Self-Implementing PCB Remediation Completion Report

Former Emerson Power Transmission Site
Building 24
Ithaca, New York

July 16, 2015

WSP Project No. 4255

WSP

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Building 24
Ithaca, New York

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Client

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WSP

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Appendices

1 Introduction

WSP, on behalf of EMERSUB 15, LLC, has prepared this Self-Implementing Polychlorinated Biphenyl (PCB) Remediation Completion Report for the former Emerson Power Transmission facility (Site) located at 620 South Aurora Street in Ithaca, New York (Figure 1). This completion report describes the remedial activities completed in the area of the former transformer pad located on the west side of Building 24 (Figure 2) to address the media affected by PCBs. Remediation work was completed as detailed in the Self-Implementing PCB Remediation Work Plan (work plan) dated October 28, 2014 that was submitted with the notification and certification in accordance with the Code of Federal Regulations (CFR) Part 761.61(a)(3). The U.S. Environmental Protection Agency (EPA) Region 2 approved the work plan on November 24, 2014.

Site investigation activities were completed in compliance with 40 CFR 761.61(a)(2) which requires site characterization in accordance with 40 CFR 761 Subpart N. PCB-affected media were defined as porous surfaces per 40 CFR 761.3. The limits of the remedial activities were determined by identifying and delineating concrete and soil containing PCBs at concentrations greater than high occupancy cleanup criterion of 1 milligram per kilogram (mg/kg) defined in 40 CFR 761.61(a)(4).

Remedial activities commenced March 18, 2015 and included site preparation, removal of the former transformer pad, removal of gravel fill beneath the pad, removal of asphalt, sub-base, and soil from areas surrounding the pad, offsite disposal of impacted materials, and restoration. Confirmation samples were collected in accordance 40 CFR 761.61(a)(6) which incorporates by reference the requirements of Subpart O of this Part. Excavation and confirmation sampling continued until all samples of each type of media achieved the high occupancy cleanup criterion. The site was restored to beneficial use as a high occupancy area. Final restoration was completed May 8, 2015.

Ontario Specialty Contracting, Inc. (OSC) of Buffalo, New York completed the PCB remediation at the site. WSP provided full time oversight of all remedial activities and conducted the confirmation sampling. Site activities were performed in accordance with applicable sections of 40 CFR 761 and the approved work plan.

2 Site Background

The following section provides a brief description of the site, the site history and location, and PCB investigations completed at the site prior to implementation of remediation activities.

2.1 Site Description and History

The former Emerson Power Transmission facility is located at 620 South Aurora Street in Ithaca, New York (Figure 1). The site is approximately 100 acres. There is one main structure consisting of a series of connected buildings and two separate buildings (Buildings 21 and 24) located in the northern portion of the site (Figure 2). Undeveloped woodland borders the site to the southwest along the steep embankments of the hill. West Spencer Street, which runs parallel to the property, marks the western limit of the wooded area and the base of South Hill. Beyond Spencer Street to the west and in areas along the steep northern approach to South Hill and the Site are residential areas. These neighborhoods are bordered by Six Mile Creek, which flows north along the base of South Hill and eventually empties into Cayuga Lake, approximately 2 miles northwest of the property. The site has been vacant since 2011.

The original buildings at the site were constructed in 1906 by Morse Industrial Corporation, which manufactured steel roller chain for the automobile industry. From approximately 1928 to 1983, Borg-Warner Corporation owned the property and manufactured automotive components and power transmission equipment using similar processes, but not necessarily the same materials, as those conducted by Emerson. In 1983, Morse Industrial Corporation was purchased from Borg-Warner Corporation by Emerson and became known as Emerson Power Transmission. Emerson Power Transmission manufactured industrial roller chain, bearings, and clutching for the power transmission industry until ceasing operations in 2009.

Building 24 is located on the northeast portion of the property. An elevated concrete pad which housed one or more transformers was located on the west side of Building 24. The pad measured 22 feet long by 9 feet wide and the concrete surface was 8 inches thick. A wooden roof supported by metal fence posts covered the pad and the pad was enclosed by chain-link fencing. Steel rails were embedded in the concrete at approximately 8-inch intervals. The pad was raised above the surrounding ground approximately 3.75 feet on the south end and 5 feet on the north end (variance is due to the slope of the surrounding ground surface). A diagram of the transformer pad is illustrated in Figure 3. There are no records indicating the installation or removal dates of the transformers.

A man-door entrance to Building 24 with a concrete landing, referred to the raised concrete pad in this report, was located north of the former transformer pad. Grassed areas are located north of the raised concrete pad and south of the former transformer pad. An earthen ditch flows toward the north between the former transformer pad and asphalt-paved area. A culvert conveys the flow in the ditch beneath a concrete ramp near the raised concrete pad. Areas to the west of the transformer pad area paved with asphalt. These features are shown on Figure 3.

2.2 Investigation and Delineation Activities

Four phases of investigation and delineation sampling were conducted in 2013 and 2014 to fulfill the site characterization requirements described in 40 CFR 761.61(a)(2). Characterization samples were collected from each type of media present within or near the transformer pad including concrete in the floor and walls of the pad, gravel beneath the pad, soil north and south of the pad, asphalt sub-base west of the pad, and bedrock beneath the entire area. Sampling activities were conducted in accordance with WSP's Standard Operating Procedures (SOPs; Appendix A). A detailed description of each phase of sampling, the sampling methods, laboratory analyses, and results were provided in the work plan. The site characterization results are shown on Figure 3 and summarized below.

A total of 26 concrete chip samples, 24 soil/sub-base samples, and 5 bedrock/gravel samples were collected during the 4 phases of investigation. In summary:

- Four of 12 concrete samples from the transformer pad base contained PCBs over 50 mg/kg. The remaining 8 samples contained less than 50 mg/kg PCBs, of which 3 samples were less than 1 mg/kg.
- Two of 10 concrete samples from the sidewalls of the transformer pad contained PCBs over 50 mg/kg. The remaining 8 samples contained less than 50 mg/kg, of which 6 were less than 1 mg/kg.
- Four concrete samples from the raised concrete pad adjacent to the transformer pad contained less than 1 mg/kg total PCBs.
- One of 8 soil samples north of the transformer pad contained PCBs over 1 mg/kg at a concentration of 1.97 mg/kg. The remaining 7 samples were less than 1 mg/kg.
- Two of 4 soil samples south of the transformer pad contained PCBs over 1 mg/kg; the highest was 3.25 mg/kg.
- Four of 12 asphalt sub-base samples west and northwest of the transformer pad contained PCBs over 1 mg/kg; the highest was 21.2 mg/kg.
- One sample of the gravel beneath the transformer pad contained 3.54 mg/kg total PCBs.
- All four bedrock samples contained less than 1 mg/kg total PCBs.

Concrete from the transformer pad and walls was the only media investigated that contained PCBs over 50 mg/kg.

2.3 Remediation Objectives

The remedial action goal was to remediate PCB-affected areas to the high occupancy cleanup level of 1 mg/kg and to restore the site for beneficial reuse without further restrictions. The primary elements of the approved work plan implemented to achieve this goal included:

- Location and protection of active utility services within the work area.
- Removal of the concrete pad (surface and sidewalls) and gravel beneath the pad
- Removal of asphalt, sub-base material, and soil that containing PCBs greater than 1 mg/kg from areas surrounding the former transformer pad.
- Transportation and offsite disposal of materials containing PCB concentrations above 1 mg/kg. All materials were transported to licensed and permitted disposal facilities.
- Collection of confirmation samples of each type of media to verify attainment of the high occupancy cleanup level.
- Restoration of affected areas for beneficial reuse.

3 Remediation Activities

Implementation of the remediation activities commenced on March 18, 2015. Remediation activities consisted of site preparation, removal of the former transformer pad including the sidewalls and underlying gravel, remediation of soil in asphalt and grassed areas surrounding the transformer pad, confirmation sampling, waste management, and site restoration. Remediation was completed by OSC with continuous oversight conducted by WSP. Final restoration was completed May 8, 2015. The following sections describe the remediation activities.

3.1 Pre-remediation Planning

Before beginning any remediation activities at the site, WSP conducted pre-remediation planning work that included preparation of a site specific Health and Safety Plan (HASP) and a Community Air Monitoring Plan (CAMP).

3.1.1 Health and Safety Plan

The site-specific HASP was prepared in compliance with 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response regulations. The HASP included the following information:

- Organization of the Health and Safety Program
- Identification of the health and safety hazards pertaining to each major site task
- Identification of the medical monitoring requirements
- Identification of the training requirements including OSHA's hazard communication requirements
- Establishment of site control procedures
- Identification of appropriate levels of personal protective equipment (PPE)
- Establishment of communication procedures
- Establishment of personnel and equipment decontamination procedures
- Identification of appropriate exposure monitoring requirements
- Establishment of emergency response procedures

The major site activities associated with WSP's responsibilities included oversight and confirmation sampling. OSC prepared their own HASP commensurate with WSP's that included site preparation activities, excavation, material staging and loading, transportation and disposal, and restoration.

3.1.2 Community Air Monitoring Plan

A site-specific CAMP was prepared and implemented to monitor ambient air during the PCB remediation as required by the New York State Department of Health (NYSDOH). The purpose of the CAMP was to ensure that any site-related constituents (airborne particulates containing PCBs or volatile organic compounds [VOCs]) that may be released during pad demolition and ground intrusive work, were detected, measured, and mitigated to protect the nearby community receptors from unnecessary exposures. The site-specific CAMP is provided in Appendix B.

Two monitoring locations were established upwind and downwind of the predominant wind direction as established daily by local weather station data. Continuous particulate monitoring and periodic VOC monitoring was completed. Continuous particulate monitoring was performed using a Thermo Andersen MIE DATARAM 4000 with audible alarm and data-logging capabilities to indicate exceedance of the action level. Periodic VOC monitoring was completed using a MiniRAE 2000 photoionization detector (PID). No exceedances of particulates or VOC concentrations were recorded during execution of the work.

3.2 Site Preparation

Site preparation activities included public and private utility locating, electrical line relocation, installation of erosion and sedimentation controls, and asbestos abatement. These site preparation activities are described in the following sections.

3.2.1 Utility Location

The Dig Safely New York One Call (ticket # 03175-540-042-00) was submitted by OSC March 17, 2015. A private utility locating firm, New York State Lead Detection Inc., marked the locations of underground utilities within the excavation area on March 18, 2015. Two abandoned high voltage electrical service conduits, a sanitary sewer, a storm sewer, and unknown underground line were identified and marked. Utility locating documentation is provided in Appendix C. OSC used special precautions while excavated above and near the identified utility lines. A clay tile drainage pipe was damaged during the excavation work and was repaired during site restoration activities.

3.2.2 High-Voltage Electric Line Relocation

While the transformers had been previously removed from the site, an aboveground high-voltage electrical line ran through the former transformer pad enclosure. WSP contracted with Matco Electric of Ithaca, New York to de-energize and reroute the high-voltage electric service away from the transformer pad. After relocating, the high-voltage line was re-energized to provide electrical service to Building 24.

3.2.3 Erosion and Sedimentation Controls

Best Management Practices (BMPs) were implemented to minimize the potential for erosion and sedimentation in surface water runoff. The flow from the drainage ditch was temporarily rerouted during the work. A sump and gravel berm was installed south of the work area within the ditch parallel to Building 24 to intercept storm water flow from the south. Storm water collected at the sump was pumped around the work area to the northeast and discharged to a downgradient portion of the drainage ditch culvert. A drainage pipe from Building 24 within the excavation area was temporarily diverted to the downgradient portion of the ditch. The temporary controls were removed during site restoration activities.

Dust suppression measures were established before work began. Water from a nearby hydrant was used sparingly to dampen excavated materials and to minimize dust emissions resulting from the remediation activities.

3.2.4 Asbestos Abatement

Approximately 285 square feet of non-friable organically bound (NOB) asbestos material was identified in the roof of the transformer pad enclosure. An asbestos notification for removal of the asbestos was submitted by OSC (License No. 34820) to the New York State Department of Labor (NYSDOL). Roof removal was completed on April 8, 2015 in accordance with NYSDOL CR 56-11.1 In-Plant Operations regulation. The pre-removal and final visual inspection was completed by Herbert D. Thompson (Cert. No. 08-13705) of Parsons Brinckerhoff (NYSDOL License No. 28575). The NOB waste was wrapped in polyethylene sheeting, loaded to a roll-off box, and transported by Earthwatch Waste Systems, Inc. to the Chemung County Landfill, a division of Casella Waste Management NY, in Elmira, New York for disposal. Documentation of the asbestos abatement is provided in Appendix D.

3.3 Waste Characterization Sampling

Waste characterization sampling for landfill profiling and acceptance was conducted before excavation to minimize contractor downtime and material handling. OSC, under WSP supervision, collected four samples representing each type of waste expected to be generated including concrete containing PCBs greater than 50 mg/kg; concrete, soil, sub-base, and asphalt containing less than 50 mg/kg; non-porous demolition debris (fence, rails, posts); and porous demolition debris (wood). Analytical parameters for waste characterization were selected based on the disposal facilities' requirements. It is important to note that while PCB analysis of waste characterization samples was required for landfill acceptance, material segregation and disposal decisions were made based on the as-found concentrations of PCBs. Waste characterization and analyses included:

- Concrete containing greater than 50 mg/kg PCBs - A discrete sample of concrete containing PCBs greater than 50 mg/kg was collected from the middle of the transformed pad. The sample was collected using a decontaminated rotary hammer drill, outfitted with chisel and auger bits. The sample was analyzed for total metals, toxicity characteristic leaching procedure (TCLP) metals, and PCBs based on the profiling requirements of the selected hazardous waste disposal facility, CWM Chemical Services, L.L.C of Model City, New York. The sample contained 77 mg/kg total PCBs.
- Materials containing less than 50 mg/kg PCBs - A composite sample proportionally representative of the soil, concrete, asphalt, and sub-base containing less than 50 mg/kg of PCBs was collected from the areas delineated for removal. The sample was analyzed for PCBs and hazardous waste characteristics for toxicity (TCLP VOCs, semi-VOCs, and metals), reactivity (cyanide and sulfide), ignitability (flashpoint), and corrositivity (pH). The sample contained 12.4 mg/kg total PCBs.
- Porous demolition debris - A composite sample was collected from the underside of the wooden roof of the transformer pad enclosure. Equal portions of wood from four locations were composited and analyzed for PCBs. PCBs were not detected in the sample and the roof structure was removed as a unit and disposed of as a NOB asbestos waste as described in Section 3.2.4.
- Non-porous materials - A composite wipe sample of the non-porous surfaces of the transformer pad enclosure was collected in accordance with CFR 761.312(b). Three wipe samples were collected from the chain-link fencing, posts, and rails and composited into a single sample. PCBs were not detected in the sample and the non-porous materials were disposed of with the porous demolition debris.

Analytical data reports for the waste characterization samples are provided in Appendix E.

3.4 Transformer Pad Removal and Excavation

Following the completion of site preparation activities, the transformer pad removal and excavation began on April 9, 2015. Air monitoring was conducted throughout the duration of pad removal and excavation in accordance with the HASP and CAMP. A decontamination station was constructed to contain equipment decontamination water generated during the remediation activities. Decontamination wastewater was managed as described in Section 3.6.

3.4.1 Transformer Pad Removal

Concrete was the only media found to contain PCBs above 50 mg/kg during the investigation phase. As shown on Figure 3, concrete samples from two locations near the center of the pad and one location from the front wall of the pad contained PCB concentrations greater than 50 mg/kg. WSP marked out the locations of concrete to be managed as a hazardous waste (Figure 3). OSC saw cut the concrete, size-reduced the concrete with a hydraulic hammer, and loaded the concrete directly to a roll-off box. Polyethylene sheeting was placed adjacent to the transformer pad to collect debris during pad demolition. Gravel directly below the concrete was also removed and placed in the roll-off box. No free liquids were present in the gravel beneath the pad. Competent bedrock was encountered at a depth of approximately 2 feet below the top of the pad. A total of 17.73 tons of concrete and gravel were transported to CWM Chemical Services, L.L.C of Model City, New York for disposal. Transportation and disposal details are provided in Section 3.6.

The remainder of the transformer pad materials from the northern and southern sides contained PCBs less than 50 mg/kg. In a similar manner, the concrete was reduced in size and loaded with the underlying gravel to a separate roll-off box. A total of 17.29 tons of concrete and gravel were transported to Ontario County Landfill of Stanley, New York for disposal. Transportation and disposal details are provided in Section 3.6.

After pad removal, the entire Building 24 foundation wall from the roof to the exposed bedrock was pressure washed to remove residual solids. Approximately 2 vertical feet of foundation wall was exposed as a result of the transformer pad removal. Water generated from the pressure washing was combined with equipment decontamination fluids and transferred to a 300-gallon tank for subsequent characterization and disposal as described in Section 3.6.

3.4.2 Excavation

Following removal of the transformer pad, WSP marked the initial limits of excavation in the areas north, northwest, west, and south of the former transformer pad (Figure 4). Each area was identified by the following scheme:

- Excavation area E1 – Soil excavation area north of the transformer pad encompassing soil boring SB-632 that contained 1.97 mg/kg total PCBs.
- Excavation area E2 – Asphalt/sub-base excavation area northwest of the transformer pad encompassing soil boring SB-645 that contained up to 21.2 mg/kg total PCBs.
- Excavation area E3 – Asphalt/sub-base excavation area west of the transformer pad encompassing soil borings MW-24 and SB-630 that contained 11.3 mg/kg and 3.39 mg/kg total PCBs, respectively.
- Excavation area E4 – Soil excavation are north of the transformer pad encompassing soil borings SB-639 and SB-640 that contained 3.25 mg/kg and 2.46 mg/kg total PCBs, respectively.

OSC saw cut the asphalt in excavation areas E2 and E3 and excavated soil, asphalt, and sub-base from all areas to the prescribed limits down to the competent bedrock surface which was generally encountered 1 to 2 feet below ground surface. Excavated materials were loaded directly to roll-off boxes. A total of 146.30 tons of soil, asphalt, and sub-base were transported to Ontario County Landfill for disposal. Transportation and disposal details are provided in Section 3.6.

Additional excavation was performed based on the results of the confirmation sampling results described in Section 3.5. One of 5 soil samples collected beneath the raised concrete pad (sample “BD24-RPAD-03”; Figure 4) contained PCBs greater than 1 mg/kg. Based on this result, the decision was made to remove the entire raised concrete pad, the concrete ramp, and the drainage culvert beneath the ramp. Soil and sub-base beneath these features were excavated to the top of bedrock, which was encountered at a depth of approximately 4.5 feet below the raised concrete pad. Several utility conduits, both active and abandoned, were present beneath the raised concrete pad. A clay tile drainage pipe that was damaged during excavation was repaired with polyvinyl chloride (PVC) pipe and Fernco fittings.

Additional excavation was performed in excavation areas E2 and E3 based on confirmation sample results. At locations where the perimeter confirmation samples were greater than 1 mg/kg, the excavations were extended outward one 5-foot grid node followed by additional confirmation sampling. When completed, the final excavation limits formed one contiguous area that included soil along the drainage ditch from the upgradient side of the transformer pad to the grate-covered concrete channel near the roll-up door entrance to Building 24 (Figure 4). The limits of excavation along the drainage ditch were defined by sample “BD24-E4-01” (0.988 mg/kg PCBs) on the upgradient side and “WSP-SB-637” (0.837 mg/kg PCBs) on the downgradient side. All of the areas were excavated to the top of competent bedrock. The final limits of excavation are shown on Figure 4.

3.5 Confirmation Sampling

Following excavation to the initial limits, confirmation samples were collected in accordance with 40 CFR 761 Subpart O to verify that remaining media contained less than 1 mg/kg of total PCBs. A 5-foot grid was interlaid within the original 10-foot grid and confirmation samples were collected at the base of the excavations and along the perimeters of the excavations at the nodes of the 5-foot grid. No confirmation samples were collected from the excavation perimeters that were bound by investigation samples containing PCBs less than 1 mg/kg or bound by the area of inference as defined in 40 CFR 761.283(d).

Reusable sampling equipment (drill bits, augers, and trowels) were decontaminated before each use by washing with non-phosphate detergent, rinsing with distilled water, wiping with hexane, and air drying. A total of six equipment rinsate blanks were collected by pouring distilled water over the decontaminated equipment and into sample jars. PCBs were not detected in any of the rinsate samples.

Because the excavations were advanced to the top of bedrock, confirmation samples at the base of the excavations were collected from the bedrock surface. Bedrock confirmation samples were collected in accordance with the U.S. EPA Region 1 document titled "Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (May 5, 2011; Appendix F). Bedrock confirmation samples were collected as discrete samples using a rotary impact hammer drill equipped with a decontaminated 1-inch diameter drill bit. The drill bits were advanced to a maximum of 3 inches and the powder collected and placed in laboratory-supplied sample jars.

Confirmation samples along the excavation perimeter, soil in excavation areas E1 and E4 and asphalt sub-base in excavation areas E2 and E3, were collected as discrete samples using a decontaminated hand auger or stainless steel trowel in accordance with WSP's SOPs (Appendix A). Samples were homogenized and placed in laboratory-supplied jars.

Two asphalt confirmation samples were collected as composite samples from excavation areas E2 and E3. Equal portions of asphalt from 5 grid nodes in excavation area E2 and 4 grid nodes in excavation area E3 were combined and thoroughly homogenized before placing in laboratory-supplied jars. Using procedures similar to the bedrock sampling, three confirmation samples were collected from the concrete wall of Building 24.

All samples were labeled, packed in a cooler with ice, and submitted under a chain of custody to Accutest Analytical Laboratories in Marlborough, Massachusetts for analysis of PCBs by EPA SW-846 Method 8082A.

The confirmation sample locations are shown on Figure 4 and the results provided in Table 1. The analytical data reports are provided in Appendix G. Based on the results of the initial confirmation sampling, additional excavation was required in certain areas to meet the 1 mg/kg high occupancy cleanup level. These areas included the soil beneath the raised concrete pad, the drainage ditch, additional areas adjacent to excavation areas E2 and E3, and a 50-square foot area of bedrock (described below). The excavation and confirmation sampling process continued until all confirmation samples contained less than 1 mg/kg total PCBs. The final limits of excavation and confirmation sampling results are shown on Figure 4.

The results of two bedrock confirmation samples in adjacent grid nodes contained PCBs greater than 1 mg/kg. Bedrock represented by these two samples was removed by hydraulic hammer to an approximate depth of 6 inches. Confirmation samples at the 6-inch depth contained PCBs less than 1 mg/kg.

In summary, a total of 63 confirmation samples were collected and analyzed for PCBs, of which 26 were soil or sub-base, 32 were bedrock, 3 were foundation wall samples from Building 24, and 2 were composite asphalt samples. Eleven of the 26 soil/sub-base samples exceeded the 1 mg/kg high occupancy cleanup level and resulted in additional excavation and confirmation sampling. Two of the 32 bedrock samples exceeded the 1 mg/kg cleanup level and resulted in additional bedrock removal and confirmation sampling. None of the Building 24 foundation wall and asphalt samples exceeded the 1 mg/kg cleanup level. All of the final confirmation sampling results met the 1 mg/kg cleanup level.

3.6 Transportation and Disposal

Materials generated during the transformer pad removal and PCB remediation were managed based on the as-found concentrations of PCBs and included concrete with PCBs greater than 50 mg/kg; concrete, soil, sub-base, asphalt, and bedrock with PCBs less than 50 mg/kg; non-friable NOB asbestos material, non-porous materials, and decontamination fluids. The quantities, transporters, and disposal facilities for each waste stream are presented below.

In accordance with 40 CFR 761.61(a)(5)(i)(B)(2)(iii), concrete containing PCBs greater than 50 mg/kg was disposed of in a permitted hazardous waste landfill. A total of 17.73 tons of concrete was transported under hazardous waste manifest by Tonawanda Tank Transport Service, Inc. on April 15, 2015 for disposal at CWM Chemical Services, L.L.C. of Model City, New York. Hazardous waste transportation and disposal documentation is provided in Appendix H.

In accordance with 40 CFR 761.61(a)(5)(i)(B)(2)(ii), materials containing less than 50 mg/kg PCBs were disposed of in a permitted non-hazardous waste landfill. A total of 146.3 tons of concrete, asphalt, soil, sub-base, and bedrock were transported under non-hazardous waste manifest by Riccelli Enterprises, Inc. for disposal at Ontario County Landfill, a division of Casella Waste Systems of Stanley, New York. Non-hazardous waste transportation and disposal documentation is compiled in Appendix I.

After confirming that the wood portions of the transformer pad roof did not contain detectable concentrations of PCBs, the NOB asbestos material was transported by Earthwatch Waste Systems for disposal at the Chemung County Landfill in Elmira, New York. Transportation and disposal documentation for the NOB asbestos waste is included in Appendix D. The chain-link fence, posts, and rails did not contain PCBs in wipe samples and were disposed with the NOB asbestos waste. A total of 4.01 tons of asbestos and demolition debris were disposed of at the Chemung County Landfill.

A total of 220 gallons of water were generated during decontamination of the Building 24 wall and the remediation equipment. A sample of the water was collected for characterization purposes and analyzed for hazardous waste characteristics (toxicity, reactivity, corrosivity, and ignitability) and PCBs. The water contained PCBs at a concentration of 0.83 micrograms per liter. The water was transferred from the polyethylene tank into 4 drums, then transported under bill of lading by Clean Harbors Environmental Services, Inc. for disposal at Clean Harbors Reidsville, LLC of Reidsville, North Carolina. Transportation and disposal documentation for the decontamination fluids is provided in Appendix J.

3.7 Site Restoration

The total excavation footprint encompassed an approximate area of 1,250 square feet. The excavated areas were backfilled in lifts using New York State Department of Transportation (NYSDOT) Type 4 gravel. Each lift was compacted with a minimum of three passes by a walk-behind vibratory plate compactor. Backfill in the asphalt areas was placed to a depth to accommodate 4 inches of asphalt. Other areas, with the exception of the former transformer pad, were backfilled to the original grade. Gravel backfill was placed as bedding for the culvert, which was reinstalled at its original location and grade. Flared end sections were installed at each end of the culvert to replace the concrete collars that were not replaced. Additional gravel was place above and around the culvert.

Two 2-inch layers of hot-mix asphalt were placed to restore the parking area west of the transformer pad. The asphalt was extended over the culvert to form a ramp. The raised concrete pad was not replaced; however, a small volume of concrete was placed near the man-door (Figure 4) that was slightly undermined during excavation beneath the raised concrete pad. The bedrock outcrop beneath the former transformer pad remains exposed.

Grass-seeded fibermesh with hay was installed at the north and south ends of the excavation and the restored drainage ditch adjacent to Building 24.

A drainage pipe was present within the excavation area below the former transformer pad. This pipe was extended using PVC pipe from the building to the drainage culvert to minimize the potential for erosion. The pipe was covered with gravel for protection. Final restoration of the site was completed May 8, 2015. Photographs of the work and final conditions are provided in Appendix K.

4 Summary and Conclusions

The Self-Implementing PCB Remediation was completed on May 8, 2015. The remedial objective was the removal of the former transformer pad and materials containing PCB concentrations greater than the high occupancy cleanup level of 1 mg/kg. Delineation activities were completed in compliance with CFR Part 761.61(a)(2). A site specific CAMP and HASP were implemented during the construction period and no exceedances of CAMP criteria were recorded.

The total excavation footprint encompassed an approximate area of 1,250 square feet. Excavated materials were segregated based on PCB concentrations above and below 50 mg/kg and approximately 164 tons of PCB-affected materials were disposed of offsite at permitted disposal facilities. No excavated materials were reused on site.

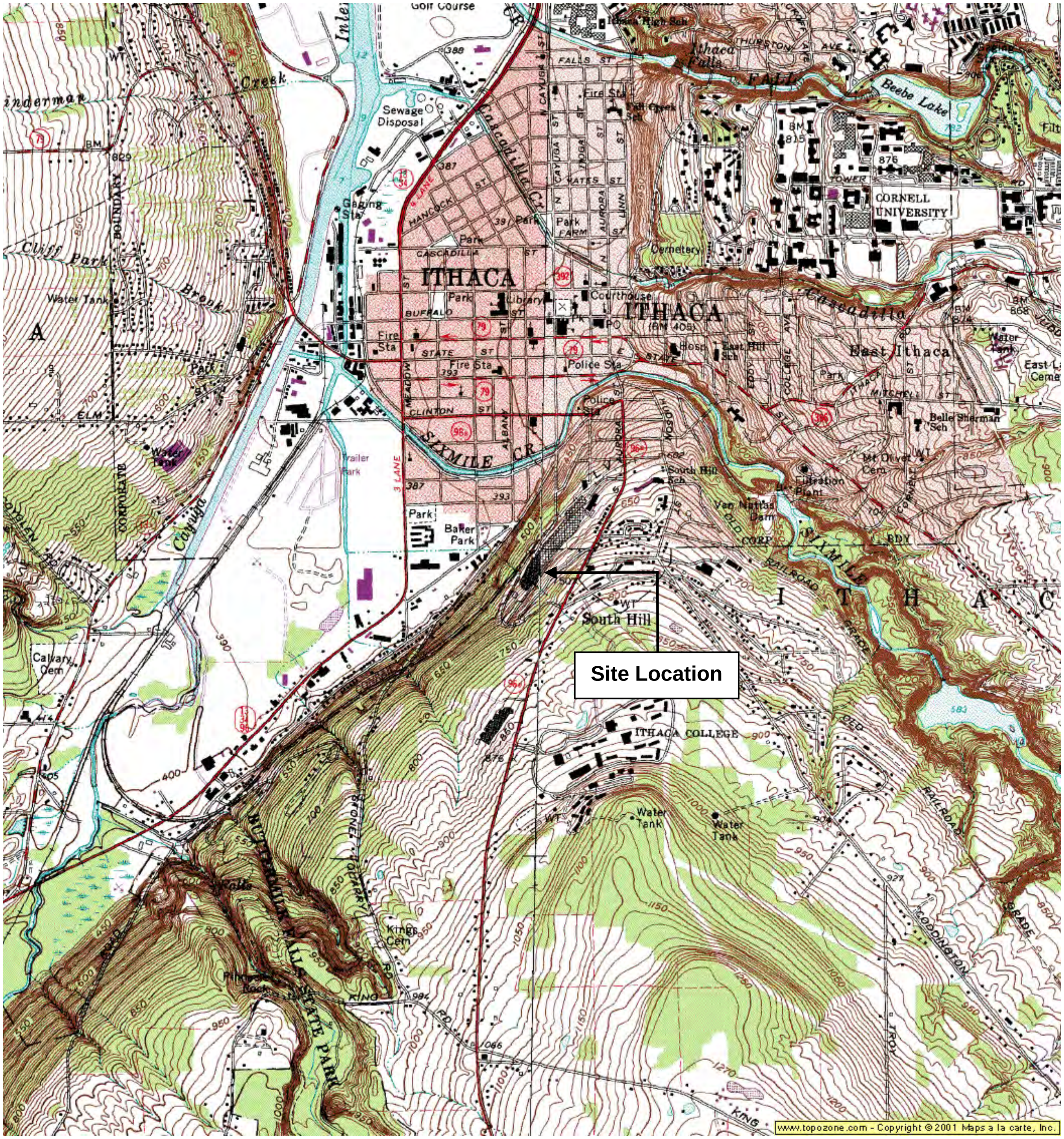
Confirmation sampling was completed in accordance with 40 CFR 761 Subpart O and included bedrock sampling at the base of all excavation areas; perimeter sampling of asphalt, soil, and sub-base in areas north, west, and south of the former transformer pad; and sampling of the Building 24 foundation wall. Confirmation samples verified the remaining media contains less than high occupancy cleanup level of 1 mg/kg of PCBs.

Following remediation and confirmation sampling, the site was restored for beneficial reuse.

5 Acronyms

BMPs	Best Management Practices
CAMP	Community Air Monitoring Plan
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
HASP	Health and Safety Plan
mg/kg	milligram per kilogram
NYSDEC	New York State Department of Environmental Conservation
NOB	Non-friable organically bound
NYSDOH	New York State Department of Health
NYSDOL	New York State Department of Labor
NYSDOT	New York State Department of Transportation
OSC	Ontario Specialty Contracting, Inc.
PCB	Polychlorinated Biphenyl
PID	Photoionization Detector
PVC	Polyvinyl Chloride
PPE	Personal Protective Equipment
SOPs	Standard Operating Procedures
TCLP	Toxicity Characteristic Leaching Procedure
VOC	Volatile Organic Compound

Figures



Reference
7.5 Minute Series Topographic Quadrangle
Ithaca East, New York
Photorevised 1976 Scale 1:25,000 Metric

N

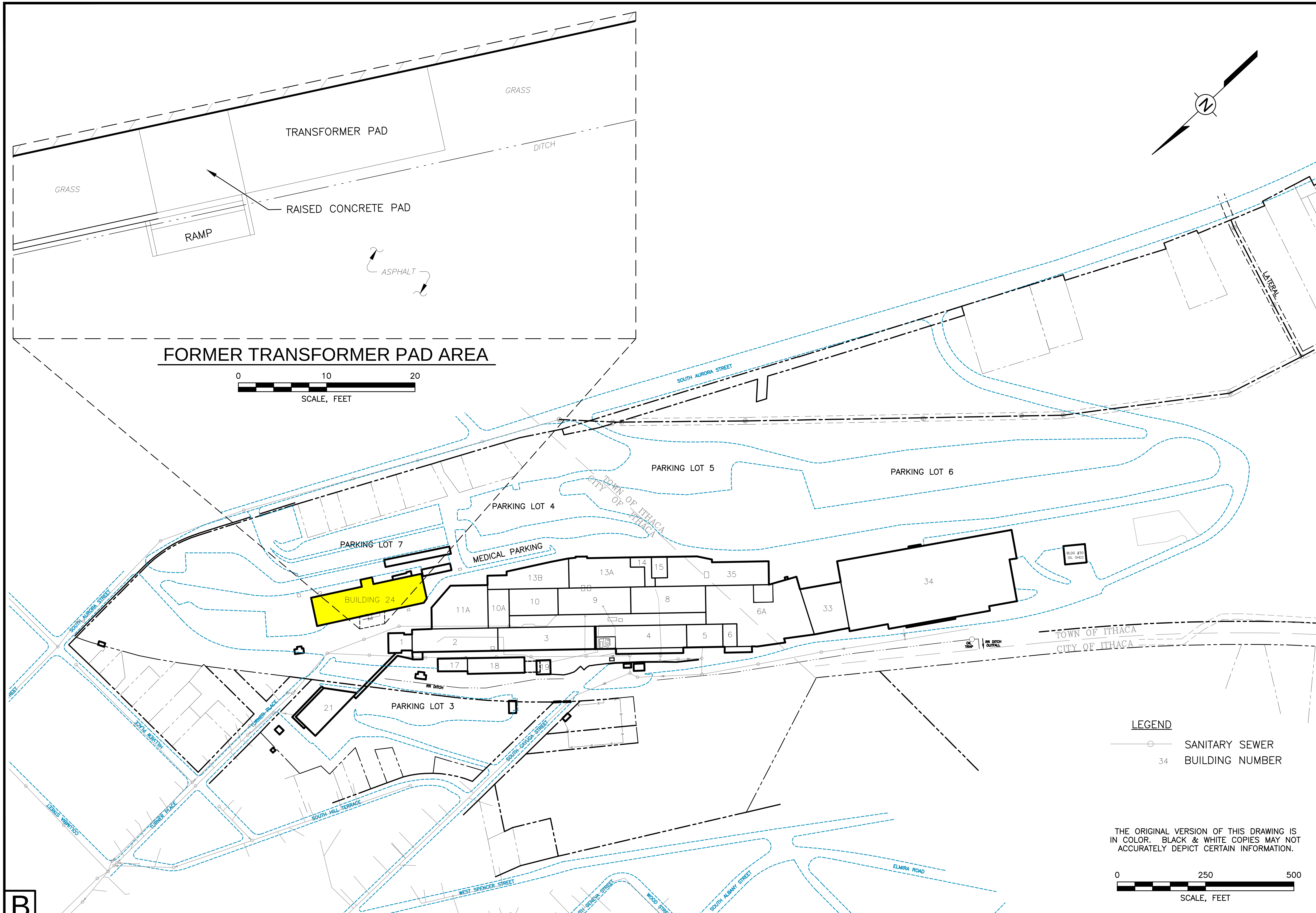
Quadrangle Location

Scale in Meters
0 500 1000

0 1000 2000
Scale in Feet

WSP USA Corp.
11190 Sunrise Valley Drive
Suite 300
Reston, Virginia 20191
703-709-6500

Figure 1
Site Location
Emerson Power Transmission
Ithaca, New York



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Checked: SAR 07/01/2015
Approved: TMM 07/02/2015
DWG Name: 00004255–B04

EMERSON POWER TRANSMISSION
ITHACA, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

FIGURE 2

SITE LAYOUT

WSP
WSP USA Corp.
11190 Sunrise Valley Drive, Suite 300
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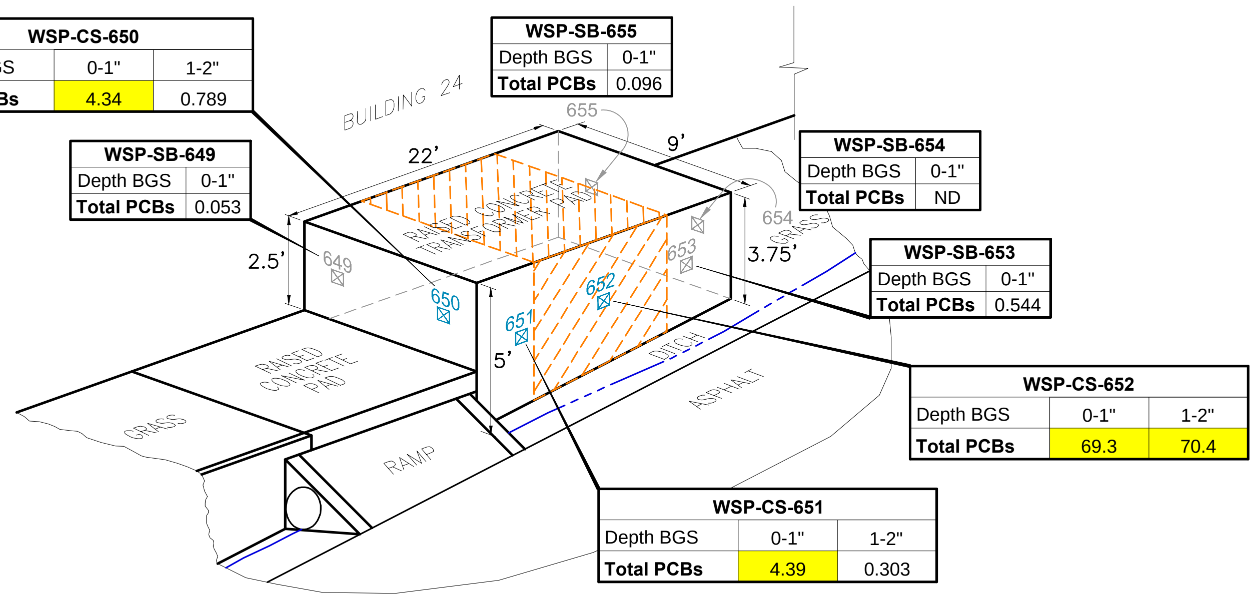
(703) 709-6500
www.wspgroup.com/usa

NOTES:

1. TOTAL PCB CONCENTRATION IN MILLIGRAMS PER KILOGRAM (mg/kg).
2. YELLOW HIGHLIGHT EXCEEDS EPA HIGH OCCUPANCY CLEANUP LEVEL.
3. WSP–CS–608/8–9" IS GRAVEL LAYER BELOW CONCRETE PAD.
4. SAMPLE LOCATION NAMES HAVE BEEN CHANGED FROM THE ORIGINAL DESIGNATION FOUND IN THE LOGBOOK AND LABORATORY DATA PACKAGE. THE ORIGINAL FIRST THREE LETTERS DESIGNATION WAS LBA– AND HAS BEEN CHANGED TO WSP–, WHILE THE REMAINDER OF THE LABEL REMAINS THE SAME.

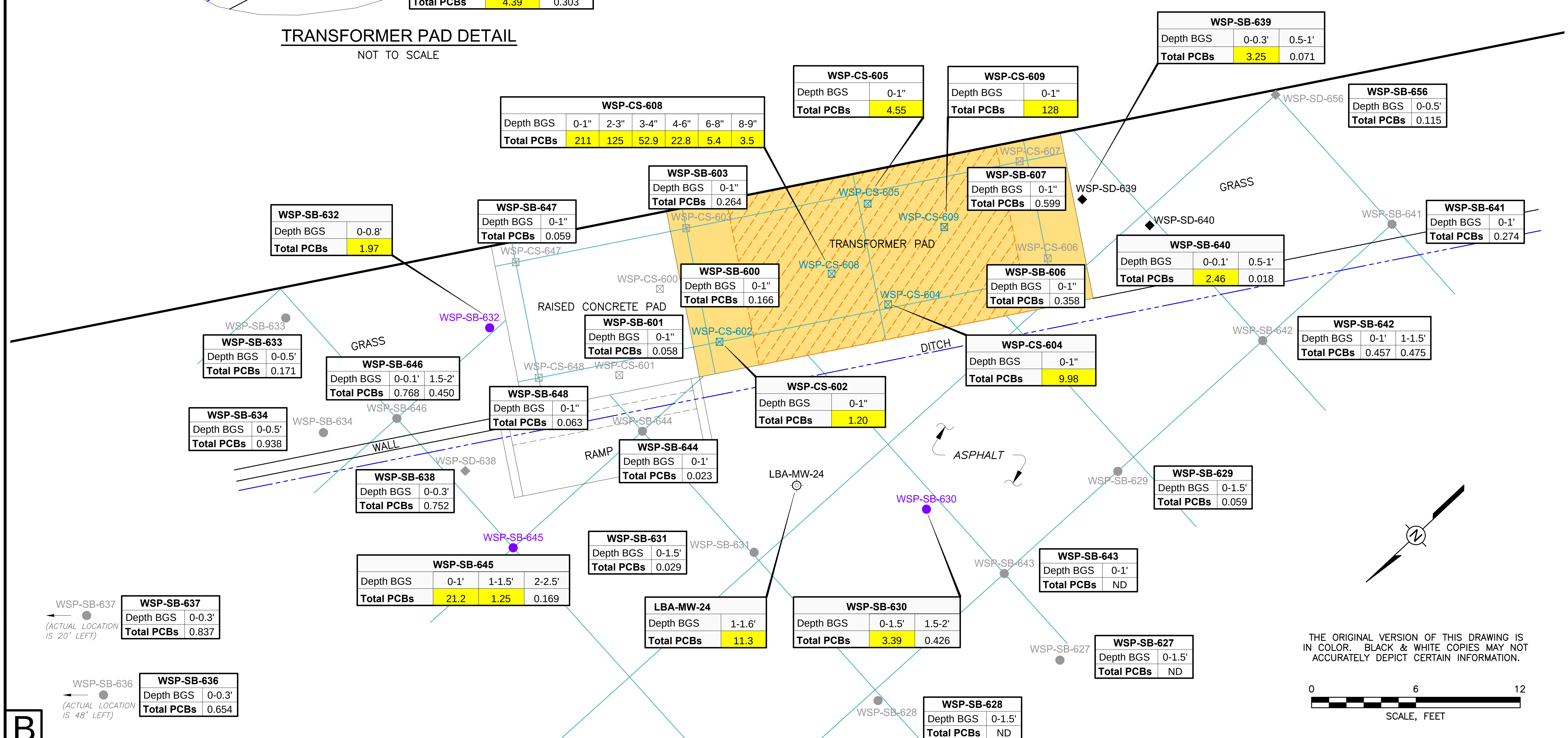
LEGEND

- LABELLA MONITORING WELL
- WSP SOIL BORING
- WSP CHIP SAMPLE
- WSP SURFACE SOIL SAMPLE
- 1 mg/kg — EPA HIGH OCCUPANCY CLEANUP LEVEL
- BGS — BELOW GROUND SURFACE
- ND — NOT DETECTED
- PORTION OF CONCRETE AND UNDERLYING GRAVEL MANAGED AS A HAZARDOUS WASTE (>50 mg/kg PCBs)



TRANSFORMER PAD DETAIL

NOT TO SCALE



WSP-CS-650		
Depth BGS	0-1"	1-2"
Total PCBs	4.34	0.789

WSP-SB-655	
Depth BGS	0-1"
Total PCBs	0.096

WSP-SB-649	
Depth BGS	0-1"
Total PCBs	0.053

WSP-SB-654	
Depth BGS	0-1"
Total PCBs	ND

WSP-SB-653	
Depth BGS	0-1"
Total PCBs	0.544

WSP-CS-652		
Depth BGS	0-1"	1-2"
Total PCBs	69.3	70.4

WSP-CS-651		
Depth BGS	0-1"	1-2"
Total PCBs	4.39	0.303

WSP-SB-639		
Depth BGS	0-0.3'	0.5-1'
Total PCBs	3.25	0.071

WSP-CS-605	
Depth BGS	0-1"
Total PCBs	4.55

WSP-CS-609	
Depth BGS	0-1"
Total PCBs	128

WSP-SB-656	
Depth BGS	0-0.5'
Total PCBs	0.115

WSP-CS-608						
Depth BGS	0-1"	2-3"	3-4"	4-6"	6-8"	8-9"
Total PCBs	211	125	52.9	22.8	5.4	3.5

WSP-SB-603	
Depth BGS	0-1"
Total PCBs	0.264

WSP-SB-607	
Depth BGS	0-1"
Total PCBs	0.599

WSP-SB-632	
Depth BGS	0-0.8'
Total PCBs	1.97

WSP-SB-647	
Depth BGS	0-1"
Total PCBs	0.059

WSP-SB-641	
Depth BGS	0-1'
Total PCBs	0.274

WSP-SB-640		
Depth BGS	0-0.1'	0.5-1'
Total PCBs	2.46	0.018

WSP-SB-600	
Depth BGS	0-1"
Total PCBs	0.166

WSP-SB-606	
Depth BGS	0-1"
Total PCBs	0.358

WSP-SB-601	
Depth BGS	0-1"
Total PCBs	0.058

WSP-SB-633	
Depth BGS	0-0.5'
Total PCBs	0.171

WSP-SB-646		
Depth BGS	0-0.1'	1.5-2'
Total PCBs	0.768	0.450

WSP-CS-604	
Depth BGS	0-1"
Total PCBs	9.98

WSP-SB-642		
Depth BGS	0-1'	1-1.5'
Total PCBs	0.457	0.475

WSP-SB-634	
Depth BGS	0-0.5'
Total PCBs	0.938

WSP-SB-648	
Depth BGS	0-1"
Total PCBs	0.063

WSP-CS-602	
Depth BGS	0-1"
Total PCBs	1.20

WSP-SB-644	
Depth BGS	0-1'
Total PCBs	0.023

WSP-SB-638	
Depth BGS	0-0.3'
Total PCBs	0.752

WSP-SB-629	
Depth BGS	0-1.5'
Total PCBs	0.059

WSP-SB-631	
Depth BGS	0-1.5'
Total PCBs	0.029

WSP-SB-645			
Depth BGS	0-1'	1-1.5'	2-2.5'
Total PCBs	21.2	1.25	0.169

WSP-SB-643	
Depth BGS	0-1'
Total PCBs	ND

WSP-SB-637	
Depth BGS	0-0.3'
Total PCBs	0.837

LBA-MW-24	
Depth BGS	1-1.6'
Total PCBs	11.3

WSP-SB-630		
Depth BGS	0-1.5'	1.5-2'
Total PCBs	3.39	0.426

WSP-SB-627	
Depth BGS	0-1.5'
Total PCBs	ND

WSP-SB-636	
Depth BGS	0-0.3'
Total PCBs	0.654

WSP-SB-628	
Depth BGS	0-1.5'
Total PCBs	ND

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

Drawn By: RZ 06/25/2015
Checked: DAR 07/01/2015
Approved: TMM 07/02/2015
DWG Name: 00004255–B10

EMERSON POWER TRANSMISSION
ITHACA, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

FIGURE 3

SITE CHARACTERIZATION RESULTS – PCBs
BUILDING 24 TRANSFORMER PAD

WSP USA Corp.
11190 Sunrise Valley Drive, Suite 300
Reston, Virginia 20191
(703) 709-6500
www.wspgroup.com/usa

B

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LEGEND

- BEDROCK CONFIRMATION SAMPLE (0 TO 3")
- BEDROCK CONFIRMATION SAMPLE (6 TO 9")
- SOIL CONFIRMATION SAMPLE
- WALL SAMPLE
- MONITORING WELL
- WSP SOIL BORING (SITE CHARACTERIZATION)
- 10' GRID LINE
- 5' GRID LINE
- INITIAL LIMITS OF EXCAVATION
- FINAL LIMIT OF EXCAVATION
- LIMIT OF BEDROCK EXCAVATION (6")

PCB CONCENTRATIONS ARE IN mg/kg

RED INDICATES CONCENTRATION ABOVE HIGH OCCUPANCY CLEANUP LEVEL OF 1 mg/kg

GREEN INDICATES CONCENTRATION BELOW HIGH OCCUPANCY CLEANUP LEVEL OF 1 mg/kg

BR – BEDROCK

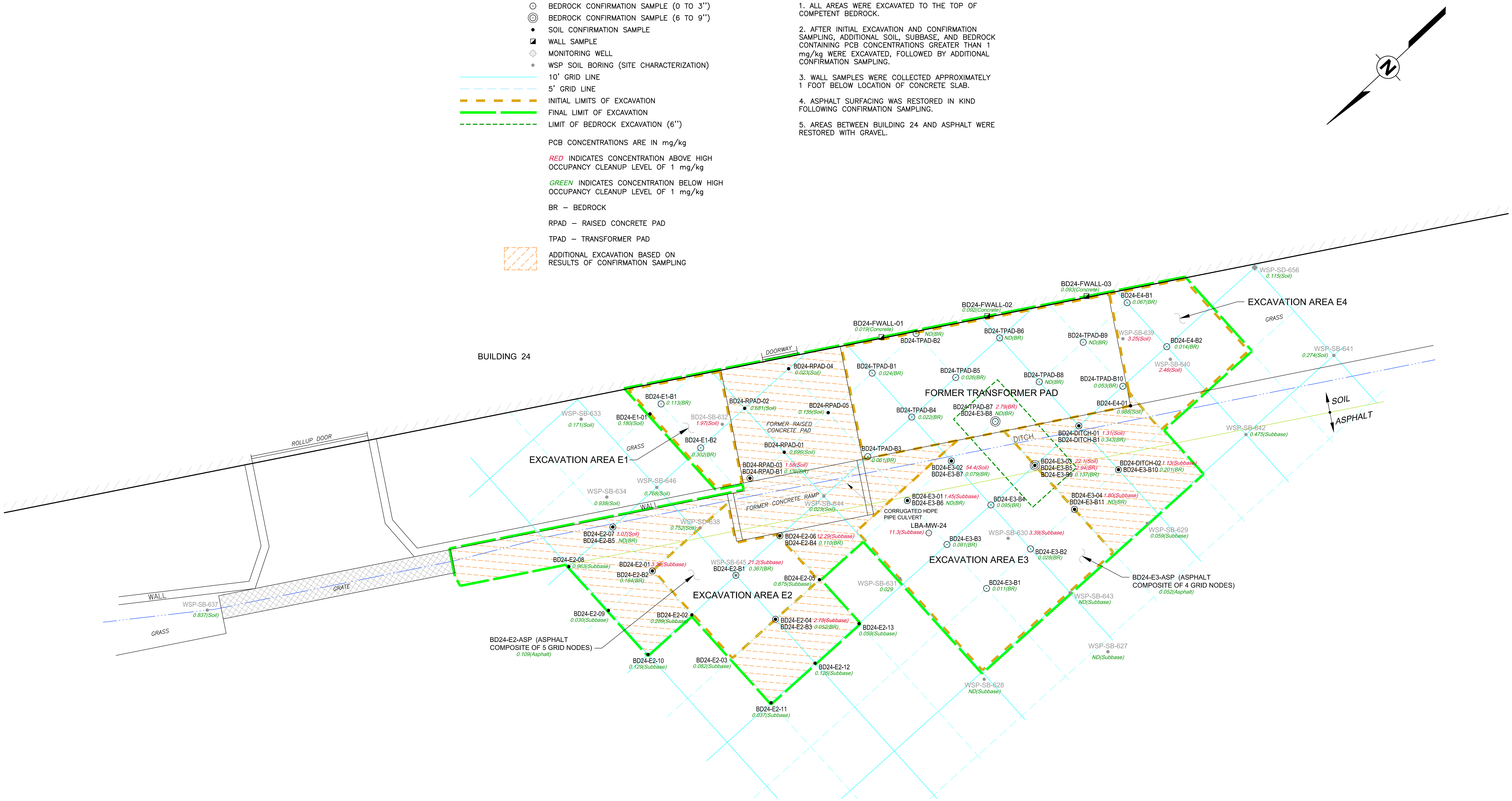
RPAD – RAISED CONCRETE PAD

TPAD – TRANSFORMER PAD

ADDITIONAL EXCAVATION BASED ON RESULTS OF CONFIRMATION SAMPLING

NOTES:

1. ALL AREAS WERE EXCAVATED TO THE TOP OF COMPETENT BEDROCK.
2. AFTER INITIAL EXCAVATION AND CONFIRMATION SAMPLING, ADDITIONAL SOIL, SUBBASE, AND BEDROCK CONTAINING PCB CONCENTRATIONS GREATER THAN 1 mg/kg WERE EXCAVATED, FOLLOWED BY ADDITIONAL CONFIRMATION SAMPLING.
3. WALL SAMPLES WERE COLLECTED APPROXIMATELY 1 FOOT BELOW LOCATION OF CONCRETE SLAB.
4. ASPHALT SURFACING WAS RESTORED IN KIND FOLLOWING CONFIRMATION SAMPLING.
5. AREAS BETWEEN BUILDING 24 AND ASPHALT WERE RESTORED WITH GRAVEL.



