Work Plan for Activities Listed in the November 9, 2010 Stipulation of Discontinuance, Attachments Exhibit B and "Supplemental Work to Complete the RI"

Harbor Isle
7 Washington Avenue
Harbor Island, NY

Prepared for
Posillico Development Company at Harbor Island, Inc
1750 New Highway
Farmingdale, NY 11735

Posillico Consulting, LLC
1750 New Highway
Farmingdale, NY 11735

**Work Plan for Activities Listed in the November 9, 2010 Stipulation of Discontinuance, Attachments Exhibit B and “Supplemental Work to Complete the RI”**

**Harbor Isle**
**7 Washington Avenue**
**Harbor Island, NY**

**Table of Contents**



Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed

Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed
Field Code Changed

Figures


Appendices

Work Plan for Activities Listed in the November 9, 2010 Stipulation of Discontinuance, Attachments Exhibit B and "Supplemental Work to Complete the RI"

Harbor Isle
7 Washington Avenue
Harbor Island, NY

## A. Introduction

This work plan has been prepared for Posillico Development Company at Harbor Isle (PDC) to accomplish the activities deemed necessary by the New York State Department of Environmental Conservation (DEC) to complete the remedial investigation (RI) at the former Cibro Brothers Petroleum Terminal located at 7 Washington Avenue, Harbor Island, NY (Site). The work plan and procedures described herein follow the DEC remediation and guidance document DER-10.

Blue Island purchased the Site in November 2000 after all petroleum related operations had ceased. Blue Island entered into a contract with PDC in 2005, who decided to conduct the remediation of the Site through the DEC's recently-enacted statutory Brownfield Cleanup Program (BCP).

### 1. Activities Covered In This Work Plan

The activities listed below were agreed to by the DEC and PDC in an agreement dated November 9, 2010 (Appendix A). They are:

1. Install 5 temporary wells to fill gaps in the groundwater monitoring network.
2. Measure free product in all wells and, if oil is found, sample it instead of the groundwater.
3. Collect groundwater samples from wells that don't have free product: max 10 samples.
4. Collect sediment and groundwater samples from below the peat at three locations.
5. Collect surficial soil samples in a 100-ft grid in only the accessible and undisturbed areas. Analyze the indicated percent of collected samples for the following constituents: 100% lead, 20% PCBs, 30% RCRA metals. Sample inaccessible areas during remediation if samples from adjacent areas show excessive levels of tested constituents.
6. Collect five 0.5-2 ft deep soil samples in the area previously delineated as clean that will be analyzed by Methods 8260+10 and 8270+20 for VOCs and SVOCs, respectively.
7. Find the historical 3000-gal UST formerly observed near the filling racks during the remediation/construction phase.
8. Include sediment sampling in the canal along the bulkhead as a requirement in the bulkhead reconstruction permit.
9. During the remediation phase determine if soil vapor mitigation will be needed. (See items #8 and #9 on remediation below).

~~7.~~ Identify sources by analyzing soil samples for Methods 8260+10 and 8270+30 VOCs and SVOCs, respectively and use the following criteria to identify sources which either:

~~a. Exceed the NYCRR Part 375-6.8 Track 2 list of VOCs, SVOCs;~~
~~b.~~a. Meet the definition of 6NYCRR375-1.2(u);
~~c.~~b. Exceed a total TIC content of 100 PPM (for 30 SVOC TICs and/or 10 PPM for 10 VOC TICs; or

Formatted: Indent: Left: 0.25", No bullets or numbering

Formatted: No bullets or numbering

d. c. Exceed a PID meter reading of 250 PPM.

