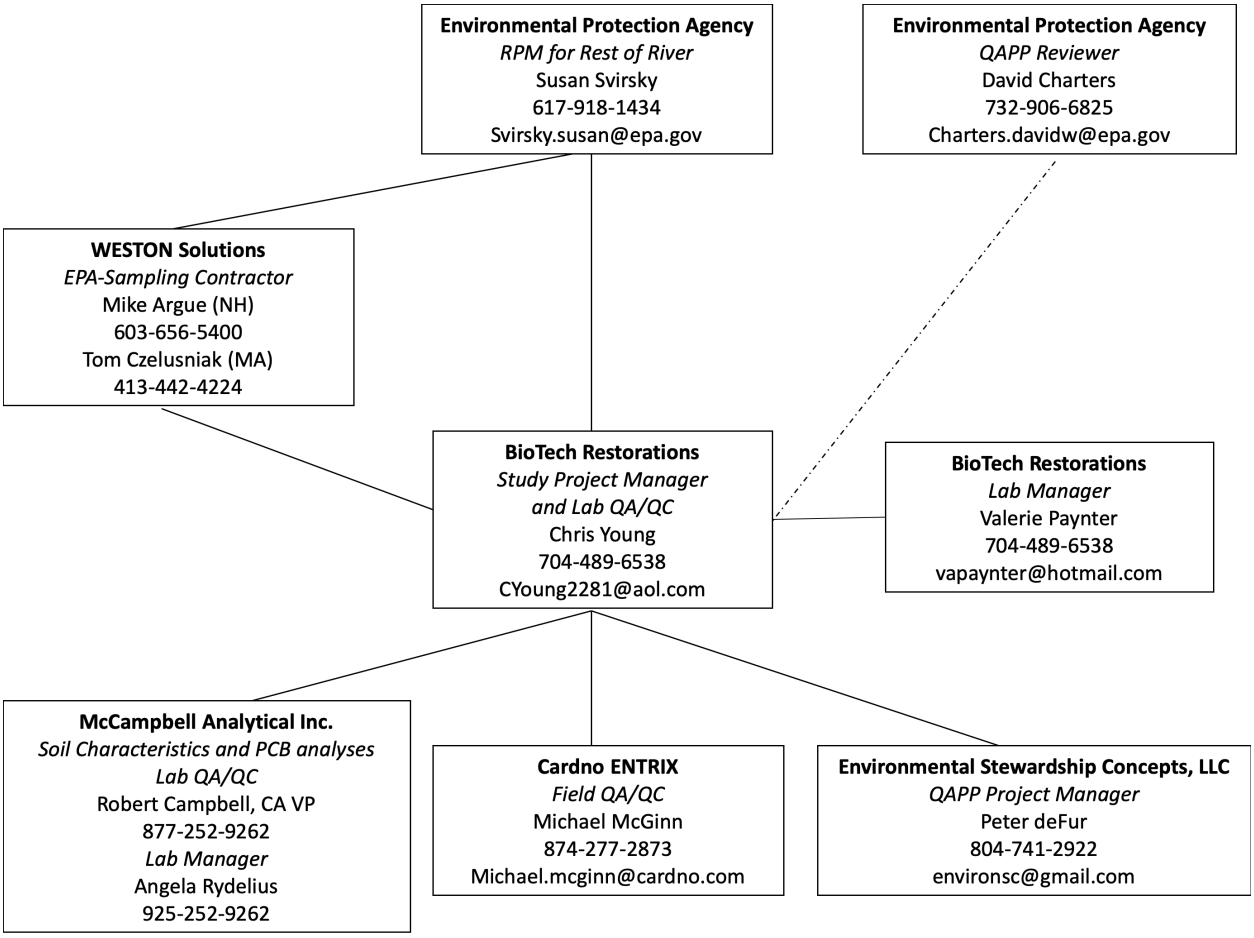
   The results of the PCB analysis will present the reductions in PCB concentrations for each of the three treatment types. These results will be compared to determine which

treatment yields the greatest reduction. In the case of more than one treatment yielding identical results, or nearly identical results, then such treatments will be ranked equally.