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE REPRODUCTION MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

4 0 4 8

SCALE, FEET

D

SAMPLE NOTE:

SAMPLE LOCATION NAMES HAVE BEEN CHANGED FROM THE ORIGINAL DESIGNATION FOUND IN THE LOGBOOK AND LABORATORY DATA PACKAGE. THE ORIGINAL FIRST THREE LETTERS DESIGNATION WAS LBA- AND HAS BEEN CHANGED TO WSP-, WHILE THE REMAINDER OF THE LABEL REMAINS THE SAME.

REVISIONS

REV	DESCRIPTION

SEAL

DATE

DRAWN BY RP 07/17/2015

CHECKED SAR 07/21/2015

APPROVED TVM 07/22/2015

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FINAL LIMITS OF EXCAVATION AND CONFIRMATION SAMPLE LOCATIONS AND RESULTS

EMERSON POWER TRANSMISSION
ITHACA, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

WSP
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11190 Sunrise Valley Drive, Suite 300
Reston, Virginia 20191
(703) 709-6500
www.wspgroup.com/usa

FIGURE 4

Drawing Number
00004255-D13

Table

Table 1

Confirmation Sample Results
Building 24 Transformer Pad
Emerson Power Transmission
Ithaca, New York (a)

Media	Sample ID	Date	Total PCBs (c)	Polychlorinated Biphenyls (PCBs) (µg/kg) (b)						
				Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
Soil/ Subbase	BD24-E1-01	04/07/15	180	8.9 U (d)	17 U	17 U	18 U	16 U	64	116
	BD24-E4-01	04/07/15	988	8.4 U	16 U	16 U	17 U	15 U	782	206
	BD24-DITCH-01	04/08/15	**1,307**	10 U	20 U	20 U	21 U	18 U	817	490
	BD24-RPAD-01	04/08/15	696	7.9 U	15 U	15 U	16 U	14 U	574	122
	BD24-RPAD-02	04/08/15	681	8.3 U	16 U	16 U	17 U	15 U	556	125
	BD24-RPAD-03	04/08/15	**1,583**	9 U	17 U	17 U	18 U	16 U	772	811
	BD24-RPAD-04	04/08/15	22.6	7.5 U	15 U	14 U	15 U	13 U	22.6 J	13 U
	BD24-RPAD-05	04/08/15	134.5	8.3 U	16 U	16 U	17 U	15 U	66.2	68.3
	BD24-E2-01	04/10/15	**3,376**	11 U	4.8 U	11 U	12 U	14 U	**2,990**	386 J
	BD24-E2-02	04/10/15	288.7	10 U	4.5 U	10 U	11 U	13 U	219	69.7
	BD24-E2-03	04/10/15	82.5	10 U	4.6 U	11 U	11 U	13 U	45.3	37.2
	BD24-E2-04	04/10/15	**2,782**	11 U	4.9 U	12 U	12 U	14 U	**2,520**	262 J
	BD24-E2-05	04/10/15	875	11 U	4.8 U	11 U	12 U	13 U	785	90 J
	BD24-E2-06	04/10/15	***12,290***	11 U	4.6 U	11 U	12 U	13 U	**4,500**	**7,790**
	BD24-E2-07	04/16/15	**1,068**	11 U	9.8 U	12 U	12 U	14 U	675	393
	BD24-E2-08	04/16/15	963	13 U	11 U	13 U	14 U	16 U	374	589
	BD24-E2-09	04/16/15	30.1	10 U	9.1 U	11 U	11 U	13 U	18.9 J	11.2 J
	BD24-E2-10	04/16/15	129.3	10 U	8.8 U	10 U	11 U	12 U	106	23.3 J
	BD24-E2-11	04/16/15	37.2	11 U	9.6 U	11 U	12 U	14 U	19.3 J	17.9 J
	BD24-E2-12	04/16/15	126.1	9.9 U	8.7 U	10 U	11 U	12 U	93.9	32.2 J
	BD24-E2-13	04/16/15	58.7	11 U	9.5 U	11 U	12 U	13 U	47.1	11.6 J
	BD24-E3-01	04/16/15	**1,448**	11 U	9.3 U	11 U	12 U	13 U	703	745
	BD24-E3-02	04/16/15	***54,400***	11 U	9.4 U	11 U	12 U	13 U	9.8 U	***54,400***
	BD24-E3-03	04/16/15	***22,100***	11 U	9.3 U	11 U	12 U	13 U	9.7 U	***22,100***
	BD24-E3-04	04/16/15	**1,804**	10 U	9 U	11 U	11 U	13 U	**1,460**	344
	BD24-DITCH-02	04/16/15	**1,128**	11 U	9.4 U	11 U	12 U	13 U	**1,060**	67.7
Bedrock	BD24-E1-B1	04/10/15	113	9.3 U	4.1 U	9.7 U	10 U	12 U	113	4.8 U
	BD24-E1-B2	04/10/15	301.8	9.4 U	4.1 U	9.8 U	10 U	12 U	293	8.8 J
	BD24-E4-B1	04/10/15	67	9.8 U	4.3 U	10 U	11 U	12 U	9 U	67
	BD24-E4-B2	04/10/15	14.4	9.8 U	4.3 U	10 U	11 U	12 U	9 U	14.4 J
	BD24-E2-B1	04/16/15	366.5	9.7 U	8.6 U	10 U	11 U	12 U	271	95.5
	BD24-E2-B2	04/16/15	163.9	9.6 U	8.4 U	9.9 U	11 U	12 U	140	23.9 J
	BD24-E2-B3	04/16/15	52.1	9.5 U	8.4 U	9.9 U	10 U	12 U	32.2 J	19.9 J
	BD24-E2-B4	04/16/15	109.9	9.4 U	8.3 U	9.8 U	10 U	12 U	83.4	26.5 J
	BD24-E3-B1	04/16/15	11.1	9.4 U	8.2 U	9.7 U	10 U	12 U	8.6 U	11.1 J
	BD24-E3-B2	04/16/15	28.3	9.6 U	8.5 U	10 U	11 U	12 U	20.2 J	8.1 J

Table 1

Confirmation Sample Results
Building 24 Transformer Pad
Emerson Power Transmission
Ithaca, New York (a)

Media	Sample ID	Date	Total PCBs (c)	Polychlorinated Biphenyls (PCBs) (µg/kg) (b) Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
	BD24-E3-B3	04/16/15	81	9.4 U	8.3 U	9.7 U	10 U	12 U	38.6	42.4
	BD24-E3-B4	04/16/15	95.2	9.6 U	8.4 U	9.9 U	11 U	12 U	26.8 J	68.4
	BD24-E3-B5	04/16/15	**2,940**	9.8 U	8.6 U	10 U	11 U	12 U	9 U	**2,940**
	BD24-DITCH-B1	04/16/15	342.5	9.6 U	8.4 U	9.9 U	11 U	12 U	248	94.5
	BD24-RPAD-B1	04/16/15	135.8	9.5 U	8.4 U	9.9 U	10 U	12 U	113	22.8 J
	BD24-TPAD-B1	04/16/15	24.3	9.2 U	8.1 U	9.5 U	10 U	11 U	8.4 U	24.3 J
	BD24-TPAD-B100 (e)	04/16/15	82.8	9.1 U	8 U	9.5 U	10 U	11 U	62.3	20.5 J
	BD24-TPAD-B2	04/16/15	12 U	9.8 U	8.7 U	10 U	11 U	12 U	9.1 U	5.1 U
	BD24-TPAD-B3	04/16/15	60.7	9.5 U	8.4 U	9.9 U	10 U	12 U	49.2	11.5 J
	BD24-TPAD-B10	04/17/15	52.8	9.6 U	8.4 U	9.9 U	11 U	12 U	8.8 U	52.8
	BD24-TPAD-B4	04/17/15	22.3	9.1 U	8.1 U	9.5 U	10 U	11 U	8.4 U	22.3 J
	BD24-TPAD-B5	04/17/15	26.2	9.6 U	8.5 U	10 U	11 U	12 U	8.8 U	26.2 J
	BD24-TPAD-B6	04/17/15	12 U	9.6 U	8.4 U	9.9 U	11 U	12 U	8.8 U	4.9 U
	BD24-TPAD-B7	04/17/15	**2,790**	9.3 U	8.2 U	9.7 U	10 U	12 U	8.6 U	**2,790**
	BD24-TPAD-B8	04/17/15	12 U	9.6 U	8.5 U	10 U	11 U	12 U	8.8 U	5 U
	BD24-TPAD-B9	04/17/15	12 U	9.6 U	8.5 U	10 U	11 U	12 U	8.9 U	5 U
	BD24-E2-B5	04/24/15	82 U	66 U	58 U	68 U	72 U	82 U	61 U	34 U
	BD24-E3-B10	04/24/15	201	50 U	44 U	51 U	54 U	61 U	201	26 U
	BD24-E3-B11	04/24/15	60 U	49 U	43 U	50 U	53 U	60 U	45 U	25 U
	BD24-E3-B6	04/24/15	73 U	59 U	52 U	61 U	65 U	73 U	54 U	31 U
	BD24-E3-B7	04/24/15	79.3	56 U	49 U	58 U	62 U	69 U	79.3 J	29 U
	BD24-E3-B8	04/24/15	74 U	60 U	52 U	62 U	65 U	74 U	55 U	31 U
	BD24-E3-B9	04/24/15	137	71 U	63 U	74 U	78 U	88 U	137 J	37 U
Wall	BD24-FWALL-01	04/17/15	18.8	9.2 U	8.1 U	9.5 U	10 U	11 U	8.4 U	18.8 J
	BD24-FWALL-02	04/17/15	92.3	9.6 U	8.4 U	9.9 U	11 U	12 U	8.8 U	92.3
	BD24-FWALL-03	04/17/15	92.5	9.4 U	8.2 U	9.7 U	10 U	12 U	8.6 U	92.5
Asphalt	BD24-E2-ASP	04/07/15	109.4	6.9 U	13 U	13 U	14 U	12 U	71	38.4
	BD24-3-ASP	04/08/15	52	7 U	14 U	13 U	14 U	12 U	17.8 J	34.2

Shading indicates value greater than high occupancy area cleanup level (1 ppm); additional excavation and confirmation sampling was performed

a/ µg/kg = micrograms per kilogram (ppb); ID = identification; ppm = parts per million (milligrams per kilogram [mg/kg]).
b/ Reported as individual Aroclors.
c/ Sum of the detected or estimated individual Aroclor concentrations.
d/ Data Qualifiers:
U = analyte not detected above reporting limit
J = analyte detected below the reporting limit and above the methold detection limit, estimated concentration.
e/ Duplicate of previous sample.

Appendix A – WSP Standard Operating Procedures

FIELD STANDARD OPERATING PROCEDURE #1
Note Taking and Field Book Entries Procedure

The field book is a record of the day's activities that serves as a reference for future reporting and analyses. The field book is also a legal record for projects that may become involved in litigation. It is of the utmost importance that your notes be complete and comprehensive. The user is advised to read the entire standard operating procedure (SOP) and review the site health and safety plan (HASP) before beginning any onsite activities.

1.1 Acronyms and Abbreviations

HASP	health and safety plan
IDW	investigation-derived waste
SOP	standard operating procedure

1.2 Materials

- Permanently-bound waterproof field book (e.g., Rite-in-the-Rain® #550, or equivalent)
- Black or blue ballpoint pen (waterproof ink recommended; do not use felt-tip pens)

1.3 Preconditions and Background

This SOP has been prepared as part of the WSP USA Corp. Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of WSP employees and will be revised periodically to reflect updates to WSP policies, work practices, and the applicable state and/or federal guidance. WSP employees must verify that this document is the most recent version of the WSP SOPs. WSP employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

The purpose of the field book is to provide a log of all of field events and conditions. The notes must include sufficient detail (i.e., who, what, when, where, why, and how) to enable others to reconstruct the day's activities for analysis, reporting, or litigation. It is important to be objective, factual, and thorough. Language must be free of personal comments or terminology that might prove inappropriate. Additional data logs or worksheets, such as low flow groundwater sampling sheets, may be used as a supplement; however, under no circumstances should the data sheets be used as a substitute for the daily record of events to be recorded in the field book.

The field book forms the foundation upon which most of the project work (reports, subsequent work plans, etc.) will be based. It is critical that field book chain of custody is maintained at all times.

1.4 Set-Up Procedures

The first step in setting up a new field book is to add the information necessary for you to identify the field book in the future and for others to return the book to WSP, should it be lost. On the first page of the field book (or, for some field books, the inside cover), place a “Return for Reward” notice. Include the following information:

- An “If Found – Return for Reward” notice in bold letters
- Our company name
- Our company address (usually the office where the project is being managed)
- Our company phone number

Reserve the second page of the field book for project-specific information, such as:

- The project name and number
- The project manager’s name
- The site telephone number, address, and onsite contact (if appropriate)
- The names and telephone numbers for all key (onsite) personnel
- The emergency telephone numbers including the police, fire, and ambulance (found in the HASP)

Business cards from individuals who visit the site, (including the person in charge of the field book) can be affixed to the inside back cover.

1.5 Field Book Entries

Start each day on a new page. Include the following information in the header of the first page (and all subsequent pages):

- The date
- The project name
- The page number (often pre-printed in Rite-in-the-Rain® style field books)

Precede field book entries by the time entered along the left margin of the page using a 24-hour or military clock (e.g., 1330 for 1:30 PM). The first entry of the day must include your and your subcontractor’s arrival time at the site, a description of the planned activities, key onsite personnel (including subcontractors), and the weather forecast. The first entry must also detail the tailgate review of the site-specific HASP with the onsite personnel. Be sure that field book entries are LEGIBLE and contain factual, accurate, and inclusive documentation of project field activities. <u>Do not leave blank lines between field book entries.</u> If a mistake is made in an entry, cross out the mistake <u>with a single line</u> and place your initials the end of the line. Any acronyms written in the field book (including your initials) must be spelled out prior to the first use. Record your initials and date at the bottom of each page.

Subsequent log entries must document the day’s activities in sequence and must be completed throughout the day as events occur (i.e., do not wait until the end of the work day to complete the notes); should out of sequence notes need to be entered, please identify using a footnote or by clearly indicating “Late Entry.” Notes must be descriptive and provide location information or diagrams (if appropriate) of the work area or sample locations. Note any changes in the weather and document all deviations from the work plan. Arrival and departure times of all personnel, and operational periods of standby, decontamination, and specific activities must be recorded.

List all field equipment used (e.g., photoionization detector, water testing equipment, personal protective equipment, etc.) and equipment calibration activities, and record field measurements, including distances, monitoring and testing instrument readings. Include the following information in entries describing sampling activities:

- The equipment and materials used by subcontractors, if appropriate (e.g., drill rig type, boring sizes, well casing materials, etc.)
- The sample media and analyses to be performed

- The sampling procedures (e.g., split-spoon sampling, hand trowel, low flow, etc.)
- The equipment used to obtain the sample (e.g., bailers, pump types, geochemical monitoring equipment, etc.)
- The sizes and types of containers, preservation (if any), and any resulting reactions
- The sample identification (especially for duplicate samples)
- The sample collection time
- The shipping and handling procedures, including chain-of-custody, air bill, and seal numbers
- If supplemental data recording logs (digital or hard copy), such as low flow groundwater sheets, the above information must be entered in the field book and the supplemental records cross-referenced.

For most sampling activities, the log entries must also include:

- The decontamination and disposal procedures for all equipment, samples, and protective clothing
- An inventory of the investigation-derived waste (IDW) materials generated during the site activities
- A description of the IDW labeling procedures and the onsite staging information

Maintain a sequential log if the sample locations and areas of interest are photographed (strongly recommended). The photographic log must include:

- The date and time of the photograph
- The sequential number of the photograph (e.g., photograph-1, photograph-2, etc.)
- The general direction faced when the photograph was made
- A description of the subject in the image

1.6 Closing Notes

The last entry of the day must include a brief wrap up of the work accomplished, a description of how the site is being secured, and a description of any near hits, accidents, and incidents that occurred during the day's work. Draw a line through the remainder of the page from the row of text diagonally through any blank lines and initial at the end of the diagonal line.

FIELD STANDARD OPERATING PROCEDURE #2

Utility Locating Procedure

The purpose of this procedure is to ensure that all required and appropriate procedures are followed to locate and mark subsurface utilities (e.g., electrical lines, natural gas lines, communication lines) before initiating any intrusive field activities (e.g., drilling, test pits, trenching, excavation). WSP's preference, as indicated in our standard and remediation subcontractor agreement templates, is for our Contractors to be responsible for both public and private utility mark-outs; this includes contacting the public authority and obtaining a subcontractor for private utility locating services, if needed. Guidance for Contractor's to follow to conduct utility clearance is provided in our Request for Proposal (RFP) template and must be included in all RFP's for intrusive field activities. **In certain extraordinary circumstances, WSP may choose to be responsible for clearing utilities, this will require a change in the template language of our subcontractor agreement and the revised agreement requires the approval and signature of a member of the Environmental Leadership Team (ELT)**.

For projects where WSP will be responsible for clearing utilities, compliance with this procedure is mandatory. **ALL** deviations from this standard operating procedure (SOP) **MUST** be approved by the project manager and a member of the ELT **BEFORE** beginning intrusive work.

Field personnel have the authority and responsibility to postpone intrusive activities if a Contractor has not completed utility clearances to WSP's satisfaction; if sufficient information, as stipulated in this SOP, is not available; or if onsite reconnaissance identifies inconsistencies in the findings of utility locators. In these instances, field personnel must notify the project manager or the WSP health and safety officer, or their designee, before proceeding with the proposed work; approval from a member of the ELT is required before the work commences.

The user is advised to read the entire SOP and review the site health and safety plan (HASP) before beginning any onsite activities.

2.1 Acronyms and Abbreviations

HASP	health and safety plan
ELT	Environmental Leadership Team
RFP	Request for Proposal
SOP	standard operating procedure

2.2 Materials

- Utility Locating Form (Attachment 1)
- Field book
- Wood stakes
- Spray paint
- Flagging tape
- As-built drawings for sub grade utilities (if available)
- Hand auger or post-hole digger

2.3 Preconditions and Background

This SOP has been prepared as part of the WSP USA Corp. Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in a safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of WSP employees and will be revised periodically to reflect updates to WSP policies, work practices, and the applicable state and/or federal guidance. WSP employees must verify that this document is the most recent version of the WSP SOPs. WSP employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

This procedure is intended to allow the work to proceed safely and minimize the potential for damaging underground and aboveground utilities. Intrusive work includes all activities that require WSP's employees or its subcontractors to penetrate the ground surface. Examples of intrusive work include, but are not limited to, hand augering, probing, drilling, injections, test pit excavations, trenching, and remedial excavations.

This SOP assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1).

2.4 Pre-Field Mobilization Procedures

Regardless of who is responsible for completing these activities (WSP or a Contractor), public rights-of-way and private property must be cleared of potential buried utilities before any intrusive work can begin. The first step in this process is notifying the state public utility locating service of the planned work. These services provide a link between the entities performing the work and the various utility operators (e.g., the water company, the electric company, etc.). All of the public utility locating service call centers in the United States have been streamlined under a single "Call Before You Dig" phone number: 811.

Please note, some state laws have changed such that the person who will actually be conducting the intrusive work must be the person who places the call to the public utility locating service. This means that WSP cannot make this call on the Contractor's behalf; the Contractor must place the call in those states where required. The Common Ground Alliance has established a web site that includes state-specific information to assist in making this determination (http://www.call811.com/state-specific.aspx) for sites in the US and some parts of Canada. If there is any doubt about the requirements for the state where a project is located, the relevant state authority must be contacted.

When the call center is contacted, information regarding the site (e.g., location, nearest cross street, township, etc.) and work activity (e.g., drilling, excavation) will need to be provided to the operator to aid in locating the likely utilities at the work site. The information provided on WSP's Utility Locating Form (Attachment 1) must be recorded (by the Contractor or WSP) and a completed copy of this form must be maintained as part of the project file. Be aware that several states, including California, require that the proposed drilling locations be marked with white spray paint before contacting the locating services.

The following information must accompany the WSP field team at all times during the field project:

- The utility clearance ticket number
- The ticket's legal dig date
- The ticket's expiration date
- Utility providers that were contacted

The ticket number serves as a point of reference for both the utility service providers and for WSP or Contractor personnel should follow up (e.g., renewing the ticket) with the locating service be required. The legal dig and expiration dates reflect the times when it will be legal to perform the proposed work. The legal dig date reflects the lead time necessary, typically between 48 and 72 hours after you call, for the utility service providers to mark the utilities in you work area. Be sure to include this delay when planning your work. Most utility clearance tickets expire about 2 weeks after the legal dig date. If your work is delayed beyond the expiration date, 811 will need to be called again and the ticket renewed. The renewed ticket will have a new legal dig date that incorporates the same lead-time as the original ticket.

The locating service will also provide the caller with a list of utility companies that will be notified. Compare this list with utilities generally expected at all sites (e.g., sewer, water, gas, communication, and electric). Some utilities (e.g., sewer, water, cable TV) may not be included. If any expected utilities are absent from the contact list, you **MUST** contact the utilities directly for clearance before the start of intrusive activities. Record all contacts on the Utility Locating Form.

2.4.1 Private Utility Locators and Other Sources

Public utility service providers will generally mark their underground lines within the public right-of-way up to the private property boundary. You can request that the utility companies locate their utilities in work areas on private property; however, be aware that most service providers will not mark their utilities on private property. If your work is to be conducted on private property, you **MUST** use a private utility locating service. These companies typically use a variety of methods (e.g., electromagnetic detectors, ground-penetrating radar, acoustic plastic pipe locator, trace wire, etc.) to locate buried utilities in both inside and outside locations (witching is not an acceptable method).

For all operating facilities and the extent possible for closed facilities, identify a site contact familiar with the utilities on the property (e.g., plant manager, facility engineer, maintenance supervisor), and provide this individual with a site plan showing the proposed locations of all soil borings, monitoring wells, test pits, and other areas where intrusive activities will be conducted. These individuals often have knowledge of buried structures or process-specific utilities that may not be identified by the private utility locator. This is particularly important for work performed inside industrial buildings where reinforced concrete and other metallic components of the structure may interfere with the scanning devices used by the private utility locator. You should ask the site contact for all drawings concerning underground utilities in the proposed work areas for future reference.

Keep in mind that no intrusive work may be done before the legal dig date provided by the state utility locating service and no digging, drilling, or other ground-breaking activities may be begin until all utilities on the list have been marked and visually verified in the work area (see below). It is **NOT ACCEPTABLE** to rely solely on as-built drawings or verbal utility clearances from the site contact (these should be used as guides only). A private locator may not be necessary in rare instances; however, nonconformity with the private locate requirement must be approved by the project manager **AND** a member of the ELT before work proceeds.

2.5 Site Mobilization Procedures

Upon arrival, the first step in determining if you are clear of buried and overhead utilities is to locate all of the proposed drilling and trenching locations and mark them with spray paint, stakes, or other appropriate markers. This will help you judge distances from marked utilities and minimizes any potential misunderstandings regarding the locations between you, the subcontractors (drillers, excavators, private utility locator), and the site contact.

Once you have the proposed work areas marked, verify that ALL utility companies listed by the state public utility locating service, and any contacted directly by WSP or the Contractor, have either marked the underground lines in the specified work areas or have responded (via telephone, facsimile, or e-mail) with “no conflict.” Document on the Utility Locating Form (Attachment 1) and in the field book as each utility mark is visually confirmed. When receiving verbal clearances by telephone from utility companies, or their subcontractors, it is imperative that you verify which utilities are being cleared, particularly when dealing with subcontractors that may be marking more than one utility.

Review all available as-built utility diagrams and plans and conduct a site walk to identify potential areas where underground lines may be present; include the site contact in these activities. It is a good idea to survey your surroundings during the walk to identify any features that may indicate the presence of underground utilities, such as linear depressions in the ground, old road cuts, catch basins, or manholes. Keep in mind that many sewer lines can be offset from catch basins. The presence of aboveground utilities, such as parking lot lights or pad-mounted transformers, is also a good indicator of buried electrical lines. Check these items against the Utility Locating Form checklist and discuss the locations with the private utility locating service.

2.5.1 Safe Working Distances and Hand Clearing

A minimum of 4 feet clearance must exist between utilities and proposed drilling locations, and a minimum of 6 feet between utilities and proposed trenching locations. Be aware that some states and localities (e.g., New York City, Long Island) may require greater minimum working distances, depending on the utility (e.g., for high pressure gas mains). A minimum distance of 15 feet must be maintained by heavy equipment (e.g., excavator buckets, drill rig towers and rods) from overhead power lines and a safe distance of 25 feet must be maintained from high-tension overhead power lines. In the event that work must be conducted within 25 feet of high tension wires, the lines must be wrapped and insulated by the local utilities. Increase these minimum distances whenever possible to offer additional assurance that buried or overhead utilities will not be encountered.

If a utility conflict is identified within the minimum safe clearance distance, adjust the proposed location(s) using the criteria given above. It is a good idea to have the private utility locator sweep a relatively large area (e.g., a 20-foot circle around a proposed drilling location) to provide room for adjustment should the proposed drilling or excavation area need to be moved to avoid a buried utility.

Uncertainty may exist in some circumstances (inside a building, for example) even after the area has been swept for utilities. In these cases, advance the first few feet of a soil boring (or probe the area for excavation) using a hand auger or post-hole digger. If hand digging is unable to penetrate the subsurface soils, soft dig or air knife equipment service providers are often retained to clear the location. This equipment applies high pressure air to penetrate, loosen, and extract subsurface soils in the borehole, thereby safely exposing any utilities. If using either hand digging or soft digging, the probe hole should be advanced a minimum of 5 feet below ground surface at each proposed drilling or excavation location. Complete a sufficient number of probe holes so that the area is cleared for the proposed intrusive activity (i.e., use several holes for a proposed excavation). The use of hand digging or soft digging methods **does not** replace the need for state and private utility locating services.

2.5.2 Expanded Work Areas and Ticket Renewal

Many projects begin with well-defined work areas only to expand quickly as the investigation or remediation progresses. If the scope of the intrusive activity locations changes, the scope of intrusion expands or includes new onsite or offsite area(s), you will need to review the existing ticket and work performed by the private utility locator to determine whether work can progress into the new area safely. It may be necessary, depending on the scope, to contact (or for the Contractor to contact) the state locating service and request another clearance for the new area(s) of investigation and retain a private locating service. Remember, the new request will provide a new legal dig date before which NO INTRUSIVE WORK CAN BEGIN. Additionally, if a clearance ticket will expire while the work is ongoing (typically after 14 days), a new clearance must be requested before the first ticket expires so that work can continue uninterrupted. Refer to the Utility Locating Form (Attachment 1) for the legal dig date time frame required by the state locating service.

2.5.3 Utility Damage

It is possible, even if you followed all of the procedures outlined in this SOP, to damage an underground or overhead utility. Assuming it can be done safely, quickly turn off the drilling or excavating equipment, or move the equipment from the damaged line. Avoid contact with escaping liquids, live wires, and open flames. Abandon the equipment, evacuate the personnel from the area, and maintain a safe perimeter if there are any concerns about safety. If a fiber optic cable is damaged, do not handle the cable or look into the end of the cable as serious eye damage may occur. Once personnel are in a secure location, immediately notify the facility operator or site contact, 811, and the WSP project manager. If the damaged utility has the potential to cause, or is causing, dangerous conditions, immediately notify the local emergency response number listed in your HASP.

** This form is mandatory for all intrusive work performed by WSP or a WSP subcontractor, regardless of who is responsible for the public and/or private locate.

Utility Locating Form

Project Name	Project No. and Task	Work being done for (Company or Individual Name)	Project Manager

WSP Office Address	WSP Office Phone	WSP Field Contact	WSP Field Contact Phone

Project Location: Street Address	City/Township	County	State

Nearest Intersecting Street

Description of Work Area (street working on, which side of street, how far in which direction from nearest intersecting street; etc.)

Type of Work	Explosives (Y/N)	Directional Borings (Y/N)	Dig Locations Marked (Y/N)	Mark Type (e.g., stake)

Scheduled Work Start (Date & Time)	Estimated Work Stop Date	One-call Phone Number/Website Address	One-call Service Name

Call/Web Notification Made By (Name, Title and Company)	Date & Time of Call/Web Notification	Operator Name

Ticket No.	Legal Dig Date	Ticket Expiration Date	Ticket Renewal Date

Utilities Notified	Complete After Receiving Notification (e.g., e-mail, facsimile) from Utilities or Subcontactor		
	Utilities Present (Y/N)	Onsite Meeting (Y/N; if "Y" Date & Time)	Contact Name and Phone
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Form Completed By (Signature)	
	(e-mail completed page 1 to Project Manager)

WSP

** This form is mandatory for all intrusive work performed by WSP or a WSP subcontractor, regardless of who is responsible for the public and/or private locate.

Utility Locating Form

Private Utility Locator Information Company	Contact Name	Phone	E-mail

Who Contracted Locator?	Scheduled Start (Date & Time)	WSP Contract Executed (Y/N/NA)

Onsite Visual Confirmation of Utilities

Marking Color	Utility Type and Visual Clues	Cleared or Marked (Y/N)	No Markings - Comments
Blue	Potable water: fire hydrant, manholes; water meter, ASTs, interior connections, hose bib, valve box		
Yellow	Gas, oil steam, petroleum: gas meter, manholes; yellow bollards, interior connections, valve box		
Red	Electric power lines, lighting cables, parking lot lights, overhead lines (telephone poles), conduits: interior connections, underground vaults, manholes, transformers/switchgear, conduit on buildings		
Green	Sewer and drain lines: underground vaults, manholes, drain grates, leach field, sand mound, no evidence of sanitary sewer (for septic system)		
Orange	Communication, alarm or signal lines, cables or conduits: red/orange bollards, telephone poles, interior connections; manholes; conduit on buildings		
Purple	Reclaimed water, irrigation, and slurry lines: sprinkler heads, hose bibs		
Pink	Survey markings		
White	Proposed locations for excavation and drilling		

Project Manager Notified of any Conflicts? (Y/N)

Notes:

Marks Verified By (Signature)

(scan and save to client file)

WSP

FIELD STANDARD OPERATING PROCEDURE #3
Sample Packaging and Shipment Procedure

Shipping samples is a basic but important component of field work. Nearly all of the WSP activities include the collection of environmental samples. Proper packing and preservation of those samples is critical to ensuring the integrity of WSP's work product. The user is advised to read the entire standard operating procedure (SOP) and review the site health and safety plan (HASP) before beginning any onsite activities. In accordance with the HASP, proper personal protective equipment (PPE) must be selected and used appropriately.

3.1 Acronyms and Abbreviations

CFR	Code of Federal Regulations
DOT	U.S. Department of Transportation
IATA	International Air Transport Association
HASP	health and safety plan
PPE	personal protective equipment
SOP	standard operating procedure

3.2 Materials

- Suitable shipping container (e.g., plastic cooler or lab-supplied styrofoam-insulated cooler)
- Chain-of-custody forms
- Custody seals
- WSP mailing labels
- Tape (Strapping, clear packing, or duct tape)
- Heavy-duty zipper-style plastic bags
- Knife or scissors
- Permanent marker
- PPE
- Large plastic garbage bag
- Wet ice (as necessary)
- Bubble wrap or other packing material
- Universal sorbent materials
- Sample container custody seals (if required)
- Shipping form (with account number)

3.3 Preconditions and Background

This SOP has been prepared as part of the WSP USA Corp. Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of WSP employees and will be revised periodically to reflect updates to WSP policies, work practices, and the applicable state and/or federal guidance. WSP employees must verify that this document is the most recent version of the WSP SOPs. WSP employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

This SOP is designed to provide the user with a general outline for shipping samples and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), sample collection and quality assurance procedures (SOP 4), and investigation derived waste management procedures (SOP 5), and has a current certificate for WSP's U.S. Department of Transportation (DOT) Hazardous Materials training.

> **NOTE: WSP employees shipping samples regulated as hazardous materials or exempt hazardous materials by air must have International Air Transport Association (IATA) training. IATA training is a separate training required in addition to DOT hazardous materials training for such shipments. Most WSP employees do not have IATA training and therefore, anyone who needs to ship by air MUST consult with a WSP IATA-trained compliance professional. The remainder of Section 3.3 covers shipments regulated by DOT only.**

Environmental samples can meet the definition of DOT hazardous materials when shipped by air, ground, or rail from a project site to the laboratory. As such, field staff must work with their assigned WSP compliance professional to determine whether the sample shipment is subject to any specific requirements (e.g., packaging, marking, labeling, and documentation) under the DOT hazardous materials regulations.

Title 49 Code of Federal Regulations (CFR) Section 171.8 defines a "hazardous material" as a substance which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated. DOT hazardous materials are listed in the hazardous materials table at 49 CFR 172.101.

In most cases, WSP is collecting environmental samples in order to determine whether any hazardous chemicals are present in the sampled media. Therefore, we would not have the appropriate information to make a hazardous materials classification for the samples prior to shipment. 49 CFR 172.101(c)(11) allows the use of a tentative classification where the shipper is uncertain of the material's hazard class. Where WSP does not know the physical characteristics of the samples, a non-hazardous material classification may be made. Non-hazardous materials are not subject to the DOT hazardous materials regulations.

There are certain cases where the characteristics and hazard class of the samples are known (e.g., samples of free product, samples preserved with a hazardous material [TerraCore® samplers]). Contact your assigned WSP compliance professional or an internal DOT contact for guidance on shipment of these materials.

3.4 Sample Shipment Procedures

The two major concerns in shipping samples are incidental breakage during shipment and complying with applicable DOT and courier requirements for hazardous materials shipments.

> **NOTE: Many couriers, including Federal Express and UPS, have requirements that WSP register with them before shipping hazard materials. In most cases, it is the sampling location, not the WSP office address, which needs to be registered. Therefore, each project will likely have unique requirements. Please contact your WSP compliance**

professional to determine whether or not you will be required to register for your shipment.

Protecting the samples from incidental breakage can be achieved using "common sense." Pack all samples in a manner that will not allow them to freely move about in the cooler or shipping container. Do not allow glass surfaces to contact each other. When possible, repack the sample containers in the same materials that they were originally received in from the laboratory. Cushion each sample container with plastic bubble wrap, styrofoam, or other nonreactive cushioning material. A more detailed procedure for packing environmental samples is presented below.

3.4.1 Non-Hazardous Material Environmental Samples

The first step in preparing your samples for shipment is securing an appropriate shipping container. In most cases, the analytical laboratory will supply an insulated cooler for the bottle shipment, which can be used to return the samples once they have been collected. Be sure that the container is sufficiently large to contain both your samples, cushioning material, and enough wet ice to maintain the samples at the preservation temperature (usually 4° Celsius). Do not use lunch-box sized coolers or soft-sided coolers, which do not offer sufficient insulation or protection from damage.

Place universal sorbent materials (e.g., sorbent pads, Pig-brand absorbent blankets) in the bottom of the shipping container. The amount of sorbent material must be sufficient to absorb any condensation from the wet ice and a reasonable volume of water from melted wet ice (if a bag were to rupture) or a damaged (aqueous) sample container. If using a plastic cooler with a drain, securely tape the inside of the drain plug with duct tape or other material to ensure that no water leaks from the cooler during shipment.

The next step is to line the shipping container with a large, heavy-duty plastic garbage bag. Place 2 to 4 inches of bubble wrap or other appropriate packing material inside the heavy-duty plastic bag in the bottom of the shipping container to form a cushion for the sample containers. Place the samples on the packing materials with sufficient space to allow for the addition of more bubble wrap or other packing material between the sample containers. Place large or heavy sample containers on the bottom of the cooler with lighter samples placed on top to minimize the potential for breakage. Place all sample containers in the shipping container right-side up. Do not overfill the cooler with samples; leave sufficient room for the wet ice if the samples are to be preserved during transit.

Place wet ice to be used for sample preservation inside two sealed heavy-duty zipper-style plastic bags (1 gallon-sized, or less). Place the bags of ice on top of or between the samples. Place as much ice as possible into the cooler to ensure the samples arrive at the lab at the required preservation temperature, even if the shipment is delayed. Fill any remaining space with bubble wrap or other packing material to limit the airspace and minimize the in-transit melting. Securely close and seal, with tape, the top of the heavy-duty plastic bag. Place the original, white top copy chain-of-custody form into a heavy-duty zipper-style plastic bag, affix the bag to the shipping container's inside lid, and then close the shipping container. Sample shipment preparations are complete if using a laboratory courier.

If sending the sample shipment through a commercial shipping vendor, place two signed and dated chain-of-custody seals on alternate sides of the shipping container lid so that it cannot be opened without breaking the seals. Securely fasten the top of the shipping container shut with clear packing tape; carefully tape over the custody seals to prevent damage during shipping. Once the shipping container is sealed, shake test the shipping container to make sure that there are no loose sample containers. If loose sample containers are detected, open the shipping container, repack the sample containers, and reseal the shipping container.

Using clear tape, affix a mailing label with WSP's return address to the top of the shipping container. Ship environmental samples to the contracted analytical laboratory using an appropriate delivery schedule. If applicable, check the appropriate box on the airbill for Saturday delivery (you need to verify with the laboratory that someone will be at the lab on a Saturday to receive the sample shipment). Declare the value of samples on the shipping form for insurance purposes, if applicable, and be sure to include the project billable number on the shipping form's internal billing reference section. When shipping samples to a lab, identify a declared value equal to the carrier's default value ($100); additional fees will be charged based on a higher value declared. Our preferred carrier, FedEx, will only reimburse for the actual value of the cooler and its contents if a sample shipment is lost; they will not reimburse for the cost of having to re-collect the samples. [Please note: if you are shipping something other than samples, such as field equipment, declare the replacement value of the contents.]

Record the tracking numbers from the shipping company forms (i.e., the airbill number) in the field book and on the chain-of-custody form and retain a copy of the shipping airbill. On the expected delivery date, confirm sample receipt by contacting the laboratory or tracking the package using the tracking number; provide this confirmation information to the WSP project manager.

3.4.2 Hazardous Materials Samples

WSP personnel rarely ship hazardous materials due to DOT shipping requirements. If you find that your samples could be considered a DOT hazardous material, first coordinate with the assigned WSP compliance professional and project manager to make a hazardous material classification and, if necessary, establish the necessary protocols and to receive the appropriate training/certification. **Do not ship hazardous materials samples without first consulting a WSP compliance professional.**

FIELD STANDARD OPERATING PROCEDURE #4
Sample Collection and Quality Assurance Procedure

The purpose of this procedure is to assure that sample volumes and preservatives are sufficient for analytical services required under U.S. Environmental Protection Agency (EPA) or other agency approved protocols. This operating procedure describes the ways and means of selecting the appropriate sampling containers for environmental sampling. The user is advised to read the entire standard operating procedure (SOP) and review the site health and safety plan (HASP) before beginning any onsite activities. In accordance with the HASP, proper personal protective equipment (PPE) must be selected and used appropriately.

4.1 Acronyms and Abbreviations

ºC	degrees Celsius
COC	chain-of–custody [form]
DI	deionized water
DOT	U.S. Department of Transportation
EDD	electronic data deliverable
EPA	U.S. Environmental Protection Agency
HASP	health and safety plan
MS/MSD	matrix spike and matrix spike duplicate
MSA	Master Service Agreement
PPE	personal protective equipment
QA	quality assurance
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
SOP	standard operating procedure
VOCs	volatile organic compounds

4.2 Materials

- Field book
- Indelible (waterproof) markers or pens
- PPE
- Sample containers
- Sample labels
- Clear tape
- Deionized (DI) water
- Cleaned or dedicated sampling equipment

4.3 Preconditions and Background

This SOP has been prepared as part of the WSP USA Corp. Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of WSP employees and will be revised periodically to reflect updates to WSP policies, work practices, and the applicable state and/or federal guidance. WSP employees must verify that this document is the most recent version of the WSP SOPs. WSP employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

This SOP is designed to provide the user with a general outline for collecting environmental and quality assurance samples and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), sample shipment procedures (SOP 3), investigation derived waste management procedures (SOP 5), and equipment decontamination (SOP 6). This SOP does not cover investigation planning, nor does it cover the analysis of the analytical results. These topics are more appropriately addressed in a site-specific work plan or a dedicated quality assurance project plan.

4.4 Sample Identification Procedures

Information on the sample labels must contain the site/project name, project/task number, unique alpha-numeric sample identification (ID) number, sample date, time of collection using the military or 24-hour clock system (e.g., 0000 to 2400 hours), analytical parameters, preservative, and sampling personnel. WSP personnel are advised to use pre-printed waterproof mailing labels (e.g., Avery® 5xxx Waterproof Address Labels) for all sample identification. WSP templates for the labels are available in each office.