8. Any soil meeting the criteria mentioned above will be deemed to require excavation and treatment.

## 2. Site Location

The Site is located at the southern terminus of Washington Avenue on Harbor Island, Nassau County, New York (Figure 1). According to Nassau County tax maps, the Site is identified as Block 381, Lots 35, 36, 102, 314 and 323. Surface water bodies border the Site on three sides: Island Park Canal to the east; Wreck Lead Channel to the south; and Simmons Hassock Creek to the west. As noted above, residential properties border the site to the north and northwest, and an operating marina borders the site to the southwest. The property was zoned Y Industrial District at the beginning of this BCP Project. In 2007 PDC received a zoning change from Y-Industrial to CA-Residential.

## 3. Site History

Oil Products Inc. (OPI) began operating a bulk fuel storage and distribution facility on the Site as early as the 1940s. In 1973, OPI sold the Site to Cibro Petroleum (Cibro), which continued to operate the facility until approximately 1988, but continued to own and conduct limited operations after they declared bankruptcy as a debtor in possession at this facility and its Albany terminal. No operations were being conducted at the Site, other than maintaining an oil boom, when Blue Island first visited it in the late 1990's.

Based on facility records and Site maps, the Site contained 14 above-ground storage tanks (ASTs) with a total storage capacity of 17,675,000 gallons and one 3,000-gallon underground storage tank (UST), all of which were used to store various petroleum products, including fuel oil, kerosene and gasoline. Historical use of the Site as a petroleum bulk storage facility resulted in releases of stored materials that impacted soil, groundwater and surface water quality. Under OPI's ownership a spill of #4 fuel oil took place in the 1960's, and another spill occurred in 1979 into Wreck Lead Channel. However, details about the nature and extent of these earlier releases are not well documented. In 1988, DEC Spill Number 88-05691 was opened to address a new spill and the historic releases. However, this was the same year that Cibro filed for bankruptcy.

Blue Island purchased the Site in November 2000 after all petroleum related operations had ceased on the Site. Prior to this date, Cibro had demolished and removed from the Site all the ASTs, with the exception of the tanks' concrete bases. According to reports prepared by prior consultants, the 3,000 gallon UST had been removed from the property prior to Cibro taking ownership. On November 17, 2000, Blue Island entered into a Stipulation Agreement with DEC to remediate the property. Following a series of investigations to better establish the nature and extent of environmental impacts, Blue Island entered into a contract with PDC, who decided to conduct the remediation of the Site through the DEC's recently-enacted statutory Brownfield Cleanup Program (BCP). An application to the BCP was prepared by PDC, and submitted to DEC on March 23, 2005. It was approved and a Brownfield Cleanup Agreement (BCA) was executed by DEC on April 14, 2006.

In November 2006 through July 2007 a pilot test to examine the efficacy of several treatment technologies was conducted. The results of these tests along with the previously-collected data were used to prepare the "Final Remediation Investigation Report" (RI) submitted to the DEC on May 23, 2008.

The DEC deemed the RI was incomplete and specified additional information that was needed to characterize the Site. After several rounds of meetings and discussions to clarify the standards agreement was reached on the additional activities needed to complete the RI and how the endpoint would be defined for both delineating the uncontaminated soil and determining when remediation had reached the cleanup objectives for the reuse of the property.

The agreement and additional activities are contained in the November 9, 2010 Stipulation of Discontinuance, Attachments: Exhibit B, and "Supplemental Work to Complete the RI" (Appendix A).

## 4. Physical Setting

The Site layout is shown on Figure 2. With the exception of a small building to the south and several concrete bases used to support above-ground storage tanks (ASTs) that are no longer on the property, all above-grade structures were removed prior to Blue Island's purchase. Most of the Site is covered by vegetation, soil stockpiles, recycled concrete aggregate stockpiles or exposed soil, with the remainder covered by asphalt-paved roadways and the previously-mentioned concrete tank bases. Most of the shoreline is supported by a bulkhead, except for a portion to the west, which is at sea level and contains a mapped wetland as defined under Article 25 of the NYS Environmental Conservation Law.