4. Determine soil and sediment characteristics necessary to conduct the assays, including moisture content, TOC, nutrients and humic content.

   Substrate samples from each of the three substrate categories, floodplain soil, riverbank and sediment (in water, from Woods Pond) will be analyzed to provide the soil/sediment characteristics to aid in the laboratory assays with the BioTech factors. Results will be reported to BioTech labs and compared with samples previously collected in the same or similar areas of the Housatonic River site.

Appendix A Project Organization Chart



Appendix B List of Methods and SOPs

EPA Methods

EPA Method 8082A PCBs by Gas Chromatography
Soil characterization SOPs

Weston Solutions, Inc.

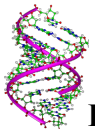
General SOPs

W-G-1	Calibration of Field Screening Instruments
W-G-2	Decontamination
W-G-3	Field Documentation
W-G-4	Field Filtration
W-G-5	Field Measurements
W-G-6	Field Sample Numbering
W-G-7	Management of Investigation Derived Wastes (IDW)
W-G-8	Oversight of General Electric Field Activities
W-G-9	Quality Assurance/Quality Control Sampling
W-G-10	Sample Documentation
W-G-11	Sample Packing and Shipping
W-G-12	Surveying
W-G-13	Trimble Pathfinder Pro XL GPS Unit

Soil and Sediment SOPs

W-SS-2	Soil Sampling Using a Geoprobe®
W-SS-4	Sediment Sampling
W-SS-5	Soil Sampling

Attachment 4



B I O T E C H R E S T O R A T I O N S , L L C

Richard G. DiNitto
Principal
The Isosceles group
50 Congress Street
Boston, MA 02109

(Please return all documents upon completion of your examination)

March 15, 2011

Dear Rich,

I won't suggest that you examine or lend preference to one section over another, I know you'll examine all of the sections closely however there is an important distinction to be made from our early PCB work prior to the Milpitas site aka the Former North American Transformer Site. The studies for Columbia Gas, Tyndall Air Force Base and Amtrak were all performed utilizing a 1st generation Factor formulation. While the 1st generation formulation was effective it had drawbacks that we believed would inhibit its commercial acceptance, principally the formulation's high cost. The formulation used on the Milpitas site is entirely different, is based upon an entirely different protein set and, as the data illustrates is more effective.
Perhaps as importantly, the new formulation has allowed Biotech to dramatically reduce the costs of treating a cubic yard of impacted soil from over $150 to less than $50.

I trust the Milpitas CA Remedial Action Plan and the site assessment document will answer the majority of questions that might arise and I've spoken to Rob Campbell asking him to anticipate your call to discuss any specifics about the site remediation effort.
I am not asking for confidentiality or non disclosure agreement as I know you'll treat the data as confidential in your performance in vetting Biotech's process on behalf of EPA Region 1.

At the end of the day Rich, the proof everyone is looking for can only be found in a study on soils and sediments collected from the Housatonic River. My hope is that your examination will conclude with the finding that the Factor biotechnology is worthy of additional study on soils and sediment collected from the Housatonic River.
While we'd planned to arrange the collection of these samples through the Riverkeeper Organization and to perform the initial bench study independently given the political and regulatory issues, we opted to delay the independent effort until EPA (and Isosceles) could conclude the evaluation.
We've budgeted the funds necessary to perform the bench studies and we'd welcome your and EPA's suggestions as to how the studies may be modified to provide the best possible data.

As an FYI, Biotech has teamed with industry organizations that are ready to assist us in any of its remedial work on impacted waterways. You're already familiar with Genesis Fluid Solutions but we're also back-stopped by HDR, PBS&J and Evans Graves Engineering. Evans Graves is one of the top firms providing design support to the US Army Corps of Engineers. Apeck Construction of Leesville Louisiana will be providing equipment and field personnel support while Orin Remediation Technologies in McFarland Wisconsin and Garco Services in Asheboro North Carolina will provide remediation and logistical support. Biotech also now has bonding capability up to $25 million per site.
Please feel free to contact me with any questions that arise.