The sample identification number must, unless otherwise approved by your project manager or specified in your site-specific work plan, follow the WSP naming protocol. This protocol was developed to aid in determining the type of sample collected (e.g., soil, groundwater, vapor, etc.), the sample location, and, where appropriate, the sample depth. The protocol was also designed to ensure consistency across the company.

Construct sample IDs in the following format:

SB-10A (4-6)

Where, in this example:

SB = the first two or three characters will define the sample type (see list of approved prefixes below); in this case, a soil boring

10A = the next two or three alpha-numeric digits (separated by a dash from the sample type identifier) indicate the location of the boring on the site; in this case, boring number 10A

(4-6) = the depth the sample was collected, with the first number (including decimals, if necessary) indicating the top of the sample interval and the second number indicating the bottom of the sample interval; not all sample types will include depth information.

Additional label information may be added after the last character of the sample ID (e.g., sample date, underground storage tank number, area of concern number, “Area” number, Client Identifier, etc.). Separate any additional information from the required portion of the sample name by dash(es).

Sample Prefix	Permitted Use
AA -	Ambient outdoor air samples
CC -	Concrete core/chip sample
CS -	Confirmation/verification soil samples collected from an excavation
HA -	Soil samples collected with a hand auger
IAB -	Indoor air samples – basement
IAC -	Indoor air samples – crawl space
IAF -	Indoor air samples – first floor
MW -	Soil samples collected from a monitoring well borehole or a groundwater sample collected from a monitoring well
PZ -	Groundwater samples collected from a piezometer
SB -	Soil samples collected from boreholes that will not be converted to monitoring wells
SED -	Sediment samples
SG -	Soil gas samples other than sub-slab samples (e.g., samples collected from temporary or permanent PVC sample points or stainless steel screen implants)
SL -	Sludge samples
SS -	Surface soil samples collected using hand tools (e.g., trowel, spoon, etc.) and typically at depths less than 2 feet below ground surface
SSV -	Sub-slab vapor samples
SW -	Surface water samples
TC -	Tree core samples
TP -	Soil samples collected from a test pit
WC -	Waste characterization samples
WP -	Wipe samples

4.5 Sample Containers, Preservatives, and Holding Times

The first step in sample collection is to verify that the analytical laboratory has provided the correct number and type of sample containers and each contains the appropriate preservatives for the proposed project (i.e., check against the sampling plan requirements outlined in the site-specific Quality Assurance Project Plan [QAPP]). Inspect all containers and lids for flaws (cracks, chips, etc.) before use. Do not use any container with visible defects or discoloration. Report any discrepancies, or non-receipt, of specific types of sample containers to the team leader or project manager immediately. Make arrangements with the laboratory to immediately ship missing or additional sampling containers.

Take special effort to prevent cross contamination and contamination of the environment when collecting samples. Protect equipment, sample containers and supplies from accidental contamination. Wear a clean pair of new, disposable gloves each time a different sample is collected and don the gloves immediately prior to sampling. The gloves must not come in contact with the medium being sampled and must be changed any time during sample collection when their cleanliness is compromised. Sample collection must follow all appropriate SOPs and state and federal regulations, or guidance, for the collection of environmental samples; the recommended order of sample collection is:

- Geochemical measurements (e.g., temperature, pH, specific conductance)

- Volatile organic compounds (VOCs)
- Extractable organics, petroleum hydrocarbons, aggregate organics, and oil and grease
- Total metals
- Dissolved metals
- Inorganic non-metallic and physical and aggregate properties
- Microbiological samples
- Radionuclides

Collected samples that require thermal preservation must be immediately (within 15 minutes) placed in a cooler with wet ice and maintained at a preservation temperature of 4° Celsius (C).

4.6 Field Quality Assurance/Quality Control Samples

Field quality assurance/quality control (QA/QC) samples include equipment blanks, trip blanks, duplicates, and split samples. The project manager or QAPP must specify the type and frequency of QA/QC sample collection. The QA/QC sample identification number must, unless otherwise approved by your project manager or specified in your site-specific work plan, follow the WSP naming protocol as discussed in the sections below. QA/QC samples must be clearly identified on WSP's copy of the COC form and in the field book. Failure to properly collect and submit required QA/QC samples can result in invalidation of an entire sampling event.

Collect, preserve, transport and document split samples using the same protocols as the related samples.

4.6.1 Equipment Blanks

Equipment blanks are used to document contamination attributable to using non-dedicated equipment. Collect equipment blanks in the field at a rate of one per type of equipment per day, unless otherwise specified. If the site-specific work plan or QAPP indicates that an equipment blank is to be collected from dedicated sampling equipment, collect the equipment blank in the field before sampling begins. If field decontamination of sampling equipment is required, prepare the equipment blanks after the equipment has been used and field-decontaminated at least once. Prepare equipment blanks by filling or rinsing the pre-cleaned equipment with laboratory provided analyte-free water and collecting the rinsate in the appropriate sample containers. The samples must be labeled, preserved, and filtered (if required) in the same manner as the environmental samples. Record the type of sampling equipment used to prepare the blank. Have the equipment blanks analyzed for all the analytes for which the environmental samples are being analyzed, unless otherwise specified. Decontamination of the equipment following equipment blank procurement is not required. If laboratory-grade DI water is unavailable, store-grade distilled water can be used to prepare these blanks. If store-grade distilled water is used, be sure to record the source and lot number in the field book. Designate equipment blanks using "EB", followed by the date, and in the order of equipment blanks collected that day. For example, the first equipment blank collected on July 4, 2013, would be designated EB070413-1.

4.6.2 Trip Blanks

Trip blanks are used to document VOC contamination attributable to shipping and field handling procedures. Trip blanks are only required when analyzing samples for VOCs. Trip blank(s) will be prepared at the laboratory and will be sent to the facility along with sample containers. Never open trip blank sample bottles, but label them in the field and return them to the laboratory in the same shipping container in which the trip blank sample bottles arrived at the site. Keep the trip blank sample bottles in the same shipping container used to ship and store VOC sample bottles during the sampling event. To minimize the number of trip blanks needed per shipment, if possible, ship all of the VOC samples in the same shipping container with the trip blank. If laboratory-provided trip blanks are not available, DI water, or store-grade distilled water and clean, empty VOC sample bottles can be used to prepare additional trip blanks. If store-grade distilled water is used, be sure to record the source and lot number in the field book. Identify trip blanks using “TB”, followed by the date. For example, the trip blank shipped with a cooler of samples on July 4, 2013, would be designated TB070413-1. If a second trip blank is needed on that same day, the designation would be TB070413-2.

4.6.3 Temperature Blank

Temperature blanks are used to determine if proper sample thermal preservation has been maintained by measuring the temperature of the sample container upon arrival at the laboratory. A temperature blank should be included in each sample cooler used to ship and store the sample bottles during the sampling event. If laboratory-provided temperature blanks are not available, fill a clean, unpreserved sample bottle with potable, DI, or store-grade distilled water and identify the bottle as a temperature blank.

4.6.4 Duplicates

Duplicates are useful for measuring the variability and documenting the precision of the sampling process. Unless more stringent project requirements are in place, collect duplicate samples at least at a rate of 1 per 20 samples collected. Under no circumstances can equipment or trip blanks be used as duplicates. Sample locations where sufficient sample volume is available and where expected contamination is present should be selected for sample duplication.

Collect each duplicate sample at the same time, from the same sample aliquot and in the same order as the corresponding field environmental sample. When collecting aqueous duplicate samples, alternately fill sample bottle sets (i.e., the actual sample bottle and the bottle to be used for the duplicate) with aqueous samples from the same sampling device. If the sampling device does not hold enough volume to fill the sample containers, fill the first container with equal portions of the sample, and pour the remaining sample into the next sample containers. Obtain additional sample volume and pour the first portion into the last sample container, and pour the remaining portions into the first containers. Continue with these steps until all containers have been filled.

Duplicate samples will be assigned arbitrary sample ID and a false collection time so that they are not identified as duplicates by the laboratory (i.e., submit the samples blind to the lab). The blind duplicate sample "location designation" will be left up to the project manager; however, in no case will "Dup" be allowed to appear in the sample name. Have the duplicate samples analyzed for the same analytes as the original sample. Be sure to record the duplicate sample ID, the false time, and the actual time of collection in the field notebook. The duplicate should also be indicated on WSP’s carbon copy of the chain-of-custody.

4.6.5 Matrix Spike and Matrix Spike Duplicates

Matrix spike and matrix spike duplicate samples, known as MS/MSD samples, are used to determine the bias (accuracy) and precision of a method for a specific sample matrix. Many of WSPs projects require the collection of MS/MSD samples; however, laboratory generated MS/MSD samples are sufficient for some projects. As required by your QAPP or site-specific work plan, collect MS/MSD samples at the required ratio; if the sampling ratio is not specified by your QAPP or site-specific work plan, collect MS/MSD samples at a rate of 1 for every 20 samples. Clearly convey the MS/MSD identity to the laboratory by adding “MS" or "MSD” after the sample name (e.g., MW-01MS) or in the comments section of the chain-of-custody. Under no circumstances can equipment or trip blanks be used as MS/MSD samples.

4.6.6 Split Samples

Split samples may be collected as a means of determining compliance or as an added measure of quality control. Unlike duplicate samples that measure the variability of both the sample collection and laboratory procedures, split samples measure only the variability between laboratories. Therefore, the laboratory samples must be subsamples of the same parent sample and every attempt must be made to ensure sample homogeneity. Collect aqueous split samples in the same manner as a duplicate sample.

Collecting split samples of soils, sediments, wastes, and sludge is not recommended because the homogenization necessary for a true split sample in these matrices is not possible.

Spilt samples should have the same sample location (e.g., MW-01, SB-03 (4-6), but differentiated from each other by inserting the laboratory analyzing or the agency/consultant collecting the sample after the sample location (e.g., MW-01-WSP and MW-01-EPA).

4.7 Custody Documentation

Sample custody protocols are used to demonstrate that the samples and sample containers were handled and transferred in such a manner as to eliminate possible tampering. Legal chain of custody (COC) begins when the pre-cleaned sample containers are dispatched to the field from the laboratory and continues through the sample analysis and eventual disposal. Maintaining custody requires that samples must be in the actual possession or view of a person who is authorized to handle the samples (e.g., sample collector, laboratory technician), secured by the same person to prevent tampering, or stored in a designated secure area.

It is a good idea to limit, to the extent possible, the number of individuals who physically handle the samples. Samples must be placed in locked storage (e.g., locked vehicle, locked storeroom, etc.) at all times when not in the possession or view of authorized personnel. Do not leave samples in unoccupied motel or hotel rooms or other areas where access cannot be controlled by the person(s) responsible for custody without first securing samples and shipping or storage containers with tamper-indicating evidence tape or custody seals

The COC form is used to trace sample possession from the time of collection to receipt at the laboratory. Although laboratories commonly supply their own COC form, it is recommended that WSP's COC be used to ensure that all necessary data are recorded. At a minimum, the COC needs to have a unique COC number, accompany all the samples, and include the following information:

- Project number, name, and location
- Sampler's printed name(s) and signature(s)
- Sample identification number
- Date and time (military time) of collection
- Sample matrix
- Total number of containers per sample
- Parameters requested for analysis including number of containers per analyte
- Remarks (e.g., irreducible headspace, field filtered sample, expected concentration range, specific turn-around time requested, etc.)
- Signatures of all persons involved in the chain of possession in chronological order
- Requested turn-around-time
- Name and location of analytical laboratory
- Custody seal numbers
- Shipping courier name and tracking information
- Internal temperature of shipping container upon shipment to laboratory, as needed
- Internal temperature of shipping container upon delivery to laboratory

- WSP contact information

Affix tamper-indicating evidence tape or seals to all storage and shipping container closures when transferring or shipping sample container kits or samples to an off-property party. Place the seal so that the closure cannot be opened without breaking the seal. Record the time, calendar date and signatures of responsible personnel affixing and breaking all seals for each sample container and shipping container. Affix new seals every time a seal is broken until continuation of evidentiary custody is no longer required.

FIELD STANDARD OPERATING PROCEDURE #5
Investigation Derived Waste Management Procedure

The purpose of this standard operating procedure (SOP) is to provide instructions for handling, storing, and managing Investigation Derived Waste (IDW) pending disposal. All IDW, which includes (but is not limited to) soil cuttings, development water, purge water, drilling fluids, decontamination fluids, personal protective equipment (PPE), and sampling equipment, must be managed in compliance with applicable or relevant and appropriate requirements. The user is advised to read the entire SOP and review the site health and safety plan (HASP) before beginning any onsite activities. In accordance with the HASP, proper personal protective equipment (PPE) must be selected and used appropriately.

5.1 Acronyms and Abbreviations

DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
HASP	health and safety plan
IDW	investigation derived waste
PCB	polychlorinated biphenyl
PPE	personal protective equipment
RCRA	Resource Conservation and Recovery Act
SOP	standard operating procedure
TSCA	Toxic Substances Control Act

5.2 Materials

- Non-hazardous waste, hazardous waste, and/or polychlorinated biphenyl (PCB) labels
- Investigation derived waste (IDW) log (figure 1)
- Permanent ink marking pen, paint, stick/pen
- Sampling equipment (refer to sampling SOPs)
- Impermeable covers (e.g., tarps), as needed
- Duct tape, rope, or other material to secure tarp
- Copy of the waste manifest or bills of lading

5.3 Preconditions and Background

This SOP has been prepared as part of the WSP USA Corp. Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of WSP employees and will be revised periodically to reflect updates to WSP policies, work practices, and the applicable state and/or federal guidance. WSP employees must verify that this document is the most recent version of the WSP SOPs. WSP employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

This SOP is designed to provide the user with a general outline for handling, storing, and managing IDW pending disposal and assumes the user holds a current U.S. Department of Transportation (DOT) training and Resource Conservation and Recovery training (if required) certificates and is familiar with basic field procedures, such as recording field notes (SOP 1), sample shipment procedures (SOP 3), sample collection and quality assurance procedures (SOP 4), and equipment decontamination (SOP 6). The SOP does not cover investigation planning, DOT regulations, nor does it cover the evaluation of the analytical results. **Consult and involve WSP's compliance professionals during all phases of IDW management and disposal.**

5.4 IDW General Procedures

Nearly all intrusive field activities performed at WSP will generate solid or liquid wastes. Examples include:

Solid Wastes	**Liquid Wastes**
▪ Soil Cuttings	▪ Decontamination water
▪ Drilling mud	▪ Development water
▪ Plastic sheeting	▪ Drilling fluids
▪ Spent carbon or filters (e.g., bag filters)	▪ Purge water
▪ PPE (e.g., Tyvek, gloves, respirator cartridges, etc.)	▪ Soap or wash solutions
▪ Disposable or dedicated sampling equipment (e.g,, bailers, hose, clamps, buckets, cartridge filters, etc.)	▪ Reagents (e.g,, hexane, nitric acid, methanol, etc.)
▪ Field analytical waste (HACH kits, Chlor-n-Soil kits, etc.)	

The specific procedures for dealing with these materials after the field activities have been completed will vary depending on whether the materials are considered non-hazardous, Resource Conservation and Recovery Act (RCRA) hazardous (characteristic or listed wastes), or contain PCBs at concentrations above 50 milligrams per kilogram (i.e., PCB wastes regulated under the Toxic Substances Control Act [TSCA]). The characterization of the wastes to be generated is ideally determined in conjunction with a WSP compliance professional before the field event occurs, based on previously generated data; however, in some cases, particularly for new sites, the status of the wastes may not be known. In these cases, handle IDW as hazardous waste until the status can be verified. Field personnel must consult their assigned WSP compliance professionals for assistance in proper waste characterization.

It is important to note that information contained in this SOP is based on federal regulations and interpretive guidance provided by the U.S. Environmental Protection Agency (EPA) and other federal regulatory sources; therefore, information provided in this SOP may be superseded by state or local-specific statutes or regulations. Field personnel must discuss the handling procedures with the project manager and assigned WSP compliance professional before mobilizing to the field.

5.4.1 Waste Minimization

Select investigation methods and techniques that will minimize the amount of wastes generated during field activities, particularly if the IDW is hazardous. Examples include using direct-push methods instead of hollow stem augers (to minimize soil cuttings) during a soil investigation, if appropriate, and limiting contact with the materials to reduce the amount of PPE required. Minimizing the amount of waste generated will reduce handling requirements and overall project costs, and is consistent with WSP's corporate goals for sustainability.

5.4.2 Hazardous Waste Generator Status

The hazardous waste generator requirements that pertain to a site depend on how much hazardous waste is generated at a site in a calendar month. In coordination with your assigned WSP compliance professional, determine the site's hazardous waste generator status (conditionally exempt, small, or large quantity generator) before site work begins and inform the site contact and/or client representative of the quantity of hazardous waste that will be generated as a result of its activities.

The following table provides a summary of requirements for each class of hazardous waste generator: Conditionally Exempt Small Quantity Generators (CESQGs), Small Quantity Generators (SQGs), and Large Quantity Generators (LQGs). Note that this is provided for guidance purposes only and should not substitute for close coordination with your assigned WSP compliance professional for all IDW-related activities.

	CESQGs	**SQGs**	**LQGs**
Quantity Limits	≤100 kg/month ≤1 kg/month of acute hazardous waste ≤100 kg/month of acute spill residue or soil §§261.5(a) and (e)	Between 100 - 1,000 kg/month §262.34(d)	≥1,000 kg/month >1 kg/month of acute hazardous waste >100 kg/month of acute spill residue or soil Part 262 and §261.5(e)
EPA ID Number	Not required §261.5	Required §262.12	Required §262.12
On-Site Accumulation Quantity	≤1,000 kg ≤1 kg acute ≤100 kg of acute spill residue or soil §§261.5(f)(2) and (g)(2)	≤6,000 kg §262.34(d)(1)	No limit
Accumulation Time Limits	None §261.5	≤180 days or ≤270 days (if greater than 200 miles) §§262.34(d)(2) and (3)	≤90 days §262.34(a)

	CESQGs	SQGs	LQGs
Storage Requirements	None §261.5	Basic requirements with technical standards for tanks or containers §§262.34(d)(2) and (3)	Full compliance for management of tanks, containers, drip pads, or containment buildings §262.34(a)
Sent To:	State approved or RCRA permitted/interim status facility §§261.5(f)(3) and (g)(3)	RCRA permitted/interim status facility §262.20(b)	RCRA permitted/interim status facility §262.20(b)
Manifest	Not required §261.5	Required §262.20	Required §262.20
Biennial Report	Not required §261.5	Not required §262.44	Required §262.41
Personnel Training	Not required §261.5	Basic training required §262.34(d)(5)(iii)	Required §262.34(a)(4)
Contingency Plan	Not required §261.5	Basic plan §262.34(d)(5)(i)	Full plan required §262.34(a)(4)
Emergency Procedures	Not required §261.5	Required §262.34(d)(5)(iv)	Full plan required §262.34(a)(4)
DOT Transport Requirements	Yes (if required by DOT)	Yes §§262.30-262.33	Yes §§262.30-262.33

5.5 Onsite IDW Management Procedures

Onsite handling procedures typically involve containerization of the IDW for offsite disposal at a regulated facility (RCRA hazardous waste, TSCA PCB waste, or certain non-hazardous wastes) or, in the case of certain non-hazardous wastes, onsite disposal. The procedures for each type of waste are presented below.

5.5.1 Hazardous Waste Management

If site data or generator knowledge indicates that the IDW is determined to be RCRA hazardous, the following procedures will apply:

- Place IDW in DOT-authorized containers (e.g., 55-gallon drum, roll-off container, or temporary storage tank). Before placing IDW in the containers, ensure that they are in good condition and will not leak.
- Containers must remain closed except when adding, sampling, or inspecting the material. The containers cannot be used as a work surface once waste is put in the container.
- Mark the container with an appropriate waterproof, self-adhesive RCRA hazardous waste label. The label must include the accumulation start date, a description of the contents of the container (e.g., soil cuttings, purge water, etc.), the EPA identification number, the generator name (the client or the facility, never WSP), and the

hazardous waste codes, if known. Field personnel must consult the assigned WSP compliance professional for help in properly completing the labels.

- The IDW containers must be properly closed, wiped clean, and stored in a secure onsite location (facility hazardous waste storage area if one exists) to limit access. At a minimum, place the drums on an impermeable surface (if available) in an area of limited access. If stored outside, cover the containers with a secured tarp at the end of each field day until the containers are picked up for disposal.
- Complete the IDW Logs (Figure 1) before leaving the site. Present one copy of the log to the site contact and the original to the project manager.
- Ensure that weekly inspections are conducted and the proper inspection forms for documentation are completed during the entire time the waste is stored onsite.

If the IDW is presumed to be hazardous and sampling is required to confirm its classification, it must be labeled “Hazardous Waste-Pending Analysis” and sampled for the parameters specified by the project regulatory specialist or project manager before leaving the site (see sampling SOPs). Treatment, storage, and disposal facilities will usually specify the required analysis for waste profiles (see below).

5.5.2 Polychlorinated Biphenyl Waste Management

If information exists to classify the IDW as TSCA-regulated PCB-containing IDW, the following procedures must be implemented:

- Place the PCB-containing IDW in DOT-authorized containers (55-gallon drum, roll-off container, or temporary storage tank).
- Containers must remain closed except when adding, sampling, or inspecting the material. The containers cannot be used as a work surface once waste is put in the container.
- Mark the container with an appropriate waterproof, self-adhesive yellow label with the words “Caution Contains PCBs”, the “removed from service” date (the accumulation start date), and a description of the contents of the container (e.g., soil cuttings). Complete the label with the name and phone number of the WSP field personnel to contact in the event of an accident or spill. Field personnel must consult the assigned WSP compliance professional for help in properly completing the labels.
- The IDW containers must be properly closed, wiped clean, and stored in a secure PCB storage area onsite. If a PCB storage area is not available, construct a temporary PCB storage area. Cover the containers with a secured tarp at the end of each field day until the drums are picked up for disposal. Place one yellow 6” x 6” “Caution Contains PCBs” label on the outside of the tarp, and note the “Removed from service date” on the label.
- Inspect the area and the containers for leaks once every 30 days in accordance with 40 Code of Federal Regulations 761.65(c)(5) during the entire period the waste is stored onsite.
- Complete the IDW Logs (Figure 1) before leaving the site. Present one copy of the log to the site contact and the original to the project manager.

5.5.3 Onsite Non-Hazardous Waste Management

If information exists to classify the IDW as non-hazardous waste, the following procedures must be implemented only after being discussed and approved by the project manager and assigned WSP compliance professional:

- Soil can be spread around the borehole or other onsite location (with the approval of the client and in accordance with any applicable regulatory requirements), placed back in the boring or excavated test pit, or containerized and disposed of offsite.

- Groundwater and decontamination fluids can be poured onto the ground next to well to allow infiltration, or discharged to either the publically-owned treatment works or onsite wastewater treatment plant with approval of the client.
- PPE can be double bagged and deposited in the site dumpster with approval of the client and facility personnel or containerized and disposed of offsite.

If the IDW is containerized and is classified as non-hazardous, the following procedures will apply:

- Place the non-hazardous IDW in DOT-authorized containers (55-gallon drum, roll-off container, or temporary storage tank).
- Containers must remain closed except when adding, sampling, or inspecting the material. The containers cannot be used as a work surface once waste is put in the container.
- Mark the container with an appropriate waterproof, self-adhesive non-hazardous waste label. The label must include a description of the contents of the container (e.g., soil cuttings, purge water, etc.) and the generator (the client or the facility, never WSP). Field personnel must consult the assigned WSP compliance professional for help in properly completing the labels.
- Complete the IDW Logs (Figure 1) before leaving the site. Present one copy of the log to the site contact and the original to the project manager.
- The IDW containers must be properly closed, wiped clean, and stored in a secure onsite location.

5.6 Post-Field IDW Management Activities

It is important to follow-up on the management of the IDW once the field personnel have returned from the field. RCRA Hazardous and TSCA-regulated PCB-containing wastes have time limits and periodic inspection requirements to remain in compliance with state and federal regulations. The general post-field activities are listed below.

5.6.1 Waste Classification and Waste Profiles

Waste classifications and waste profiles must be reviewed and approved by WSP's project manager, WSP compliance professional, and the client before field work begins. Waste profiles are generated based on new or existing site data (i.e., soil and groundwater results) and generator knowledge, although some disposal facilities may require additional composite or grab samples for characterization of the waste. WSP's compliance professionals must be consulted to verify that proper waste classifications have been identified. Waste profiles for the same waste stream are generally valid for one year; ensure that no additional sampling is required to update existing waste profiles before conducting field activities.

5.6.2 Waste Disposal Oversight

Although exceptions may apply, generally, disposal of RCRA hazardous must be completed within **90 days** of the accumulation start date. If the facility is a small quantity generator, up to **180 days** is allowed for shipment. Disposal of TSCA-regulated PCB-containing IDW must generally be completed within 30 days of the "removal of service" date. WSP's compliance professionals must be consulted to determine if any exemptions apply.

Before the IDW is removed, the waste disposal subcontractor must provide WSP with a copy of the waste profile and printed manifest for review and approval. Your assigned WSP compliance professional must review and approve these documents. <u>WSP must have written authorization from the client on file to act **on behalf of (never "as an agent of")** the client for waste disposal (handled on a site-by-site basis)</u>.

- The transport driver will present you with a pre-printed manifest that has been reviewed and approved by WSP. Review and verify that all information is complete and correct and that the total estimated weight of the material is written on the manifest. (Note: Manifests for PCB wastes must be completed in accordance with TSCA regulations. 40 CFR 761.207 requires that the weight of the PCBs be in kilograms and the date removed from service be on the manifest.) Remember, only a DOT-trained WSP employee is allowed to review and sign the manifest.
- Sign the manifest "On behalf of [insert client name]." Do not us "as an agent of."
- Ensure that all containers are properly labeled and transferred to the transporting vehicle; ensure that the vehicle is properly placarded.
- Once the IDW has been removed from the site, the IDW log must be marked "Removed," placed in the project file, and a copy must be forwarded to WSP's DOT compliance manager.

The manifest, certificate of disposal, IDW log, and inspection reports must be maintained on file for at least 3 years.

Investigation Derived Waste Log

Date:______________

Site Information

Site Name: ________________________________ Site EPA ID #:___________________________

Site Contact: _______________________________ Site Address: ___________________________

Contact Telephone No: ________________________

Waste Identification:

Type of Waste Generated (check one of the following):

☐ Soil Cuttings ☐ PPE ☐ Decontamination Water

☐ Groundwater ☐ Storm Water ☐ Drilling Fluids

☐ Other (Describe):____

Field Activities that Generated the Waste:

☐ Soil Borings ☐ Well Sampling ☐ Well Installation

☐ Decon ☐ Excavation ☐ Pumping Tests

☐ Other (Describe): ____

Generation Date: ________________________ ***90-Day Deadline***: __________________________

Quantity of Waste Generated and Container Type:

____

____

Storage Location:____

Waste Identification (Check One of the Following):

☐ Non Hazardous Waste (pending analysis)

☐ Non Hazardous Waste (based on site information or generator knowledge)

☐ Hazardous Waste (pending analysis)

☐ Hazardous Waste (based on site information or generator knowledge)

If generator knowledge or site information was used for identification, explain: _____________________

____

____

Type of Label Applied to Container: ☐ Non Haz ☐ Hazardous ☐ PCB ☐ Used Oil

WSP Information (Note: One copy to site contact - the original in project file)

Personnel/Contact:________________________________ Project No.: ______________________

Telephone:_______________________________________

FIELD STANDARD OPERATING PROCEDURE #6
Decontamination

The decontamination procedures outlined in this standard operating procedure (SOP) are designed to ensure that all equipment that contacts a sample during sample collection is free from the analytes that could potentially interfere with the sample results. The user is advised to read the entire SOP and review the site health and safety plan (HASP) before beginning any onsite activities. In accordance with the HASP, proper personal protective equipment (PPE) must be selected and used appropriately.

6.1 Acronyms and Abbreviations

DI	deionized water
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
HASP	health and safety plan
IDW	investigation derived waste
PPE	personal protective equipment
SOP	standard operating procedure

6.2 Materials

- Polyethylene sheeting and/or garbage bags
- Non-phosphate detergent (e.g., Luminox®, Liquinox®, or Alconox®)
- Cleaning reagents, as needed (e.g., isopropyl alcohol, methanol, hexane, etc.)
- Tap water
- Deionized (DI) water
- Containers (e.g., garbage cans, buckets, plastic tubs)
- Nylon brushes
- Aluminum foil
- Spray bottles
- Paper towels
- Duct tape
- Pressurized steam cleaner (e.g., steam jenny), as needed
- Portable wet/dry vacuum
- Shovel, funnel, and/or squeegee

6.3 Preconditions and Background

This SOP has been prepared as part of the WSP USA Corp. Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of WSP employees and will be revised periodically to reflect updates to WSP policies, work practices, and the applicable state and/or federal guidance. WSP employees must verify that this document is the most recent version of the WSP SOPs. WSP employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

This SOP is designed to provide the user with a general outline for decontamination and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), sample shipment procedures (SOP 3), sample collection and quality assurance procedures (SOP 4), and IDW management procedures (SOP 5).

The cleaning and decontamination procedures described below are designed to ensure that the equipment used for sample collection is free of analytes that could potentially alter the analytical results. These procedures are primarily targeted at reducing the incidence of cross-contamination (i.e., compounds of interest being transferred on the sampling equipment from one sample location or depth to another) and, when properly implemented, provide a methodology for obtaining high quality, representative results. As with all analytical sampling, the effectiveness of the cleaning procedures must be supported with the collection of equipment blanks. The sampling procedures and equipment blank collection frequency are discussed in SOP 4.

It is important for WSP personnel to evaluate the expected types of contamination prior to mobilization to a site. Some state programs (or the U.S. Environmental Protection Agency [EPA], depending on the site) may require more stringent decontamination procedures than those listed here or specify the types and grades of various cleaning detergents and reagents (e.g., acids and solvents). Many of these compounds, such as nitric acid or pesticide grade hexane, are available from a limited number of suppliers and can be difficult to obtain in short order (i.e., most solvents and acids must be shipped using a ground service and are not available for overnight delivery). These compounds may also require specialized PPE (e.g., eye protection for concentrated acids) or have other special handling or disposal procedures that must be considered before arriving onsite.

6.4 Decontamination Procedures

The decontamination procedures are based on a nine-step process, which is tailored in the field depending on the samples to be collected. Decontaminate all non-dedicated equipment that contacts the sample directly, including spools, trowels, pumps, etc., before and between each sample location or interval. Disposable, single-use items, such as bailers or tubing, do not require decontamination.

The process includes the following four basic steps[1]:

1. Physical removal of debris
2. Bucket wash with non-phosphate soap such as Alconox®, or equivalent and scrub brush
3. Tap water rinse
4. Deionized water rinse (distilled water can be used as a substitute)
5. 10-percent nitric acid rinse (for metals sampling only; see below)
6. DI water rinse
7. Pesticide-grade solvent rinse (e.g., hexane or isopropyl alcohol)
8. Air dry (solvent must evaporate)
9. DI water rinse

[1] Steps 5-9 are for more critical sampling applications and are not typically performed.

The first step is to remove as much soil or other debris from the sampling device as possible near the sampling area to limit the spread of potentially-contaminated materials into clean areas of the site. If gross contamination or an oily film or residue is observed on the equipment, use a brush to remove the particulate matter or surface film. Heavy oils or grease may be removed with paper towels soaked with isopropyl alcohol.

The physical removal is followed by a wash using non-phosphate soap (mixed to the appropriate dilution in tap water) followed by a tap water rinse. The most common set-up uses 5-gallon pails or buckets for the wash and rinse, although garbage pails or plastic tubs can also be used. Place buckets on polyethylene sheeting to limit spillage of the cleaning fluids.

Be sure to scrub the equipment thoroughly and allow enough time for the non-phosphate soap to be effective and clean the surfaces (a simple dunk of the equipment in the soapy water is insufficient). If decontaminating submersible pumps, pump both the non-phosphate soap wash fluid and the tap water rinse through the pump body itself (usually done in the bucket) to ensure that the internal impeller and other components are thoroughly cleaned. Replace the soap solution and rinse water when it becomes oily or silty.

Place the DI water for the rinse in a small squirt bottle or poured over the equipment or device after the tap water rinse. **In some cases, such as decontaminating a split-spoon between sample recoveries or when working with submersible pumps, this level of decontamination (i.e., steps 1 through 4) may be sufficient.**

Steps 5 through 9 are for more critical sampling applications and are typically performed on non-motorized equipment. Isopropyl alcohol is the recommended solvent for organic contaminants because it is readily available (at most drug and department stores) and is not a U.S. Department of Transportation (DOT) hazardous material. However, other solvents (e.g., hexane and methanol) may be more effective in removing certain contaminants, such as oils or polychlorinated biphenyls, but any waste generated using these solvents must be managed accordingly.

Handle the solvents and acid with care and store them in their original, labeled, protective containers when not in use. It is a good idea to transfer small quantities of each solution into labeled, laboratory-grade squirt bottles, which offer a convenient and controllable way to rinse the equipment. The equipment can then be rinsed over a 5-gallon bucket or other suitable container placed on plastic sheeting as with the first part of the cleaning process. Steps 5 and 6 are for metals sampling only and must be used only for non-carbon steel sampling devices (do not spray acid into pumps) and can be skipped for projects where inorganics are not included in the sampling scheme.

6.5 Handling Decontaminated Equipment

After decontamination, handle equipment using clean gloves to prevent re-contamination. In addition, move the equipment away (preferably upwind) from the decontamination area to prevent re-contamination. As soon as the equipment is air-dried, protect decontaminated field equipment from environmental contamination by securely wrapping and sealing with aluminum foil (shiny side out) or clean, untreated, disposable plastic bags. Plastic bags may be wrapped directly around wet or dry equipment except when the expected contaminants include volatile and extractable organics; under those circumstances, allow the equipment to completely dry or wrap it in aluminum foil.

On completion of site work, decontaminate all equipment prior to departure, then label each piece of equipment with the date of decontamination, the initials of decontamination personnel, and the type of decontamination solution(s) used. Containerize all solvent rinsate, detergent wastes, and other decontamination materials for offsite or regulated disposal (see SOP 5). Dispose of all wastes in conformance with applicable regulations.

FIELD STANDARD OPERATING PROCEDURE #9

Soil Sampling Procedure

The soil sampling procedures outlined in this standard operating procedure (SOP) are designed to ensure that collected soil samples are representative of current site conditions. Soil samples can be collected for onsite screening or for offsite laboratory analysis. The user is advised to read the entire SOP and review the site health and safety plan (HASP) before beginning any onsite activities. In accordance with the HASP, proper personal protective equipment (PPE) must be selected and used appropriately.

9.1 Acronyms and Abbreviations

bgs	below ground surface
F	Fahrenheit
HASP	Health and Safety Plan
IDW	investigation derived waste
PID	photoionization detector
PPE	personal protective equipment
QAPP	Quality Assurance Project Plan
QA/QC	quality assurance/quality control
SOP	standard operating procedure
VOC	volatile organic compound

9.2 Materials

- Field book
- PPE
- Air quality monitoring equipment
- Utility knife
- Mixing tray or bowl
- Heavy-duty zipper-style plastic bags (quart or snack size)
- Plastic sheeting
- Expanding ruler or tape measure
- Munsell color chart
- Sampling containers and labelling/shipping supplies
- Field test kits, as needed
- Soil sampling method specific materials:
- Stainless steel trowels, shovels, or spoons
- Bucket augers, auger extension rods, auger handle, pipe wrenches

- Split-spoon samplers, pipe wrenches
- Direct push acetate liners
- Shelby tube samplers
- Decontamination supplies

9.3 Preconditions and Background

This SOP has been prepared as part of the WSP USA Corp. Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in a safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of WSP employees and will be revised periodically to reflect updates to WSP policies, work practices, and the applicable state and/or federal guidance. WSP employees must verify that this document is the most recent version of the WSP SOPs. WSP employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

This SOP is designed to provide the user with a general outline for conducting soil sampling and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), utility location (SOP 2), sample shipment procedures (SOP 3), sample collection and quality assurance procedures (SOP 4), investigation derived waste (IDW) management procedures (SOP 5), equipment decontamination (SOP 6), and use and calibration of all sampling and monitoring equipment (SOPs 7 and 8). This SOP does not cover investigation planning, nor does it cover the analysis of the analytical results. These topics are more appropriately addressed in a project-specific work plan. Before soil sampling, be sure to review the project-specific work plan or Quality Assurance Project Plan (QAPP) and any applicable state and federal guidelines or sampling procedures. All sampling and monitoring references must be available for consultation in the field, including:

- WSP's SOPs
- Applicable state and federal guidelines or sampling procedures
- Manufacturer's manuals
- Project-specific work plan and HASP
- QAPP

9.4 General Procedures

Soil samples are collected using a variety of techniques and equipment, depending on the type (e.g., surface, subsurface) and purpose (e.g., lithological logging, headspace evaluation, laboratory analysis) of the sampling, and most sampling events employ more than one equipment type or methodology. Subsurface soil sampling, for example, often includes sample collection from split-spoon, macro-core, or other dedicated sampling devices advanced into the subsurface by a drill rig. Recovered cores are often logged (using a Munsell color chart and other logging aids), screened for volatile organic compounds (VOCs) using a photoionization detector (PID), and sampled for laboratory analysis using disposable stainless steel spoons or other discrete sampling devices.

All types of soil sampling, however, regardless of the equipment used, share common handling and management procedures that are designed to ensure the integrity of the samples collected. These procedures include:

- The use of new, disposable or decontaminated sampling equipment
- The use and rotation of the appropriate PPE

- Selection of a suitable sampling location and staging area

Collect all samples using either new, disposable equipment, such as polyethylene liners or single-use stainless steel spoons; or properly decontaminated sampling equipment, such as hand augers, split-spoons cutting shoes, or trowels. Select the types of equipment and decontamination procedures based on the types of sampling to be performed and decontamination may require multiple steps or differing cleaning methods, depending on the sampling goals (see SOP 6 for decontamination procedures). In no case should disposable, single use materials (e.g., macro-core liners, soil baskets, etc.) be used to collect more than one sample.

Wear a clean pair of new, disposable gloves each time a different sample is collected and don the gloves immediately prior to collection. This limits the possibility of cross-contamination from accidental contact with gloves soiled during collection of the previous sample. The gloves must not come in contact with the medium being sampled and must be changed any time during sample collection when their cleanliness is compromised. In no case should gloved hands be used as a soil sampling device: always use the appropriate spoon, trowel, or sampler to move the soil from the sampling device to the laboratory-supplied containers.

Finding a suitable sampling location involves selecting an area that is away from any sources of cross-contamination that could compromise the integrity of the samples. This includes positioning the sample collection area away from fuel-powered equipment, such as drill rigs or excavators, and upwind of other site activities (e.g., purging, sampling, decontamination) that could influence the sample. This is particularly important when screening samples in the field for VOCs with a PID, but should not be limited to the active sample collection. Store samples already collected from the field for laboratory analysis in clean containers and securely stage, if possible, in uncontaminated portions of the site.

9.5 Soil Collection

Soils can be collected from surface or subsurface depths, depending on the project requirements. Surface soils are generally those within 0.5 to 1 foot of the ground surface and can be collected using trowels, soil probes, or hand augers. Be aware that some states have specific definitions of what constitutes a surface soil sample. Subsurface soils are generally deeper and require specialized equipment to recover the samples. In most cases, subsurface soils will be collected using a drill rig or excavator.

Push or drive the method-specific sampling equipment (e.g., trowel, hand auger, hollow corers, split-spoon, direct push sampler, rotosonic core barrel sampler, excavator bucket) into the soil to the desired sampling depth using cleaned equipment. Record in the field book the depth interval through which the sampler was advanced and, if appropriate, the number of blows needed to drive the sampling device (i.e., when using a cathead-equipped drill rig; record the blows for every 6 inches the split-spoon sampler is advanced). If additional soil is needed to provide sufficient sample volume, repeat this step taking care to ensure that the same depth interval is collected during the resample. Use core catchers on the leading end of the sampler (if available) for soils that lack cohesiveness and are subject to crumbling and falling out of the sampler.

Withdraw the sampling equipment from the borehole or excavation. Do not physically enter excavations to collect a sample; soil samples can be collected from a backhoe bucket. If the soil sample will be analyzed for geotechnical parameters (i.e., using a Shelby tube), the undisturbed sampler is typically capped, maintaining the sample in its relatively undisturbed state, and shipped to the appropriate geotechnical laboratory. Follow sample preparation and shipping procedures in SOPs 3 and 4. If the soil is to be logged in the field, place soil samplers/soils on plastic sheeting noting the orientation of the sample (i.e., which end is “up”) and the depth interval. Measure the length of the material recovered relative to the interval the sampler was advanced (in percent), and record this information in the field book.

If field screening for organic vapors is required, break or cut the soil core every 3 to 4 inches and quickly scan the breaks in the core material with the appropriate air quality monitoring equipment (e.g., PID). Record the readings in the field book.

9.5.1 Volatile Organic Compound Sampling

If part of the sampling plan, immediately collect samples for VOC analysis after screening the soils with the PID to avoid loss of constituents to the atmosphere. Transfer the soil from the portion of the soil core to be sampled (usually the area where the highest PID readings were observed) directly into the sample containers; do not composite or mix soils for VOC analysis. Place the soil in the sampling container such that no headspace is present above the soil when the cover is placed on the jar. If sampling by US Environmental Protection Agency Method 5035 is required, follow manufacturer's specifications to use a closed-system sampler (e.g., Encore samplers). Collect quality assurance/quality control (QA/QC) samples in accordance with SOP 4, the project-specific work plan, and the QAPP.

9.5.2 Soil Headspace Analysis

If required as part of the project-specific work plan, collect samples for field-based headspace analysis after obtaining the sample for VOC analysis. First, examine the contents of the sample and remove coarse gravel, organic material (e.g., roots, grass, and woody material) and any other debris. Collect the sample using decontaminated spoons or trowels and place in a heavy-duty zipper-style plastic bag and seal the bag. Label the sample indicating the sampling location, depth, and date. Shake the sample vigorously for approximately 15 seconds to disaggregate the sample and expose as much surface area of the soil as possible (to release the VOCs to the atmosphere within the bag). If necessary, warm the sample to room temperature (70º Fahrenheit, F) by placing the bag in a heated room or vehicle. This step is very important when the ambient temperature is below 32ºF.

After waiting approximately 15 minutes, carefully open the bag slightly and place the tip of the PID into the opening. Do not insert the tip of the probe into the soil and avoid the uptake of water droplets. Record the highest meter response, which typically occurs within the first 2 to 5 seconds. Erratic PID response may result from high organic vapor concentrations or elevated headspace moisture. If these conditions exist, qualify the headspace data in the field book. It is also important to record the ambient temperature, humidity, and whether moisture was present in plastic bag. Duplicate 10% of the headspace samples by collecting two samples from the same location. Generally, duplicate sample values should be consistent to plus or minus 20%. Samples collected for headspace screening cannot be retained for laboratory analysis.

9.5.3 Semi- and Non-Volatile Analytical Sample Collection

Collect remaining organic samples then inorganic samples in the following order of volatilization sensitivity:

- Extractable organics, petroleum hydrocarbons, aggregate organics, and oil and grease
- Total metals
- Dissolved metals (see filtering procedures below)
- Inorganic non-metallic and physical and aggregate properties
- Microbiological samples
- Radionuclides

Collect soil samples for semi- and non-volatile parameters by separating clumps of soil material and mixing the soils (using stainless steel bowls and spoons, or other appropriate equipment) to a homogeneous particle size and texture. Transfer the contents to the sample container using a stainless steel spoon. Collect QA/QC samples in accordance with SOP 4, the project-specific work plan, and the QAPP.

If approved by the appropriate regulatory agency and specified in the project-specific work plan, composite soil samples can be collected to minimize the total number of analytical samples. Composite samples consist of equal aliquots (same sample size) of soil from each location being sampled (e.g., from each borehole or from multiple areas of a soil pile), by mixing the waste to a homogeneous particle size and texture using new or decontaminated stainless steel bowls and a stainless steel spoon or trowel. Transfer the contents to the appropriate laboratory-supplied sample container using a stainless steel spoon. Collect QA/QC samples in accordance with SOP 4 and the project-specific work plan or QAPP, if required.

If necessary, conduct field tests or screening on soils in accordance with the project-specific work plan and manufacturer's specifications for field testing equipment.

9.5.4 Sample Labeling and Preparation for Shipment

Once collected, prepare the soil samples for offsite laboratory analysis:

- Cleaning the outside of the sample container
- Affixing a sample tag or label to each sample container and complete all required information (sample number, date, time, sampler's initials, analysis, preservatives, place of collection)
- Placing clear tape over the tag or label (if non-waterproof labels are used)
- Preserving samples immediately after collection by placing them into an insulated cooler filled with bagged wet ice to maintain a temperature of approximately 4°Celcius
- Recording the sample designation, date, time, and the sampler's initials in the field book and on a sample tracking form, if appropriate
- Completing the chain-of-custody forms with appropriate sampling information
- Securing the sample packing and shipping in accordance with proper procedures

Do not ship hazardous waste samples without first consulting a WSP compliance professional.

9.5.5 Soil Classification

Soil classification should be performed whenever soil samples are being collected to provide context for the analysis. WSP prefers following the Unified Soil Classification System (USCS) logging procedures as described in ATSM D2488[1] . The emphasis of soil classification in the field must be on describing the soils using ALL of the required descriptors; categorization of the USCS group name or symbol alone may not provide details about the soils that could later prove useful. Avoid geologic interpretation or the use of local formation names, which are often difficult to determine in the field without the regional framework. Record ALL of the following information for each soil type:

- Depth interval
- USCS group name
- USCS group symbol
- Color, using Munsell chart (in moist condition)
- Percent of cobbles or boulders, or both (approximate; by volume)
- Percent of gravel, sand, or fines, or all three (approximate; by dry weight)
- Particle-size range:
  - Gravel—fine, medium, coarse
  - Sand—fine, medium, coarse

[1] Note that certain states/regulatory programs may require soil classification under a secondary system (e.g., US Department of Agriculture) or the use of hydrochloric acid to test the reaction with soil (none, weak, strong).

- Particle angularity: angular, subangular, subrounded, rounded
- Particle shape: (if appropriate) flat, elongated, flat and elongated
- Maximum particle size or dimension
- Hardness of coarse sand and larger particles
- Plasticity of fines: non-plastic, low, medium, high
- Dry strength: none, low, medium, high, very high
- Dilatancy: none, slow, rapid
- Toughness: low, medium, high
- Odor (mention only if organic or unusual)
- Moisture: dry, moist, wet

For intact samples also include:

- Consistency (fine-grained [clay] soils only): very soft, soft, firm, hard, very hard
- Structure: stratified, laminated, fissured, slickensided, lensed, homogeneous
- Cementation: weak, moderate, strong
- Additional comments: presence of roots or root holes, presence of mica, gypsum, etc., surface coatings on coarse-grained particles, caving or sloughing of auger hole or trench sides, difficulty in augering or excavating, etc.

Use the following standard descriptors for the textural percentages:

- Trace: 0 to 10%[2]
- Little: 11 to 20%
- Some: 21 to 35%
- And: 36 to 50%

Example descriptions, using the information listed above, would read as follows:

8-10' – 5YR2/6 fine- to medium-grained sand, trace medium sub-angular rounded gravel (up to 0.5" in diameter); medium dense to dense; wet with slow dilatancy; moderate solvent-like odor between 9' and 10'.