The Site topography is relatively flat. According to the United States Geological Survey (USGS) 7.5-minute series topographic map (Lawrence, New York quadrangle) the Site is approximately seven feet above mean sea level. Surface water bodies, consisting of Island Park Canal, Wreck Lead Channel, and Simmons Hassock Creek, border the property to the east, south and west, respectively. Stormwater percolates through the soil or ponds on land surface during heavy storm events.

## 5. Geology and Hydrogeology

The Site is underlain by Cretaceous and Quaternary sediments, which rest unconformably on weathered Precambrian-aged biotite schist and gneissic bedrock. Depth to bedrock in the Long Island area ranges between 200 and 1,800 feet below grade. The late Cretaceous deposits are predominately associated with the Raritan and Magothy Formations, consisting of interbedded sand, gravel, silt and clay. Quaternary sediments of Pleistocene and younger age form the surficial deposits throughout the region and consist of sand, gravel, glacial till and associated outwash.

Site-specific hydrogeologic conditions consist of a tidally influenced, unconfined aquifer within the shallow fill and glacial fluvial deposits underlying the property. Prior investigations encountered a peat layer approximately nine feet below grade. Depth to the watertable varies as a result of tidal effects, but is approximately four to six feet below grade. Groundwater flows from the northwest corner of the property towards the east-southeast, and diffuses into the adjacent saltwater bodies.

## 6. Previous Investigations

Historical investigations of the Site and the Remedial Investigation (RI) include:

- Subsurface Investigations, Inc (SI) draft RI/FS, August 1993.
- First comprehensive studies were done by LawGibb in 2000.
- Gannett Fleming completed a more comprehensive investigation in 2007.

### a) Subsurface Investigations, Inc. (SI) Study

As summarized in the BCP application, SI evaluated soil and groundwater conditions and issued a draft Remedial Investigation/Feasibility Study report in 1993, and a supplemental soils and groundwater cover letter on June 21, 1994. PDC was not able to locate the SI RI/FS Report referred to in the June 21, 1994 cover letter. However, the letter summarized the investigation and presented the conclusions, the results of prior environmental investigations and its own investigations, and presented recommendations for remedial actions. The investigation finding summary indicated that releases of petroleum hydrocarbons from historical site operations resulted in impacts to soil and groundwater quality.

### b) Remedial Investigation and Proposed Cleanup Plan- LawGibb Group (LAW)

LAW performed two comprehensive studies, the results of which were contained in the following reports: Cleanup Plan for Soil and Groundwater at the Former Cibro Island Park Site, February 2001; and Results of Supplemental Soil and Groundwater Investigation, Former Cibro Petroleum Terminal, August 6, 2001. Both reports are part of PDC's BCP application.

The February 2001 study used the results of total petroleum hydrocarbon (TPH) analyses to map the concentration of total hydrocarbon constituents in three dimensions. The 500-PPM iso-concentration contour line was used to delineate the boundary of the affected area. LAW also characterized groundwater quality under the Site.

As noted in the third bullet of Exhibit B of the 2010 Stipulation, the DEC have accepted the TPH data.

After reviewing the February 2001 LAW report, the DEC wanted additional work done to confirm that the area outside of the 500-PPM TPH boundary shown in the report was not affected by the petroleum releases. In addition, the DEC specified that the soil samples were to be analyzed for individual VOCs and SVOCs, not merely TPH content. The results of that investigation are contained in the August 2001 report, where the VOC and SVOC results generally verified the former conclusions. However, the area delineated in the February 2001 report using the TPH results was not analyzed at that time for the individual VOC/SVOC chemicals.

### c) Gannett Fleming (GF) Supplemental Remedial Investigation and Pilot Test Program

The investigation done by GF in 2006 – 2007, included the following:

- Characterize the VOC and SVOC chemicals in the area previously delineated by TPH;
- Determine the VOC and SVOC content in the groundwater;
- Collect soil vapor data on the northern property boundary near the residential area;
- Evaluate the potential risks posed by petroleum hydrocarbons in soil and groundwater to soil vapor, human health and ecological receptors; and

- Conduct pilot tests for soil and groundwater treatment technologies.