Christopher W. Young
President
Biotech Restorations, LLC.

Attachment 5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

OFFICE OF THE
REGIONAL ADMINISTRATOR

March 24, 2014

Christopher Young, President
Biotech Restorations, LLC
137 Cross Center Road #143
Denver, NC 28037

Dear Mr. Young:

Thank you for your email dated March 14, 2014, and your letter to Susan Svirsky on my staff regarding the submittal of a Quality Assurance Project Plan (QAPP) for the evaluation of the application of your technology to PCB-contaminated media at the Housatonic River. When we receive your information we will coordinate our review with EPA's Office of Superfund Remediation and Technology Innovation (OSRTI) and other appropriate headquarters offices.

However, as you know, EPA is in the process of working with our colleagues from both Massachusetts and Connecticut state governments to develop a proposal for the cleanup of the Housatonic River which we will put out for public comment this summer. EPA may include a provision for an adaptive management framework that will allow the remedy to be adjusted over time as lessons are learned and will enable consideration of new, emerging technologies such as your biotechnology that might be brought to bear in the future during what could be a long implementation process.

During the public comment period, the public will have ample opportunity to weigh in with their concerns and priorities for the Housatonic River. I encourage you to remain engaged in this process and to provide your comments for the record during that comment period.

Sincerely,

H. Curtis Spalding
Regional Administrator

cc: David Charters, EPA OSRTI

Attachment 6

Hello Richard,

My apologies for not being able to spend some time with you following the meeting last Wednesday. Given the late hour that the meeting ended and the weather I can understand folk's desire to get home and into a warm bed.
I was very impressed by the turn out for the meeting however in light of the ongoing PCB issues that have been so long in resolution, I can understand the interest on the part of the local citizens to learn more of any remedy that purports to eliminate the toxicity risks they've lived with for so long.

If you recall my story about the Navy job Biotech successfully bid, was awarded then lost because we left $100 million on the table, you'll understand when I say that I'm not eager to spend the next two years of my life and my company's resources in a futile fight to persuade GE to do what it may have already determined it will not do, that being to dredge PCB impacted sediments from the river.

Two weeks prior to the meeting in Lenox, I had a conference call with Christie Sobol and Pat McGuire who work for Arcadis Engineering which I'm told is the engineering lead for GE and the Housatonic River cleanup effort. It was clear from the questions asked that the goal was not to find common ground but to identify some facet of the science that could be used to create doubt. This is precisely the same approach that GE employed years ago when Biotech's principals and EPA suggested this biotechnology could be used on the Hudson River.

I believe Richard that GE will resist any effort to validate the efficacy and economics of Biotech's treatment for no other reason than any treatment what-so-ever runs counter to GE's goal of promoting their plan to allow the river to remediate itself through natural attenuation. That being the case, I still plan to propose a collaborate effort to GE wherein Biotech and GE will forge ahead to develop a new lower cost and low impact remedy that will begin the process of restoring this river to a healthy condition.
In anticipation that GE will decline our offer, I'm prepared to commit my company's resources to completion of the bench study and the development and testing of a Factor formulation that will eliminate the river's PCBs.

It goes without saying that the effort would benefit from your assistance and I sincerely believe that with Congressman Olver's help, we can begin the work of eliminating PCBs from the Housatonic River. As importantly, we can begin to eliminate the human health risks that the citizens of the area live with every day. You may find it of interest to learn that Senator Kay Hagen (NC) and Senator Carl Levin (MI) have both taken an interest in Biotech's work.

It's been suggested that a meeting with EPA's administrator Lisa Jackson could accelerate the process and perhaps the Congressman could assist Biotech in setting up this meeting. I'm wondering Richard if and how GE's Jeffrey Immelt's recent appointment may add an unknown variable?

I would very much like opening a dialog with you and to that end I'll call early this week.Thank you for your attendance at last Wednesday's meeting.

Best Regards,

Chris

Christopher Young
President
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