10-12' – 5YR2/6 low plasticity clay with some fine to coarse grained angular to subangular gravels (up to 0.25" in diameter) and trace fine to medium grained rounded sands, very stiff, moist with no dilatancy, no odors.

9.6 Closing Notes

Once sampling is completed, secure the boreholes/locations in accordance with the project-specific project work plan. Decontaminate all equipment prior to departure and properly manage all PPE and IDW in conformance with applicable regulations.

[2] The use of "Trace" for describing the fraction of clay soils is inappropriate for field-based logs as clay contents of less than 20-perent in fine-grained soils cannot be reliably determined in the field.

FIELD STANDARD OPERATING PROCEDURE #16
Surface Material Sampling Procedure

Surface material sampling procedures outlined in this Standard Operating Procedure (SOP) are designed to ensure that surface samples are representative of the surfaces from which they were collected and that they have not been altered or contaminated by the sampling and handling methods. Potential surface sample media include porous surfaces (e.g., concrete or painted surfaces) for chip samples, dust or sweep samples, and concrete core or powder samples, and non-porous surfaces (e.g., metal) for wipe samples. Surface samples may be collected for onsite screening or for offsite laboratory analysis. The user is advised to read the entire SOP and review the site health and safety plan (HASP) before beginning any onsite activities. In accordance with the HASP, proper personal protective equipment (PPE) must be selected and used appropriately.

16.1 Acronyms and Abbreviations

GFCI	ground fault circuit interrupter
HASP	health and safety plan
IDW	investigation derived waste
PID	photoionization detector
PPE	personal protective equipment
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
SOP	standard operating procedure

16.2 Materials

- Field book
- PPE
- Air quality monitoring equipment
- Utility knife
- Aluminum foil or heavy-duty zipper-style plastic bags (quart size)
- Plastic sheeting
- Expanding ruler or tape measure
- Sampling containers and labeling/shipping supplies
- Chip sampling method specific materials:
  - Rubber mallet
  - Steel chisel, or equivalent
  - Dustpan
  - Clean medium-sized, bristle brush
  - Digital scale
  - Aluminum foil or weighing pans

- Stainless steel spatulas
- Wipe sampling method specific materials:
  - Sterile wrapped gauze pad (e.g., 3 inches by 3 inches)
  - Clean medium-sized, bristle brush
  - Appropriate type and grade solvent
  - Sample area template (10 centimeters [cm] by 10 cm; typical)
  - Marking chalk
  - Tweezers or forceps
- Concrete core or powder method specific materials:
  - Concrete corer and drill, or impact hammer drill, with power supply
  - Ground fault circuit interrupter (GFCI)
  - Sandpaper or grinder with power supply, as necessary
  - Steel chisel or sharp cutting knife
  - Rubber mallet
  - Brush and cloths to clean area
  - Digital scale
  - Aluminum foil and/or aluminum weigh pans
  - Stainless steel spatulas
- Water or water supply, as necessary
- Wet/dry vacuum
  - GFCI
- Decontamination supplies

16.3 Preconditions and Background

This SOP has been prepared as part of the WSP USA Corp. Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in a safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of WSP employees and will be revised periodically to reflect updates to WSP policies, work practices, and the applicable state and/or federal guidance. WSP employees must verify that this document is the most recent version of the WSP SOPs. WSP employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

This SOP is designed to provide the user with a general outline for conducting surface sampling and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), utility location (SOP 2), sample shipment procedures (SOP 3), sample collection and quality assurance procedures (SOP 4), IDW management procedures (SOP 5), equipment decontamination (SOP 6), and use and calibration of all sampling and monitoring equipment (SOPs 7 and 8). This SOP does not cover investigation planning, nor does it cover the analysis of the analytical results. These topics are more appropriately addressed in a project-specific work plan. Additionally, this SOP does not provide site-specific health and safety procedures that are required for each WSP site where samples are collected; refer to the site-specific HASP for these procedures and safe work practices. Before sampling, be sure to review the project-specific work plan or Quality Assurance Project Plan (QAPP) and any applicable state and federal guidelines or sampling procedures.

All sampling and monitoring references must be available for consultation in the field, including:

- WSP's SOPs
- Applicable state and federal guidelines or sampling procedures
- Manufacturer's manuals
- Project-specific work plan and HASP
- QAPP

16.4 General Surface Sampling Procedures

The procedures and equipment that are used to accomplish surface sampling are project-specific and should be discussed by the project team before arriving onsite. All types of surface sampling, regardless of the equipment used, share common handling and management procedures that are designed to ensure the integrity of the samples collected. These procedures include:

- The use of new, disposable or decontaminated sampling equipment
- The use, changing, and disposal of the appropriate PPE
- Selection of a suitable sampling location and staging area

Wear a clean pair of new, disposable gloves each time a different sample is collected and don the gloves immediately prior to collection. This limits the possibility of cross-contamination from accidental contact. The gloves must not come in contact with the medium being sampled and must be changed any time during sample collection when their cleanliness is compromised.

If possible, find a suitable sampling location by selecting an area that is away from any sources of cross-contamination that could compromise the integrity of the samples. This includes positioning the sample collection area away from fuel-powered equipment, such as drill rigs or excavators, and upwind of other site activities (e.g., purging, sampling, decontamination) that could influence the sample.

16.4.1 Equipment Selection

Collect all samples using either new, disposable equipment, or properly decontaminated sampling equipment. The equipment should be constructed of non-reactive, non-leachable materials (e.g., stainless steel, Teflon®, Teflon®-coated steel, polyethylene, polypropylene, etc.) which are compatible with the chemical constituents at the site.

Select the decontamination procedures based on the types of sampling to be performed and decontamination may require multiple steps or differing cleaning methods, depending on the sampling goals (see SOP 6 for decontamination procedures). In no case should disposable, single use materials be used to collect more than one sample.

16.4.2 Sampling Considerations

As the following steps are completed, note all observations and measurements in the field book.

- Verify sampling locations and analytes.

- Record the approximate ambient air temperature, precipitation, wind, tidal conditions, and other field conditions the field book. In addition, any site-specific conditions or situations that could potentially alter the surface samples should be recorded.
- The sampling location should be described.
- Survey the ambient air around the sampling location with a photoionization detector (PID), as necessary.
- Clear the sampling area of utilities especially if following the concrete core and powder collection procedures below.
- As necessary, follow the procedures in the HASP to monitor and mitigate fugitive dust.
- Determine sample size based on the detection limit desired and the amount of sample requested by the laboratory.
- Tailor sampling methods to suit each sample location, recognizing that surface situations vary widely. In all instances, the procedures employed must be documented in the field book.
- Mark sampling locations with a stake or flag them for future reference. Record locations with respect to a permanent feature, if available.

If approved by the appropriate regulatory agency and specified in the project-specific work plan, composite samples can be collected to minimize the number of samples to be analyzed when sampling highly contaminated areas. Using the appropriate sampling technique, collect equal aliquots (same sample size) from each location and combine the aliquots of the sample directly in the sample container with no pre-mixing. Notify the laboratory that the sample is an unmixed composite sample, and request that the sample be thoroughly mixed before sample preparation or analysis.

16.5 Surface Sample Collection Procedures

16.5.1 Chip Sample Collection Procedures

Chip sampling is conducted on porous surfaces and is generally accomplished with a hammer and a chisel. Measure the sample area. Using a clean chisel, or equivalent, chip the sample area vertically, then horizontally to achieve an even depth of approximately 1/8 inch across the measured area. Collect the chip fragments using a clean dustpan and bristle brush or spatula and transfer the sample directly into an appropriately prepared sample container. Weigh the sample using a digital scale record the sample weight in the field book.

Collect quality assurance/ quality control (QA/QC) samples in accordance with SOP 4 and the project-specific work plan. Decontaminate all non-disposable equipment before and after each use in accordance with SOP 6 and the project-specific work plan.

16.5.2 Sweep Sample Collection Procedures

Sweep sampling is used to collect dust or residue from porous or non-porous surfaces. Sweep the sample area using a dedicated brush or spatula and collect the sample with a clean dustpan or aluminum foil. Weigh the sample using a digital scale and place in an appropriately prepared sample container; record the sample weight in the field book.

Collect QA/QC samples in accordance with SOP 4 and the project-specific work plan. Decontaminate all non-disposable equipment before and after each use in accordance with SOP 6 and the project-specific work plan.

16.5.3 Concrete Core and Powder Sample Collection Procedures

Concrete core and concrete powder samples are normally collected from concrete surfaces to determine whether or not they are contaminated or to evaluate the effectiveness of decontamination procedures.

Remove any debris from the sample area with a clean brush or cloth prior to drilling. Move the concrete coring drill or impact hammer drill into position and, following the manufacturer's specifications, drill a hole to the depth specified in the project-specific work plan.

For core samples, remove the core from the hole using clean forceps (or similar). Measure the total length and width of the core and record the dimensions in the field book. Wrap the core in aluminum foil and place it in an appropriately prepared sample container.

For powder samples, remove the powder from the hole using a clean spatula and place on aluminum foil or weighing pan and homogenize the concrete powder. Weigh the sample using a digital scale and place in an appropriately prepared sample container; record the sample weight in the field book.

Collect QA/QC samples in accordance with SOP 4 and the project-specific work plan. Decontaminate all non-disposable equipment before and after each use in accordance with SOP 6 and the project-specific work plan.

16.5.4 Wipe Sample Collection Procedures

Wipe samples are normally collected from non-porous, smooth surfaces, such as unpainted metal surfaces to determine whether or not they are contaminated or to evaluate the effectiveness of decontamination procedures. Wipe sampling is accomplished by using a gauze pad (or alternate absorbent material) saturated with a solvent (e.g., hexane) then thoroughly wiping a premeasured sample area. A standard wipe test, as specified in 40 CFR 761.123, uses a 10 centimeter (cm) by 10 cm template to outline the sample area. Typically, the analytical laboratory will provide the prepared saturated gauze pad in a vial with a Teflon-lined cap.

Mark the sample area using the template or ruler and marking chalk. Remove the saturated gauze from the sample vial with forceps and immediately begin applying the gauze, with pressure, to the marked area from left to right and then top to bottom; wipe the area twice. Let the gauze air dry and return to the vial.

Collect QA/QC samples in accordance with SOP 4 and the project-specific work plan. Decontaminate all non-disposable equipment before and after each use in accordance with SOP 6 and the project-specific work plan.

16.5.5 Sample Labeling and Preparation for Shipment

Once collected, prepare the groundwater samples for offsite laboratory analysis:

- Cleaning the outside of the sample container
- Affixing a sample tag or label to each sample container and complete all required information (sample number, date, time, sampler's initials, analysis, preservatives, place of collection)
- Placing clear tape over the tag or label (if non-waterproof labels are used)
- Preserving samples immediately after collection by placing them into an insulated cooler filled with bagged wet ice to maintain a temperature of approximately 4°Celcius
- Recording the sample designation, date, time, and the sampler's initials in the field book and on a sample tracking form, if appropriate
- Completing the chain-of-custody forms with appropriate sampling information
- Securing the sample packing and shipping in accordance with proper procedures

Do not ship hazardous waste samples without first consulting a WSP compliance professional.

16.6 Closing Notes

Once sampling is completed, secure the sampling locations in accordance with the project-specific project work plan. Decontaminate all equipment prior to departure and properly manage all PPE and investigation-derived wastes in conformance with applicable regulations.

FIELD STANDARD OPERATING PROCEDURE #17
Solid Waste Sampling Procedure

Solid waste sampling procedures outlined in this standard operating procedure (SOP) are designed to ensure that solid waste samples are representative of the materials from which they were collected and that they have not been altered or contaminated by the sampling and handling methods. Solid waste materials are commonly stored or staged in open (e.g., waste piles, outfalls, surface impoundments) or closed units (e.g., drums, tanks and associated ancillary equipment, containers, sumps). Solid waste samples can be collected for onsite screening or for offsite laboratory analysis. The user is advised to read the entire SOP and review the site health and safety plan (HASP) before beginning any onsite activities. In accordance with the HASP, proper personal protective equipment (PPE) must be selected and used appropriately.

17.1 Acronyms and Abbreviations

F	Fahrenheit
HASP	health and safety plan
IDW	investigation derived waste
NAPL	non-aqueous phase liquid
PID	photoionization detector
PPE	personal protective equipment
QAPP	Quality Assurance Project Plan
QA/QC	quality assurance/quality control
SOP	standard operating procedure
VOC	volatile organic compounds

17.2 Materials

- Field book
- PPE
- Air quality monitoring equipment
- Utility knife
- Mixing tray or bowl
- Hip-waders or rubber boots, as necessary
- Aluminum foil or heavy-duty zipper-style plastic bags (quart size)
- Plastic sheeting
- Expanding ruler or tape measure
- Sampling containers and labeling/shipping supplies
- Field test kits, as needed
- Waste sampling method-specific sampling equipment and materials:

- Stainless steel trowels, shovels, or spoons
- Bucket augers, auger extension rods, auger handle, pipe wrenches
- Split-spoon samplers, pipe wrenches
- Direct push acetate liners
- Shelby tube samplers

- Decontamination supplies

17.3 Preconditions and Background

This SOP has been prepared as part of the WSP USA Corp. Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in a safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of WSP employees and will be revised periodically to reflect updates to WSP policies, work practices, and the applicable state and/or federal guidance. WSP employees must verify that this document is the most recent version of the WSP SOPs. WSP employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

This SOP is designed to provide the user with a general outline for conducting waste and wastewater sampling and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), utility location (SOP 2), sample shipment procedures (SOP 3), sample collection and quality assurance procedures (SOP 4), investigation derived waste (IDW) management procedures (SOP 5), equipment decontamination (SOP 6), use and calibration of all sampling and monitoring equipment (SOPs 7 and 8), and waste water sampling (SOP 18). This SOP does not cover investigation planning, nor does it cover the analysis of the analytical results. These topics are more appropriately addressed in a project-specific work plan. Before sampling, be sure to review the project-specific work plan or Quality Assurance Project Plan (QAPP) and any applicable state and federal guidelines or sampling procedures. All sampling and monitoring references must be available for consultation in the field, including:

- WSP's SOPs
- Applicable state and federal guidelines or sampling procedures
- Manufacturer's manuals
- Project-specific work plan and HASP
- QAPP

17.4 General Procedures

Solid waste sampling presents a number of unique challenges for safe collection due to the potentially hazardous environment(s) where waste materials are located. Sampling of closed waste containers (e.g., drums, tanks, etc.) is considered a higher hazard risk because of the potential of exposure to toxic gases and flammable/explosive atmospheres. While opening closed waste containers for sampling purposes, monitor the breathing zone to ensure that the working environment does not contain hazardous levels of flammable/explosive gasses or toxic vapors, and follow the appropriate safety requirements stipulated in the HASP. Do not bodily enter tanks, sumps, waste containers, pipes, such as storm sewers or other drainage conveyances, during sample collection. **WSP personnel are not authorized to open closed units that are unlabeled or contain unknown contents.**

Each sampling situation will have unique set of equipment requirements and techniques. The selected procedures and equipment are project-specific and should be discussed by the project team before arriving onsite. All types of solid waste sampling, however, regardless of the equipment used, share common handling and management procedures that are designed to ensure the integrity of the samples collected. These procedures include:

- The use of new, disposable or decontaminated sampling equipment
- The use and rotation of the appropriate PPE (e.g., hip-waders or rubber boots and gloves, and Saranex or Tyvek duct-taped to nitrile gloves, etc.)
- Selection of a suitable sampling location and staging area

Collect all samples using either new, disposable equipment, or properly decontaminated sampling equipment. Solid waste sampling equipment should be selected based on the analytical requirements of the project and the project-specific conditions likely to be encountered. The equipment should be constructed of non-reactive, non-leachable materials (e.g., stainless steel, Teflon®, Teflon®-coated steel, polyethylene, polypropylene, etc.) which are compatible with the chemical constituents at the site. When choosing sampling equipment, give consideration to:

- the type and location of the waste unit
- the required depth of the sample
- the volume of sample required
- the analytes of interest

Select the decontamination procedures based on the types of sampling to be performed and media encountered; decontamination may require multiple steps or differing cleaning methods, depending on the sampling objectives and media encountered (see SOP 6 for decontamination procedures). In no case should disposable, single use materials be used to collect more than one sample.

Wear a clean pair of new, disposable gloves each time a different sample is collected and don the gloves immediately prior to sampling. The gloves must not come in contact with the analytical samples and must be changed any time during sample collection when their cleanliness is compromised.

If possible, find a suitable sampling location by selecting an area that is away from any sources of cross-contamination that could compromise the integrity of the samples. This includes positioning the sample collection area away from fuel-powered equipment, such as drill rigs or excavators, and upwind of other site activities (e.g., purging, sampling, decontamination) that could influence the sample. Extension rods or other appropriate devices can be used, as necessary, to allow the sample to be collected at a distance (or through deeper water) to minimize the risk to the sampler.

Once you have arrived on site and are prepared to conduct the waste sampling, note all observations and measurements in the field book.

- Perform a quick reconnaissance of the site to identify sampling locations
- Record the approximate ambient air temperature, precipitation, wind (direction and speed), tidal, and other field conditions in the field book. In addition, any site-specific conditions or situations that could potentially affect the sampling should be recorded
- Describe the sampling location
- Position fuel powered equipment downwind and at least 10 feet from the sampling location; make sure that the exhaust faces downwind
- Record pertinent information about the waste unit (e.g., type, capacity, markings, condition, and contents)
- Evaluate the accessibility to the waste unit, including ladders or stairs, and ensure that proper grounding is present, if needed

- Survey around the sampling location with a photoionization detector (PID), as necessary (see HASP), to ensure that the level of PPE is appropriate
- Mark sampling locations with a stake or flag for future reference; if available, record locations with respect to a permanent feature

17.4.1 Safety Considerations

Solid waste sampling may present a number of unique challenges for safe collection. Solid waste materials are frequently heterogeneous due to the physical characteristics of the matrix (e.g., particle size, viscosity, etc.), the distribution of hazardous constituents within the matrix, or the manner in which the material was managed or disposed. Because waste often stratifies over time due to different densities of phases, settling of solids, or varying wastes constituents generated at different times, both solid and liquid waste samples may need to be collected (see SOP 18 for waste water sampling procedures). Consult and involve WSP's compliance professionals during all phases of solid waste sampling.

Caution should be exercised when sampling *in situ* wastes (e.g., soil piles) because of the potential presence of explosive/flammable gases and/or toxic vapors. Ground or sediment surface or stockpiles may not be stable and could present an engulfment hazard. Do not attempt to sample surface impoundments used to manage potentially hazardous wastes from a boat; all sampling should be conducted from the banks or piers of surface impoundments.

Caution should be exercised when sampling closed waste containers, such as sealed drums, because of the potential presence of explosive/flammable gases and/or toxic vapors. Visually inspect all waste units for the following:

- pressurization (bulging/dimples)
- crystals formed around the drum opening
- leaks, holes, stains
- labels, markings, hazardous warnings
- composition and type (steel/poly and open/bung)
- dead vegetation around drum
- condition, age, rust, potential shock sensitivity (as indicated by contents listed on waste label)
- sampling accessibility (including a determination if it qualifies as a confined space)

Waste containers showing evidence of pressurization and/or crystals should be furthered assessed to determine if remote opening is needed. If containers cannot be accessed for sampling, heavy equipment may be necessary to stage the containers before sampling. Adequate time should be allowed for the contents to stabilize after a container is handled.

A grounding strap must be used when sampling metal waste containers, such as 55-gallon steel drums, due to the potential presence of explosive/flammable gases. First attach a grounding strap, then touch the waste container opening with a gloved hand and allow an electrically conductive path to form, as appropriate. Using spark-resistant tools, slowly open the waste container (e.g., vents, pressure release valves, bung or drum ring and/or lid) to allow the unit to vent to the atmosphere. Do not attempt to use a manual bung wrench or de-header on drums that potentially contain shock-sensitive, reactive, explosive or flammable materials. Screen the breathing zone for explosive gases and toxic vapor with air monitoring instruments before commencing sampling. Once sampling is complete (re)seal the waste container in accordance with the manufacturer's instructions.

17.4.2 Sampling Considerations

When collecting solid waste samples, consider the following:

- Collect waste water samples first to avoid disturbing the bottom and suspending solid wastes or sediment in the water column
- If collecting several solid waste samples from a stream, ditch, or river, start sampling at the downstream location and progressively move upstream

17.5 Solid Waste Sample Collection Procedures

Solid waste samples should be collected in accordance with the project-specific work plan. Typical sampling equipment includes : (1) scoops or trowels, (2) corers or grab samplers (e.g., hand augers, sludge judge), (3) dredges (e.g., Ekman, Peterson, or Ponar), (4) composite liquid waste samplers, bailers, or drum thief samplers, and (5) excavating or drilling equipment (e.g., split-spoon sampler, backhoe bucket). Follow the manufacturer's operation manual for proper sampling procedures.

At the desired sampling location, clear away any accumulated surface debris. Place absorbent pads (if appropriate), sampling equipment and sample containers in a safe location near the waste that is to be sampled. If a grid system is being used to collect samples, lay out the grid according to the project-specific work plan.

Push the method-specific sampling equipment into the solid waste materials to the desired sampling depth using <u>decontaminated or dedicated, disposable equipment</u>. Tilt the sampling equipment at a slight angle, if necessary, to avoid losing waste materials. If a liquid sample is not required, decant liquid into a separate container or back into the vessel being sampled. If a liquid sample is required, decant any liquid directly into sample containers (see SOP 18). Record the depth interval through which the sampler was advanced in the field book. If additional sample volume is needed, repeat this step. Occasionally solid waste materials lack cohesiveness and are subject to crumbling and falling out of the sampler. The use of core catchers on the leading end of the sampler may help retain the sample until it is retrieved to the surface; core catchers must be evaluated for compatibility with the proposed analytical program before use.

Note the state, quantity, phases, and color of the solid waste in the field book. If field screening for organic vapors is required, break or cut the waste materials and quickly scan the breaks in the material with the appropriate air quality monitoring equipment (e.g., PID). Record the readings in the field book.

17.5.1 Volatile Organic Compound Sampling

If required by the project-specific sampling plan, <u>immediately collect</u> samples for analysis of volatile organic compound (VOC) after screening the sample with the PID to avoid loss of the compounds to the atmosphere. Transfer the waste materials from the center portion of the sample interval to be sampled directly into the sample containers; do not composite or mix waste materials for VOC analysis. If sampling by US Environmental Protection Agency Method 5035 is required, follow manufacturer's specifications to use a closed-system sampler (e.g., Encore samplers). Collect quality assurance/quality control (QA/QC) samples in accordance with SOP 4 and the project-specific work plan or QAPP, if required.

17.5.2 Headspace Analysis

If required by the project-specific work plan, collect samples for field-based headspace analysis <u>after obtaining the sample for VOC analysis</u>. First, examine the contents of the sample and remove coarse gravel, organic material (e.g., roots, grass, and woody material) and any other debris. Collect the sample using decontaminated spoons or trowels and seal it in a heavy-duty zipper-style plastic bag. Label the sample indicating the sampling location, depth, and date. Shake the sample vigorously for approximately 15 seconds to disaggregate the sample and expose as much surface area of the soil as possible (to release the VOCs to the atmosphere within the bag). If necessary, warm the sample to room temperature (70º Fahrenheit, F) by placing the bag in a heated room or vehicle. This step is very important when the ambient temperature is below 32ºF.

After waiting approximately 15 minutes, carefully open the bag slightly and place the tip of the PID into the opening. Do not insert the tip of the probe into the soil and avoid the uptake of water droplets. Record the highest meter response, which typically occurs within the first 2 to 5 seconds. Erratic PID response may result from high organic vapor concentrations or elevated headspace moisture. If these conditions exist, qualify the headspace data in the field book. It is also important to record the ambient temperature, humidity, and whether moisture was present in plastic bag. Duplicate 10% of the headspace samples by collecting two samples from the same location. Generally, duplicate sample values should be consistent to plus or minus 20%. Samples collected for headspace screening cannot be retained for laboratory analysis.

17.5.3 Semi- and Non-Volatile Analytical Sample Collection

Collect remaining organic samples then inorganic samples in the following order of volatilization sensitivity:

- Extractable organics, petroleum hydrocarbons, aggregate organics, and oil and grease
- Metals
- Inorganic non-metallic and physical and aggregate properties
- Microbiological samples
- Radionuclides

Collect solid waste samples for non-volatile parameters by separating clumps of waste material and mixing the waste to a homogeneous particle size and texture using new or decontaminated stainless steel bowls and a stainless steel spoon or trowel. Transfer the contents to the appropriate laboratory-supplied sample container using a stainless steel spoon. Collect QA/QC samples in accordance with SOP 4 and the project-specific work plan or QAPP, if required.

If approved by the appropriate regulatory agency and/or specified in the project-specific work plan, composite waste samples can be collected to minimize the number of samples to be analyzed when sampling highly contaminated areas. Using the appropriate sampling technique, collect equal aliquots (same sample size) from each location by mixing the waste to a homogeneous particle size and texture using new or decontaminated stainless steel bowls and a stainless steel spoon or trowel. Transfer the contents to the appropriate laboratory-supplied sample container using a stainless steel spoon. Collect QA/QC samples in accordance with SOP 4 and the project-specific work plan or QAPP, if required.

Interstitial water, or pore water, is the water occupying the space between solid particles. It can be isolated to provide either a matrix for toxicity testing or an indication of the concentration and partitioning of contaminants with a solid matrix. Pore water samples may be collected in the field using any available technology that will preserve the integrity of the analytes of interest during collection (e.g., lysimeter) or extracted in the laboratory from field-collected waste. The substrate type will dictate the volume of sample needed. In all cases, consult the laboratory conducting the analyses to provide estimates of the amount of sample necessary to obtain the desired quantity of pore water.

If necessary, conduct field tests or screening of waste materials in accordance with the project-specific work plan and manufacturer's specifications for field testing equipment.

17.5.4 Non-Aqueous Phase Liquid Sampling Procedures

Non-aqueous phase liquids (NAPL) are not typically collected from solid waste units. However, if NAPL samples are required, the sampling options and techniques should be discussed with the assigned WSP compliance professional and project manager to ensure that the NAPL is not considered to be a hazardous material for the purpose of shipping to the laboratory (SOP 3). Samples of NAPL should be collected using the same procedures as above and placed in the appropriate laboratory-supplied containers, packed on ice, and shipped to the analytical laboratory using procedures outlined in SOP 3.

17.5.5 Sample Labeling and Preparation for Shipment

Once collected, prepare the waste samples for offsite laboratory analysis by:

- Cleaning the outside of the sample container
- Affixing a sample tag or label to each sample container and complete all required information (sample number, date, time, sampler's initials, analysis, preservatives, place of collection)
- Placing clear tape over the tag or label (if non-waterproof labels are used)
- Preserving samples immediately after collection by placing them into an insulated cooler filled with bagged wet ice to maintain a temperature of approximately 4°Celcius
- Recording the sample designation, date, time, and the sampler's initials in the field book and on a sample tracking form, if appropriate
- Completing the chain-of-custody forms with appropriate sampling information
- Securing the sample packing and shipping in accordance with proper procedures

Do not ship hazardous waste samples without first consulting a WSP compliance professional.

17.6 Closing Notes

Once sampling is completed, secure the waste unit(s) in accordance with the project-specific project work plan. Decontaminate all equipment prior to departure and properly manage all PPE and IDW in conformance with applicable regulations.

Appendix B – Community Air Monitoring Plan

COMMUNITY AIR MONITORING PLAN

Self-Implementing PCB Remediation Work Plan

February 14, 2015

COMMUNITY AIR MONITORING PLAN
Self-Implementing PCB Remediation Work Plan

February 14, 2015

Client

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Consultant

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WSP

Table of Contents

1 Introduction

On behalf of Emerson and its subsidiary, Emerson Power Transmission Corp. (EPT), WSP USA Corp (WSP) has prepared this Community Air Monitoring Plan (CAMP), which presents a scope of work for monitoring ambient air quality during former transformer pad removal and polychlorinated biphenyl (PCB) remediation work at the EPT facility located at 620 South Aurora Street in Ithaca, New York. Specifically, the CAMP is designed to ensure that any site-related constituents (airborne particulates containing PCBs) that may be released during pad demolition and ground intrusive work, are detected, measured, and mitigated, to protect the nearby community receptors from unnecessary exposures. This plan was prepared in accordance with requirements outlined in the July 13, 1987, Consent Order (Index # A7-0125-87-09) entered into by the New York State Department of Environmental Conservation (NYSDEC) and EPT.

The New York State Department of Health (NYSDOH) requires the implementation of a CAMP for sites where ground intrusive activities, including the excavation and handling of contaminated soil and media, is performed. The CAMP for the self-implementing PCB remediation work addresses particulate monitoring in accordance with NYSDOH requirements. CAMP requirements consist of periodic and continuous monitoring, based primarily on the type of intrusive work being performed. Activities to be performed for the self-implementing PCB remediation work fulfill the requisite monitoring, which is described in detail below.

The Self-Implementing PCB Remediation Work Plan approved by the U.S. Environmental Protection Agency Region 2 provides background information on the site, the work plan objectives, the scope of work for the proposed excavation and sampling activities, and information regarding scheduling and reporting.

EPT has ceased operations and only a few maintenance personnel remain at the facility. The facility personnel perform their day to day activities in the main manufacturing building which is greater than 20 feet away from the vacant Building 24 and the transformer pad. All PCB remediation work will be performed outdoors within the fenced facility. The nearest residential dwelling is more than 400 feet from the work area. Based on the PCB concentrations in affected media and the location of the nearest receptor, the potential for community exposure is considered to be low.

1.1 Selection of CAMP Monitoring Locations

Since the purpose of CAMP is to protect potential receptors from contaminants generated during the excavation and backfilling activities, monitoring locations will be positioned at project (i.e., perimeter) areas downwind of excavation area (exclusion zone). Two monitoring locations will be placed +/-30 degrees of the predominant down wind direction, as established by local weather station data. At least one of these receptors must be positioned between the work zone and nearest receptor. One upwind monitoring location will be positioned opposite the down wind direction (i.e., +/-180 degrees) to determine background particulate concentrations entering the site. Both periodic and continuous monitoring will be performed at these locations.

In the event that site conditions change or the predominant wind direction experienced during site work appears significantly different than reported locally, the monitoring locations may be moved to perimeter locations most likely to detect airborne constituents.

1.2 Continuous Monitoring

Continuous monitoring for particulate will be conducted during ground intrusive activities including transformer pad demolition, pavement removal, excavation, and backfilling activities. Appropriate monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over 15-minute periods will be employed to continuously monitor particulates, as well as data log, as necessary, for CAMP recordkeeping requirements.

Continuous particulate monitoring will be performed using a Thermo Andersen MIE DATARAM 4000 or equivalent direct sensing, real-time monitor with data logging capabilities. This device can detect airborne particulate at levels well below the CAMP particulate action level, and will also be placed at an approximate breathing zone height, estimated to be 4 to 5 feet above the ground surface. The MIE DATRAM 4000 is equipped with an audible alarm to indicate exceedance of the action level.

Volatile organic compounds (VOCs) are not expected to be encountered at significant concentrations during the PCB remediation activities. Continuous monitoring for VOCs will only be performed if sustained readings greater than 5 parts per million and detected in both the work zone and along the site perimeter as described in the following section.

1.3 Periodic Monitoring

Instantaneous particulate measurements will be collected at the initiation of work each day and continuously during ground intrusive activities (i.e. excavation and backfilling). Intermittent particulate measurements will also be collected when health-related monitoring in the work area detects particulates above the CAMP action level.

VOCs will be monitored for worker protection using a calibrated photoionization detector (PID) in the active work zone. The PID will detect VOCs at a level well below the VOC action level and can be programmed to perform data logging. If sustained readings greater than 5 parts per million (ppm) are recorded within the work zone, periodic VOC monitoring will be performed at the upwind and downwind perimeter of the site. If sustained readings greater than 5 ppm are recorded at the perimeter locations, continuous VOC monitoring will be performed and the decision process described in Section 2.2 will apply. The PIDs for continuous VOC monitoring will be placed at an approximate breath zone height, estimated at 4 to 5 feet above the ground surface.

1.4 Documentation Requirements

In accordance with NYSDOH requirements, all 15-minute readings shall be recorded in the field logbook and be available for State (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision-making purposes, shall also be recorded in the same field log book and made available for review.

2 Action and Response Levels for Particulates

This CAMP specifies action and response levels for VOC and particulate concentrations detected during continuous monitoring. All equipment must be capable of calculating 15 minute running averages. The required action levels and responses are described below.

2.1 Particulates

Decision-making for particulate detections will be based on the 15 minute running averages, and the actions will be as follows:

- The maximum concentration of PCBs detected on site is 211 milligrams per kilogram (mg/kg). This concentration was found in concrete that is not likely to become airborne during remediation activities. The highest concentration in soil is 21.2 mg/kg. The surrogate action level for PCBs assuming a recommended exposure limit of 0.001 milligrams per cubic meter (mg/m^3) is 47 mg/m^3 which is greater than the National Ambient Air Quality Standard (NAAQS) for particulate pollution.
- If ambient particulate concentrations at a downwind perimeter monitor exceed 100 micrograms per cubic meter (µg/m^3) above background for a 15-minute average, or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work activities may resume with dust suppression techniques provided that downwind particulate levels do not exceed 150 µg/m^3 (NAAQS standard) above the upwind particulate level and provided that no visible dust is migrating from the work area.
- If after implementation of dust suppression techniques, downwind particulate levels are greater than 150 µg/m^3 above background (upwind), work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures or other controls adequately reduce downwind particulate concentrations to within 150 µg/m^3 of the upwind level (background) and prevent visible dust migration offsite.

All measurements must be recorded and made available for New York State personnel to review, including but not limited to, NYSDEC and NYSDOH.

2.2 Volatile Organic Compounds

If the conditions in Section 1.3 are triggered, decision-making for VOC detections at the perimeter monitoring stations will be based on the 15 minute running averages, and the actions will be as follows:

- If ambient VOC concentrations at a downwind perimeter monitor exceeds 5 ppm above background for a 15-minute average, work activities must be temporarily halted and monitoring continued. If the VOC concentrations readily decrease, as demonstrated by instantaneous readings, to below 5 ppm over background, then work activities may resume with continued monitoring.
- If ambient VOC concentrations at a downwind perimeter monitor persist at levels above 5 ppm over background, but below 25 ppm, work activities must be halted, the source of VOCs identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the VOC level 200 feet down wind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less (but in no case less than 20 feet), is below 5 ppm over background for a 15 minute average.
- If VOC levels exceed 25 ppm at the perimeter of the work area, then activities must be discontinued until appropriate engineering controls can be implemented.

All 15-minute measurements must be recorded and made available for New York State personnel to review, including but not limited to, NYSDEC and NYSDOH. Any instantaneous measurements used for decision purposes should also be recorded.

3 References

New York State Department of Health. 2000. Generic Community Air Monitoring Plan. June.

WSP USA Corp. Self-Implementing PCB Remediation Work Plan – Emerson Power Transmission Site, Ithaca, New York. October 2014

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Tel: (716) 691-5232
Fax:(716) 608-1387

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Appendix C - Utility Location Documentation

** This form is mandatory for all intrusive work performed by WSP or a WSP contractor, regardless of who is responsible for the public and/or private utility locating services.

Enclosure C
Utility Locating Form – Page 1 of 2

Project Name	Project No. and Task	Work being done for (Company or Individual Name)	Project Manager
EPT Transformer Pad & PCB Remedy			

WSP Office Address	WSP Office Phone	WSP Field Contact	WSP Field Contact Phone

Project Location: Street Address	City/Township	County	State
620 S Aurora Street	Ithaca	Tompkins	NY

Nearest Intersecting Street
S. Cayuga Street and S. Hill Terrace

Description of Work Area (street working on, which side of street, how far in which direction from nearest intersecting street; etc.)
Demolition of transformer Pad and excavation of surrounding soils located within Emerson Transmission plant.

Type of Work	Explosives (Y/N)	Directional Borings (Y/N)	Dig Locations Marked (Y/N)	Mark Type (e.g., stake)
Excavation	No	No	Yes	White Paint

Scheduled Work Start (Date & Time)	Estimated Work Stop Date	One-call Phone Number/Website Address	One-call Service Name
3/20/2015 8am	5/20/2015 8am		

Call/Web Notification Made By (Name, Title and Company)	Date & Time of Call/Web Notification	Operator Name
Andrew Madden, Project Manager, Ontario Specialty Contracting, Inc.	3/17/2015 3pm	

Ticket No.	Legal Dig Date	Ticket Expiration Date	Ticket Renewal Date
03175-540-042-01	3/20/2015	4/3/2015	5/20/2015

Utilities Notified	Complete After Receiving Notification (e.g., e-mail, facsimile) from Utilities or Subcontractor		
	Utilities Present (Y/N)	Onsite Meeting (Y/N; if "Y" Date & Time)	Contact Name and Phone
1 City of Ithaca Water and Sewer	No	No	607-272-1717
2 NYSEG / Ithaca Electric	No	No	800-262-8600
3 NYSEG / Ithaca Gas	No	No	800-262-8600
4 Verizon / Syracuse	No	No	855-661-6323
5			
6			
7			
8			
9			
10			

Form Completed By (Signature)	
Andrew Madden	(e-mail completed page 1 to Project Manager)

Private Utility Locator Information			

Utility Locating Form – Page 2 of 2

Company	Contact Name	Phone	E-mail
New York State Leak Detection Inc.	Steve Birmingham	315.424.5107	
Who Contracted Locator?		**Scheduled Start (Date & Time)**	**WSP Contract Executed (Y/N/NA)**
Ontario Specialty Contracting, Inc.		3/18/2015 11am	No

Onsite Visual Confirmation of Utilities

Marking Color	Utility Type and Visual Clues	Cleared or Marked (Y/N)	No Markings - Comments
Blue	Potable water: fire hydrant, manholes; water meter, ASTs, interior connections, hose bib, valve box	Yes	Will Hand Dig
Yellow	Gas, oil steam, petroleum: gas meter, manholes; yellow bollards, interior connections, valve box		
Red	Electric power lines, lighting cables, parking lot lights, overhead lines (telephone poles), conduits: interior connections, underground vaults, manholes, transformers/switchgear, conduit on buildings	Yes	Abandoned Electrical Lines
Green	Sewer and drain lines: underground vaults, manholes, drain grates, leach field, sand mound, no evidence of sanitary sewer (for septic system)	Yes	Will Hand Dig
Orange	Communication, alarm or signal lines, cables or conduits: red/orange bollards, telephone poles, interior connections; manholes; conduit on buildings		
Purple	Reclaimed water, irrigation, and slurry lines: sprinkler heads, hose bibs		
Pink	Survey markings		
White	Proposed locations for excavation and drilling	Yes	

Project Manager Notified of any Conflicts? (Y/N)

Notes:

Private utility location (NYLD) report and public utility location ticket attached for reference.

Marks Verified By (Signature)

(scan and save to client file)

WSP

NYLD Infrastructure

NEW YORK LEAK DETECTION, INC.

Field Report

Date: Wednesday 3/18/2015 Technician: Steve Birmingham

Customer: The OSC Group

Site Address: Emerson Power Transmission Plant 620 S. Aurora St. Ithaca, NY

Contact Person: Andrew Madden Phone: 716-655-1250 cell

Scope of Work: Utility Location Service

Type of Service:

☐ *Leak Detection* ☒ *Utility Location/GPR* ☐ *Video Inspection*

☐ *Infrastructure Assessment* ☐ *Utility Mapping/AutoCAD*

Type of Equipment Used

☐ *Profiler EMP 400* ☒ *RD4000* ☐ MetroTech Vivax vLocPro2

☐ *LC2500 Leak Correlator* ☒ *Noggin 250 mHz* ☐ PosiTector UTG G3

☐ *S-30 Surveyor* ☒ Noggin 500 mHz ☐ *Video Inspection Camera*

☐ *Sonde* ☐ Conquest 1000 mHz ☐ *Helium # Bottles*

☐ *Leica Robotic Total Station* ☐ *Leica GPS*

Marking Used

☒ *Paint* ☐ *Flags* ☐ *Chalk*

☐ *Updated existing maps onsite* ☐ *Other:* ____________________

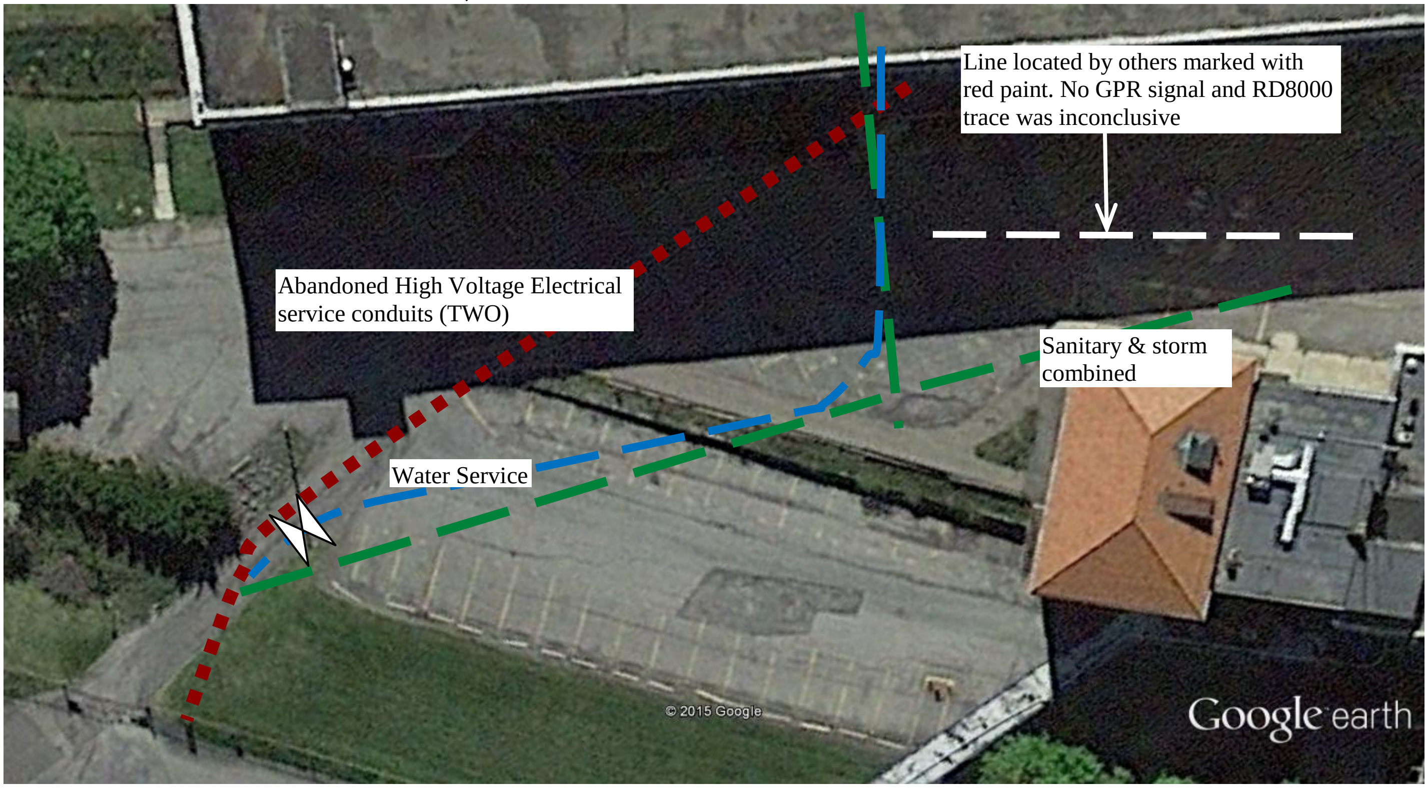
Instructions from Onsite Contact: _____

Size of Pipe: _____

Notes/Testing Results: see attached

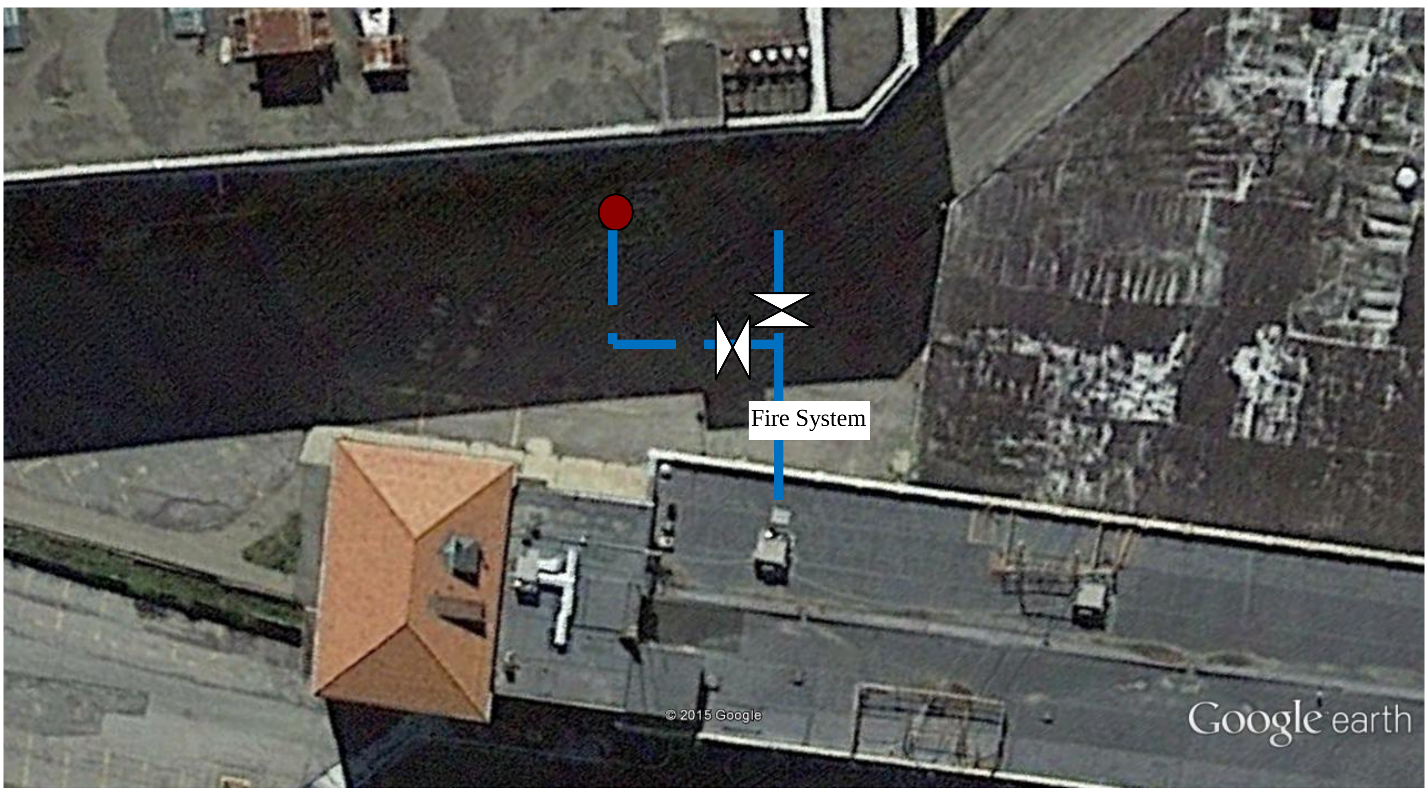
Information Transfer

☒ *Information relayed on site to: Andrew Madden* ☐ *Hand drawn map (forward to office for digital remake)* ☐ *All markings picked up by surveyors*



Key

Blue	Water
Red	Power
Orange	Communications
Yellow	Gas/Flammable Fuel
White	Unknown
Green	Storm/Sanitary



```
Ticket: 03175-540-042-01 Type: Late          Previous Ticket:
-------------------------------------------------------------------------------
State: NY  County: TOMPKINS             Place: ITHACA  /C
Addr:  From: 620    To:        Name: S  AURORA                         ST
Cross: From:        To:        Name:
Offset:
-------------------------------------------------------------------------------
Locate: EXCAVATION AREA CENTERED WITHIN EMERSON POWER TRANSMISSION PLANT.
      : CENTER OF EXCAVATION (CIRCULAR BOUNDARY WITH 150' RADIUS) LOCATED 650'
      : WEST OF S.AURORA ST. / HILLVIEW PL. INTERSECTION AND 680' SOUTH OF
      : HILLVIEW PL. ROADWAY.
NearSt: S.CAYUGA ST. AND S.HILL TERRACE
Means of Excavation: BACKHOE; MINI EXCAVATOR                Blasting: N
Site marked with white: Y
Boring/Directional Drilling: N
Within 25ft of Edge of Road: N

Work Type: REMEDIAL EXCAVATION TO BEDROCK (APPROX. 2 TO 3 FEET DEEP) IN SELECT LOCATIONS.
Duration: 2 MONTHS
Depth of excavation: 3 FEET
Site dimensions: Length 250 FEET Width 250 FEET
Start Date and Time: 03/20/2015 07:00
Must Start By: 04/03/2015
-------------------------------------------------------------------------------
Contact Name: ANDREW MADDEN
Company: ONTARIO SPECIALTY CONTRACTING
Addr1: 333 GANSON ST                   Addr2:
City: BUFFALO                          State: NY    Zip: 14203
Phone: 716-655-1250                    Fax:
Email: AMADDEN@OSCINC.COM
Field Contact: ANDREW MADDEN
Cell Phone: 716-655-1250               Email: AMADDEN@OSCINC.COM
Working for: WSP ENGINEERING
-------------------------------------------------------------------------------
Comments: Work being performed within the Emerson Power Transmission plant.
        : Plant security present. If access to immediate excavation
        : area is required call or email site contact. Detailed map of
        : excavation area available upon email request to site
        : contact.
        : Lookup Type: MANUAL
-------------------------------------------------------------------------------

Members:
  CITY OF ITHACA WATER & SEWER DEPARTMENT                  607-272-1717
  NYSEG ITHACA ELECTRIC                                    800-262-8600
  NYSEG ITHACA GAS                                         800-262-8600
  VERIZON | SYRACUSE B                                     855-661-6323
```

Service Area Code	Service Area Name	Contact	Day Phone	Emergency Phone	Alt Phone	Utility Type	Response
CIT ITHACA WTR & SWR	CITY OF ITHACA WATER & SEWER DEPARTMENT	GEORGE SEELEY	(607) 272 - 1717		(607) 280 - 5062	SEWER, WATER	10 CLEAR, NO FACILITIES WITHIN 15 FT OF THE EXCAVATOR DEFINED WORK AREA
NYSEG / ITHACA ELEC	NYSEG ITHACA ELECTRIC	PREMIER UTILS LOCATING DISPATCHER	(800) 262 - 8600			ELECTRIC	10 CLEAR, NO FACILITIES WITHIN 15 FT OF THE EXCAVATOR DEFINED WORK AREA

NYSEG / ITHACA GAS	NYSEG ITHACA GAS	PREMIER UTILS LOCATING DISPATCHER	(800) 262 - 8600			GAS	10 CLEAR, NO FACILITIES WITHIN 15 FT OF THE EXCAVATOR DEFINED WORK AREA
VERIZON / SYRACUSE B	VERIZON | SYRACUSE B	VERIZON (PPM CENTER) STAKEOUT CONTACT	(855) 661 - 6323			FIBER, TELEPHONE	10 CLEAR, NO FACILITIES WITHIN 15 FT OF THE EXCAVATOR DEFINED WORK AREA

Appendix D - Asbestos Abatement Documentation

WSP – Emerson Power Transmission, Ithaca NY
PCB Transformer Pad
NOB Asbestos Roof Removal

Asbestos Project Records

Abatement Contractor:
Ontario Specialty Contracting, Inc.