A work plan submitted to the DEC in May 2006 and modified in October 2006 described the technical approach and scope for a pilot test program that would be used to develop information needed to evaluate ex situ oxidation, biopile and land farming soil treatment technologies for subsequent remedial action at the Site. The Pilot Test also tested an in-situ bioremediation technology for groundwater. It consisted of adding dissolved nitrate in the form of lawn fertilizer to the groundwater to increase the indigenous microbial degradation of the dissolved petroleum constituents.

The soil and groundwater pilot tests and associated site investigation work were performed by GF from October 2006 through July 2007. The supplemental investigation included analyzing soil samples in the area formerly delineated only by TPH for the individual VOC and SVOC constituents. The new data would then be compared to the Track One site cleanup objectives (SCOs) in NYCRR Part 375-6.8 to determine the level of cleanup needed for the intended use of the property.
The New York State Department of Health (DOH) also requested a soil vapor study be conducted along the northern property boundary adjacent to the residential area. In May 2006, the DOH and DEC approved the *Supplemental Data Collection Addendum to the Pilot Test Work Plan*, which was implemented by GF in 2006.

***i. Soil Treatment Pilot Test Results***

None of the technologies (biopile, land farming and ex situ oxidation) were able to eliminate all of the petroleum-based contamination. However, they were able to reduce the concentration of SVOCs and VOCs in soil to less than the Track 1 SCOs, especially when combined with mechanical screening and homogenization of the soil before the oxidizer was mixed in. Of the three soil pilot test technologies, ex situ oxidation produced the most reliable results in the shortest amount of time. The biopile and land farming technologies were also successful in reducing the concentration of individual SVOC constituents to levels less than the Track 1 SCOs, but both technologies were time consuming and did not provide consistent or better results compared to the more aggressive ex situ chemical oxidation process.

***ii. Groundwater Pilot Test Results***

Post treatment groundwater sampling indicated that the application of nitrate compounds to groundwater was successful in enhancing biodegradation, and in reducing the concentration of SVOCs and VOCs.

***iii. Soil Vapor Study Results***

Soil vapor sampling performed in 2006 along the northeast property boundary, where the nearest residential homes are located, did not reveal the presence of constituents at concentrations exceeding the selected comparison criteria (United States Environmental Protection Agency Region III Risk-Based Concentrations for Ambient Air and the New Jersey Department of Environmental Protection Vapor Intrusion Guidance).

## B. Work Plan

This section identifies the activities that will be done at the Site and how they will be implemented.

## 1. Prepare Site

Prior to collecting any samples the integrity of existing wells will be determined and the locations of any wells needed to replace defunct wells and fill in the monitoring well network will be identified.

The locations will be marked out where the various surficial and vertical soil samples will be collected. All locations will be tied into a site wide 100-ft grid for mapping and future operations requirements.

### a) Inspect Existing Wells

Existing wells were installed in generally three time periods: early 1990's, 2000, and 2006. During this period the viability of the wells has deteriorated and some of the wells have been destroyed. Therefore, the wells will need to be found and tested to see if they can be used for this event.

#### *i. Locate existing wells*

Available data will be used to locate existing wells. Those that cannot be found will be replaced as best as possible.

#### *ii. Inspect the integrity of the existing wells and redevelop usable wells*

Those wells that are found will be inspected to confirm the integrity of their casings. They will then be redeveloped using a suction pump to insure they are well-connected to the saturated zone and to remove any sediment that has accumulated in the casing.

### b) Survey locations

A grid will be established to identify the sampling locations so that the chemical results and field observations can be assigned to a precise location for future reference and remedial planning.

#### *i. Set up 100-ft grid*

The proposed sampling locations will be surveyed on a 100-ft grid as shown on Figure 3. This grid will also be used to locate the replacement and new wells.