Client:
WSP USA Corp.

Project Monitor:
Parsons Brinckerhoff

Asbestos Survey
NOB Roof Related Sections

Certified Environmental Services, Inc.

SECTION III - Summary of Findings (Continued)

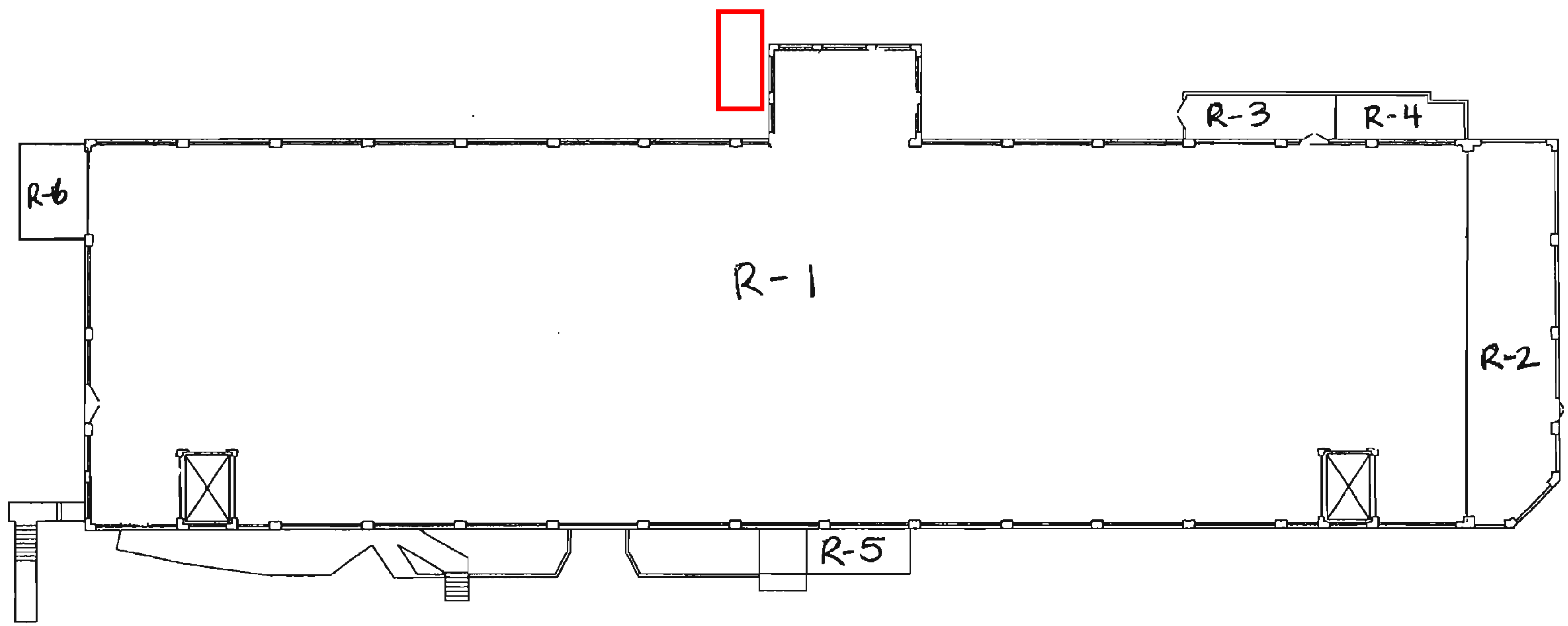
I. BUILDING #24 - EXTERIOR OF STRUCTURE: (Continued)

MATERIAL	LOCATION(S)	QUANTITY
ROOF		
Flashing Roofing Material	Roof Area R-3	80 Lf
	Roof Area R-4	80 Lf
Built-Up Roofing Material & Flashing Materials	Roof Area R-1	24,600 Ft²
	Roof Area R-2	1,600 Ft²
	Roof Area R-5	285 Ft²
	Roof Area R-6	160 Ft²

II. BUILDING #24 - INTERIOR OF STRUCTURE:

MATERIAL	LOCATION(S)	QUANTITY
BASEMENT		
12"x12" White with Tan Streaks Floor Tile and Mastic	Basement Area B-1	200 Ft²
	Basement Area B-4	200 Ft²
Transite Pipe	Basement Area B-6	9 Lf
Air Cell Type Pipe Insulation Debris	Basement Area B-6 - Within Pipe Chase	Unknown
FIRST FLOOR		
Transite Pipe	1st Floor Area 1-2 - In Floor	Unknown
Boiler Door Gasket *(Note interior of boilers not inspected)*	1st Floor Area 1-1 (2 boilers with 2 doors each plus back side of boiler)	68 Lf
Pipe Insulation	1st Floor Area 1-2 - Chase in Floor	90 Lf
	1st Floor Area 1-3 - Above Toilets (looks like fiberglass)	4 Lf

Please note that the extent and quantity of the air cell type pipe insulation within the chase is unknown. Less than one linear foot of debris was visible at the time. The extent of the transite pipe identified in the floor of Area 1-2 is unknown and it appears to extend past the partial basement and may possibly run underground.



BLDG 24 – ROOF PLAN

CES Certified Environmental Services, Inc. *Bulk Sample Log*

1401 Erie Boulevard East
Syracuse, New York 13210
Ph (315) 478-2374 Fax (315) 478-2107

CLIENT: Emerson Power Transmission CONTACT: Ilene Herbold-Miller INSPECTOR(S): Ron Russo Jr DATE: 2/07/05

PROJECT: 620 South Aurora Street PHONE #: (607) 274-6972 73263

Building 24 - Ithaca, NY FAX #: (607) 274-6197 ANALYTE: Asbestos REPORT TO NIKKI

FIELD ID NUMBER	CES LOG NUMBER	SAMPLE LOCATION	SAMPLE DESCRIPTION	SAMPLE TYPE	POS (+) OR NEG (-)
EP-2405-61	389927	Roof Area R-1 (main roof)	Skylight Flashing	NOB	POS(+)
EP-2405-62	389928	Roof Area R-1 (main roof)	Silver/Black Ventilation System Flashing Coating	NOB	↓
EP-2405-63	389929	Roof Area R-1 (main roof)	White Caulk on Parapet Wall	NOB	NEG (−)
EP-2405-64	389930	Roof Area R-1 (elevator shaft ext	Exterior Wall Coating	NOB	POS(+)
EP-2405-65	389931	Exterior of Gas House, East Side	Black Tar Coated Pipe Insulation	NOB	NEG(−)
EP-2405-66	389932	Roof Area R-3	Roof Core Sample	NOB	↓
EP-2405-67	389933	Roof Area R-4	Roof Core Sample	NOB	
EP-2405-68	389934	3rd Floor Area 3-20	Caulk on Ventilation System	NOB	
EP-2405-69	389935	2nd Floor Area 2-4	Gray Linoleum	NOB	
EP-2405-70	389936	Roof Area R-5, Ext West Side	Built-Up Roofing Material	NOB	POS(+)

SAMPLE TYPES: **F = Friable** **NF = Non-Friable** **NOB = Non-Friable Organically Bound**

CHAIN-OF-CUSTODY	PRINT NAME	SIGN NAME	DATE	TIME
Relinquished By:	Ron Russo Jr	Ron Russo	2/07/05	1310
Received at Lab By:	Renée Paone	Renée Paone	2/7/05	1310

REPORT DUE DATE: Results Due Monday 2/14/05 Report To Nikki

Certified Environmental Services, Inc.

1401 Erie Blvd. East
Syracuse, NY 13210
Phone 315-478-2374
Fax 315-478-2107

To: EMERSON POWER TRANSMISSION
620 S. AURORA STREET
ITHACA, NEW YORK 14850

Date: FEBRUARY 14, 2005

Attention: MS. ILENE HERBOLD-MILLER

PROJECT: 620 SOUTH AURORA STREET - BUILDING 24 - ITHACA, NY

ASBESTOS IN NON-FRIABLE ORGANICALLY BOUND MATERIALS (NOB) ANALYSIS REPORT

CES LOG #	CLIENT/FIELD ID	DATE COLLECTED	MATERIAL	PERCENT WEIGHT OF ORIGINAL SAMPLE REMAINING AFTER NOB PREP	PLM EXAMINATION		TEM EXAMINATION		FINAL ASBESTOS
					%	TYPE	%	TYPE	%
389933	EP-2405-67	02/07/05	ROOF CORE SAMPLE	1.0	<1.0	CHRYSOTILE	*<1.0	CHRYSOTILE	<1.0
389934	EP-2405-68	02/07/05	CAULK ON VENTILATION SYSTEM	72.1	<1.0	ND	*<1.0	ND	<1.0
389935	EP-2405-69	02/07/05	GRAY LINOLEUM	4.0	<1.0	ND	***		<1.0
389936	EP-2405-70	02/07/05	BUILT- UP ROOFING MATERIAL	15.9	67.0	CHRYSOTILE			10.6
389937	EP-2405-71	02/07/05	WINDOW SILL COATING	52.5	22.2	CHRYSOTILE			11.7
389938	EP-2405-72	02/07/05	12"x12" RED/ORANGE FLOOR TILE	1.2	<1.0	ND	*<1.0	CHRYSOTILE	<1.0
389939	EP-2405-73	02/07/05	BLACK MASTIC (TO SAMPLE #72)	6.0	<1.0	ND	*<1.0	ND	<1.0
389940	EP-2405-76	02/07/05	ROOF SHINGLES	18.2	<1.0	ND	*<1.0	CHRYSOTILE	<1.0

*TEM analysis performed by ELAP #10920. ND - None Detected

***TEM analysis not performed per client's request.

Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

ANALYSIS METHOD: ELAP Item Number 198.1 and 198.4

NYSDOH LAB ID #11246

APPROVED BY: MJSalvilla

Maja J. Salvilla
Asbestos Technical Director

NYSDOL Asbestos Notification

Asbestos Project Notification

Project Reference Number:	26101025	Type:	Amended Notification
Status:	Notification Received	Notification Received:	3/25/2015
Payment Status:	Paid in full	Number of amendments:	1
Notification Entered By:	Ontario Specialty Contracting, Inc.		

Contractor Information

FEIN:161531379

Ontario Specialty Contracting, Inc. **Mailing Address**

333 Ganson Street

Buffalo NY 14203

Asbestos License Number: 34820

Duly Authorized Representative

John Yensan, Other

Phone Number: 716-856-3333

E-mail Address: jyensan@oscinc.com

Project Information

Project Start Date: 4/6/2015

Project End Date: 4/9/2015

Project Location County: Tompkins

Worker Compensation

Worker Compensation Policy#:

WC Exemption Certificate#:

Number of your employees you expect to be on project:

Will temporary workers be used?

If yes, name of temporary agency:

Project Location

Building Name: Emerson Power Transmission Plant BLD#24

Room or Location: Small outdoor roof

Bridge ID#:

Address Line 1: 620 S Aurora Street

Address Line 2:

City Town or Village: Ithaca

State: New York

Zip Code: 14850

Building Information

Current Use:	Vacant
Prior Use:	Industrial
Approximate Year Built:	1950
Size(sq.ft):	285
Is this fee exempt project?:	NO
Reason:	

Building Representative/Site Contact

Name:	Daniel Liwicki
Phone Number:	
E-mail Address:	
Cell Phone Number:	716-866-1623

Phase Details

Phase #	Phase Start Date	Phase End Date	Phase Location	Phase Scope

Sub-Contractor Details

Name:	Asbestos License Number:

Night/Weekend/Shift Work Details

A small crew (approximately 3 personnel) will be removing and disposing of the roof. The disposal of this small roof is part of a larger construction project. Weather and site conditions may play a roll in choosing the exact time of day for removal. The crew is authorized to work overtime at their discretion to accommodate project needs.

Party for Whom Work is being Performed

First Name:	Dave	Last Name:	Rykaczewski
Organization:	WSP Engineering of New York, P.C.		
Apt./Suite:	410	Address Line 1:	750 Holiday Drive
Address Line 2:		City Town or Village:	Pittsburgh
Province:		State:	PA
Zip Code:	15220	Country:	United States
Contract Dollar Amount:	$1.00		

Variance Information

Procedures and Type of Equipment and Ventilation Systems Used

This task involves demolition of a concrete pad and enclosure attached to an inactive industrial facility within the Emerson Power Transmission Plant. 285 SF of non-friable organically bound (NOB) asbestos built-up roofing material has been identified atop the enclosure's wood roof decking. Removal and disposal of this roof will be managed per the NYSDOL CR 56-11.1 In-Plant Operations regulation.

The site supervisor will remove the roof by first sufficiently wetting the material then rigging the roof support framing and lowering it within a lined roll-off container; via small crane. During the process the roof materials will remain untouched in a substantially intact state. The roof decking containing the NOB asbestos materials will then be immediately encapsulated (2 layers 6 ml poly/secured air tight) within the roll-off container for transportation and disposal.

Air Monitoring Firm

Name:	Asbestos License Number:

Laboratory Performing Analysis

Name:	ELAP Registration Number:

Type of Asbestos Work

Pipe Related:	No	Siding:	No
Clean up:	No	Vessel covering:	No
Caulking/mastic:	No	Spray-on insulation:	No
Roofing/flashing:	Yes	VAT:	No
Demolition:	No	Demolition Ref#:	
Other-specify:			

Waste Transporter

Name:	Earthwatch Waste Systems, Inc.
NYS DEC or EPA Permit Number:	NA
Phone Number:	(716) 681-6433
Apt./Suite:	170
Address Line 1:	4950 Genesee Street
Address Line 2:	
City Town or Village:	Buffalo
Province:	
State:	NY
Zip Code:	14225
Country:	United States

Landfill

Name:	Casella Waste Management NY
Phone Number:	(585) 526-4420
Apt./Suite:	
Address Line 1:	1879 NY-5
Address Line 2:	
City Town or Village:	Stanley
Province:	
State:	NY
Zip Code:	14561
Country:	United States

Type and Amount of Asbestos Containing Material

Friable linear feet:	0	Friable square feet:	0
Non-friable linear feet:	0	Non-friable square feet:	285

Fee

Total linear feet:	0.0
Total square feet:	285.0
Total Fee:	400.0

Project Fee Schedule

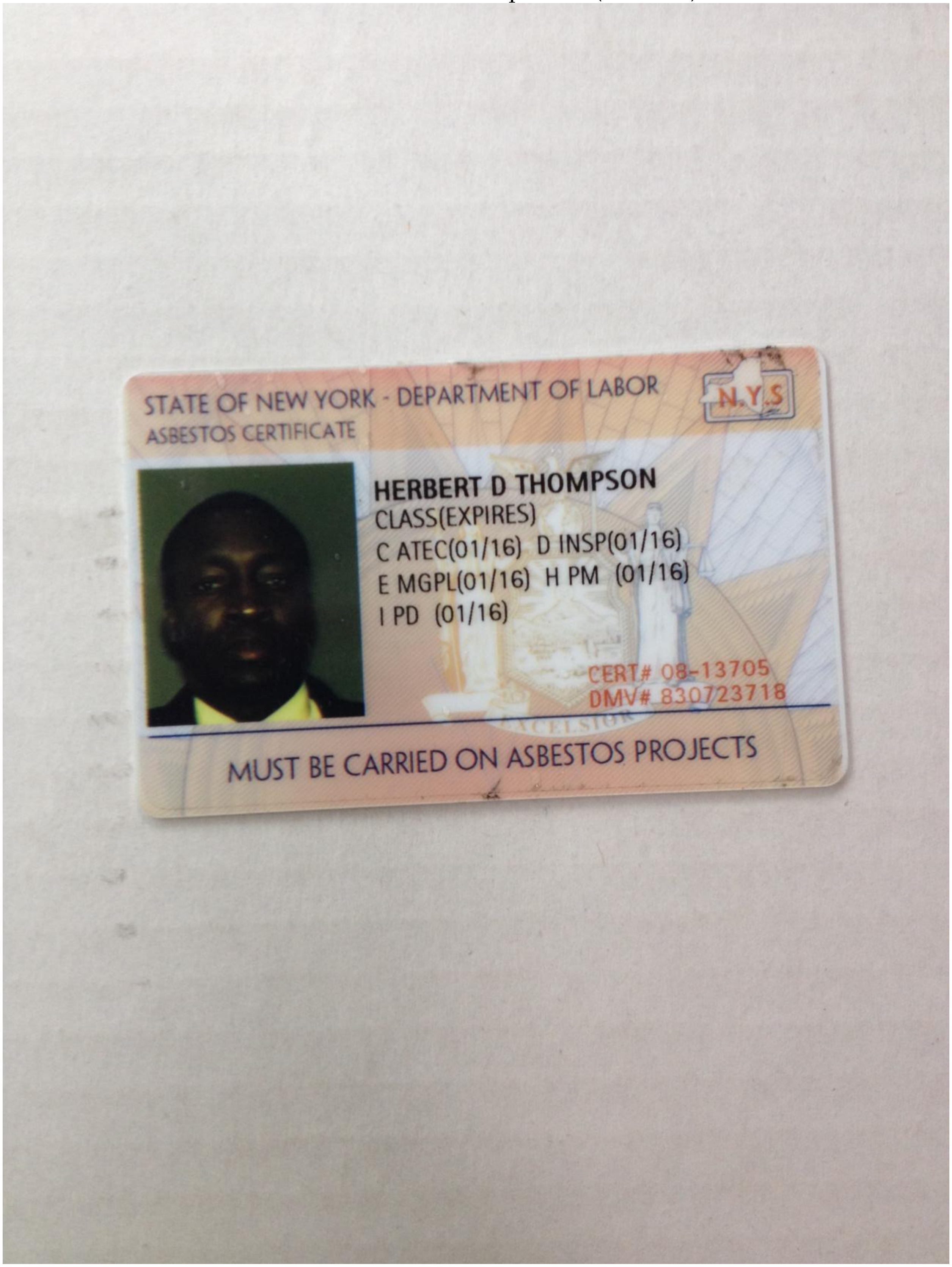
If the notification was submitted prior to 4/7/09, the actual project fee is one half of the amount shown on the fee schedule

Linear Feet:	Fee	Square Feet:	Fee
0 - 259 feet:	$0	0 - 159 feet:	$0
260 - 429 feet:	$200	160 - 259 feet:	$200
430 - 824 feet:	$400	260 - 499 feet:	$400
825 - 1649 feet:	$1000	500 - 999 feet:	$1000
1650 or more feet:	$2000	1000 or more feet:	$2000

Remarks

Final Project Monitor Visual Inspection

WSP – Emerson Power Transmission, Ithaca NY
PCB Transformer Pad
NOB Asbestos Roof Removal – Final Visual Inspection (4/8/2015)



WSP – Emerson Power Transmission, Ithaca NY
PCB Transformer Pad
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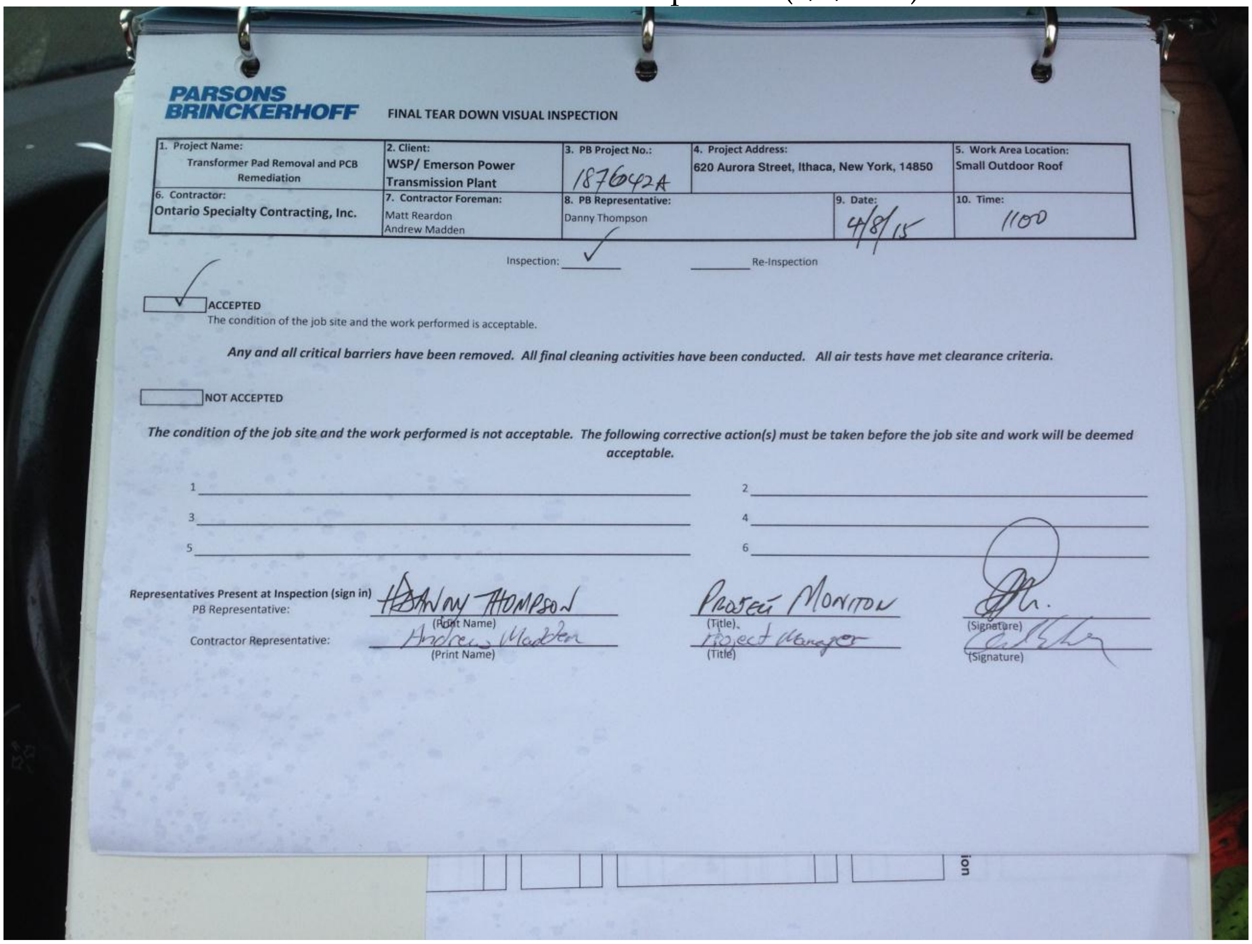


PARSONS BRINCKERHOFF

FINAL TEAR DOWN VISUAL INSPECTION

1. Project Name: Transformer Pad Removal and PCB Remediation	2. Client: WSP/ Emerson Power Transmission Plant	3. PB Project No.: 187642A	4. Project Address: 620 Aurora Street, Ithaca, New York, 14850	5. Work Area Location: Small Outdoor Roof
6. Contractor: Ontario Specialty Contracting, Inc.	7. Contractor Foreman: Matt Reardon Andrew Madden	8. PB Representative: Danny Thompson	9. Date: 4/8/15	10. Time: 1100

Inspection: ✓ ______ Re-Inspection

☑ ACCEPTED
The condition of the job site and the work performed is acceptable.

Any and all critical barriers have been removed. All final cleaning activities have been conducted. All air tests have met clearance criteria.

☐ NOT ACCEPTED

The condition of the job site and the work performed is not acceptable. The following corrective action(s) must be taken before the job site and work will be deemed acceptable.

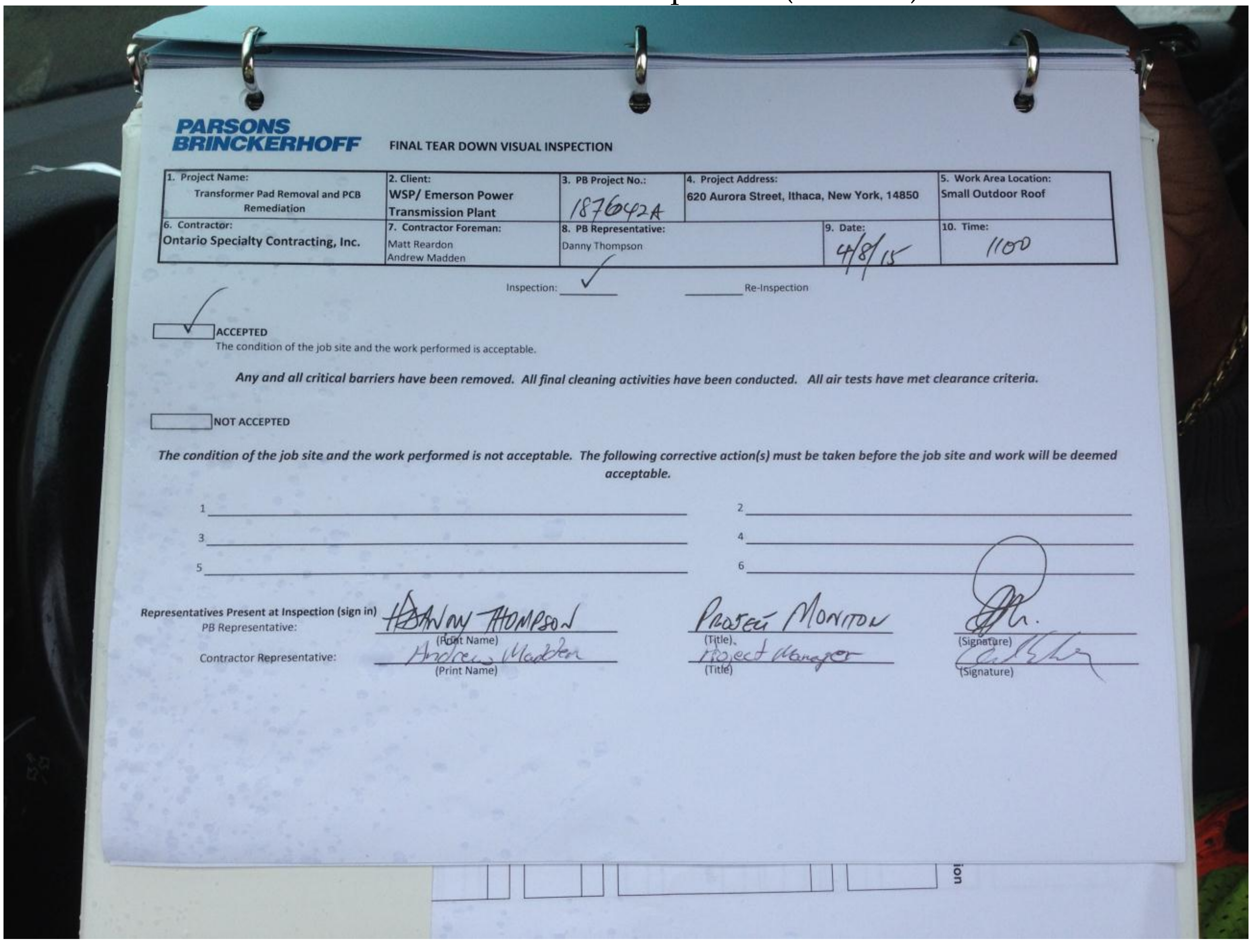
1 ______ 2 ______
3 ______ 4 ______
5 ______ 6 ______

Representatives Present at Inspection (sign in)

PB Representative: DANNY THOMPSON (Print Name) PROJECT MONITOR (Title) [signature] (Signature)

Contractor Representative: Andrew Madden (Print Name) Project Manager (Title) [signature] (Signature)

WSP – Emerson Power Transmission, Ithaca NY
PCB Transformer Pad
NOB Asbestos Roof Removal – Final Visual Inspection (4/8/2015)



PARSONS BRINCKERHOFF

FINAL TEAR DOWN VISUAL INSPECTION

1. Project Name:	2. Client:	3. PB Project No.:	4. Project Address:	5. Work Area Location:
Transformer Pad Removal and PCB Remediation	WSP/ Emerson Power Transmission Plant	187642A	620 Aurora Street, Ithaca, New York, 14850	Small Outdoor Roof
6. Contractor: Ontario Specialty Contracting, Inc.	7. Contractor Foreman: Matt Reardon, Andrew Madden	8. PB Representative: Danny Thompson	9. Date: 4/8/15	10. Time: 1100

Inspection: ✓ ________ Re-Inspection

[✓] ACCEPTED
The condition of the job site and the work performed is acceptable.

Any and all critical barriers have been removed. All final cleaning activities have been conducted. All air tests have met clearance criteria.

[ ] NOT ACCEPTED

The condition of the job site and the work performed is not acceptable. The following corrective action(s) must be taken before the job site and work will be deemed acceptable.

1____ 2____
3____ 4____
5____ 6____

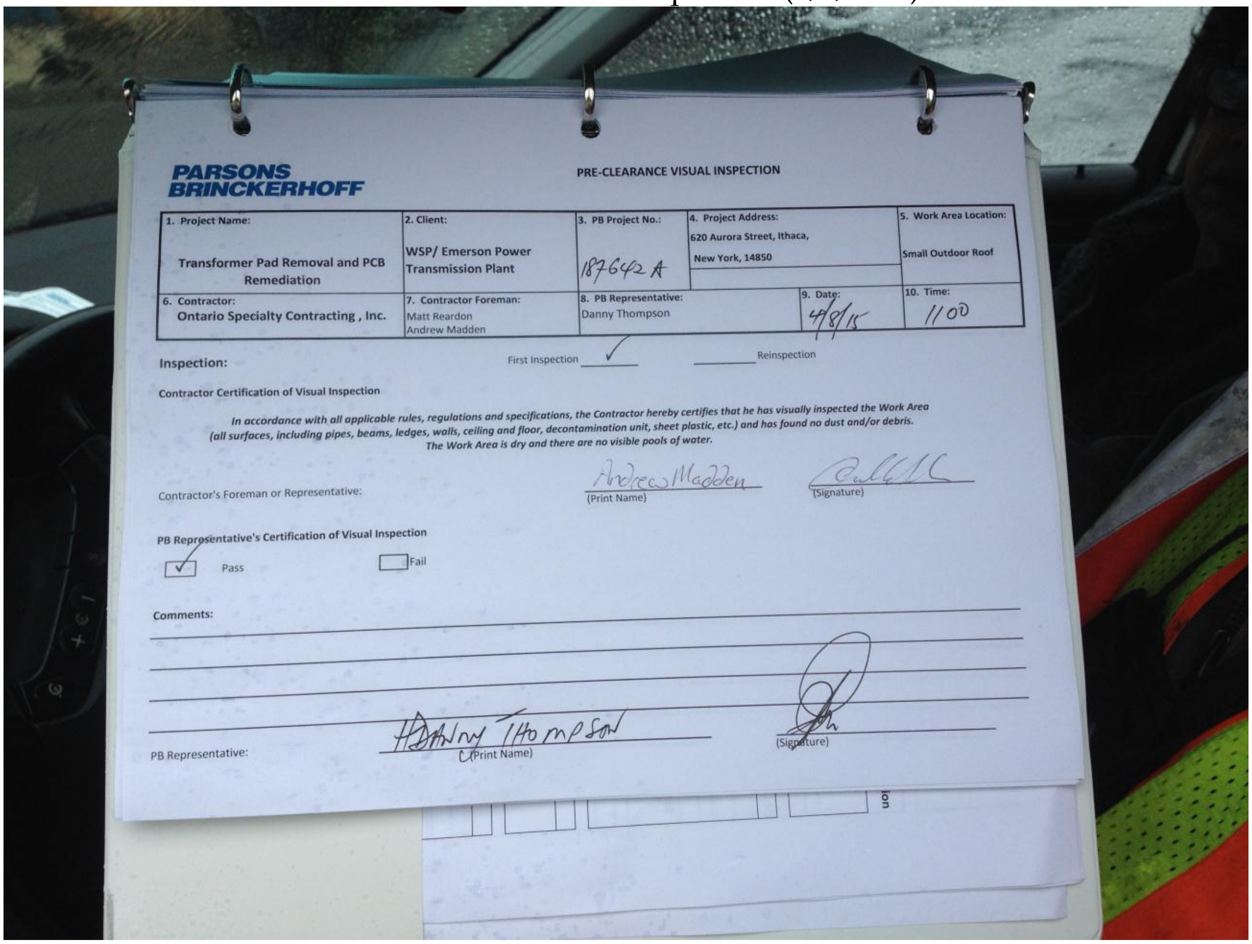
Representatives Present at Inspection (sign in)

	(Print Name)	(Title)	(Signature)
PB Representative:	Danny Thompson	Project Monitor	[signature]
Contractor Representative:	Andrew Madden	Project Manager	[signature]

WSP – Emerson Power Transmission, Ithaca NY

PCB Transformer Pad

NOB Asbestos Roof Removal – Final Visual Inspection (4/8/2015)



PARSONS BRINCKERHOFF

PRE-CLEARANCE VISUAL INSPECTION

1. Project Name:	2. Client:	3. PB Project No.:	4. Project Address:		5. Work Area Location:
Transformer Pad Removal and PCB Remediation	WSP/ Emerson Power Transmission Plant	187642 A	620 Aurora Street, Ithaca, New York, 14850		Small Outdoor Roof
6. Contractor: Ontario Specialty Contracting , Inc.	7. Contractor Foreman: Matt Reardon Andrew Madden	8. PB Representative: Danny Thompson		9. Date: 4/8/15	10. Time: 1100

Inspection: First Inspection ✓ ____ Reinspection

Contractor Certification of Visual Inspection

In accordance with all applicable rules, regulations and specifications, the Contractor hereby certifies that he has visually inspected the Work Area (all surfaces, including pipes, beams, ledges, walls, ceiling and floor, decontamination unit, sheet plastic, etc.) and has found no dust and/or debris. The Work Area is dry and there are no visible pools of water.

Contractor's Foreman or Representative: Andrew Madden (Print Name) (Signature)

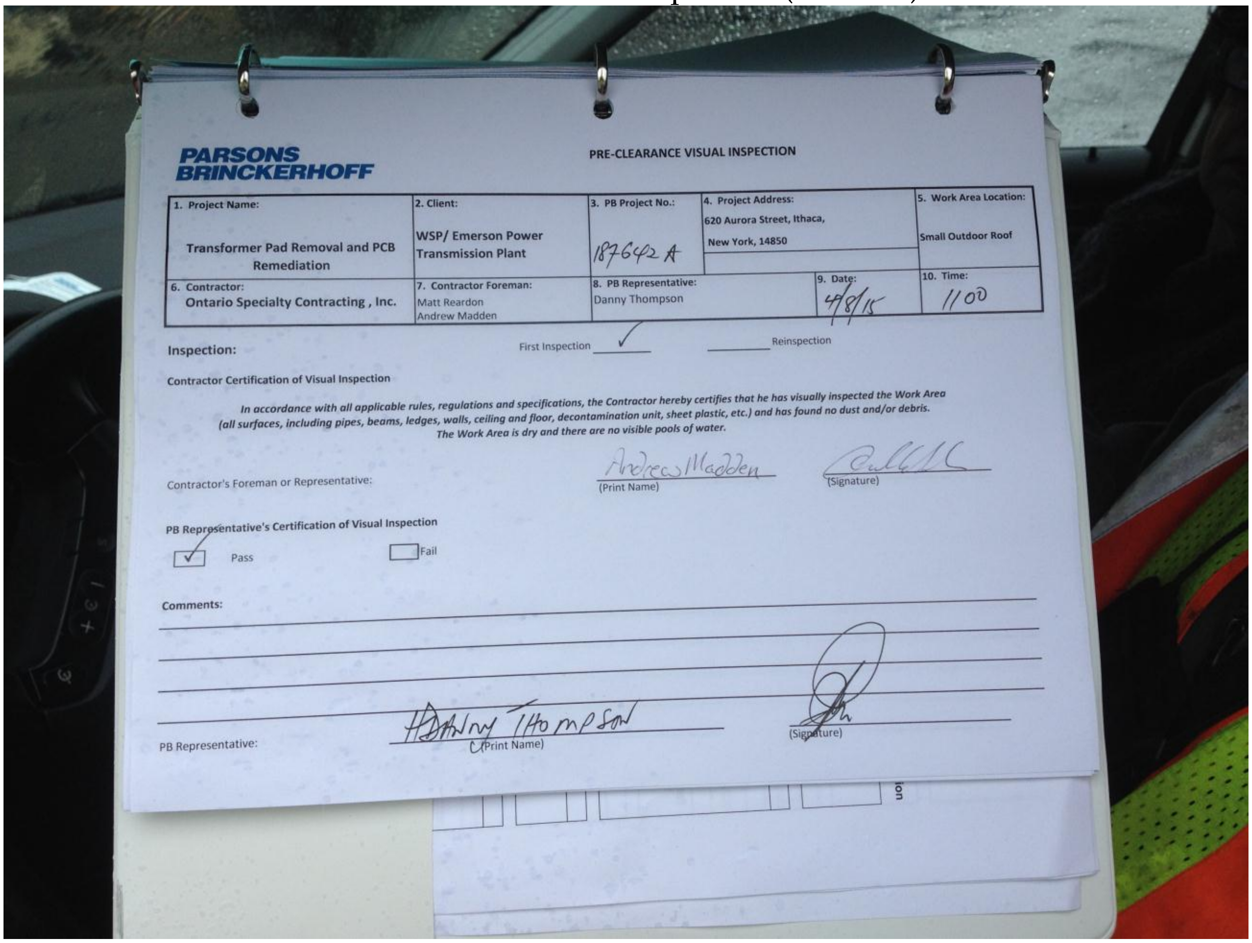
PB Representative's Certification of Visual Inspection

☑ Pass ☐ Fail

Comments:

PB Representative: DANNY THOMPSON (Print Name) (Signature)

WSP – Emerson Power Transmission, Ithaca NY
PCB Transformer Pad
NOB Asbestos Roof Removal – Final Visual Inspection (4/8/2015)


PARSONS BRINCKERHOFF

PRE-CLEARANCE VISUAL INSPECTION

1. Project Name:	2. Client:	3. PB Project No.:	4. Project Address:	5. Work Area Location:
Transformer Pad Removal and PCB Remediation	WSP/ Emerson Power Transmission Plant	187642 A	620 Aurora Street, Ithaca, New York, 14850	Small Outdoor Roof
6. Contractor: Ontario Specialty Contracting , Inc.	7. Contractor Foreman: Matt Reardon Andrew Madden	8. PB Representative: Danny Thompson	9. Date: 4/8/15	10. Time: 1100

Inspection: First Inspection ✓ ________ Reinspection

Contractor Certification of Visual Inspection

In accordance with all applicable rules, regulations and specifications, the Contractor hereby certifies that he has visually inspected the Work Area (all surfaces, including pipes, beams, ledges, walls, ceiling and floor, decontamination unit, sheet plastic, etc.) and has found no dust and/or debris. The Work Area is dry and there are no visible pools of water.

Contractor's Foreman or Representative: Andrew Madden (Print Name) (Signature)

PB Representative's Certification of Visual Inspection

☑ Pass ☐ Fail

Comments:

PB Representative: Danny Thompson (Print Name) (Signature)

Ontario Specialty Contracting, Inc.
Asbestos handling License

New York State – Department of Labor
Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

Ontario Specialty Contracting, Inc.

333 Ganson Street

Buffalo, NY 14203

FILE NUMBER: 99-0601
LICENSE NUMBER: 34820
LICENSE CLASS: FULL
DATE OF ISSUE: 02/19/2015
EXPIRATION DATE: 01/31/2016

Duly Authorized Representative – John Yensan:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Eileen M. Franko, Director
For the Commissioner of Labor

SH 432 (8/12)

Training Certificates

STATE OF NEW YORK - DEPARTMENT OF LABOR

ASBESTOS CERTIFICATE

N.Y.S

ANDREW MADDEN

CLASS(EXPIRES)

G SUPR(04/16)

CERT# 10-07453

DMV# 971370959

EXCELSIOR

MUST BE CARRIED ON ASBESTOS PROJECTS

01213 000404506 84

EYES BRO

HAIR BRO

HGT 6' 00"

IF FOUND RETURN TO:

NYSDOL - L&C UNIT

ROOM 161A BUILDING 12

STATE OFFICE CAMPUS

ALBANY NY 12240

New York State Department of Health Certificate of Asbestos Safety Training

This form is the official record of successful completion of a New York State accredited asbestos safety training course.

Certificate No. 714296

I – To be completed by Trainee		
Name of Trainee (print) Andrew Madden	NYS Depart. of Motor Vehicles ID (DMV ID)[1] 971 370 959	
Signature of Trainee	Telephone Number 716-655-1250	Date of Birth[1] 4/11/1982

Address 58 Rainbow Terrace (Street or PO Box) Orchard Park (City) NY (State) 14127 (Zip Code)

II – To be completed by Training Sponsor	
Provider's Name The Safety and Health Center	Telephone Number (716) 838-6850
Address 2495 Main St Suite 118 Zip Code Buffalo, NY 14214	Course Location: Same

Course Title: Supervisor ☐ Initial ☒ Refresher | *NYS DOH use only* ☐ DOH Equivalency[2]

Training Language: ☒ English ☐ Other: ______ Exam Grade/Date: 100% 1/15/15

Dates of Training: From: 1/15/15 To: 1/15/15 Expires: 1/15/16

I certify that the asbestos safety training course given on the above date complied with both 10 NYCRR Part 73 and TSCA Title II, was consistent with the curriculum and instructors approved by the New York State Department of Health, and the trainee receiving this certificate completed the training course and successfully passed the examination.

Training Director[2]: Raymond Z. Turpin (Print) ______ (Signature)

STUDENT

DOH-2832 (10/03) [1]Optional Information [2]DOH Equivalency signed by NYS DOH representative only

OSHA Asbestos Clearance

Cleared for Respirator use

Questionnaire - Passed

Pulmonary Function - Passed

Physical - Passed

Class 1 - No Restrictions

Last Name: Madden **First:** Andrew

Examination Date: **10/24/14**

Card expires one year from exam date

Performed by Company Health, 1173 Sheridan Dr. Tonawanda NY 14150, (ph) 716-875-5495

STATE OF NEW YORK - DEPARTMENT OF LABOR

ASBESTOS CERTIFICATE

N.Y.S

MATTHEW E REARDON

CLASS(EXPIRES)

G SUPR(10/15)

CERT# 93-11663

DMV# 912577393

EXCELSIOR

MUST BE CARRIED ON ASBESTOS PROJECTS

New York State Department of Health Certificate of Asbestos Safety Training

This form is the official record of successful completion of a New York State accredited asbestos safety training course.

Certificate No. 706029

I – To be completed by Trainee

Name of Trainee (print): Matt Reardon	NYS Depart. of Motor Vehicles ID (DMV ID)[1]: 912 577 393	
Signature of Trainee: MER.	Telephone Number: 716 886 7767	Date of Birth[1]: 10.19.70.

Address: 785 BIRD Ave (Street or PO Box) Buffalo (City) NY (State) 14209. (Zip Code)

II – To be completed by Training Sponsor

Provider's Name: The Safety and Health Center	Telephone Number: (716) 838-6850
Address: 2495 Main St Suite 118 Zip Code: Buffalo, N.Y. 14214	Course Location: Same

Course Title: Supervisor ☐ Initial ☒ Refresher — *NYS DOH use only* ☐ DOH Equivalency[2]

Training Language: ☒ English ☐ Other: ________ Exam Grade/Date: 92% / 8/26/14

Dates of Training: From: 8/26/14 To: 8/26/14 Expires: 8/26/15

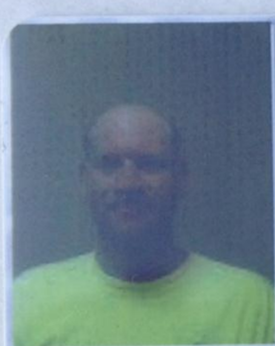
I certify that the asbestos safety training course given on the above date complied with both 10 NYCRR Part 73 and TSCA Title II, was consistent with the curriculum and instructors approved by the New York State Department of Health, and the trainee receiving this certificate completed the training course and successfully passed the examination.