#### *ii. Identify multiple objective locations*

Some of the locations will be used for multiple field objectives, such as shallow and deep wells, sub-peat sediment sampling, contaminated area boundary samples, surficial soil samples, etc

#### *iii. Identify areas that will need to be cleared*

Some of the locations may either be overgrown or inaccessible due to stockpiled soil and fill that has been brought to the site or created by crushing some of the former tank concrete foundations. These impediments may need to be removed at certain critical sampling locations. Once the grid is established any locations with poor access will be identified.

#### *iv. Identify the boundary of the clean area and mark out five locations*

The boundary of the clean area will need to be marked out and five one-half ft to two-ft deep samples will need to be collected at predetermined locations.

### c) Prepare access for sampling and well drilling equipment

Using the results of the work done in Section 2.b.3, access will be improved for the identified areas.

## 2. Install Wells and Collect Soil and Sediment Samples

Gaps in the groundwater monitoring well network will be filled by new wells prior to a site wide groundwater sampling event. Once all sampling sites have been identified and access created soil and groundwater samples will be collected. The data will be used to determine whether surficial soil has been affected by storage tank maintenance and weathering, delineate approximate areal and vertical dimensions of the contaminated soil zone, determine sediment quality below the peat layer, and determine whether the shallow and deeper groundwater has been affected by the historical petroleum releases.

The proposed sampling locations for each of these objectives are shown on Figure 3; and the proposed plan for collecting the samples is explained ahead.

### a) Surficial Soil Samples

During this sampling event surficial samples will be collected at all nodes on the 100-ft grid where the surficial soil is accessible and hasn't been disturbed (as specified in the Stipulation). Sampling will not occur where stockpiles, pits, and reworked surface areas are present, as these areas will not represent the surficial soil quality. All of the 100-ft nodes that meet these requirements will be sampled from land surface to six-inches deep. All of the soil samples will be analyzed for Lead; thirty percent of these samples will be analyzed for the list of RCRA metals; and twenty percent of the samples will be analyzed for PCBs.

If the surficial sampling data suggests the soil has been affected by metals associated with tank maintenance, additional sampling may occur during the remediation phase.

### b) Delineate The Soil Zone That Exceeds the Action Levels

The volume of soil that exceeds the action levels in the subject stipulation (Exhibit B, second bullet) and its boundary will be determined from soil samples collected at 3-ft, 6-ft (from former land surface) and just above the peat layer from twenty-five to thirty borings in the area delineated by the 500 PPM TPH (total petroleum hydrocarbon) contour delineated in the February 2001 LawGibb report (Figure 3). The samples will be collected at the same 100-ft grid mentioned in Section B.2.a using a continuous core, push sampling drilling rig. They will be analyzed for Method 8260 VOCs+10 TICs and Method 8270 SVOCs+30 TICs. The analytical results will be compared to the action levels to obtain a preliminary volume calculation and soil quality characterization.

### c) Confirm the Quality of Soil in the Clean Area

Figure 3 shows the five locations where samples will be collected from one-half foot to two-ft deep to confirm the quality in that area. In addition samples will also be collected at 6-ft bls and just above the peat layer to characterize the deeper sediment quality. The samples will be analyzed for Method 8260 VOCs+10 TICs and Method 8270 SVOCs+30 TICs.

### d) Determine the Quality of Sediment below the Peat Layer

Sediment samples from below the peat layer will be collected at three locations as shown on Figure 3. At these locations the push-sampling rig will be advanced through the peat into the underlying sediment and a sample will be collected for laboratory analysis. The samples will be analyzed for Method 8260 VOCs+10 TICs and Method 8270 SVOCs+30 TICs to determine if the historical petroleum releases have affected this zone.

**e) Soil Sampling Procedures**

Soil samples will be collected generally from 0 to 6-inches below land surface (bls), 0.5 to 2-feet bls and from deeper zones below the peat layer. Each type of sample will be collected using different procedures as described ahead.

***i. Surficial Samples***

Surficial samples will be collected from land surface (ls) to six-inches bls. The field person will use new surgical latex (or similar) gloves at each location, The sample will be collected with a clean trowel, homogenized in a clean bowl and then directly deposited into laboratory-supplied bottles. The trowel will be washed with a detergent and rinsed with potable water between each sample.

The samples will be labeled and stored in a cooler with a cold pack to keep temperature at 50 degrees or less until delivered to the laboratory. Samples will be dropped off at the laboratory at the end of each day.

***ii. One-Half Foot to Two-Feet BLS***

Soil samples will be collected from 0.5 to 2-ft bls in the clean area. Each sample will be collected using a steel hand auger that has an approximately 12-inch long core barrel and 5-ft long extension and tee handle that is turned into the ground to the target depth. The soil moves into the barrel as it advances. As the barrel fills up, the soil will be removed and deposited onto a clean polyethylene sheet where the entire soil column will be homogenized prior to placing a portion of it into the laboratory-supplied sampling bottle. A trowel will be used to handle the collected soil.

The auger and trowel will be cleaned with a detergent wash and potable water rinse between sampling locations. The field person will wear clean surgical-quality gloves between locations.

The samples will be labeled and stored in a cooler with a cold pack to keep temperature at 50 degrees or less until delivered to the laboratory. Samples will be dropped off at the laboratory at the end of each day.

***iii. Deeper Samples***

Deeper samples (three and six-ft bls, above the peat layer, and below the peat layer) will be collected using a dual-tube, push-type rig with continuous coring technology and fresh, clean, plastic disposable core tubes. The cores will be collected from land surface to the desired depth. The portion of the core at the sampling interval will be removed from the core tube with a trowel and deposited directly into the laboratory-supplied sampling bottles.

The outer drill casing and trowel will be cleaned with a detergent wash and bottled water rinse between sampling locations. The field person will wear clean surgical gloves between locations.

The samples will be labeled and stored in a cooler with a cold pack to keep the temperature at 50 degrees or less until delivered to the laboratory. Samples will be dropped off at the laboratory at the end of each day.

All of the boreholes will be backfilled with bentonite to land surface to prevent any vertical groundwater movement through the borehole

**f) Install Wells**

Wells will be installed through a hollow-stem auger at depths determined during the soil sampling phase of the project described above. The wells will be 2-in diameter and extend to the appropriate depth as described ahead. Once installed, each well will be pumped to remove suspended solids and prepare the well for sampling.

***i. Shallow wells***

Shallow, temporary wells will be installed to three-ft below the watertable. A 2-in diameter well constructed of threaded PVC pipe, will be installed into the annulus of the auger. The well will consist of a 5-ft long screen and solid riser that will extend approximately 2.5-ft above land surface (ls). The screen will bridge the watertable with approximately 3-ft below and 2-ft above it. A locking protective casing will be cemented into place from one-ft bls to land surface. The annulus will be backfilled with clean gravel up to 6-in above the screen and then cemented to ls.

***ii. Wells below the Peat Layer***

These wells will be installed similarly to the shallow wells. However, the 5-ft long screen will be installed so that its top is at least one-ft below the bottom of the peat layer. The remainder of the well will consist of solid riser pipe extending to approximately 2.5-ft above ls.

Clean gravel will surround the screen and 0.5-ft of the riser pipe. Bentonite pellets will be placed above the gravel pack to one-ft above the peat layer. Drill cuttings will be used to fill the borehole to two-ft bls, after which cement will seal the borehole and the protective cover in place.

### 3. Collect Groundwater Samples

Waterlevel measuring points will be established on all functioning wells either prior to, or after they are sampled. A clean (washed in detergent and rinsed with potable water) waterlevel sensing device will be used to measure the waterlevels; and new equipment will be used to collect the samples.