Training Director[2]: Raymond Z Turpin (Print) Ral [signature] (Signature)

DEPT. OF LABOR

DOH-2832 (10/03) [1]Optional Information [2]DOH Equivalency signed by NYS DOH representative only

OSHA Asbestos Clearance



Cleared for Respirator use

Questionnaire - Passed

Pulmonary Function - Passed

Fit Test - Passed

Physical - Passed

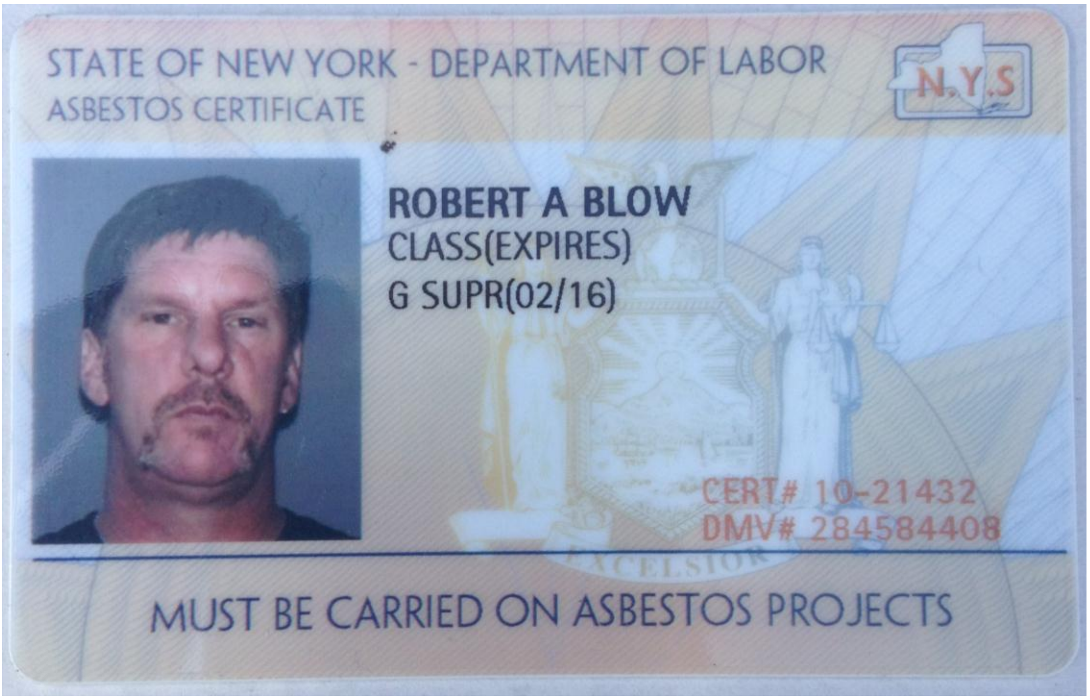
Class 1 - No Restrictions

Last Name: **Reardon** **First:** **Matthew**

Examination Date: **04/02/15**

Card expires one year from exam date

Performed by Company Health, 1173 Sheridan Dr. Tonawanda NY 14150, (ph) 716-875-5495


STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

N.Y.S

ROBERT A BLOW
CLASS(EXPIRES)
G SUPR(02/16)

CERT# 10-21432
DMV# 284584408

EXCELSIOR

MUST BE CARRIED ON ASBESTOS PROJECTS

264365

New York State Department of Health Certificate of Asbestos Safety Training

This form is the official record of successful completion of a New York State accredited asbestos safety training course.

Certificate No. 714298

I – To be completed by Trainee

Name of Trainee (print): Robert Blow	NYS Depart. of Motor Vehicles ID (DMV ID)[1]: 284 584 408
Signature of Trainee: Robert Blow	Telephone Number: 716-698-7714 / Date of Birth[1]: 2-8-59

Address: P.O Box 175 (Street or PO Box) Attica (City) N.Y. (State) 14011 (Zip Code)

II – To be completed by Training Sponsor

Provider's Name: The Safety and Health Center	Telephone Number: (716) 838-6850
Address: 2495 Main St Suite 118 Zip Code: Buffalo, Ny 14214	Course Location: same

Course Title: Supervisor ☐ Initial ☒ Refresher

NYS DOH use only ☐ DOH Equivalency[2]

Training Language: ☒ English ☐ Other: ____ Exam Grade/Date: 72% / 1/15/15

Dates of Training: From: 1/15/15 To: 1/15/15 Expires: 1/15/16

I certify that the asbestos safety training course given on the above date complied with both 10 NYCRR Part 73 and TSCA Title II, was consistent with the curriculum and instructors approved by the New York State Department of Health, and the trainee receiving this certificate completed the training course and successfully passed the examination.

Training Director[2]: Raymond Z. Turpin (Print) Ray Z T (Signature)

DEPT. OF LABOR

DOH-2832 (10/03) [1]Optional Information [2]DOH Equivalency signed by NYS DOH representative only

OSHA Asbestos Clearance

Cleared for Respirator use

Questionnaire - Passed

Pulmonary Function - Passed

Fit Test - Passed

Physical - Passed

Class 1 - No Restrictions

Last Name: Blow **First:** Robert

Examination Date: 04/06/15

Card expires one year from exam date

Performed by Company Health, 1173 Sheridan Dr. Tonawanda NY 14150, (ph) 716-875-5495

Exposure Assessment

Project: Emerson Power Transmission Plant Transformer Pad Removal and PCB Remediation – Ithaca, NY
April 6 – 8, 2015

INITIAL EXPOSURE ASSESSMENT
29 CFR 1926.1101(f)(2) and (f)(2)(iii)(A)

Class of work: Roof flashings which contain asbestos fibers encapsulated or coated by bituminous or resinous compounds [1926.1101(g)(11)]

Type of Asbestos Containing Material: Built-up Non-friable Organically Bound (NOB) Asbestos Roofing

Condition of ACM: Intact

Type and percent of asbestos: Chrysotile, 10.6%

Describe Control Methods: The work must be supervised by a Competent Person as defined in 29 CFR 1926.1101(b). The area where the removal will take place must be regulated by posting with appropriate signage and controlled for access and activities by authorized persons only. The NOB asbestos containing roof, will be supported by attached cables and immediately lowered within an adjacent roll-off container. The wood roof will be sufficiently wetted and sealed with plastic sheeting before placement within the roll-off container for disposal. Work procedures will ensure the NOB asbestos materials remains substantially intact to prevent any chance of rendering them friable. Inspect area for fallen debris and clean the immediate work area with a HEPA filtered vacuum or by wet wiping with amended water or foam.

Employee’s Training: Contractor/Supervisor and Worker/Handler

Environmental Conditions: Outdoors

THIS ASSESSMENT IS NEGATIVE. Employee exposure during the operation is expected to be consistently below the PELs.

OSHA Permissible Exposure Limits: Time Weighted Average: 0.1 f/cc
Excursion Limit: 1.0 f/cc

Who produced the objective data?
National Roofing Contractors Association (NRCA), December 14, 1994 “Objective Data Demonstration for Certain Roofing Materials and Operations Under OSHA's 1994 Asbestos Standard”

When were the Objective Data produced?
The NRCA developed objective data relating to asbestos containing roofing materials via controlled laboratory analyses and abatement project surveys between the 1980s and up through publishing in 1994.

The planned removal methods were referenced against objective data published by the National Roofing Contractors Association (NRCA, December 1994) and were determined to be substantially less destructive and thus less likely to produce asbestos airborne fibers, than those utilized during NRCA testing. The NRCA objective data demonstrates, through controlled laboratory studies and surveyed abatement projects, that the built-up NOB asbestos roofing material will not exceed exposure limits of 0.1f/cc (TWA) and 1.0 f/cc (STEL), so long as the material remains intact and dust suppression/collection activities, worker training, and competent person supervision requirements of the OSHA standard are met.

Competent Person responsible for developing this Negative Exposure Assessment and overseeing the development of this objective data:

Andrew D. Madden OSHA / NYSDOL Certified Contractor/Supervisor CERT# 10-07453

Signature of Competent Person:

CHEMUNG COUNTY LANDFILL
A DIVISION OF CASELLA WASTE SYSTEMS INC
1690 LAKE STREET ELMIRA, NY 14902

TICKET: 201967
DATE: 04/27/2015
TIME: 08:41 - 08:55

CUSTOMER: LK00280 / RICCELLI TRUCKING P.O.:
HAULCUST: WO: 0 APPROVAL #: GROSS: 43700 LBS
ORIGIN: TOM / TOMPKINS COUNTY TARE: 35680 LBS
TRUCK: RIC32 TRAILER: NET: 8020 LBS
GENERATOR: NA / NON APPLICABLE PROFILE #: NA
HAULER: RICC / RICCELLI TRUCKI ROUTE: NA / NON APPLICABLE
COMMENT: 20321 CELL/TANK: MSW -4B

MATERIAL	QUANTITY	UNIT
MX / MSW&CD MIXED TRASH	4.0100	ST

I Certify under penalty of perjury that I am familiar with wastes authorized at this facility and that to the best of my knowledge all waste contained in this load is authorized for disposal at this facility.

Weighmaster: ______________ Driver: ______________

IN: RONALD PETERSON070092PCSCALE1-C OUT: RONALD PETERSON070092PCSCALE1-CLF

PROJECT MONITORING REPORT FOR
THE REMOVAL OF
ASBESTOS-CONTAINING MATERIALS

Related to:

ASBESTOS ABATEMENT
SMALL OUTDOOR ROOF

Performed at:

EMERSON POWER TRANSMISSION PLANT
BUILDING #24
620 SOUTH AURORA STREET
ITHACA, NEW YORK 14850

Performed for:

WSP Engineering of NewYork, P.C.
750 Holiday Drive, Suite 410
Pittsburgh, PA 15220

Prepared by:

PARSONS BRINCKERHOFF

ENVIRONMENTAL ENGINEERING & HEALTH SERVICES
ONE PENN PLAZA, 3rd FLOOR
NEW YORK, NEW YORK 10119

PB PROJECT No: 187642B

April 17, 2015

Table of Contents *Page*

1.0 EXECUTIVE SUMMARY

Parsons Brinckerhoff (PB) was retained by the WSP Global (WSP) to conduct project monitoring services during the removal of asbestos containing materials (ACMs) associated with a small outside roof at the Emerson Power Transmission Plant located at 620 South Aurora Street, Ithaca, New York 14850.

Asbestos removal was contracted to Ontario Specialty Contracting, Inc. (OSC), located at 333 Ganson Street, Buffalo, NY 14203. OSC's New York State Department of Labor Asbestos Handling License number is 34820.

The asbestos abatement activities of the contractor as well as the project monitoring and inspections performed by PB were subject to the requirements of the New York State Department of Labor (NYS DOL) Part 56 of the Title 12 of the Official Compilation of Codes, Rules and Regulations of the State of New York (12 NYCRR Part 56). The project was performed using In-Plant Operations methods.

Air quality monitoring was not performed as part of this project.

2.0 CONTRACTOR SCOPE OF WORK

The contractor's scope of work included area preparation and the removal of non-friable organically bound (NOB) asbestos built-up roofing material from Building #42. The site asbestos supervisor removed the roof by first sufficiently wetting the material then rigging the roof support framing and then lowering it within a lined roll-off container. During the process, the roof materials remained untouched in a substantially intact state. The roof decking containing the NOB asbestos materials were immediately covered with 2 layers of 6 ml poly sheeting within the roll-off container for transportation and disposal.

The following is a summary of the progress of the work:

<u>Asbestos Abatement – Small Outdoor Roof</u>

Work Area Mobilization:	April 6, 2015
Work Area Preparation:	April 7, 2015
Start of Removal:	April 8, 2015
Completion of Removal:	April 8, 2015
Inspection after Final Clean-Up Completion:	April 8, 2015

3.0 AREA ISOLATION AND ENGINEERING CONTROLS

Prior to commencement of abatement activities, a remote three-stage personal and waste decontamination enclosure facility was installed in compliance with 12 NYCRR-56 and maintained throughout the duration of the asbestos abatement until satisfactory visual inspection was achieved. The final visual inspection was performed by the PB Project Monitor and the Asbestos Abatement Supervisor.

Caution signs in compliance with OSHA 1926.1101 warning of asbestos dust hazards were posted at all points of access to the abatement work area.

4.0 CONTRACTOR HEALTH AND SAFETY/ABATEMENT WORK PRACTICES

A remote personal decontamination unit consisted of a serial arrangement of rooms including a clean room, shower room, and equipment room. Overlapping polyethylene sheeting formed an air lock that separated each room.

Respiratory protection was supplied to all employees during all phases of abatement activities. Respiratory protection consisted of half face Air Purifying Respirators (APRs) for all removals. All air-purifying respirators were equipped with HEPA filter cartridges.

All personnel entering the work area wore full body disposable coveralls, hoods, and boot coverings. These were discarded as asbestos containing waste upon exiting the work area.

ACM was removed after wetting with water amended with surfactant chemical to improve water penetration into asbestos materials for added mitigation of airborne fiber release. The roof was lowering into a lined roll-off container. During the process the roof materials remained untouched in a substantially intact state. The roof decking containing the NOB asbestos materials were immediately covered with 2 layers of 6 mil poly sheeting within the roll-off container for transportation and disposal. The Contractor was responsible to transport all waste to a landfill operated according to federal, state and local regulatory requirements by a licensed asbestos waste hauler.

5.0 PROJECT MONITORING AND INSPECTION PROCEDURES

The Project Monitor performed a visual inspection after asbestos abatement was completed. No visible signs of ACM were observed during this inspection.

Construction Inspection

Periodic observations were conducted for during the course of abatement activities. Refer to Appendix A for a copy of the Daily Log.

6.0 CONTRACTOR EVALUATION AND INCIDENTS

The contractor conducted all abatement in a safe and timely fashion.

7.0 CLEARANCE

Upon completion of the abatement activity, the Project Monitor and Asbestos Abatement Supervisor performed a visual inspection. No visible signs of ACM were observed.

8.0 EXTENT OF ABATEMENT

Asbestos-containing building materials were widely used in the construction industry. In addition to finding asbestos on accessible facility components and/or mechanical items, there are frequently shafts and/or other void spaces created by the structure itself (i.e. asbestos pipe insulation penetration through structural wall or deck), which will contain asbestos materials after abatement. Additionally, asbestos materials may remain in a non-friable form (i.e., vinyl asbestos tile and/or asbestos containing mastic, finished plaster, and/or underlying brown coat or within the structural materials themselves (i.e., asbestos-containing concrete).

The intent of an asbestos abatement project is to remove those accessible asbestos-containing materials that pose a reasonable likelihood of releasing asbestos fibers into the air. It must be understood that total asbestos removal is not possible in the literal sense unless a building is carefully dismantled piece by piece. That is, additional asbestos-containing material may exist in interstitial/inaccessible spaces or beyond the scope or access of the abatement contractor.

9.0 CONTRACTOR CLOSEOUT DOCUMENTATION

PB has not requested to review the Contractor's final closeout submittal package associated with this project.

APPENDIX A

DAILY JOB LOGS

PARSONS BRINCKERHOFF

DAILY FIELD LOG

Client Name: WSP/ Emerson Power Transmission Plant	PB Project Number: 187642A	PB Project Monitor: Danny Thompson
Project Name: Transformer Pad Removal and PCB Remediation	Laboratory Name/Location: N/A	PB Project Manager: Joseph Hunter / James Lumsden
Date: 4/8/15	Shift Hours: 07:30	Contractor Name: Ontario Specialty Contracting, Inc.

SUMMARY OF SHIFT ACTIVITIES

0712	~~PB~~ PROJECT MONITOR ~~H~~ DANNY THOMPSON ARRIVES ON SITE AND CHECKS THROUGH SECURITY. MEET WITH GC REP: DANIEL LIWICKI AND ABATEMENT SUPERVISOR AND CREW
0730	SUPERVISOR AND CREW HOLD SAFETY THEN DON PPE AND ACTIVATE REMOTE/MOBILE DECON.
0800	AFTER DECON PASSES INSPECTION CREW BEGIN TO MANUALLY REMOVE (TRANSFORMER PAD) ROOF ANCHOR BOLTS IN PREPARATION FOR MECHANICAL REMOVAL OF ENTIRE ROOF. (TRANSFORMER PAD) CREW'S LICENSES ARE CHECKED AND NOTED.
0830	Roof still being prepped for removal :- chains being attached.
0900	PREP ~~FOR~~ REMOVAL is PROGRESSING
1000	AFTER PREP PASSES INSPECTION CREW BEGIN USING LINK BELT CRANE TO PULL ROOF DOWN INTO OPEN CONTAINER
10:40	Removal of Roof and WASTE OUT TO CONTAINER IS completed! Crew clean up remaining debris and cover with 2 layers of Poly inside container.
1100	PM & SUPERVISOR conclude final visual inspection after visual barriers are broken down. Visual inspection pass. ~~DEPART~~ JOB SITE after completing documentation

Technician Signature: [signature]　　Date of Signature: 4/8/15

APPENDIX B

COMPANY/EMPLOYEE LICENSES

New York State – Department of Labor
Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

Parsons Brinckerhoff, Inc.

4139 Oregon Pike

Ephrata, PA 17522

FILE NUMBER: 99-1197
LICENSE NUMBER: 28575
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 04/30/2014
EXPIRATION DATE: 04/30/2015

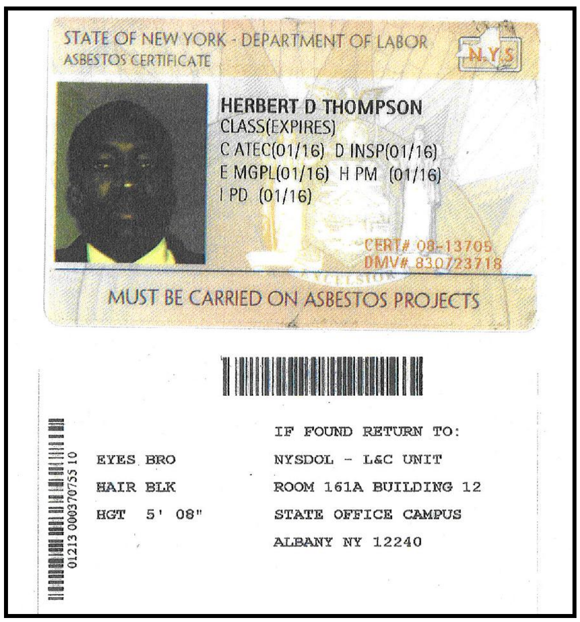
Duly Authorized Representative – John Faeth:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Eileen M. Franko, Acting Director
For the Commissioner of Labor

SH 432 (8/12)


STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE
N.Y.S.
HERBERT D THOMPSON
CLASS(EXPIRES)
C ATEC(01/16) D INSP(01/16)
E MGPL(01/16) H PM (01/16)
I PD (01/16)
CERT# 08-13705
DMV# 830723718
MUST BE CARRIED ON ASBESTOS PROJECTS
EYES BRO
HAIR BLK
HGT 5' 08"
IF FOUND RETURN TO:
NYSDOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12240
01213 000370755 10

Appendix E - Waste Characterization Analytical Data Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-77097-1
Client Project/Site: TSCA Concrete Total Metals

For:
Ontario Specialty Contracting, Inc.
333 Ganson St.
Buffalo, New York 14203

Attn: Andrew Madden

Authorized for release by:
3/26/2015 5:51:56 PM

Rebecca Jones, Project Management Assistant I
rebecca.jones@testamericainc.com

Designee for

John Schove, Project Manager II
(716)504-9838
john.schove@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

Table of Contents

Definitions/Glossary

Client: Ontario Specialty Contracting, Inc.
Project/Site: TSCA Concrete Total Metals

TestAmerica Job ID: 480-77097-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Ontario Specialty Contracting, Inc. TestAmerica Job ID: 480-77097-1
Project/Site: TSCA Concrete Total Metals

Job ID: 480-77097-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-77097-1

Comments
No additional comments.

Receipt
The sample was received on 3/24/2015 9:00 AM; the sample arrived in good condition and properly preserved. The temperature of the cooler at receipt was 7.4º C.

Except:

The following samples were received at the laboratory outside the required temperature criteria: EPT_TSCA.Concrete.Total.Metals_2015.03.18 (480-77097-1). There was no cooling media present in the cooler. The client was contacted regarding this issue, and the laboratory was instructed to proceed with analysis.

GC Semi VOA
Method(s) 8082A: The following samples were diluted due to the abundance of target analytes: EPT_TSCA.Concrete.Total.Metals_2015.03.18 (480-77097-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample ID: EPT_TSCA.Concrete.Total.Metals_2015.03.18

Lab Sample ID: 480-77097-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	77		4.9	2.3	mg/Kg	20		8082A	Total/NA
Arsenic	4.6		2.1	0.42	mg/Kg	1		6010C	Total/NA
Barium	56.0		0.52	0.11	mg/Kg	1		6010C	Total/NA
Cadmium	0.25		0.21	0.031	mg/Kg	1		6010C	Total/NA
Chromium	19.6		0.52	0.21	mg/Kg	1		6010C	Total/NA
Lead	36.0		1.0	0.25	mg/Kg	1		6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: EPT_TSCA.Concrete.Total.Metals_2015.03.18
Lab Sample ID: 480-77097-1
Date Collected: 03/18/15 14:00
Matrix: Solid
Date Received: 03/24/15 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	4.9	U	4.9	0.95	mg/Kg		03/25/15 09:08	03/25/15 21:09	20
PCB-1221	4.9	U	4.9	0.95	mg/Kg		03/25/15 09:08	03/25/15 21:09	20
PCB-1232	4.9	U	4.9	0.95	mg/Kg		03/25/15 09:08	03/25/15 21:09	20
PCB-1242	4.9	U	4.9	0.95	mg/Kg		03/25/15 09:08	03/25/15 21:09	20
PCB-1248	4.9	U	4.9	0.95	mg/Kg		03/25/15 09:08	03/25/15 21:09	20
PCB-1254	4.9	U	4.9	2.3	mg/Kg		03/25/15 09:08	03/25/15 21:09	20
PCB-1260	**77**		4.9	2.3	mg/Kg		03/25/15 09:08	03/25/15 21:09	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*103*		*46 - 175*	*03/25/15 09:08*	*03/25/15 21:09*	*20*
DCB Decachlorobiphenyl	*106*		*47 - 176*	*03/25/15 09:08*	*03/25/15 21:09*	*20*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.6**		2.1	0.42	mg/Kg		03/24/15 14:22	03/25/15 12:48	1
Barium	**56.0**		0.52	0.11	mg/Kg		03/24/15 14:22	03/25/15 12:48	1
Cadmium	**0.25**		0.21	0.031	mg/Kg		03/24/15 14:22	03/25/15 12:48	1
Chromium	**19.6**		0.52	0.21	mg/Kg		03/24/15 14:22	03/25/15 12:48	1
Lead	**36.0**		1.0	0.25	mg/Kg		03/24/15 14:22	03/25/15 12:48	1
Selenium	4.2	U	4.2	0.42	mg/Kg		03/24/15 14:22	03/25/15 12:48	1
Silver	0.63	U	0.63	0.21	mg/Kg		03/24/15 14:22	03/25/15 12:48	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.019	U	0.019	0.0077	mg/Kg		03/25/15 11:35	03/25/15 13:15	1

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX1	DCB1
Lab Sample ID	Client Sample ID	(46-175)	(47-176)
480-77097-1	EPT_TSCA.Concrete.Total.Metals_2	103	106
LCS 480-232116/2-A	Lab Control Sample	129	146
MB 480-232116/1-A	Method Blank	108	129

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl

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

Lab Sample ID: MB 480-232116/1-A
Matrix: Solid
Analysis Batch: 232270

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 232116

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1221	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1232	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1242	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1248	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1254	0.24	U	0.24	0.11	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1260	0.24	U	0.24	0.11	mg/Kg		03/25/15 09:08	03/25/15 19:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*108*		*46 - 175*	*03/25/15 09:08*	*03/25/15 19:18*	*1*
DCB Decachlorobiphenyl	*129*		*47 - 176*	*03/25/15 09:08*	*03/25/15 19:18*	*1*

Lab Sample ID: LCS 480-232116/2-A
Matrix: Solid
Analysis Batch: 232270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 232116

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	2.02	2.22		mg/Kg		110	51 - 185
PCB-1260	2.02	2.08		mg/Kg		103	61 - 184

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*129*		*46 - 175*
DCB Decachlorobiphenyl	*146*		*47 - 176*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-231976/1-A
Matrix: Solid
Analysis Batch: 232202

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 231976

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.0	U	2.0	0.40	mg/Kg		03/24/15 14:22	03/25/15 12:15	1
Barium	0.50	U	0.50	0.11	mg/Kg		03/24/15 14:22	03/25/15 12:15	1
Cadmium	0.20	U	0.20	0.030	mg/Kg		03/24/15 14:22	03/25/15 12:15	1
Chromium	0.50	U	0.50	0.20	mg/Kg		03/24/15 14:22	03/25/15 12:15	1
Lead	1.0	U	1.0	0.24	mg/Kg		03/24/15 14:22	03/25/15 12:15	1
Selenium	4.0	U	4.0	0.40	mg/Kg		03/24/15 14:22	03/25/15 12:15	1
Silver	0.60	U	0.60	0.20	mg/Kg		03/24/15 14:22	03/25/15 12:15	1

Lab Sample ID: LCSSRM 480-231976/2-A
Matrix: Solid
Analysis Batch: 232202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 231976

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	153	133.6		mg/Kg		87.5	70.9 - 129.8
Barium	265	239.7		mg/Kg		90.5	73.7 - 126.3

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

Lab Sample ID: LCSSRM 480-231976/2-A
Matrix: Solid
Analysis Batch: 232202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 231976

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	154	137.6		mg/Kg		89.5	73.0 - 126.3
Chromium	118	103.4		mg/Kg		87.4	69.7 - 129.9
Lead	257	245.4		mg/Kg		95.5	75.6 - 124.8
Selenium	164	151.5		mg/Kg		92.5	67.3 - 132.1
Silver	44.8	41.62		mg/Kg		92.9	66.4 - 133.9

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 480-232146/1-A
Matrix: Solid
Analysis Batch: 232210

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 232146

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.020	U	0.020	0.0080	mg/Kg		03/25/15 11:35	03/25/15 13:10	1

Lab Sample ID: LCSSRM 480-232146/2-A
Matrix: Solid
Analysis Batch: 232210

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 232146

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	5.76	4.38		mg/Kg		76.0	51.0 - 148.8

GC Semi VOA

Prep Batch: 232116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77097-1	EPT_TSCA.Concrete.Total.Metals_2015.03.18	Total/NA	Solid	3550C	
LCS 480-232116/2-A	Lab Control Sample	Total/NA	Solid	3550C	
MB 480-232116/1-A	Method Blank	Total/NA	Solid	3550C	

Analysis Batch: 232270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77097-1	EPT_TSCA.Concrete.Total.Metals_2015.03.18	Total/NA	Solid	8082A	232116
LCS 480-232116/2-A	Lab Control Sample	Total/NA	Solid	8082A	232116
MB 480-232116/1-A	Method Blank	Total/NA	Solid	8082A	232116

Metals

Prep Batch: 231976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77097-1	EPT_TSCA.Concrete.Total.Metals_2015.03.18	Total/NA	Solid	3050B	
LCSSRM 480-231976/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 480-231976/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 232146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77097-1	EPT_TSCA.Concrete.Total.Metals_2015.03.18	Total/NA	Solid	7471A	
LCSSRM 480-232146/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 480-232146/1-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 232202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77097-1	EPT_TSCA.Concrete.Total.Metals_2015.03.18	Total/NA	Solid	6010C	231976
LCSSRM 480-231976/2-A	Lab Control Sample	Total/NA	Solid	6010C	231976
MB 480-231976/1-A	Method Blank	Total/NA	Solid	6010C	231976

Analysis Batch: 232210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77097-1	EPT_TSCA.Concrete.Total.Metals_2015.03.18	Total/NA	Solid	7471A	232146
LCSSRM 480-232146/2-A	Lab Control Sample	Total/NA	Solid	7471A	232146
MB 480-232146/1-A	Method Blank	Total/NA	Solid	7471A	232146

Client Sample ID: EPT_TSCA.Concrete.Total.Metals_2015.03.18 **Lab Sample ID: 480-77097-1**
Date Collected: 03/18/15 14:00 **Matrix: Solid**
Date Received: 03/24/15 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			232116	03/25/15 09:08	RJS	TAL BUF
Total/NA	Analysis	8082A		20	232270	03/25/15 21:09	KS	TAL BUF
Total/NA	Prep	3050B			231976	03/24/15 14:22	TAS	TAL BUF
Total/NA	Analysis	6010C		1	232202	03/25/15 12:48	LMH	TAL BUF
Total/NA	Prep	7471A			232146	03/25/15 11:35	LRK	TAL BUF
Total/NA	Analysis	7471A		1	232210	03/25/15 13:15	LRK	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Client: Ontario Specialty Contracting, Inc.
Project/Site: TSCA Concrete Total Metals

TestAmerica Job ID: 480-77097-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-15 *

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
7471A	7471A	Solid	Hg

* Certification renewal pending - certification considered valid.

Method Summary

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
7471A	Mercury (CVAA)	SW846	TAL BUF

Protocol References:

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

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Ontario Specialty Contracting, Inc.
Project/Site: TSCA Concrete Total Metals

TestAmerica Job ID: 480-77097-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-77097-1	EPT_TSCA.Concrete.Total.Metals_2015.03.18	Solid	03/18/15 14:00	03/24/15 09:00

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228
phone 716.504.9852 fax 716.691.7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Schove, John	Site Contact: Andrew Madden	Date: 3/18/2015	COC No: 296983
Ontario Specialty Contracting Inc.	Tel/Fax: (716) 912-9926	Lab Contact: Schove, John	Carrier:	1 of 1 COCs
333 Ganson Street Buffalo, NY, 14203	Analysis Turnaround Time			Job No. 77097
Phone: 716-856-3333	Calendar (C) or Work Days (W) W			
Fax: 716-842-1630	TAT			
PO# 55888 Client Job# 15007	[X] ASAP 28D			SDG No.
Project Name: EPT Ithaca NY				
Sampling Event: TSCA Concrete Total Metals	Fastest turn around possible please.			
Site: Emerson Power Transmission Plant	Bill based on performed TAT.			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	TOTALS RCRA 8 Metals	8082A - TCL PCBs - OLM04.2	Sample Specific Notes:
EPT_TSCA.Concrete.Total.Metals_2015.03.18	3/18/15	14:00	G	CONC	1	N	1		
Container Volume (oz)							4		
Preservation: 1= Ice 2= HCl (Hydrochloric) 3= H2SO4 (Sulfuric) 4=HNO3 (Nitric) 5=NaOH (Sodium Hydroxide) 6=Other							1-G		

480-77097 Chain of Custody

Possible Hazard Identification
[ ] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [X] Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] Return To Client [X] Disposal By Lab [ ] Archive For ________ Months

Special Instructions/QC Requirements & Comments:

Container Code: A=Amber G=Glass P=Poly/Plastic S=Summa T=Tedlar V=Vial

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	OSC	3/24/15 9am	[signature]	TAB	24MAR15 0900
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

7.4°C NO ICE #1

Login Sample Receipt Checklist

Client: Ontario Specialty Contracting, Inc.

Job Number: 480-77097-1
SDG Number:

Login Number: 77097
List Number: 1
Creator: Kinecki, Kenneth P

List Source: TestAmerica Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	OSC
Samples received within 48 hours of sampling.	False	Sample date 3/18/15, rec'd 3/24/15
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-77100-1
Client Project/Site: TSCA Concrete TCLP Metals

For:
Ontario Specialty Contracting, Inc.
333 Ganson St.
Buffalo, New York 14203

Attn: Andrew Madden

Authorized for release by:
3/26/2015 5:04:08 PM
Rebecca Jones, Project Management Assistant I
rebecca.jones@testamericainc.com

Designee for

John Schove, Project Manager II
(716)504-9838
john.schove@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

Table of Contents

Client: Ontario Specialty Contracting, Inc. TestAmerica Job ID: 480-77100-1
Project/Site: TSCA Concrete TCLP Metals

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Ontario Specialty Contracting, Inc. TestAmerica Job ID: 480-77100-1
Project/Site: TSCA Concrete TCLP Metals

Job ID: 480-77100-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-77100-1

Comments
No additional comments.

Receipt
The sample was received on 3/24/2015 9:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 7.4º C.

Except:

The following samples were received at the laboratory outside the required temperature criteria: . There was no cooling media present in the cooler. The client was contacted regarding this issue, and the laboratory was instructed to proceed with analysis.

Metals
Method(s) 6010C: The TCLP leachate blank, LB 480-231967 for batch 480-232114 contained barium above the reporting limit (RL). Associated sample(s) EPT_TSCA.Concrete.TCLP.Metals_2015.03.18 (480-77100-1) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the TCLP leachate blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 1311: Due to the sample matrix and associated reaction to the extraction fluid, the laboratory was unable to perform the leaching procedure with the required 100g for the following sample: EPT_TSCA.Concrete.TCLP.Metals_2015.03.18 (480-77100-1). The volume of leaching fluid was adjusted proportionally to maintain a 20:1 ratio of leaching fluid to weight of sample. Reporting limits (RLs) are not affected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Ontario Specialty Contracting, Inc.
Project/Site: TSCA Concrete TCLP Metals

TestAmerica Job ID: 480-77100-1

Client Sample ID: EPT_TSCA.Concrete.TCLP.Metals_2015.03.18

Lab Sample ID: 480-77100-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.29	B	0.0020	0.00070	mg/L	1		6010C	TCLP
Chromium	0.0080		0.0040	0.0010	mg/L	1		6010C	TCLP
Lead	0.0081	J	0.010	0.0030	mg/L	1		6010C	TCLP

This Detection Summary does not include radiochemical test results.

Client Sample ID: EPT_TSCA.Concrete.TCLP.Metals_2015.03.18

Lab Sample ID: 480-77100-1

Date Collected: 03/18/15 14:00

Date Received: 03/24/15 09:00

Matrix: Solid

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.015	U	0.015	0.0056	mg/L		03/25/15 09:22	03/26/15 13:04	1
Barium	**0.29**	**B**	0.0020	0.00070	mg/L		03/25/15 09:22	03/26/15 13:04	1
Cadmium	0.0020	U	0.0020	0.00050	mg/L		03/25/15 09:22	03/26/15 13:04	1
Chromium	**0.0080**		0.0040	0.0010	mg/L		03/25/15 09:22	03/26/15 13:04	1
Lead	**0.0081**	**J**	0.010	0.0030	mg/L		03/25/15 09:22	03/26/15 13:04	1
Selenium	0.025	U	0.025	0.0087	mg/L		03/25/15 09:22	03/26/15 13:04	1
Silver	0.0060	U	0.0060	0.0017	mg/L		03/25/15 09:22	03/26/15 13:04	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	0.00012	mg/L		03/25/15 10:00	03/25/15 13:27	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-232114/2-A
Matrix: Solid
Analysis Batch: 232471

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 232114

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.015	U	0.015	0.0056	mg/L		03/25/15 09:22	03/26/15 12:59	1
Barium	0.0020	U	0.0020	0.00070	mg/L		03/25/15 09:22	03/26/15 12:59	1
Cadmium	0.0020	U	0.0020	0.00050	mg/L		03/25/15 09:22	03/26/15 12:59	1
Chromium	0.0040	U	0.0040	0.0010	mg/L		03/25/15 09:22	03/26/15 12:59	1
Lead	0.010	U	0.010	0.0030	mg/L		03/25/15 09:22	03/26/15 12:59	1
Selenium	0.025	U	0.025	0.0087	mg/L		03/25/15 09:22	03/26/15 12:59	1
Silver	0.0060	U	0.0060	0.0017	mg/L		03/25/15 09:22	03/26/15 12:59	1

Lab Sample ID: LCS 480-232114/3-A
Matrix: Solid
Analysis Batch: 232471

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 232114

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.996		mg/L		100	80 - 120
Barium	1.00	0.963		mg/L		96	80 - 120
Cadmium	1.00	0.959		mg/L		96	80 - 120
Chromium	1.00	0.994		mg/L		99	80 - 120
Lead	1.00	0.946		mg/L		95	80 - 120
Selenium	1.00	1.06		mg/L		106	80 - 120
Silver	1.00	0.962		mg/L		96	80 - 120

Lab Sample ID: LB 480-231967/1-B
Matrix: Solid
Analysis Batch: 232471

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 232114

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.015	U	0.015	0.0056	mg/L		03/25/15 09:22	03/26/15 12:56	1
Barium	0.0154		0.0020	0.00070	mg/L		03/25/15 09:22	03/26/15 12:56	1
Cadmium	0.0020	U	0.0020	0.00050	mg/L		03/25/15 09:22	03/26/15 12:56	1
Chromium	0.0040	U	0.0040	0.0010	mg/L		03/25/15 09:22	03/26/15 12:56	1
Lead	0.010	U	0.010	0.0030	mg/L		03/25/15 09:22	03/26/15 12:56	1
Selenium	0.025	U	0.025	0.0087	mg/L		03/25/15 09:22	03/26/15 12:56	1
Silver	0.0060	U	0.0060	0.0017	mg/L		03/25/15 09:22	03/26/15 12:56	1

Lab Sample ID: 480-77100-1 MS
Matrix: Solid
Analysis Batch: 232471

Client Sample ID: EPT_TSCA.Concrete.TCLP.Metals_2015.03.18
Prep Type: TCLP
Prep Batch: 232114

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.015	U	1.00	1.15		mg/L		115	75 - 125
Barium	0.29	B	1.00	1.27		mg/L		98	75 - 125
Cadmium	0.0020	U	1.00	1.07		mg/L		107	75 - 125
Chromium	0.0080		1.00	0.935		mg/L		93	75 - 125
Lead	0.0081	J	1.00	1.00		mg/L		99	75 - 125
Selenium	0.025	U	1.00	1.20		mg/L		120	75 - 125
Silver	0.0060	U	1.00	1.11		mg/L		111	75 - 125

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

Lab Sample ID: 480-77100-1 MSD
Matrix: Solid
Analysis Batch: 232471
Client Sample ID: EPT_TSCA.Concrete.TCLP.Metals_2015.03.18
Prep Type: TCLP
Prep Batch: 232114

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.015	U	1.00	1.13		mg/L		113	75 - 125	1	20
Barium	0.29	B	1.00	1.27		mg/L		98	75 - 125	0	20
Cadmium	0.0020	U	1.00	1.05		mg/L		105	75 - 125	2	20
Chromium	0.0080		1.00	0.929		mg/L		92	75 - 125	1	20
Lead	0.0081	J	1.00	1.00		mg/L		99	75 - 125	0	20
Selenium	0.025	U	1.00	1.19		mg/L		119	75 - 125	1	20
Silver	0.0060	U	1.00	1.09		mg/L		109	75 - 125	2	20

Method: 7470A - TCLP Mercury

Lab Sample ID: MB 480-232138/2-A
Matrix: Solid
Analysis Batch: 232206
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 232138

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	0.00012	mg/L		03/25/15 10:00	03/25/15 13:23	1

Lab Sample ID: LCS 480-232138/3-A
Matrix: Solid
Analysis Batch: 232206
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 232138

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00668	0.00567		mg/L		85	80 - 120

Lab Sample ID: LB 480-231967/1-C
Matrix: Solid
Analysis Batch: 232206
Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 232138

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	0.00012	mg/L		03/25/15 10:00	03/25/15 13:22	1

Lab Sample ID: 480-77100-1 MS
Matrix: Solid
Analysis Batch: 232206
Client Sample ID: EPT_TSCA.Concrete.TCLP.Metals_2015.03.18
Prep Type: TCLP
Prep Batch: 232138

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00020	U	0.00668	0.00582		mg/L		87	80 - 120

Lab Sample ID: 480-77100-1 MSD
Matrix: Solid
Analysis Batch: 232206
Client Sample ID: EPT_TSCA.Concrete.TCLP.Metals_2015.03.18
Prep Type: TCLP
Prep Batch: 232138

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00020	U	0.00668	0.00575		mg/L		86	80 - 120	1	20

Metals

Leach Batch: 231967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77100-1	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	1311	
480-77100-1 MS	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	1311	
480-77100-1 MSD	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	1311	
LB 480-231967/1-B	Method Blank	TCLP	Solid	1311	
LB 480-231967/1-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 232114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77100-1	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	3010A	231967
480-77100-1 MS	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	3010A	231967
480-77100-1 MSD	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	3010A	231967
LB 480-231967/1-B	Method Blank	TCLP	Solid	3010A	231967
LCS 480-232114/3-A	Lab Control Sample	Total/NA	Solid	3010A	
MB 480-232114/2-A	Method Blank	Total/NA	Solid	3010A	

Prep Batch: 232138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77100-1	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	7470A	231967
480-77100-1 MS	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	7470A	231967
480-77100-1 MSD	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	7470A	231967
LB 480-231967/1-C	Method Blank	TCLP	Solid	7470A	231967
LCS 480-232138/3-A	Lab Control Sample	Total/NA	Solid	7470A	
MB 480-232138/2-A	Method Blank	Total/NA	Solid	7470A	

Analysis Batch: 232206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77100-1	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	7470A	232138
480-77100-1 MS	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	7470A	232138
480-77100-1 MSD	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	7470A	232138
LB 480-231967/1-C	Method Blank	TCLP	Solid	7470A	232138
LCS 480-232138/3-A	Lab Control Sample	Total/NA	Solid	7470A	232138
MB 480-232138/2-A	Method Blank	Total/NA	Solid	7470A	232138

Analysis Batch: 232471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77100-1	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	6010C	232114
480-77100-1 MS	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	6010C	232114
480-77100-1 MSD	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	TCLP	Solid	6010C	232114
LB 480-231967/1-B	Method Blank	TCLP	Solid	6010C	232114
LCS 480-232114/3-A	Lab Control Sample	Total/NA	Solid	6010C	232114
MB 480-232114/2-A	Method Blank	Total/NA	Solid	6010C	232114

Client Sample ID: EPT_TSCA.Concrete.TCLP.Metals_2015.03.18 **Lab Sample ID: 480-77100-1**

Date Collected: 03/18/15 14:00 **Matrix: Solid**

Date Received: 03/24/15 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			231967	03/24/15 14:03	JLS	TAL BUF
TCLP	Prep	3010A			232114	03/25/15 09:22	KJ1	TAL BUF
TCLP	Analysis	6010C		1	232471	03/26/15 13:04	AMH	TAL BUF
TCLP	Leach	1311			231967	03/24/15 14:03	JLS	TAL BUF
TCLP	Prep	7470A			232138	03/25/15 10:00	LRK	TAL BUF
TCLP	Analysis	7470A		1	232206	03/25/15 13:27	LRK	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-15 *

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
7470A	7470A	Solid	Mercury

* Certification renewal pending - certification considered valid.

Method Summary

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL BUF
7470A	TCLP Mercury	SW846	TAL BUF

Protocol References:

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

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Ontario Specialty Contracting, Inc. TestAmerica Job ID: 480-77100-1
Project/Site: TSCA Concrete TCLP Metals

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-77100-1	EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	Solid	03/18/15 14:00	03/24/15 09:00

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228
phone 716.504.9852 fax 716.691.7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Schove, John	Site Contact: Andrew Madden	Date: 3/18/2015	COC No: 296984
Ontario Specialty Contracting Inc.	Tel/Fax: (716) 912-9926	Lab Contact: Schove, John	Carrier:	1 of 1 COCs
333 Ganson Street Buffalo, NY, 14203	Analysis Turnaround Time			Job No. 77100
Phone: 716-856-3333	Calendar (C) or Work Days (W) W			
Fax: 716-842-1630	TAT			
PO# 55888 Client Job# 15007	[X] ASAP 3BD			SDG No.
Project Name: EPT Ithaca NY				
Sampling Event: TSCA Concrete TCLP Metals	Fastest turn around possible please.			
Site: Emerson Power Transmission Plant	Bill based on performed TAT.			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	TCLP RCRA 8 Metals	Sample Specific Notes:
EPT_TSCA.Concrete.TCLP.Metals_2015.03.18	3/18/15	14:00	G	CONC	1	N	1	
Container Volume (oz)							8	
Preservation: 1= Ice 2= HCl (Hydrochloric) 3= H2SO4 (Sulfuric) 4=HNO3 (Nitric) 5=NaOH (Sodium Hydroxide) 6=Other							1-G	

480-77100 Chain of Custody

Possible Hazard Identification

[ ] *Non-Hazard* [ ] *Flammable* [ ] *Skin Irritant* [ ] *Poison B* [X] *Unknown*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

[ ] *Return To Client* [X] *Disposal By Lab* [ ] *Archive For ________ Months*

Special Instructions/QC Requirements & Comments:

Container Code: A=Amber G=Glass P=Poly/Plastic S=Summa T=Tedlar V=Vial

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	OSC	3/27/15 9am	[signature]	TAB	24MAR15 0900
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

7.4°C w ICE / #1

Login Sample Receipt Checklist

Client: Ontario Specialty Contracting, Inc.

Job Number: 480-77100-1

Login Number: 77100

List Source: TestAmerica Buffalo

List Number: 1

Creator: Kinecki, Kenneth P

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	OSC
Samples received within 48 hours of sampling.	False	Sampled 3/18, rec'd 3/24
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-77102-1
Client Project/Site: PCB Wood & Wipe

For:
Ontario Specialty Contracting, Inc.
333 Ganson St.
Buffalo, New York 14203

Attn: Andrew Madden

Authorized for release by:
3/26/2015 5:55:22 PM

Rebecca Jones, Project Management Assistant I
rebecca.jones@testamericainc.com

Designee for

John Schove, Project Manager II
(716)504-9838
john.schove@testamericainc.com

Table of Contents

Client: Ontario Specialty Contracting, Inc. TestAmerica Job ID: 480-77102-1
Project/Site: PCB Wood & Wipe

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-77102-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-77102-1

Comments
No additional comments.

Receipt
The samples were received on 3/24/2015 9:00 AM; the samples arrived in good condition and properly preserved. The temperature of the cooler at receipt was 7.4º C.

Except:

The following samples were received at the laboratory outside the required temperature criteria: EPT_Wood_2015.03.18 (480-77102-1). There was no cooling media present in the cooler. The client was contacted regarding this issue, and the laboratory was instructed to proceed with analysis.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method(s) 3550C: The following sample was composited by the laboratory on 3/25/15 as requested on the chain-of-custody: EPT_Wipe_2015.03.18 (480-77102-2).

Method(s) 3550C: Due to the matrix, the following samples could not be extracted using the final method required volume: EPT_Wood_2015.03.18 (480-77102-1). The reporting limits (RLs) are elevated proportionately.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Ontario Specialty Contracting, Inc.
Project/Site: PCB Wood & Wipe

TestAmerica Job ID: 480-77102-1

Client Sample ID: EPT_Wood_2015.03.18 **Lab Sample ID: 480-77102-1**

No Detections.

Client Sample ID: EPT_Wipe_2015.03.18 **Lab Sample ID: 480-77102-2**

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Ontario Specialty Contracting, Inc.
Project/Site: PCB Wood & Wipe

TestAmerica Job ID: 480-77102-1

Client Sample ID: EPT_Wood_2015.03.18

Date Collected: 03/18/15 14:30
Date Received: 03/24/15 09:00

Lab Sample ID: 480-77102-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.36	U	0.36	0.070	mg/Kg		03/25/15 09:08	03/25/15 20:37	1
PCB-1221	0.36	U	0.36	0.070	mg/Kg		03/25/15 09:08	03/25/15 20:37	1
PCB-1232	0.36	U	0.36	0.070	mg/Kg		03/25/15 09:08	03/25/15 20:37	1
PCB-1242	0.36	U	0.36	0.070	mg/Kg		03/25/15 09:08	03/25/15 20:37	1
PCB-1248	0.36	U	0.36	0.070	mg/Kg		03/25/15 09:08	03/25/15 20:37	1
PCB-1254	0.36	U	0.36	0.17	mg/Kg		03/25/15 09:08	03/25/15 20:37	1
PCB-1260	0.36	U	0.36	0.17	mg/Kg		03/25/15 09:08	03/25/15 20:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*83*		*46 - 175*	*03/25/15 09:08*	*03/25/15 20:37*	*1*
DCB Decachlorobiphenyl	*99*		*47 - 176*	*03/25/15 09:08*	*03/25/15 20:37*	*1*

Client Sample ID: EPT_Wipe_2015.03.18
Lab Sample ID: 480-77102-2
Date Collected: 03/18/15 15:00
Matrix: Wipe
Date Received: 03/24/15 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	1.0	U	1.0	0.18	ug/Wipe		03/25/15 09:01	03/25/15 16:41	1
PCB-1221	1.0	U	1.0	0.18	ug/Wipe		03/25/15 09:01	03/25/15 16:41	1
PCB-1232	1.0	U	1.0	0.18	ug/Wipe		03/25/15 09:01	03/25/15 16:41	1
PCB-1242	1.0	U	1.0	0.18	ug/Wipe		03/25/15 09:01	03/25/15 16:41	1
PCB-1248	1.0	U	1.0	0.18	ug/Wipe		03/25/15 09:01	03/25/15 16:41	1
PCB-1254	1.0	U	1.0	0.25	ug/Wipe		03/25/15 09:01	03/25/15 16:41	1
PCB-1260	1.0	U	1.0	0.25	ug/Wipe		03/25/15 09:01	03/25/15 16:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*92*		*57 - 173*	*03/25/15 09:01*	*03/25/15 16:41*	*1*
DCB Decachlorobiphenyl	*119*		*59 - 171*	*03/25/15 09:01*	*03/25/15 16:41*	*1*

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX1	DCB1
Lab Sample ID	Client Sample ID	(46-175)	(47-176)
480-77102-1	EPT_Wood_2015.03.18	83	99
LCS 480-232116/2-A	Lab Control Sample	129	146
MB 480-232116/1-A	Method Blank	108	129

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl

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

Matrix: Wipe | **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX2	DCB2
Lab Sample ID	Client Sample ID	(57-173)	(59-171)
480-77102-2	EPT_Wipe_2015.03.18	92	119
LCS 480-232115/2-A	Lab Control Sample	97	138
LCSD 480-232115/3-A	Lab Control Sample Dup	91	132
MB 480-232115/1-A	Method Blank	99	129

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl

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

Lab Sample ID: MB 480-232115/1-A **Client Sample ID: Method Blank**
Matrix: Wipe **Prep Type: Total/NA**
Analysis Batch: 232126 **Prep Batch: 232115**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	1.0	U	1.0	0.18	ug/Wipe		03/25/15 09:01	03/25/15 15:57	1
PCB-1221	1.0	U	1.0	0.18	ug/Wipe		03/25/15 09:01	03/25/15 15:57	1
PCB-1232	1.0	U	1.0	0.18	ug/Wipe		03/25/15 09:01	03/25/15 15:57	1
PCB-1242	1.0	U	1.0	0.18	ug/Wipe		03/25/15 09:01	03/25/15 15:57	1
PCB-1248	1.0	U	1.0	0.18	ug/Wipe		03/25/15 09:01	03/25/15 15:57	1
PCB-1254	1.0	U	1.0	0.25	ug/Wipe		03/25/15 09:01	03/25/15 15:57	1
PCB-1260	1.0	U	1.0	0.25	ug/Wipe		03/25/15 09:01	03/25/15 15:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*99*		*57 - 173*	*03/25/15 09:01*	*03/25/15 15:57*	*1*
DCB Decachlorobiphenyl	*129*		*59 - 171*	*03/25/15 09:01*	*03/25/15 15:57*	*1*

Lab Sample ID: LCS 480-232115/2-A **Client Sample ID: Lab Control Sample**
Matrix: Wipe **Prep Type: Total/NA**
Analysis Batch: 232126 **Prep Batch: 232115**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	20.0	22.0		ug/Wipe		110	54 - 182
PCB-1260	20.0	24.9		ug/Wipe		124	53 - 187

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*97*		*57 - 173*
DCB Decachlorobiphenyl	*138*		*59 - 171*

Lab Sample ID: LCSD 480-232115/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Wipe **Prep Type: Total/NA**
Analysis Batch: 232126 **Prep Batch: 232115**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	20.0	20.7		ug/Wipe		103	54 - 182	6	50
PCB-1260	20.0	23.1		ug/Wipe		116	53 - 187	7	50

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*91*		*57 - 173*
DCB Decachlorobiphenyl	*132*		*59 - 171*

Lab Sample ID: MB 480-232116/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 232270 **Prep Batch: 232116**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1221	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1232	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1242	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1248	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1254	0.24	U	0.24	0.11	mg/Kg		03/25/15 09:08	03/25/15 19:18	1

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

Lab Sample ID: MB 480-232116/1-A
Matrix: Solid
Analysis Batch: 232270

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 232116

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1260	0.24	U	0.24	0.11	mg/Kg		03/25/15 09:08	03/25/15 19:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*108*		*46 - 175*	*03/25/15 09:08*	*03/25/15 19:18*	*1*
DCB Decachlorobiphenyl	*129*		*47 - 176*	*03/25/15 09:08*	*03/25/15 19:18*	*1*

Lab Sample ID: LCS 480-232116/2-A
Matrix: Solid
Analysis Batch: 232270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 232116

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	2.02	2.22		mg/Kg		110	51 - 185
PCB-1260	2.02	2.08		mg/Kg		103	61 - 184

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*129*		*46 - 175*
DCB Decachlorobiphenyl	*146*		*47 - 176*

QC Association Summary

Client: Ontario Specialty Contracting, Inc.
Project/Site: PCB Wood & Wipe

TestAmerica Job ID: 480-77102-1

GC Semi VOA

Prep Batch: 232115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77102-2	EPT_Wipe_2015.03.18	Total/NA	Wipe	3550C	
LCS 480-232115/2-A	Lab Control Sample	Total/NA	Wipe	3550C	
LCSD 480-232115/3-A	Lab Control Sample Dup	Total/NA	Wipe	3550C	
MB 480-232115/1-A	Method Blank	Total/NA	Wipe	3550C	

Prep Batch: 232116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77102-1	EPT_Wood_2015.03.18	Total/NA	Solid	3550C	
LCS 480-232116/2-A	Lab Control Sample	Total/NA	Solid	3550C	
MB 480-232116/1-A	Method Blank	Total/NA	Solid	3550C	

Analysis Batch: 232126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77102-2	EPT_Wipe_2015.03.18	Total/NA	Wipe	8082A	232115
LCS 480-232115/2-A	Lab Control Sample	Total/NA	Wipe	8082A	232115
LCSD 480-232115/3-A	Lab Control Sample Dup	Total/NA	Wipe	8082A	232115
MB 480-232115/1-A	Method Blank	Total/NA	Wipe	8082A	232115

Analysis Batch: 232270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77102-1	EPT_Wood_2015.03.18	Total/NA	Solid	8082A	232116
LCS 480-232116/2-A	Lab Control Sample	Total/NA	Solid	8082A	232116
MB 480-232116/1-A	Method Blank	Total/NA	Solid	8082A	232116

Lab Chronicle

Client: Ontario Specialty Contracting, Inc. TestAmerica Job ID: 480-77102-1
Project/Site: PCB Wood & Wipe

Client Sample ID: EPT_Wood_2015.03.18 **Lab Sample ID: 480-77102-1**
Date Collected: 03/18/15 14:30 **Matrix: Solid**
Date Received: 03/24/15 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			232116	03/25/15 09:08	RJS	TAL BUF
Total/NA	Analysis	8082A		1	232270	03/25/15 20:37	KS	TAL BUF

Client Sample ID: EPT_Wipe_2015.03.18 **Lab Sample ID: 480-77102-2**
Date Collected: 03/18/15 15:00 **Matrix: Wipe**
Date Received: 03/24/15 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			232115	03/25/15 09:01	RJS	TAL BUF
Total/NA	Analysis	8082A		1	232126	03/25/15 16:41	KS	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: Ontario Specialty Contracting, Inc.
Project/Site: PCB Wood & Wipe

TestAmerica Job ID: 480-77102-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-15 *

Analysis Method	Prep Method	Matrix	Analyte

* Certification renewal pending - certification considered valid.

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL BUF

Protocol References:

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

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Ontario Specialty Contracting, Inc.
Project/Site: PCB Wood & Wipe

TestAmerica Job ID: 480-77102-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-77102-1	EPT_Wood_2015.03.18	Solid	03/18/15 14:30	03/24/15 09:00
480-77102-2	EPT_Wipe_2015.03.18	Wipe	03/18/15 15:00	03/24/15 09:00

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228
phone 716.504.9852 fax 716.691.7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Schove, John	Site Contact: Andrew Madden	Date: 3/18/2015	COC No: 296983099
Ontario Specialty Contracting Inc.	Tel/Fax: (716) 912-9926	Lab Contact: Schove, John	Carrier:	1 of 1 COCs
333 Ganson Street Buffalo, NY, 14203	Analysis Turnaround Time			Job No. 77102
Phone: 716-856-3333	Calendar (C) or Work Days (W) W			
Fax: 716-842-1630	TAT			SDG No.
PO# 55888 Client Job# 15007	[X] ASAP 2BD			
Project Name: EPT Ithaca NY	Fastest turn around possible please.			
Sampling Event: PCB Wood & Wipe	Bill based on performed TAT.			
Site: Emerson Power Transmission Plant				

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	8082A - TCL PCBs - OLM04.2	Sample Specific Notes:
EPT_Wood_2015.03.18	3/18/15	14:30	C	Wood	1	N	1	
EPT_Wipe_2015.03.18	3/18/15	15:00	C	Wipe	3	N	3	Please composite the 3 wipes for one resultant sample.
Container Volume (oz)							4	
Preservation: 1= Ice 2= HCl (Hydrochloric) 3= H2SO4 (Sulfuric) 4=HNO3 (Nitric) 5=NaOH (Sodium Hydroxide) 6=Other							1-G	

480-77102 Chain of Custody

Possible Hazard Identification
[ ] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [X] Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] Return To Client [X] Disposal By Lab [ ] Archive For ______ Months

Special Instructions/QC Requirements & Comments:

Container Code: A=Amber G=Glass P=Poly/Plastic S=Summa T=Tedlar V=Vial

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	OSC	3/24/15 9am	[signature]	TAB	24 MAR 15 0900
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

7.4°C NO ICE / #1

Login Sample Receipt Checklist

Client: Ontario Specialty Contracting, Inc. Job Number: 480-77102-1

Login Number: 77102 **List Source: TestAmerica Buffalo**
List Number: 1
Creator: Kinecki, Kenneth P

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	OSC
Samples received within 48 hours of sampling.	False	Sampled 3/18, rec'd 3/24
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-77104-1
Client Project/Site: Non TSCA Waste

For:
Ontario Specialty Contracting, Inc.
333 Ganson St.
Buffalo, New York 14203

Attn: Andrew Madden

Authorized for release by:
4/1/2015 11:40:58 AM

Rebecca Jones, Project Management Assistant I
rebecca.jones@testamericainc.com

Designee for

John Schove, Project Manager II
(716)504-9838
john.schove@testamericainc.com

Table of Contents

Client: Ontario Specialty Contracting, Inc. | TestAmerica Job ID: 480-77104-1
Project/Site: Non TSCA Waste

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery exceeds the control limits

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-77104-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-77104-1

Comments
No additional comments.

Receipt
The sample was received on 3/24/2015 9:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 7.4º C.

Except:

The following samples were received at the laboratory outside the required temperature criteria. There was no cooling media present in the cooler. The client was contacted regarding this issue, and the laboratory was instructed to proceed with analysis.

GC/MS VOA
Method(s) 8260C: The following samples were diluted due to the nature of the TCLP sample matrix: (480-77104-1 MS), (480-77104-1 MSD), (LB 480-232186/1-A), EPT_Non.TSCA.Waste_2015.03.18 (480-77104-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8082A: The following samples were diluted due to the abundance of target analytes: (480-77104-1 MS), (480-77104-1 MSD), EPT_Non.TSCA.Waste_2015.03.18 (480-77104-1). Elevated reporting limits (RLs) are provided.

Method(s) 8082A: The matrix spike / matrix spike duplicate (MS/MSD) PCB AR 1260 recoveries for these samples (batch 232270) were outside control limits. Sample matrix interference from high target analytes is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. (480-77104-1 MS), (480-77104-1 MSD)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method(s) 6010C: The TCLP leachate blank, LB 480-232184, for batch 480-232394 contained barium above the reporting limit (RL). Associated sample EPT_Non.TSCA.Waste_2015.03.18 (480-77104-1) was not re-extracted and/or re-analyzed because results were greater than 10X the value found in the TCLP leachate blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method(s) 9045C: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample(s) has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: EPT_Non.TSCA.Waste_2015.03.18 (480-77104-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample ID: EPT_Non.TSCA.Waste_2015.03.18 **Lab Sample ID: 480-77104-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.014		0.010	0.0046	mg/L	10		8260C	TCLP
PCB-1254	9.1		2.6	1.2	mg/Kg	10	☼	8082A	Total/NA
PCB-1260	3.6	F1	2.6	1.2	mg/Kg	10	☼	8082A	Total/NA
Barium	1.4	B	0.0020	0.00070	mg/L	1		6010C	TCLP
Cadmium	0.011		0.0020	0.00050	mg/L	1		6010C	TCLP
Chromium	0.0050		0.0040	0.0010	mg/L	1		6010C	TCLP
Lead	0.28		0.010	0.0030	mg/L	1		6010C	TCLP
Selenium	0.010	J	0.025	0.0087	mg/L	1		6010C	TCLP
Silver	0.0017	J	0.0060	0.0017	mg/L	1		6010C	TCLP
Cyanide, Reactive	0.035	J	10	0.0030	mg/Kg	1		9012	Total/NA
Cyanide, Total	0.71	J	1.1	0.52	mg/Kg	1	☼	9012B	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>176.0		50.0	50.0	Degrees F	1		1010	Total/NA
pH	10.5	HF	0.100	0.100	SU	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Ontario Specialty Contracting, Inc. TestAmerica Job ID: 480-77104-1
Project/Site: Non TSCA Waste

Client Sample ID: EPT_Non.TSCA.Waste_2015.03.18 Lab Sample ID: 480-77104-1

Date Collected: 03/18/15 16:00 **Matrix: Solid**
Date Received: 03/24/15 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.010	U	0.010	0.0029	mg/L			03/28/15 04:39	10
1,2-Dichloroethane	0.010	U	0.010	0.0021	mg/L			03/28/15 04:39	10
2-Butanone (MEK)	0.050	U	0.050	0.013	mg/L			03/28/15 04:39	10
Benzene	0.010	U	0.010	0.0041	mg/L			03/28/15 04:39	10
Carbon tetrachloride	0.010	U	0.010	0.0027	mg/L			03/28/15 04:39	10
Chlorobenzene	0.010	U	0.010	0.0075	mg/L			03/28/15 04:39	10
Chloroform	0.010	U	0.010	0.0034	mg/L			03/28/15 04:39	10
Tetrachloroethene	0.010	U	0.010	0.0036	mg/L			03/28/15 04:39	10
Trichloroethene	**0.014**		0.010	0.0046	mg/L			03/28/15 04:39	10
Vinyl chloride	0.010	U	0.010	0.0090	mg/L			03/28/15 04:39	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*66 - 137*		*03/28/15 04:39*	*10*
4-Bromofluorobenzene (Surr)	*94*		*73 - 120*		*03/28/15 04:39*	*10*
Toluene-d8 (Surr)	*95*		*71 - 126*		*03/28/15 04:39*	*10*
Dibromofluoromethane (Surr)	*97*		*60 - 140*		*03/28/15 04:39*	*10*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.010	U	0.010	0.00046	mg/L		03/26/15 08:31	03/26/15 23:52	1
2,4,5-Trichlorophenol	0.0050	U	0.0050	0.00048	mg/L		03/26/15 08:31	03/26/15 23:52	1
2,4,6-Trichlorophenol	0.0050	U	0.0050	0.00061	mg/L		03/26/15 08:31	03/26/15 23:52	1
2,4-Dinitrotoluene	0.0050	U	0.0050	0.00045	mg/L		03/26/15 08:31	03/26/15 23:52	1
2-Methylphenol	0.0050	U	0.0050	0.00040	mg/L		03/26/15 08:31	03/26/15 23:52	1
3-Methylphenol	0.010	U	0.010	0.00040	mg/L		03/26/15 08:31	03/26/15 23:52	1
4-Methylphenol	0.010	U	0.010	0.00036	mg/L		03/26/15 08:31	03/26/15 23:52	1
Hexachlorobenzene	0.0050	U	0.0050	0.00051	mg/L		03/26/15 08:31	03/26/15 23:52	1
Hexachlorobutadiene	0.0050	U	0.0050	0.00068	mg/L		03/26/15 08:31	03/26/15 23:52	1
Hexachloroethane	0.0050	U	0.0050	0.00059	mg/L		03/26/15 08:31	03/26/15 23:52	1
Nitrobenzene	0.0050	U	0.0050	0.00029	mg/L		03/26/15 08:31	03/26/15 23:52	1
Pentachlorophenol	0.010	U	0.010	0.0022	mg/L		03/26/15 08:31	03/26/15 23:52	1
Pyridine	0.025	U	0.025	0.00041	mg/L		03/26/15 08:31	03/26/15 23:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*75*		*52 - 132*	*03/26/15 08:31*	*03/26/15 23:52*	*1*
2-Fluorobiphenyl	*71*		*48 - 120*	*03/26/15 08:31*	*03/26/15 23:52*	*1*
2-Fluorophenol	*34*		*20 - 120*	*03/26/15 08:31*	*03/26/15 23:52*	*1*
Nitrobenzene-d5	*72*		*46 - 120*	*03/26/15 08:31*	*03/26/15 23:52*	*1*
Phenol-d5	*29*		*16 - 120*	*03/26/15 08:31*	*03/26/15 23:52*	*1*
p-Terphenyl-d14	*95*		*67 - 150*	*03/26/15 08:31*	*03/26/15 23:52*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	2.6	U	2.6	0.51	mg/Kg	☼	03/25/15 09:08	03/25/15 20:21	10
PCB-1221	2.6	U	2.6	0.51	mg/Kg	☼	03/25/15 09:08	03/25/15 20:21	10
PCB-1232	2.6	U	2.6	0.51	mg/Kg	☼	03/25/15 09:08	03/25/15 20:21	10
PCB-1242	2.6	U	2.6	0.51	mg/Kg	☼	03/25/15 09:08	03/25/15 20:21	10
PCB-1248	2.6	U	2.6	0.51	mg/Kg	☼	03/25/15 09:08	03/25/15 20:21	10
PCB-1254	**9.1**		2.6	1.2	mg/Kg	☼	03/25/15 09:08	03/25/15 20:21	10
PCB-1260	**3.6**	**F1**	2.6	1.2	mg/Kg	☼	03/25/15 09:08	03/25/15 20:21	10

Client Sample Results

Client: Ontario Specialty Contracting, Inc. TestAmerica Job ID: 480-77104-1
Project/Site: Non TSCA Waste

Client Sample ID: EPT_Non.TSCA.Waste_2015.03.18 **Lab Sample ID: 480-77104-1**
Date Collected: 03/18/15 16:00 **Matrix: Solid**
Date Received: 03/24/15 09:00 **Percent Solids: 89.0**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	*105*		*46 - 175*	*03/25/15 09:08*	*03/25/15 20:21*	*10*
DCB Decachlorobiphenyl	*58*		*47 - 176*	*03/25/15 09:08*	*03/25/15 20:21*	*10*

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.015	U	0.015	0.0056	mg/L		03/26/15 10:05	03/27/15 12:27	1
Barium	**1.4**	**B**	0.0020	0.00070	mg/L		03/26/15 10:05	03/27/15 12:27	1
Cadmium	**0.011**		0.0020	0.00050	mg/L		03/26/15 10:05	03/27/15 12:27	1
Chromium	**0.0050**		0.0040	0.0010	mg/L		03/26/15 10:05	03/27/15 12:27	1
Lead	**0.28**		0.010	0.0030	mg/L		03/26/15 10:05	03/27/15 12:27	1
Selenium	**0.010**	**J**	0.025	0.0087	mg/L		03/26/15 10:05	03/27/15 12:27	1
Silver	**0.0017**	**J**	0.0060	0.0017	mg/L		03/26/15 10:05	03/27/15 12:27	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U F1	0.00020	0.00012	mg/L		03/26/15 10:45	03/26/15 15:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Reactive	**0.035**	**J**	10	0.0030	mg/Kg		03/31/15 23:15	04/01/15 09:38	1
Cyanide, Total	**0.71**	**J**	1.1	0.52	mg/Kg	☼	03/27/15 09:29	03/27/15 12:46	1
Sulfide, Reactive	10	U	10	0.57	mg/Kg		03/31/15 23:15	04/01/15 09:30	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	**>176.0**		50.0	50.0	Degrees F			03/26/15 16:53	1
pH	**10.5**	**HF**	0.100	0.100	SU			03/26/15 17:30	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

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

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

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	12DCE (66-137)	BFB (73-120)	TOL (71-126)	DBFM (60-140)
LCS 480-232760/4	Lab Control Sample	96	95	98	95
MB 480-232760/6	Method Blank	100	97	100	101

Surrogate Legend

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

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

Matrix: Solid **Prep Type: TCLP**

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	12DCE (66-137)	BFB (73-120)	TOL (71-126)	DBFM (60-140)
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	96	94	95	97
480-77104-1 MS	EPT_Non.TSCA.Waste_2015.03.18	95	94	95	96
480-77104-1 MSD	EPT_Non.TSCA.Waste_2015.03.18	98	95	97	98
LB 480-232186/1-A	Method Blank	97	96	97	99

Surrogate Legend

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

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

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

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TBP (52-132)	FBP (48-120)	2FP (20-120)	NBZ (46-120)	PHL (16-120)	TPH (67-150)
LCS 480-232365/2-A	Lab Control Sample	76	73	37	73	32	83
LCSD 480-232365/3-A	Lab Control Sample Dup	73	72	37	71	31	81
MB 480-232365/1-A	Method Blank	81	84	44	89	36	101

Surrogate Legend

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

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

Matrix: Solid **Prep Type: TCLP**

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TBP (52-132)	FBP (48-120)	2FP (20-120)	NBZ (46-120)	PHL (16-120)	TPH (67-150)
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	75	71	34	72	29	95
LB 480-232184/1-B	Method Blank	81	75	41	74	35	101

Surrogate Legend

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

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

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

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (46-175)	DCB1 (47-176)
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	105	58
480-77104-1 MS	EPT_Non.TSCA.Waste_2015.03.18	136	123
480-77104-1 MSD	EPT_Non.TSCA.Waste_2015.03.18	138	117
LCS 480-232116/2-A	Lab Control Sample	129	146
MB 480-232116/1-A	Method Blank	108	129

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl

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

Lab Sample ID: MB 480-232760/6
Matrix: Solid
Analysis Batch: 232760

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.0010	U	0.0010	0.00029	mg/L			03/27/15 21:34	1
1,2-Dichloroethane	0.0010	U	0.0010	0.00021	mg/L			03/27/15 21:34	1
2-Butanone (MEK)	0.0050	U	0.0050	0.0013	mg/L			03/27/15 21:34	1
Benzene	0.0010	U	0.0010	0.00041	mg/L			03/27/15 21:34	1
Carbon tetrachloride	0.0010	U	0.0010	0.00027	mg/L			03/27/15 21:34	1
Chlorobenzene	0.0010	U	0.0010	0.00075	mg/L			03/27/15 21:34	1
Chloroform	0.0010	U	0.0010	0.00034	mg/L			03/27/15 21:34	1
Tetrachloroethene	0.0010	U	0.0010	0.00036	mg/L			03/27/15 21:34	1
Trichloroethene	0.0010	U	0.0010	0.00046	mg/L			03/27/15 21:34	1
Vinyl chloride	0.0010	U	0.0010	0.00090	mg/L			03/27/15 21:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*66 - 137*		*03/27/15 21:34*	*1*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*03/27/15 21:34*	*1*
Toluene-d8 (Surr)	*100*		*71 - 126*		*03/27/15 21:34*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 140*		*03/27/15 21:34*	*1*

Lab Sample ID: LCS 480-232760/4
Matrix: Solid
Analysis Batch: 232760

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	0.0250	0.0213		mg/L		85	58 - 121
1,2-Dichloroethane	0.0250	0.0225		mg/L		90	75 - 127
Benzene	0.0250	0.0229		mg/L		92	71 - 124
Chlorobenzene	0.0250	0.0231		mg/L		92	72 - 120
Tetrachloroethene	0.0250	0.0219		mg/L		88	74 - 122
Trichloroethene	0.0250	0.0226		mg/L		90	74 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*66 - 137*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*
Toluene-d8 (Surr)	*98*		*71 - 126*
Dibromofluoromethane (Surr)	*95*		*60 - 140*

Lab Sample ID: LB 480-232186/1-A
Matrix: Solid
Analysis Batch: 232760

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.010	U	0.010	0.0029	mg/L			03/28/15 04:16	10
1,2-Dichloroethane	0.010	U	0.010	0.0021	mg/L			03/28/15 04:16	10
2-Butanone (MEK)	0.050	U	0.050	0.013	mg/L			03/28/15 04:16	10
Benzene	0.010	U	0.010	0.0041	mg/L			03/28/15 04:16	10
Carbon tetrachloride	0.010	U	0.010	0.0027	mg/L			03/28/15 04:16	10
Chlorobenzene	0.010	U	0.010	0.0075	mg/L			03/28/15 04:16	10
Chloroform	0.010	U	0.010	0.0034	mg/L			03/28/15 04:16	10

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

Lab Sample ID: LB 480-232186/1-A
Matrix: Solid
Analysis Batch: 232760

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	0.010	U	0.010	0.0036	mg/L			03/28/15 04:16	10
Trichloroethene	0.010	U	0.010	0.0046	mg/L			03/28/15 04:16	10
Vinyl chloride	0.010	U	0.010	0.0090	mg/L			03/28/15 04:16	10

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*66 - 137*		*03/28/15 04:16*	*10*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*03/28/15 04:16*	*10*
Toluene-d8 (Surr)	*97*		*71 - 126*		*03/28/15 04:16*	*10*
Dibromofluoromethane (Surr)	*99*		*60 - 140*		*03/28/15 04:16*	*10*

Lab Sample ID: 480-77104-1 MS
Matrix: Solid
Analysis Batch: 232760

Client Sample ID: EPT_Non.TSCA.Waste_2015.03.18
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	0.010	U	0.250	0.197		mg/L		79	58 - 121
1,2-Dichloroethane	0.010	U	0.250	0.218		mg/L		87	75 - 127
Benzene	0.010	U	0.250	0.207		mg/L		83	71 - 124
Chlorobenzene	0.010	U	0.250	0.205		mg/L		82	72 - 120
Tetrachloroethene	0.010	U	0.250	0.191		mg/L		76	74 - 122
Trichloroethene	0.014		0.250	0.214		mg/L		80	74 - 123

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*66 - 137*
4-Bromofluorobenzene (Surr)	*94*		*73 - 120*
Toluene-d8 (Surr)	*95*		*71 - 126*
Dibromofluoromethane (Surr)	*96*		*60 - 140*

Lab Sample ID: 480-77104-1 MSD
Matrix: Solid
Analysis Batch: 232760

Client Sample ID: EPT_Non.TSCA.Waste_2015.03.18
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	0.010	U	0.250	0.212		mg/L		85	58 - 121	7	16
1,2-Dichloroethane	0.010	U	0.250	0.228		mg/L		91	75 - 127	5	20
Benzene	0.010	U	0.250	0.223		mg/L		89	71 - 124	7	13
Chlorobenzene	0.010	U	0.250	0.216		mg/L		87	72 - 120	5	25
Tetrachloroethene	0.010	U	0.250	0.205		mg/L		82	74 - 122	7	20
Trichloroethene	0.014		0.250	0.229		mg/L		86	74 - 123	7	16

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*
Toluene-d8 (Surr)	*97*		*71 - 126*
Dibromofluoromethane (Surr)	*98*		*60 - 140*

Client: Ontario Specialty Contracting, Inc.
Project/Site: Non TSCA Waste

TestAmerica Job ID: 480-77104-1

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

Lab Sample ID: MB 480-232365/1-A
Matrix: Solid
Analysis Batch: 232505

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 232365

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0025	U	0.0025	0.00012	mg/L		03/26/15 08:31	03/26/15 20:19	1
2,4,5-Trichlorophenol	0.0013	U	0.0013	0.00012	mg/L		03/26/15 08:31	03/26/15 20:19	1
2,4,6-Trichlorophenol	0.0013	U	0.0013	0.00015	mg/L		03/26/15 08:31	03/26/15 20:19	1
2,4-Dinitrotoluene	0.0013	U	0.0013	0.00011	mg/L		03/26/15 08:31	03/26/15 20:19	1
2-Methylphenol	0.0013	U	0.0013	0.00010	mg/L		03/26/15 08:31	03/26/15 20:19	1
3-Methylphenol	0.0025	U	0.0025	0.00010	mg/L		03/26/15 08:31	03/26/15 20:19	1
4-Methylphenol	0.0025	U	0.0025	0.000090	mg/L		03/26/15 08:31	03/26/15 20:19	1
Hexachlorobenzene	0.0013	U	0.0013	0.00013	mg/L		03/26/15 08:31	03/26/15 20:19	1
Hexachlorobutadiene	0.0013	U	0.0013	0.00017	mg/L		03/26/15 08:31	03/26/15 20:19	1
Hexachloroethane	0.0013	U	0.0013	0.00015	mg/L		03/26/15 08:31	03/26/15 20:19	1
Nitrobenzene	0.0013	U	0.0013	0.000073	mg/L		03/26/15 08:31	03/26/15 20:19	1
Pentachlorophenol	0.0025	U	0.0025	0.00055	mg/L		03/26/15 08:31	03/26/15 20:19	1
Pyridine	0.0063	U	0.0063	0.00010	mg/L		03/26/15 08:31	03/26/15 20:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*81*		*52 - 132*	*03/26/15 08:31*	*03/26/15 20:19*	*1*
2-Fluorobiphenyl	*84*		*48 - 120*	*03/26/15 08:31*	*03/26/15 20:19*	*1*
2-Fluorophenol	*44*		*20 - 120*	*03/26/15 08:31*	*03/26/15 20:19*	*1*
Nitrobenzene-d5	*89*		*46 - 120*	*03/26/15 08:31*	*03/26/15 20:19*	*1*
Phenol-d5	*36*		*16 - 120*	*03/26/15 08:31*	*03/26/15 20:19*	*1*
p-Terphenyl-d14	*101*		*67 - 150*	*03/26/15 08:31*	*03/26/15 20:19*	*1*

Lab Sample ID: LCS 480-232365/2-A
Matrix: Solid
Analysis Batch: 232505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 232365

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	0.0500	0.0270		mg/L		54	32 - 120
2,4-Dinitrotoluene	0.0500	0.0406		mg/L		81	65 - 154
Hexachloroethane	0.0500	0.0263		mg/L		53	14 - 101
Pentachlorophenol	0.100	0.0721		mg/L		72	39 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*76*		*52 - 132*
2-Fluorobiphenyl	*73*		*48 - 120*
2-Fluorophenol	*37*		*20 - 120*
Nitrobenzene-d5	*73*		*46 - 120*
Phenol-d5	*32*		*16 - 120*
p-Terphenyl-d14	*83*		*67 - 150*

Lab Sample ID: LCSD 480-232365/3-A
Matrix: Solid
Analysis Batch: 232505

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 232365

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene	0.0500	0.0277		mg/L		55	32 - 120	3	36
2,4-Dinitrotoluene	0.0500	0.0391		mg/L		78	65 - 154	4	20

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

Lab Sample ID: LCSD 480-232365/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 232505 — **Prep Batch: 232365**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachloroethane	0.0500	0.0263		mg/L		53	14 - 101	0	46
Pentachlorophenol	0.100	0.0685		mg/L		69	39 - 136	5	37

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*73*		*52 - 132*
2-Fluorobiphenyl	*72*		*48 - 120*
2-Fluorophenol	*37*		*20 - 120*
Nitrobenzene-d5	*71*		*46 - 120*
Phenol-d5	*31*		*16 - 120*
p-Terphenyl-d14	*81*		*67 - 150*

Lab Sample ID: LB 480-232184/1-B — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 232505 — **Prep Batch: 232365**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.010	U	0.010	0.00046	mg/L		03/26/15 08:31	03/26/15 23:29	1
2,4,5-Trichlorophenol	0.0050	U	0.0050	0.00048	mg/L		03/26/15 08:31	03/26/15 23:29	1
2,4,6-Trichlorophenol	0.0050	U	0.0050	0.00061	mg/L		03/26/15 08:31	03/26/15 23:29	1
2,4-Dinitrotoluene	0.0050	U	0.0050	0.00045	mg/L		03/26/15 08:31	03/26/15 23:29	1
2-Methylphenol	0.0050	U	0.0050	0.00040	mg/L		03/26/15 08:31	03/26/15 23:29	1
3-Methylphenol	0.010	U	0.010	0.00040	mg/L		03/26/15 08:31	03/26/15 23:29	1
4-Methylphenol	0.010	U	0.010	0.00036	mg/L		03/26/15 08:31	03/26/15 23:29	1
Hexachlorobenzene	0.0050	U	0.0050	0.00051	mg/L		03/26/15 08:31	03/26/15 23:29	1
Hexachlorobutadiene	0.0050	U	0.0050	0.00068	mg/L		03/26/15 08:31	03/26/15 23:29	1
Hexachloroethane	0.0050	U	0.0050	0.00059	mg/L		03/26/15 08:31	03/26/15 23:29	1
Nitrobenzene	0.0050	U	0.0050	0.00029	mg/L		03/26/15 08:31	03/26/15 23:29	1
Pentachlorophenol	0.010	U	0.010	0.0022	mg/L		03/26/15 08:31	03/26/15 23:29	1
Pyridine	0.025	U	0.025	0.00041	mg/L		03/26/15 08:31	03/26/15 23:29	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*81*		*52 - 132*	*03/26/15 08:31*	*03/26/15 23:29*	*1*
2-Fluorobiphenyl	*75*		*48 - 120*	*03/26/15 08:31*	*03/26/15 23:29*	*1*
2-Fluorophenol	*41*		*20 - 120*	*03/26/15 08:31*	*03/26/15 23:29*	*1*
Nitrobenzene-d5	*74*		*46 - 120*	*03/26/15 08:31*	*03/26/15 23:29*	*1*
Phenol-d5	*35*		*16 - 120*	*03/26/15 08:31*	*03/26/15 23:29*	*1*
p-Terphenyl-d14	*101*		*67 - 150*	*03/26/15 08:31*	*03/26/15 23:29*	*1*

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

Lab Sample ID: MB 480-232116/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 232270 — **Prep Batch: 232116**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1221	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1

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

Lab Sample ID: MB 480-232116/1-A
Matrix: Solid
Analysis Batch: 232270

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 232116

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1232	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1242	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1248	0.24	U	0.24	0.047	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1254	0.24	U	0.24	0.11	mg/Kg		03/25/15 09:08	03/25/15 19:18	1
PCB-1260	0.24	U	0.24	0.11	mg/Kg		03/25/15 09:08	03/25/15 19:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*108*		*46 - 175*	*03/25/15 09:08*	*03/25/15 19:18*	*1*
DCB Decachlorobiphenyl	*129*		*47 - 176*	*03/25/15 09:08*	*03/25/15 19:18*	*1*

Lab Sample ID: LCS 480-232116/2-A
Matrix: Solid
Analysis Batch: 232270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 232116

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	2.02	2.22		mg/Kg		110	51 - 185
PCB-1260	2.02	2.08		mg/Kg		103	61 - 184

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*129*		*46 - 175*
DCB Decachlorobiphenyl	*146*		*47 - 176*

Lab Sample ID: 480-77104-1 MS
Matrix: Solid
Analysis Batch: 232270

Client Sample ID: EPT_Non.TSCA.Waste_2015.03.18
Prep Type: Total/NA
Prep Batch: 232116

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	2.6	U	2.45	3.09		mg/Kg	☼	126	42 - 159
PCB-1260	3.6	F1	2.45	7.37	F1	mg/Kg	☼	155	47 - 153

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene	*136*		*46 - 175*
DCB Decachlorobiphenyl	*123*		*47 - 176*

Lab Sample ID: 480-77104-1 MSD
Matrix: Solid
Analysis Batch: 232270

Client Sample ID: EPT_Non.TSCA.Waste_2015.03.18
Prep Type: Total/NA
Prep Batch: 232116

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	2.6	U	2.42	3.18		mg/Kg	☼	131	42 - 159	3	50
PCB-1260	3.6	F1	2.42	10.8	F1	mg/Kg	☼	298	47 - 153	38	50

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*138*		*46 - 175*
DCB Decachlorobiphenyl	*117*		*47 - 176*

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-232394/2-A
Matrix: Solid
Analysis Batch: 232678

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 232394

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.015	U	0.015	0.0056	mg/L		03/26/15 10:05	03/27/15 12:21	1
Barium	0.0020	U	0.0020	0.00070	mg/L		03/26/15 10:05	03/27/15 12:21	1
Cadmium	0.0020	U	0.0020	0.00050	mg/L		03/26/15 10:05	03/27/15 12:21	1
Chromium	0.0040	U	0.0040	0.0010	mg/L		03/26/15 10:05	03/27/15 12:21	1
Lead	0.010	U	0.010	0.0030	mg/L		03/26/15 10:05	03/27/15 12:21	1
Selenium	0.025	U	0.025	0.0087	mg/L		03/26/15 10:05	03/27/15 12:21	1
Silver	0.0060	U	0.0060	0.0017	mg/L		03/26/15 10:05	03/27/15 12:21	1

Lab Sample ID: LCS 480-232394/3-A
Matrix: Solid
Analysis Batch: 232678

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 232394

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.997		mg/L		100	80 - 120
Barium	1.00	1.01		mg/L		101	80 - 120
Cadmium	1.00	0.966		mg/L		97	80 - 120
Chromium	1.00	0.982		mg/L		98	80 - 120
Lead	1.00	0.948		mg/L		95	80 - 120
Selenium	1.00	1.10		mg/L		110	80 - 120
Silver	1.00	0.982		mg/L		98	80 - 120

Lab Sample ID: LB 480-232184/1-C
Matrix: Solid
Analysis Batch: 232678

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 232394

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00575	J	0.015	0.0056	mg/L		03/26/15 10:05	03/27/15 12:18	1
Barium	0.00582		0.0020	0.00070	mg/L		03/26/15 10:05	03/27/15 12:18	1
Cadmium	0.0020	U	0.0020	0.00050	mg/L		03/26/15 10:05	03/27/15 12:18	1
Chromium	0.0040	U	0.0040	0.0010	mg/L		03/26/15 10:05	03/27/15 12:18	1
Lead	0.010	U	0.010	0.0030	mg/L		03/26/15 10:05	03/27/15 12:18	1
Selenium	0.025	U	0.025	0.0087	mg/L		03/26/15 10:05	03/27/15 12:18	1
Silver	0.0060	U	0.0060	0.0017	mg/L		03/26/15 10:05	03/27/15 12:18	1

Lab Sample ID: 480-77104-1 MS
Matrix: Solid
Analysis Batch: 232678

Client Sample ID: EPT_Non.TSCA.Waste_2015.03.18
Prep Type: TCLP
Prep Batch: 232394

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.015	U	1.00	1.11		mg/L		111	75 - 125
Barium	1.4	B	1.00	2.30		mg/L		93	75 - 125
Cadmium	0.011		1.00	1.05		mg/L		104	75 - 125
Chromium	0.0050		1.00	0.873		mg/L		87	75 - 125
Lead	0.28		1.00	1.29		mg/L		100	75 - 125
Selenium	0.010	J	1.00	1.18		mg/L		117	75 - 125
Silver	0.0017	J	1.00	1.08		mg/L		108	75 - 125

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

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

Lab Sample ID: 480-77104-1 MSD
Matrix: Solid
Analysis Batch: 232678

Client Sample ID: EPT_Non.TSCA.Waste_2015.03.18
Prep Type: TCLP
Prep Batch: 232394

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.015	U	1.00	1.11		mg/L		111	75 - 125	0	20
Barium	1.4	B	1.00	2.33		mg/L		96	75 - 125	1	20
Cadmium	0.011		1.00	1.06		mg/L		105	75 - 125	0	20
Chromium	0.0050		1.00	0.892		mg/L		89	75 - 125	2	20
Lead	0.28		1.00	1.30		mg/L		101	75 - 125	1	20
Selenium	0.010	J	1.00	1.18		mg/L		117	75 - 125	0	20
Silver	0.0017	J	1.00	1.10		mg/L		109	75 - 125	1	20

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

Lab Sample ID: LCS 480-232498/1
Matrix: Solid
Analysis Batch: 232498

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Flashpoint	81.0	80.00		Degrees F		99	97.5 - 102.5

Method: 9012 - Cyanide, Reactive

Lab Sample ID: MB 480-233441/1-A
Matrix: Solid
Analysis Batch: 233474

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 233441

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Reactive	10.0	U	10.0	0.0030	mg/Kg		03/31/15 23:15	04/01/15 09:38	1

Lab Sample ID: LCS 480-233441/2-A
Matrix: Solid
Analysis Batch: 233474

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 233441

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Reactive	1000	272.5		mg/Kg		27	10 - 100

Lab Sample ID: 480-77104-1 DU
Matrix: Solid
Analysis Batch: 233474

Client Sample ID: EPT_Non.TSCA.Waste_2015.03.18
Prep Type: Total/NA
Prep Batch: 233441

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cyanide, Reactive	0.035	J	0.130	J	mg/Kg		NC	20

Client: Ontario Specialty Contracting, Inc.
Project/Site: Non TSCA Waste

TestAmerica Job ID: 480-77104-1

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 480-232657/1-A
Matrix: Solid
Analysis Batch: 232690

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 232657

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.98	U	0.98	0.47	mg/Kg		03/27/15 09:29	03/27/15 12:44	1

Lab Sample ID: LCS 480-232657/2-A ^5
Matrix: Solid
Analysis Batch: 232690

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 232657

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	101	109.1		mg/Kg		108	29 - 122

Lab Sample ID: 480-77104-1 MS
Matrix: Solid
Analysis Batch: 232690

Client Sample ID: EPT_Non.TSCA.Waste_2015.03.18
Prep Type: Total/NA
Prep Batch: 232657

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.71	J	10.9	10.30		mg/Kg	☼	88	85 - 115

Method: 9034 - Sulfide, Reactive

Lab Sample ID: MB 480-233436/1-A
Matrix: Solid
Analysis Batch: 233464

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 233436

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	10.0	U	10.0	0.57	mg/Kg		03/31/15 23:15	04/01/15 09:30	1

Lab Sample ID: LCS 480-233436/2-A
Matrix: Solid
Analysis Batch: 233464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 233436

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Reactive	1000	801.5		mg/Kg		80	10 - 100

Lab Sample ID: 480-77104-1 DU
Matrix: Solid
Analysis Batch: 233464

Client Sample ID: EPT_Non.TSCA.Waste_2015.03.18
Prep Type: Total/NA
Prep Batch: 233436

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfide, Reactive	10	U	10	U	mg/Kg		NC	20

Method: 9045C - pH

Lab Sample ID: LCS 480-232527/1
Matrix: Solid
Analysis Batch: 232527

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	10.0	10.04		SU		100	99 - 101

Method: 9045C - pH (Continued)

Lab Sample ID: 480-77104-1 DU
Matrix: Solid
Analysis Batch: 232527

Client Sample ID: EPT_Non.TSCA.Waste_2015.03.18
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	10.5	HF	10.42		SU		0.4	5

QC Association Summary

Client: Ontario Specialty Contracting, Inc.
Project/Site: Non TSCA Waste

TestAmerica Job ID: 480-77104-1

GC/MS VOA

Leach Batch: 232186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	1311	
480-77104-1 MS	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	1311	
480-77104-1 MSD	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	1311	
LB 480-232186/1-A	Method Blank	TCLP	Solid	1311	

Analysis Batch: 232760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	8260C	232186
480-77104-1 MS	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	8260C	232186
480-77104-1 MSD	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	8260C	232186
LB 480-232186/1-A	Method Blank	TCLP	Solid	8260C	232186
LCS 480-232760/4	Lab Control Sample	Total/NA	Solid	8260C	
MB 480-232760/6	Method Blank	Total/NA	Solid	8260C	

GC/MS Semi VOA

Leach Batch: 232184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	1311	
LB 480-232184/1-B	Method Blank	TCLP	Solid	1311	

Prep Batch: 232365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	3510C	232184
LB 480-232184/1-B	Method Blank	TCLP	Solid	3510C	232184
LCS 480-232365/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 480-232365/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	
MB 480-232365/1-A	Method Blank	Total/NA	Solid	3510C	

Analysis Batch: 232505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	8270D	232365
LB 480-232184/1-B	Method Blank	TCLP	Solid	8270D	232365
LCS 480-232365/2-A	Lab Control Sample	Total/NA	Solid	8270D	232365
LCSD 480-232365/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	232365
MB 480-232365/1-A	Method Blank	Total/NA	Solid	8270D	232365

GC Semi VOA

Prep Batch: 232116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	3550C	
480-77104-1 MS	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	3550C	
480-77104-1 MSD	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	3550C	
LCS 480-232116/2-A	Lab Control Sample	Total/NA	Solid	3550C	
MB 480-232116/1-A	Method Blank	Total/NA	Solid	3550C	

Analysis Batch: 232270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	8082A	232116

GC Semi VOA (Continued)

Analysis Batch: 232270 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1 MS	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	8082A	232116
480-77104-1 MSD	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	8082A	232116
LCS 480-232116/2-A	Lab Control Sample	Total/NA	Solid	8082A	232116
MB 480-232116/1-A	Method Blank	Total/NA	Solid	8082A	232116

Metals

Leach Batch: 232184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	1311	
480-77104-1 MS	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	1311	
480-77104-1 MSD	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	1311	
LB 480-232184/1-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 232394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	3010A	232184
480-77104-1 MS	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	3010A	232184
480-77104-1 MSD	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	3010A	232184
LB 480-232184/1-C	Method Blank	TCLP	Solid	3010A	232184
LCS 480-232394/3-A	Lab Control Sample	Total/NA	Solid	3010A	
MB 480-232394/2-A	Method Blank	Total/NA	Solid	3010A	

Prep Batch: 232407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	7470A	232184

Analysis Batch: 232485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	7470A	232407

Analysis Batch: 232678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	6010C	232394
480-77104-1 MS	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	6010C	232394
480-77104-1 MSD	EPT_Non.TSCA.Waste_2015.03.18	TCLP	Solid	6010C	232394
LB 480-232184/1-C	Method Blank	TCLP	Solid	6010C	232394
LCS 480-232394/3-A	Lab Control Sample	Total/NA	Solid	6010C	232394
MB 480-232394/2-A	Method Blank	Total/NA	Solid	6010C	232394

General Chemistry

Analysis Batch: 232137

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	Moisture	

Analysis Batch: 232498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	1010	
LCS 480-232498/1	Lab Control Sample	Total/NA	Solid	1010	

General Chemistry (Continued)

Analysis Batch: 232527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	9045C	
480-77104-1 DU	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	9045C	
LCS 480-232527/1	Lab Control Sample	Total/NA	Solid	9045C	

Prep Batch: 232657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	9012B	
480-77104-1 MS	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	9012B	
LCS 480-232657/2-A ^5	Lab Control Sample	Total/NA	Solid	9012B	
MB 480-232657/1-A	Method Blank	Total/NA	Solid	9012B	

Analysis Batch: 232690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	9012B	232657
480-77104-1 MS	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	9012B	232657
LCS 480-232657/2-A ^5	Lab Control Sample	Total/NA	Solid	9012B	232657
MB 480-232657/1-A	Method Blank	Total/NA	Solid	9012B	232657

Prep Batch: 233436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	7.3.4	
480-77104-1 DU	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	7.3.4	
LCS 480-233436/2-A	Lab Control Sample	Total/NA	Solid	7.3.4	
MB 480-233436/1-A	Method Blank	Total/NA	Solid	7.3.4	

Prep Batch: 233441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	7.3.3	
480-77104-1 DU	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	7.3.3	
LCS 480-233441/2-A	Lab Control Sample	Total/NA	Solid	7.3.3	
MB 480-233441/1-A	Method Blank	Total/NA	Solid	7.3.3	

Analysis Batch: 233464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	9034	233436
480-77104-1 DU	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	9034	233436
LCS 480-233436/2-A	Lab Control Sample	Total/NA	Solid	9034	233436
MB 480-233436/1-A	Method Blank	Total/NA	Solid	9034	233436

Analysis Batch: 233474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	9012	233441
480-77104-1 DU	EPT_Non.TSCA.Waste_2015.03.18	Total/NA	Solid	9012	233441
LCS 480-233441/2-A	Lab Control Sample	Total/NA	Solid	9012	233441
MB 480-233441/1-A	Method Blank	Total/NA	Solid	9012	233441

Client Sample ID: EPT_Non.TSCA.Waste_2015.03.18 **Lab Sample ID: 480-77104-1**
Date Collected: 03/18/15 16:00 **Matrix: Solid**
Date Received: 03/24/15 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			232186	03/25/15 12:29	JLS	TAL BUF
TCLP	Analysis	8260C		10	232760	03/28/15 04:39	CDC	TAL BUF
TCLP	Leach	1311			232184	03/25/15 12:25	JLS	TAL BUF
TCLP	Prep	3510C			232365	03/26/15 08:31	TRG	TAL BUF
TCLP	Analysis	8270D		1	232505	03/26/15 23:52	DMR	TAL BUF
Total/NA	Prep	3550C			232116	03/25/15 09:08	RJS	TAL BUF
Total/NA	Analysis	8082A		10	232270	03/25/15 20:21	KS	TAL BUF
TCLP	Leach	1311			232184	03/25/15 12:25	JLS	TAL BUF
TCLP	Prep	3010A			232394	03/26/15 10:05	TAS	TAL BUF
TCLP	Analysis	6010C		1	232678	03/27/15 12:27	AMH	TAL BUF
TCLP	Leach	1311			232184	03/25/15 12:25	JLS	TAL BUF
TCLP	Prep	7470A			232407	03/26/15 10:45	LRK	TAL BUF
TCLP	Analysis	7470A		1	232485	03/26/15 15:19	LRK	TAL BUF
Total/NA	Analysis	1010		1	232498	03/26/15 16:53	STD	TAL BUF
Total/NA	Prep	7.3.3			233441	03/31/15 23:15	LAW	TAL BUF
Total/NA	Analysis	9012		1	233474	04/01/15 09:38	LAW	TAL BUF
Total/NA	Prep	9012B			232657	03/27/15 09:29	EKB	TAL BUF
Total/NA	Analysis	9012B		1	232690	03/27/15 12:46	KC	TAL BUF
Total/NA	Prep	7.3.4			233436	03/31/15 23:15	LAW	TAL BUF
Total/NA	Analysis	9034		1	233464	04/01/15 09:30	LAW	TAL BUF
Total/NA	Analysis	9045C		1	232527	03/26/15 17:30	MDL	TAL BUF
Total/NA	Analysis	Moisture		1	232137	03/25/15 09:51	CSW	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-15 *

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
1010		Solid	Flashpoint
7470A	7470A	Solid	Mercury
9012	7.3.3	Solid	Cyanide, Reactive
9034	7.3.4	Solid	Sulfide, Reactive
9045C		Solid	pH
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

* Certification renewal pending - certification considered valid.