Prior to sampling the volume of water in the well will be calculated and three casing volumes of water will be removed from the well using a clean bailer and string to purge any stale water from the casing. After purging is done, the bailer will be used to collect the samples and deposit them directly into the laboratory-supplied sample bottles.

The samples will be stored in a chilled freezer chest and delivered to the laboratory the same day as collected.

## C. Quality Assurance Protocol Plan (QAPP)

A QAPP will be used to insure the integrity of the data. The QAPP addresses the procedures that will be used to collect the samples and transport them to the laboratory.

In addition, Environmental Testing Laboratories (ETL) is currently being considered for the project and will supply complete data quality packages (Category B data package) so that the laboratory procedures can be evaluated by a third party to make sure it can be used to determine conditions at the Site.

Field Code Changed

## 1. Sampling Equipment

Individual QA/QC measures will be implemented for each of the types of equipment, field screening instruments, sample containers, etc used in the sampling program.

### a) Geoprobe/Push Drill Rig

Prior to arrival on the subject property and between sample locations, the rig will be decontaminated by physically washing it with a detergent (Alconox) and potable water solution.

### b) Bottles

All sample bottles will be certified new and will be supplied by the NYSDOH-ELAP Certified Commercial Laboratory mentioned above. Samples being analyzed for media potentially containing VOCs will be placed in Teflon-lined containers. All samples will be preserved by cooling them in an iced freezer chest.

## 2. Sample Documentation

To establish and maintain proper sample documentation control, the following sample identification and chain-of custody procedures will be followed.

### a) Sample Identification

Sample will be identified by a sample tag, log book and chain-of-custody form. The documentation will contain the following information: 1) the project code; 2) the sample laboratory number; 3) the sample preservation; 4) the date the sample was secured from the source media; 5) the time the sample was secured from the source media; and 6) the person who secured the sample from the source media.

### b) Chain-of Custody Procedures

Due to the evidentiary nature of samples, possession will be traceable from the time the samples are collected until they are received by the testing laboratory. A sample will be considered under custody if it: was in a person's possession; it was in a person's view, after being in possession; if it was in a person's possession and they locked it up; or, it was in a designated secure area. When transferring custody, the individuals relinquishing and receiving the samples will sign, date and note the time on a Chain-of-Custody Form.

### c) Laboratory-Custody Procedures

A designated sample custodian will accept custody of the delivered samples and verify that the information on the sample tags matches that on the Chain-of-Custody Record. Pertinent information as to delivery, pick-up, courier, etc., will be entered in the "remarks" section. The custodian will enter the sample tag data into a bound logbook. The laboratory custodian will use the sample tag number, or assign a unique laboratory number to each sample tag, and assure that all samples will be transferred to the proper analyst or stored in the appropriate source area. The laboratory custodian ill distribute samples to the appropriate analysts. Laboratory personnel will then be responsible for the care and custody of samples, from the time they were received, until the sample was exhausted or returned to the sample custodian. All identifying data sheets and laboratory records will be retained as part of the permanent documentation. Samples received by the laboratory will be retained until after analysis and quality assurance checks were completed.

### 3. Data Usability Study Report

The results and Category B data package will be examined by a third party to insure the proper procedures were followed by the laboratory.  The third party will prepare a report with the findings.

## D. Personnel

The project will be managed by Ellis Koch, Consulting Director of Posillico Consulting.  He is a Certified Professional Geologist that has bee practicing hydrogeology since 1967.  His resume is in Appendix B.

Mr. Koch will also supervise the field work and any field personnel used to assist with sample collection.

A New York State ELAP-certified laboratory will be used to perform the chemical analyses.

The DUSR will be performed by a person who has experience doing this kind of analysis.

***Figures***

# *Appendix A: November 9, 2010 Stipulation of Discontinuance, Attachments Exhibit B and "Supplemental Work to Complete the RI"*

## ***Appendix B: Resumes***