Method Summary

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
7470A	TCLP Mercury	SW846	TAL BUF
1010	Ignitability, Pensky-Martens Closed-Cup Method	SW846	TAL BUF
9012	Cyanide, Reactive	SW846	TAL BUF
9012B	Cyanide, Total andor Amenable	SW846	TAL BUF
9034	Sulfide, Reactive	SW846	TAL BUF
9045C	pH	SW846	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Ontario Specialty Contracting, Inc.
Project/Site: Non TSCA Waste

TestAmerica Job ID: 480-77104-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-77104-1	EPT_Non.TSCA.Waste_2015.03.18	Solid	03/18/15 16:00	03/24/15 09:00

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228
phone 716.504.9852 fax 716.691.7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Schove, John	Site Contact: Andrew Madden	Date: 3/18/2015	COC No: 296983098
Ontario Specialty Contracting Inc.	Tel/Fax: (716) 912-9926	Lab Contact: Schove, John	Carrier:	1 of 1 COCs
333 Ganson Street Buffalo, NY, 14203	Analysis Turnaround Time			Job No. 77104
Phone: 716-856-3333	Calendar (C) or Work Days (W) W			
Fax: 716-842-1630	TAT			
PO# 55888 Client Job# 15007	[X] ASAP 5BD			SDG No.
Project Name: EPT Ithaca NY	Fastest turn around possible please.			
Sampling Event: Non TSCA Waste	Bill based on performed TAT.			
Site: Emerson Power Transmission Plant				

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	8260C - TCLP Volatiles	8270D - TCLP SVOC	TCLP RCRA 8 Metals	8082A - TCL PCBs - OLM04.2	9012 - Reactive Cyanide	9034 - Reactive Sulfide	9012B - Total Cyanide	1010A - Ignitability	9045D - pH	Moisture - Percent Solids	Sample Specific Notes:
EPT_Non.TSCA.Waste_2015.03.18	3/18/15	16:00	C	S	4	N	1		1			1			1		
Container Volume (oz)							8		8			8			8		
Preservation: 1= Ice 2= HCl (Hydrochloric) 3= H2SO4 (Sulfuric) 4=HNO3 (Nitric) 5=NaOH (Sodium Hydroxide) 6=Other							1-G		1-G			1-G			1-G		

Possible Hazard Identification
[ ] *Non-Hazard* [ ] *Flammable* [ ] *Skin Irritant* [ ] *Poison B* [X] *Unknown*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] Return To Client [X] Disposal By Lab [ ] Archive For ______ Months

Special Instructions/QC Requirements & Comments:

Container Code: A=Amber G=Glass P=Poly/Plastic S=Summa T=Tedlar V=Vial

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	OSC	3/24/15 9am	[signature]	TAG	24 MAR 15 0900

480-77104 Chain of Custody

7.4°C NO ICE / #1

Login Sample Receipt Checklist

Client: Ontario Specialty Contracting, Inc. Job Number: 480-77104-1

Login Number: 77104 **List Source: TestAmerica Buffalo**
List Number: 1
Creator: Kinecki, Kenneth P

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	OSC
Samples received within 48 hours of sampling.	False	Sampled 3/18, rec'd 3/24
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-78727-1
Client Project/Site: Ontario Specialty Contracting - OSC

For:
Ontario Specialty Contracting, Inc.
333 Ganson St.
Buffalo, New York 14203

Attn: Andrew Madden

Authorized for release by:
4/29/2015 11:09:31 AM
Rebecca Jones, Project Management Assistant I
rebecca.jones@testamericainc.com

Designee for

John Schove, Project Manager II
(716)504-9838
john.schove@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Table of Contents

Client: Ontario Specialty Contracting, Inc. TestAmerica Job ID: 480-78727-1
Project/Site: Ontario Specialty Contracting - OSC

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-78727-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-78727-1

Comments
No additional comments.

Receipt
The sample was received on 4/17/2015 6:10 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.0º C.

Except:

The submitted volumes were received in four (4) mason jars with metal lids. Volume was poured off in Buffalo Sample Control into the following containers:

3 - 40 ml vials, # 631615
3 - 250 ml amber glass, # 121714
1 - 1L amber glass, # 111814
1 - 1L plastic, # 030615
1 - 250 ml plastic w/nitric acid, # 021115
1 - 250 ml plastic, # 092414

GC/MS VOA
Method(s) 8260C: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: EPT_Liquid Waste_2015.04.17 (480-78727-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for 237551 recovered outside control limits for the following analytes: 4-Nitroaniline and 4-Chloroaniline in the LCS and 4-Nitroaniline in the LCSD. These analytes were biased high in the LCS/LCSD and were not detected in the associated samples; therefore, the data have been reported.(LCS 480-237551/2-A) and (LCSD 480-237551/3-A)

Method(s) 8270D: The following samples required dilutions due to the nature of the sample matrix: EPT_Liquid Waste_2015.04.17 (480-78727-1). Because of these dilutions, the surrogate spike concentration in the samples were reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8081B: The following sample was diluted due to an abundance of target analytes: EPT_Liquid Waste_2015.04.17 (480-78727-1). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Method(s) 8081B: The laboratory control sample (LCS) recovered outside control. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported: LCS 480-237365/2-A.

Method(s) 8081B: The continuing calibration verification (CCV 480-238003/10) for Toxaphene was increased and exceeded control criteria of 20%, though all associated samples did not show any potential pattern. The data has been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 480-78727-1 (Continued)

Laboratory: TestAmerica Buffalo (Continued)

General Chemistry

Method(s) SM 2540D: Due to the matrix, the initial volume(s) used for the following sample deviated from the standard procedure: EPT_Liquid Waste_2015.04.17 (480-78727-1). The reporting limits (RLs) have been adjusted proportionately.

Method(s) 9040B, 9040C, SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: EPT_Liquid Waste_2015.04.17 (480-78727-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with 237551.

Method(s) 8151A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 237507.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client: Ontario Specialty Contracting, Inc. | TestAmerica Job ID: 480-78727-1

Project/Site: Ontario Specialty Contracting - OSC

Client Sample ID: EPT_Liquid Waste_2015.04.17 | Lab Sample ID: 480-78727-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	24	J	50	15	ug/L	5		8260C	Total/NA
Methylene Chloride	2.5	J	5.0	2.2	ug/L	5		8260C	Total/NA
Trichloroethene	4.1	J	5.0	2.3	ug/L	5		8260C	Total/NA
Endosulfan I	15		4.6	1.0	ug/L	100		8081B	Total/NA
PCB-1260	0.83		0.47	0.24	ug/L	1		8082A	Total/NA
Arsenic	0.011	J	0.015	0.0056	mg/L	1		6010C	Total/NA
Barium	0.33		0.0020	0.00070	mg/L	1		6010C	Total/NA
Cadmium	0.0026		0.0020	0.00050	mg/L	1		6010C	Total/NA
Chromium	0.040		0.0040	0.0010	mg/L	1		6010C	Total/NA
Lead	0.25		0.010	0.0030	mg/L	1		6010C	Total/NA
Mercury	0.0012		0.00020	0.00012	mg/L	1		7470A	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>176.0		50.0	50.0	Degrees F	1		1010	Total/NA
Total Suspended Solids	572		16.7	16.7	mg/L	1		SM 2540D	Total/NA
pH	7.44	HF	0.100	0.100	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: EPT_Liquid Waste_2015.04.17
Date Collected: 04/17/15 00:00
Date Received: 04/17/15 18:10

Lab Sample ID: 480-78727-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	5.0	U	5.0	4.1	ug/L			04/20/15 20:39	5
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1.1	ug/L			04/20/15 20:39	5
1,1,2-Trichloroethane	5.0	U	5.0	1.2	ug/L			04/20/15 20:39	5
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	5.0	1.6	ug/L			04/20/15 20:39	5
1,1-Dichloroethane	5.0	U	5.0	1.9	ug/L			04/20/15 20:39	5
1,1-Dichloroethene	5.0	U	5.0	1.5	ug/L			04/20/15 20:39	5
1,2,4-Trichlorobenzene	5.0	U	5.0	2.1	ug/L			04/20/15 20:39	5
1,2-Dibromo-3-Chloropropane	5.0	U	5.0	2.0	ug/L			04/20/15 20:39	5
1,2-Dibromoethane	5.0	U	5.0	3.7	ug/L			04/20/15 20:39	5
1,2-Dichlorobenzene	5.0	U	5.0	4.0	ug/L			04/20/15 20:39	5
1,2-Dichloroethane	5.0	U	5.0	1.1	ug/L			04/20/15 20:39	5
1,2-Dichloropropane	5.0	U	5.0	3.6	ug/L			04/20/15 20:39	5
1,3-Dichlorobenzene	5.0	U	5.0	3.9	ug/L			04/20/15 20:39	5
1,4-Dichlorobenzene	5.0	U	5.0	4.2	ug/L			04/20/15 20:39	5
2-Hexanone	25	U	25	6.2	ug/L			04/20/15 20:39	5
2-Butanone (MEK)	50	U	50	6.6	ug/L			04/20/15 20:39	5
4-Methyl-2-pentanone (MIBK)	25	U	25	11	ug/L			04/20/15 20:39	5
Acetone	**24**	**J**	50	15	ug/L			04/20/15 20:39	5
Benzene	5.0	U	5.0	2.1	ug/L			04/20/15 20:39	5
Bromodichloromethane	5.0	U	5.0	2.0	ug/L			04/20/15 20:39	5
Bromoform	5.0	U	5.0	1.3	ug/L			04/20/15 20:39	5
Bromomethane	5.0	U	5.0	3.5	ug/L			04/20/15 20:39	5
Carbon disulfide	5.0	U	5.0	0.95	ug/L			04/20/15 20:39	5
Carbon tetrachloride	5.0	U	5.0	1.4	ug/L			04/20/15 20:39	5
Chlorobenzene	5.0	U	5.0	3.8	ug/L			04/20/15 20:39	5
Dibromochloromethane	5.0	U	5.0	1.6	ug/L			04/20/15 20:39	5
Chloroethane	5.0	U	5.0	1.6	ug/L			04/20/15 20:39	5
Chloroform	5.0	U	5.0	1.7	ug/L			04/20/15 20:39	5
Chloromethane	5.0	U	5.0	1.8	ug/L			04/20/15 20:39	5
cis-1,2-Dichloroethene	5.0	U	5.0	4.1	ug/L			04/20/15 20:39	5
cis-1,3-Dichloropropene	5.0	U	5.0	1.8	ug/L			04/20/15 20:39	5
Cyclohexane	5.0	U	5.0	0.90	ug/L			04/20/15 20:39	5
Dichlorodifluoromethane	5.0	U	5.0	3.4	ug/L			04/20/15 20:39	5
Ethylbenzene	5.0	U	5.0	3.7	ug/L			04/20/15 20:39	5
Isopropylbenzene	5.0	U	5.0	4.0	ug/L			04/20/15 20:39	5
Methyl acetate	13	U	13	2.5	ug/L			04/20/15 20:39	5
Methyl tert-butyl ether	5.0	U	5.0	0.80	ug/L			04/20/15 20:39	5
Methylcyclohexane	5.0	U	5.0	0.80	ug/L			04/20/15 20:39	5
Methylene Chloride	**2.5**	**J**	5.0	2.2	ug/L			04/20/15 20:39	5
Styrene	5.0	U	5.0	3.7	ug/L			04/20/15 20:39	5
Tetrachloroethene	5.0	U	5.0	1.8	ug/L			04/20/15 20:39	5
Toluene	5.0	U	5.0	2.6	ug/L			04/20/15 20:39	5
trans-1,2-Dichloroethene	5.0	U	5.0	4.5	ug/L			04/20/15 20:39	5
trans-1,3-Dichloropropene	5.0	U	5.0	1.9	ug/L			04/20/15 20:39	5
Trichloroethene	**4.1**	**J**	5.0	2.3	ug/L			04/20/15 20:39	5
Trichlorofluoromethane	5.0	U	5.0	4.4	ug/L			04/20/15 20:39	5
Vinyl chloride	5.0	U	5.0	4.5	ug/L			04/20/15 20:39	5
Xylenes, Total	10	U	10	3.3	ug/L			04/20/15 20:39	5

Client: Ontario Specialty Contracting, Inc.
Project/Site: Ontario Specialty Contracting - OSC

TestAmerica Job ID: 480-78727-1

Client Sample ID: EPT_Liquid Waste_2015.04.17
Date Collected: 04/17/15 00:00
Date Received: 04/17/15 18:10

Lab Sample ID: 480-78727-1
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		66 - 137		04/20/15 20:39	5
Toluene-d8 (Surr)	100		71 - 126		04/20/15 20:39	5
4-Bromofluorobenzene (Surr)	103		73 - 120		04/20/15 20:39	5
Dibromofluoromethane (Surr)	106		60 - 140		04/20/15 20:39	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	240	U	240	31	ug/L		04/21/15 10:40	04/23/15 21:39	50
bis (2-chloroisopropyl) ether	240	U	240	25	ug/L		04/21/15 10:40	04/23/15 21:39	50
2,4,5-Trichlorophenol	240	U	240	23	ug/L		04/21/15 10:40	04/23/15 21:39	50
2,4,6-Trichlorophenol	240	U	240	29	ug/L		04/21/15 10:40	04/23/15 21:39	50
2,4-Dichlorophenol	240	U	240	24	ug/L		04/21/15 10:40	04/23/15 21:39	50
2,4-Dimethylphenol	240	U	240	24	ug/L		04/21/15 10:40	04/23/15 21:39	50
2,4-Dinitrophenol	480	U	480	110	ug/L		04/21/15 10:40	04/23/15 21:39	50
2,4-Dinitrotoluene	240	U	240	21	ug/L		04/21/15 10:40	04/23/15 21:39	50
2,6-Dinitrotoluene	240	U	240	19	ug/L		04/21/15 10:40	04/23/15 21:39	50
2-Chloronaphthalene	240	U	240	22	ug/L		04/21/15 10:40	04/23/15 21:39	50
2-Chlorophenol	240	U	240	25	ug/L		04/21/15 10:40	04/23/15 21:39	50
2-Methylphenol	240	U	240	19	ug/L		04/21/15 10:40	04/23/15 21:39	50
2-Methylnaphthalene	240	U	240	29	ug/L		04/21/15 10:40	04/23/15 21:39	50
2-Nitroaniline	480	U	480	20	ug/L		04/21/15 10:40	04/23/15 21:39	50
2-Nitrophenol	240	U	240	23	ug/L		04/21/15 10:40	04/23/15 21:39	50
3,3'-Dichlorobenzidine	240	U	240	19	ug/L		04/21/15 10:40	04/23/15 21:39	50
3-Nitroaniline	480	U	480	23	ug/L		04/21/15 10:40	04/23/15 21:39	50
4,6-Dinitro-2-methylphenol	480	U	480	110	ug/L		04/21/15 10:40	04/23/15 21:39	50
4-Bromophenyl phenyl ether	240	U	240	22	ug/L		04/21/15 10:40	04/23/15 21:39	50
4-Chloro-3-methylphenol	240	U	240	22	ug/L		04/21/15 10:40	04/23/15 21:39	50
4-Chloroaniline	240	U *	240	28	ug/L		04/21/15 10:40	04/23/15 21:39	50
4-Chlorophenyl phenyl ether	240	U	240	17	ug/L		04/21/15 10:40	04/23/15 21:39	50
4-Methylphenol	480	U	480	17	ug/L		04/21/15 10:40	04/23/15 21:39	50
4-Nitroaniline	480	U *	480	12	ug/L		04/21/15 10:40	04/23/15 21:39	50
4-Nitrophenol	480	U	480	73	ug/L		04/21/15 10:40	04/23/15 21:39	50
Acenaphthene	240	U	240	20	ug/L		04/21/15 10:40	04/23/15 21:39	50
Acenaphthylene	240	U	240	18	ug/L		04/21/15 10:40	04/23/15 21:39	50
Acetophenone	240	U	240	26	ug/L		04/21/15 10:40	04/23/15 21:39	50
Anthracene	240	U	240	13	ug/L		04/21/15 10:40	04/23/15 21:39	50
Atrazine	240	U	240	22	ug/L		04/21/15 10:40	04/23/15 21:39	50
Benzaldehyde	240	U	240	13	ug/L		04/21/15 10:40	04/23/15 21:39	50
Benzo[a]anthracene	240	U	240	17	ug/L		04/21/15 10:40	04/23/15 21:39	50
Benzo[a]pyrene	240	U	240	22	ug/L		04/21/15 10:40	04/23/15 21:39	50
Benzo[b]fluoranthene	240	U	240	16	ug/L		04/21/15 10:40	04/23/15 21:39	50
Benzo[g,h,i]perylene	240	U	240	17	ug/L		04/21/15 10:40	04/23/15 21:39	50
Benzo[k]fluoranthene	240	U	240	35	ug/L		04/21/15 10:40	04/23/15 21:39	50
Bis(2-chloroethoxy)methane	240	U	240	17	ug/L		04/21/15 10:40	04/23/15 21:39	50
Bis(2-chloroethyl)ether	240	U	240	19	ug/L		04/21/15 10:40	04/23/15 21:39	50
Bis(2-ethylhexyl) phthalate	240	U	240	86	ug/L		04/21/15 10:40	04/23/15 21:39	50
Butyl benzyl phthalate	240	U	240	20	ug/L		04/21/15 10:40	04/23/15 21:39	50
Caprolactam	240	U	240	110	ug/L		04/21/15 10:40	04/23/15 21:39	50
Carbazole	240	U	240	14	ug/L		04/21/15 10:40	04/23/15 21:39	50
Chrysene	240	U	240	16	ug/L		04/21/15 10:40	04/23/15 21:39	50

Client Sample Results

Client: Ontario Specialty Contracting, Inc.
TestAmerica Job ID: 480-78727-1
Project/Site: Ontario Specialty Contracting - OSC

Client Sample ID: EPT_Liquid Waste_2015.04.17
Lab Sample ID: 480-78727-1
Date Collected: 04/17/15 00:00
Matrix: Water
Date Received: 04/17/15 18:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	240	U	240	20	ug/L		04/21/15 10:40	04/23/15 21:39	50
Di-n-butyl phthalate	240	U	240	15	ug/L		04/21/15 10:40	04/23/15 21:39	50
Di-n-octyl phthalate	240	U	240	22	ug/L		04/21/15 10:40	04/23/15 21:39	50
Dibenzofuran	480	U	480	24	ug/L		04/21/15 10:40	04/23/15 21:39	50
Diethyl phthalate	240	U	240	11	ug/L		04/21/15 10:40	04/23/15 21:39	50
Dimethyl phthalate	240	U	240	17	ug/L		04/21/15 10:40	04/23/15 21:39	50
Fluoranthene	240	U	240	19	ug/L		04/21/15 10:40	04/23/15 21:39	50
Fluorene	240	U	240	17	ug/L		04/21/15 10:40	04/23/15 21:39	50
Hexachlorobenzene	240	U	240	24	ug/L		04/21/15 10:40	04/23/15 21:39	50
Hexachlorobutadiene	240	U	240	33	ug/L		04/21/15 10:40	04/23/15 21:39	50
Hexachlorocyclopentadiene	240	U	240	28	ug/L		04/21/15 10:40	04/23/15 21:39	50
Hexachloroethane	240	U	240	28	ug/L		04/21/15 10:40	04/23/15 21:39	50
Indeno[1,2,3-cd]pyrene	240	U	240	22	ug/L		04/21/15 10:40	04/23/15 21:39	50
Isophorone	240	U	240	21	ug/L		04/21/15 10:40	04/23/15 21:39	50
N-Nitrosodi-n-propylamine	240	U	240	26	ug/L		04/21/15 10:40	04/23/15 21:39	50
N-Nitrosodiphenylamine	240	U	240	24	ug/L		04/21/15 10:40	04/23/15 21:39	50
Naphthalene	240	U	240	36	ug/L		04/21/15 10:40	04/23/15 21:39	50
Nitrobenzene	240	U	240	14	ug/L		04/21/15 10:40	04/23/15 21:39	50
Pentachlorophenol	480	U	480	110	ug/L		04/21/15 10:40	04/23/15 21:39	50
Phenanthrene	240	U	240	21	ug/L		04/21/15 10:40	04/23/15 21:39	50
Phenol	240	U	240	19	ug/L		04/21/15 10:40	04/23/15 21:39	50
Pyrene	240	U	240	16	ug/L		04/21/15 10:40	04/23/15 21:39	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*76*		*46 - 120*	*04/21/15 10:40*	*04/23/15 21:39*	*50*
Phenol-d5 (Surr)	*34*		*16 - 120*	*04/21/15 10:40*	*04/23/15 21:39*	*50*
p-Terphenyl-d14 (Surr)	*73*		*67 - 150*	*04/21/15 10:40*	*04/23/15 21:39*	*50*
2,4,6-Tribromophenol (Surr)	*62*		*52 - 132*	*04/21/15 10:40*	*04/23/15 21:39*	*50*
2-Fluorobiphenyl	*76*		*48 - 120*	*04/21/15 10:40*	*04/23/15 21:39*	*50*
2-Fluorophenol (Surr)	*48*		*20 - 120*	*04/21/15 10:40*	*04/23/15 21:39*	*50*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	4.6	U	4.6	0.85	ug/L		04/20/15 14:19	04/24/15 19:58	100
4,4'-DDE	4.6	U	4.6	1.1	ug/L		04/20/15 14:19	04/24/15 19:58	100
4,4'-DDT	4.6	U	4.6	1.0	ug/L		04/20/15 14:19	04/24/15 19:58	100
Aldrin	4.6	U	4.6	0.75	ug/L		04/20/15 14:19	04/24/15 19:58	100
alpha-BHC	4.6	U	4.6	0.71	ug/L		04/20/15 14:19	04/24/15 19:58	100
alpha-Chlordane	4.6	U	4.6	1.4	ug/L		04/20/15 14:19	04/24/15 19:58	100
beta-BHC	4.6	U	4.6	2.3	ug/L		04/20/15 14:19	04/24/15 19:58	100
delta-BHC	4.6	U	4.6	0.92	ug/L		04/20/15 14:19	04/24/15 19:58	100
Dieldrin	4.6	U	4.6	0.90	ug/L		04/20/15 14:19	04/24/15 19:58	100
Endosulfan I	**15**		4.6	1.0	ug/L		04/20/15 14:19	04/24/15 19:58	100
Endosulfan II	4.6	U	4.6	1.1	ug/L		04/20/15 14:19	04/24/15 19:58	100
Endosulfan sulfate	4.6	U	4.6	1.4	ug/L		04/20/15 14:19	04/24/15 19:58	100
Endrin	4.6	U	4.6	1.3	ug/L		04/20/15 14:19	04/24/15 19:58	100
Endrin aldehyde	4.6	U *	4.6	1.5	ug/L		04/20/15 14:19	04/24/15 19:58	100
Endrin ketone	4.6	U *	4.6	1.1	ug/L		04/20/15 14:19	04/24/15 19:58	100
gamma-BHC (Lindane)	4.6	U	4.6	0.74	ug/L		04/20/15 14:19	04/24/15 19:58	100
gamma-Chlordane	4.6	U	4.6	1.0	ug/L		04/20/15 14:19	04/24/15 19:58	100

Client Sample ID: EPT_Liquid Waste_2015.04.17

Lab Sample ID: 480-78727-1

Date Collected: 04/17/15 00:00

Matrix: Water

Date Received: 04/17/15 18:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor	4.6	U	4.6	0.78	ug/L		04/20/15 14:19	04/24/15 19:58	100
Heptachlor epoxide	4.6	U	4.6	0.68	ug/L		04/20/15 14:19	04/24/15 19:58	100
Methoxychlor	4.6	U	4.6	1.3	ug/L		04/20/15 14:19	04/24/15 19:58	100
Toxaphene	46	U	46	11	ug/L		04/20/15 14:19	04/24/15 19:58	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*0*	*X*	*20 - 120*	*04/20/15 14:19*	*04/24/15 19:58*	*100*
Tetrachloro-m-xylene	*0*	*X*	*36 - 120*	*04/20/15 14:19*	*04/24/15 19:58*	*100*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.47	U	0.47	0.17	ug/L		04/20/15 14:33	04/21/15 17:06	1
PCB-1221	0.47	U	0.47	0.17	ug/L		04/20/15 14:33	04/21/15 17:06	1
PCB-1232	0.47	U	0.47	0.17	ug/L		04/20/15 14:33	04/21/15 17:06	1
PCB-1242	0.47	U	0.47	0.17	ug/L		04/20/15 14:33	04/21/15 17:06	1
PCB-1248	0.47	U	0.47	0.17	ug/L		04/20/15 14:33	04/21/15 17:06	1
PCB-1254	0.47	U	0.47	0.24	ug/L		04/20/15 14:33	04/21/15 17:06	1
PCB-1260	**0.83**		0.47	0.24	ug/L		04/20/15 14:33	04/21/15 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*51*		*24 - 137*	*04/20/15 14:33*	*04/21/15 17:06*	*1*
DCB Decachlorobiphenyl	*19*		*19 - 125*	*04/20/15 14:33*	*04/21/15 17:06*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	0.48	U	0.48	0.35	ug/L		04/21/15 08:40	04/23/15 10:04	1
2,4-D	0.48	U	0.48	0.39	ug/L		04/21/15 08:40	04/23/15 10:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*79*		*35 - 143*	*04/21/15 08:40*	*04/23/15 10:04*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.011**	**J**	0.015	0.0056	mg/L		04/21/15 14:26	04/22/15 18:46	1
Barium	**0.33**		0.0020	0.00070	mg/L		04/21/15 14:26	04/22/15 18:46	1
Cadmium	**0.0026**		0.0020	0.00050	mg/L		04/21/15 14:26	04/22/15 18:46	1
Chromium	**0.040**		0.0040	0.0010	mg/L		04/21/15 14:26	04/22/15 18:46	1
Lead	**0.25**		0.010	0.0030	mg/L		04/21/15 14:26	04/22/15 18:46	1
Selenium	0.025	U	0.025	0.0087	mg/L		04/21/15 14:26	04/22/15 18:46	1
Silver	0.0060	U	0.0060	0.0017	mg/L		04/21/15 14:26	04/22/15 18:46	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0012**		0.00020	0.00012	mg/L		04/21/15 08:35	04/21/15 13:46	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	**>176.0**		50.0	50.0	Degrees F			04/23/15 20:15	1
Cyanide, Reactive	10.0	U	10.0	10.0	mg/L		04/24/15 09:29	04/24/15 19:02	1
Sulfide, Reactive	10.0	U	10.0	10.0	mg/L		04/24/15 09:29	04/24/15 16:34	1
Total Suspended Solids	**572**		16.7	16.7	mg/L			04/23/15 15:19	1

Client Sample ID: EPT_Liquid Waste_2015.04.17 **Lab Sample ID: 480-78727-1**
Date Collected: 04/17/15 00:00 **Matrix: Water**
Date Received: 04/17/15 18:10

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.44	HF	0.100	0.100	SU			04/25/15 13:00	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

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

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

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	12DCE (66-137)	TOL (71-126)	BFB (73-120)	DBFM (60-140)
480-78727-1	EPT_Liquid Waste_2015.04.17	98	100	103	106
LCS 480-237319/4	Lab Control Sample	96	98	102	100
MB 480-237319/6	Method Blank	100	100	103	107

Surrogate Legend

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

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

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

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NBZ (46-120)	PHL (16-120)	TPH (67-150)	TBP (52-132)	FBP (48-120)	2FP (20-120)
480-78727-1	EPT_Liquid Waste_2015.04.17	76	34	73	62	76	48
LCS 480-237551/2-A	Lab Control Sample	89	53	96	93	86	70
LCSD 480-237551/3-A	Lab Control Sample Dup	93	58	98	96	86	72
MB 480-237551/1-A	Method Blank	84	43	109	76	85	62

Surrogate Legend

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

Method: 8081B - Organochlorine Pesticides (GC)

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

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB1 (20-120)	TCX1 (36-120)
480-78727-1	EPT_Liquid Waste_2015.04.17	0 X	0 X
LCS 480-237365/2-A	Lab Control Sample	45	103
MB 480-237365/1-A	Method Blank	68	104

Surrogate Legend

DCB = DCB Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

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

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

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (24-137)	DCB2 (19-125)
480-78727-1	EPT_Liquid Waste_2015.04.17	51	19

Surrogate Summary

Client: Ontario Specialty Contracting, Inc.
Project/Site: Ontario Specialty Contracting - OSC

TestAmerica Job ID: 480-78727-1

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

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

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (24-137)	DCB2 (19-125)
LCS 480-237367/2-A	Lab Control Sample	82	43
MB 480-237367/1-A	Method Blank	53	52

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl

Method: 8151A - Herbicides (GC)

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

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCPA1 (35-143)
480-78727-1	EPT_Liquid Waste_2015.04.17	79
LCS 480-237507/2-A	Lab Control Sample	83
LCSD 480-237507/3-A	Lab Control Sample Dup	74
MB 480-237507/1-A	Method Blank	90

Surrogate Legend

DCPA = 2,4-Dichlorophenylacetic acid

Client: Ontario Specialty Contracting, Inc.
Project/Site: Ontario Specialty Contracting - OSC

TestAmerica Job ID: 480-78727-1

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

Lab Sample ID: MB 480-237319/6
Matrix: Water
Analysis Batch: 237319

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			04/20/15 14:15	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			04/20/15 14:15	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			04/20/15 14:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			04/20/15 14:15	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			04/20/15 14:15	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			04/20/15 14:15	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			04/20/15 14:15	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			04/20/15 14:15	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			04/20/15 14:15	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			04/20/15 14:15	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			04/20/15 14:15	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			04/20/15 14:15	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			04/20/15 14:15	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			04/20/15 14:15	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			04/20/15 14:15	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			04/20/15 14:15	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			04/20/15 14:15	1
Acetone	10	U	10	3.0	ug/L			04/20/15 14:15	1
Benzene	1.0	U	1.0	0.41	ug/L			04/20/15 14:15	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			04/20/15 14:15	1
Bromoform	1.0	U	1.0	0.26	ug/L			04/20/15 14:15	1
Bromomethane	1.0	U	1.0	0.69	ug/L			04/20/15 14:15	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			04/20/15 14:15	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			04/20/15 14:15	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			04/20/15 14:15	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			04/20/15 14:15	1
Chloroethane	1.0	U	1.0	0.32	ug/L			04/20/15 14:15	1
Chloroform	1.0	U	1.0	0.34	ug/L			04/20/15 14:15	1
Chloromethane	1.0	U	1.0	0.35	ug/L			04/20/15 14:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			04/20/15 14:15	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			04/20/15 14:15	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			04/20/15 14:15	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			04/20/15 14:15	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			04/20/15 14:15	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			04/20/15 14:15	1
Methyl acetate	2.5	U	2.5	0.50	ug/L			04/20/15 14:15	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			04/20/15 14:15	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			04/20/15 14:15	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			04/20/15 14:15	1
Styrene	1.0	U	1.0	0.73	ug/L			04/20/15 14:15	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			04/20/15 14:15	1
Toluene	1.0	U	1.0	0.51	ug/L			04/20/15 14:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			04/20/15 14:15	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			04/20/15 14:15	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			04/20/15 14:15	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			04/20/15 14:15	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			04/20/15 14:15	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			04/20/15 14:15	1

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

Lab Sample ID: MB 480-237319/6
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 237319

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		66 - 137		04/20/15 14:15	1
Toluene-d8 (Surr)	100		71 - 126		04/20/15 14:15	1
4-Bromofluorobenzene (Surr)	103		73 - 120		04/20/15 14:15	1
Dibromofluoromethane (Surr)	107		60 - 140		04/20/15 14:15	1

Lab Sample ID: LCS 480-237319/4
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 237319

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	26.3		ug/L		105	73 - 126
1,1,2,2-Tetrachloroethane	25.0	22.7		ug/L		91	70 - 126
1,1,2-Trichloroethane	25.0	24.1		ug/L		96	76 - 122
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.7		ug/L		107	52 - 148
1,1-Dichloroethane	25.0	24.8		ug/L		99	71 - 129
1,1-Dichloroethene	25.0	25.4		ug/L		102	58 - 121
1,2,4-Trichlorobenzene	25.0	25.7		ug/L		103	70 - 122
1,2-Dibromo-3-Chloropropane	25.0	23.0		ug/L		92	56 - 134
1,2-Dibromoethane	25.0	25.1		ug/L		100	77 - 120
1,2-Dichlorobenzene	25.0	25.1		ug/L		100	80 - 124
1,2-Dichloroethane	25.0	23.1		ug/L		93	75 - 127
1,2-Dichloropropane	25.0	25.1		ug/L		100	76 - 120
1,3-Dichlorobenzene	25.0	25.7		ug/L		103	77 - 120
1,4-Dichlorobenzene	25.0	24.9		ug/L		99	75 - 120
2-Hexanone	125	107		ug/L		85	65 - 127
2-Butanone (MEK)	125	109		ug/L		87	57 - 140
4-Methyl-2-pentanone (MIBK)	125	104		ug/L		83	71 - 125
Acetone	125	113		ug/L		91	56 - 142
Benzene	25.0	24.4		ug/L		98	71 - 124
Bromodichloromethane	25.0	26.1		ug/L		104	80 - 122
Bromoform	25.0	27.2		ug/L		109	52 - 132
Bromomethane	25.0	29.0		ug/L		116	55 - 144
Carbon disulfide	25.0	25.9		ug/L		104	59 - 134
Carbon tetrachloride	25.0	27.4		ug/L		109	72 - 134
Chlorobenzene	25.0	25.7		ug/L		103	72 - 120
Dibromochloromethane	25.0	27.0		ug/L		108	75 - 125
Chloroethane	25.0	23.4		ug/L		94	69 - 136
Chloroform	25.0	24.6		ug/L		99	73 - 127
Chloromethane	25.0	23.4		ug/L		94	68 - 124
cis-1,2-Dichloroethene	25.0	25.6		ug/L		102	74 - 124
cis-1,3-Dichloropropene	25.0	26.4		ug/L		106	74 - 124
Cyclohexane	25.0	24.3		ug/L		97	59 - 135
Dichlorodifluoromethane	25.0	24.3		ug/L		97	59 - 135
Ethylbenzene	25.0	25.5		ug/L		102	77 - 123
Isopropylbenzene	25.0	25.3		ug/L		101	77 - 122
Methyl acetate	125	102		ug/L		82	74 - 133
Methyl tert-butyl ether	25.0	24.7		ug/L		99	64 - 127

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

Lab Sample ID: LCS 480-237319/4
Matrix: Water
Analysis Batch: 237319

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylcyclohexane	25.0	24.7		ug/L		99	61 - 138
Methylene Chloride	25.0	24.8		ug/L		99	57 - 132
Styrene	25.0	26.0		ug/L		104	70 - 130
Tetrachloroethene	25.0	26.3		ug/L		105	74 - 122
Toluene	25.0	24.3		ug/L		97	80 - 122
trans-1,2-Dichloroethene	25.0	25.8		ug/L		103	73 - 127
Trichloroethene	25.0	25.2		ug/L		101	74 - 123
Trichlorofluoromethane	25.0	25.8		ug/L		103	62 - 152
Vinyl chloride	25.0	23.6		ug/L		94	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*66 - 137*
Toluene-d8 (Surr)	*98*		*71 - 126*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*
Dibromofluoromethane (Surr)	*100*		*60 - 140*

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

Lab Sample ID: MB 480-237551/1-A
Matrix: Water
Analysis Batch: 238204

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237551

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	5.0	U	5.0	0.65	ug/L		04/21/15 10:40	04/23/15 20:14	1
bis (2-chloroisopropyl) ether	5.0	U	5.0	0.52	ug/L		04/21/15 10:40	04/23/15 20:14	1
2,4,5-Trichlorophenol	5.0	U	5.0	0.48	ug/L		04/21/15 10:40	04/23/15 20:14	1
2,4,6-Trichlorophenol	5.0	U	5.0	0.61	ug/L		04/21/15 10:40	04/23/15 20:14	1
2,4-Dichlorophenol	5.0	U	5.0	0.51	ug/L		04/21/15 10:40	04/23/15 20:14	1
2,4-Dimethylphenol	5.0	U	5.0	0.50	ug/L		04/21/15 10:40	04/23/15 20:14	1
2,4-Dinitrophenol	10	U	10	2.2	ug/L		04/21/15 10:40	04/23/15 20:14	1
2,4-Dinitrotoluene	5.0	U	5.0	0.45	ug/L		04/21/15 10:40	04/23/15 20:14	1
2,6-Dinitrotoluene	5.0	U	5.0	0.40	ug/L		04/21/15 10:40	04/23/15 20:14	1
2-Chloronaphthalene	5.0	U	5.0	0.46	ug/L		04/21/15 10:40	04/23/15 20:14	1
2-Chlorophenol	5.0	U	5.0	0.53	ug/L		04/21/15 10:40	04/23/15 20:14	1
2-Methylphenol	5.0	U	5.0	0.40	ug/L		04/21/15 10:40	04/23/15 20:14	1
2-Methylnaphthalene	5.0	U	5.0	0.60	ug/L		04/21/15 10:40	04/23/15 20:14	1
2-Nitroaniline	10	U	10	0.42	ug/L		04/21/15 10:40	04/23/15 20:14	1
2-Nitrophenol	5.0	U	5.0	0.48	ug/L		04/21/15 10:40	04/23/15 20:14	1
3,3'-Dichlorobenzidine	5.0	U	5.0	0.40	ug/L		04/21/15 10:40	04/23/15 20:14	1
3-Nitroaniline	10	U	10	0.48	ug/L		04/21/15 10:40	04/23/15 20:14	1
4,6-Dinitro-2-methylphenol	10	U	10	2.2	ug/L		04/21/15 10:40	04/23/15 20:14	1
4-Bromophenyl phenyl ether	5.0	U	5.0	0.45	ug/L		04/21/15 10:40	04/23/15 20:14	1
4-Chloro-3-methylphenol	5.0	U	5.0	0.45	ug/L		04/21/15 10:40	04/23/15 20:14	1
4-Chloroaniline	5.0	U	5.0	0.59	ug/L		04/21/15 10:40	04/23/15 20:14	1
4-Chlorophenyl phenyl ether	5.0	U	5.0	0.35	ug/L		04/21/15 10:40	04/23/15 20:14	1
4-Methylphenol	10	U	10	0.36	ug/L		04/21/15 10:40	04/23/15 20:14	1
4-Nitroaniline	10	U	10	0.25	ug/L		04/21/15 10:40	04/23/15 20:14	1
4-Nitrophenol	10	U	10	1.5	ug/L		04/21/15 10:40	04/23/15 20:14	1

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

Lab Sample ID: MB 480-237551/1-A
Matrix: Water
Analysis Batch: 238204

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237551

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	5.0	U	5.0	0.41	ug/L		04/21/15 10:40	04/23/15 20:14	1
Acenaphthylene	5.0	U	5.0	0.38	ug/L		04/21/15 10:40	04/23/15 20:14	1
Acetophenone	5.0	U	5.0	0.54	ug/L		04/21/15 10:40	04/23/15 20:14	1
Anthracene	5.0	U	5.0	0.28	ug/L		04/21/15 10:40	04/23/15 20:14	1
Atrazine	5.0	U	5.0	0.46	ug/L		04/21/15 10:40	04/23/15 20:14	1
Benzaldehyde	0.381	J	5.0	0.27	ug/L		04/21/15 10:40	04/23/15 20:14	1
Benzo[a]anthracene	5.0	U	5.0	0.36	ug/L		04/21/15 10:40	04/23/15 20:14	1
Benzo[a]pyrene	5.0	U	5.0	0.47	ug/L		04/21/15 10:40	04/23/15 20:14	1
Benzo[b]fluoranthene	5.0	U	5.0	0.34	ug/L		04/21/15 10:40	04/23/15 20:14	1
Benzo[g,h,i]perylene	5.0	U	5.0	0.35	ug/L		04/21/15 10:40	04/23/15 20:14	1
Benzo[k]fluoranthene	5.0	U	5.0	0.73	ug/L		04/21/15 10:40	04/23/15 20:14	1
Bis(2-chloroethoxy)methane	5.0	U	5.0	0.35	ug/L		04/21/15 10:40	04/23/15 20:14	1
Bis(2-chloroethyl)ether	5.0	U	5.0	0.40	ug/L		04/21/15 10:40	04/23/15 20:14	1
Bis(2-ethylhexyl) phthalate	5.0	U	5.0	1.8	ug/L		04/21/15 10:40	04/23/15 20:14	1
Butyl benzyl phthalate	0.517	J	5.0	0.42	ug/L		04/21/15 10:40	04/23/15 20:14	1
Caprolactam	5.0	U	5.0	2.2	ug/L		04/21/15 10:40	04/23/15 20:14	1
Carbazole	5.0	U	5.0	0.30	ug/L		04/21/15 10:40	04/23/15 20:14	1
Chrysene	5.0	U	5.0	0.33	ug/L		04/21/15 10:40	04/23/15 20:14	1
Dibenz(a,h)anthracene	5.0	U	5.0	0.42	ug/L		04/21/15 10:40	04/23/15 20:14	1
Di-n-butyl phthalate	5.0	U	5.0	0.31	ug/L		04/21/15 10:40	04/23/15 20:14	1
Di-n-octyl phthalate	5.0	U	5.0	0.47	ug/L		04/21/15 10:40	04/23/15 20:14	1
Dibenzofuran	10	U	10	0.51	ug/L		04/21/15 10:40	04/23/15 20:14	1
Diethyl phthalate	5.0	U	5.0	0.22	ug/L		04/21/15 10:40	04/23/15 20:14	1
Dimethyl phthalate	5.0	U	5.0	0.36	ug/L		04/21/15 10:40	04/23/15 20:14	1
Fluoranthene	5.0	U	5.0	0.40	ug/L		04/21/15 10:40	04/23/15 20:14	1
Fluorene	5.0	U	5.0	0.36	ug/L		04/21/15 10:40	04/23/15 20:14	1
Hexachlorobenzene	5.0	U	5.0	0.51	ug/L		04/21/15 10:40	04/23/15 20:14	1
Hexachlorobutadiene	5.0	U	5.0	0.68	ug/L		04/21/15 10:40	04/23/15 20:14	1
Hexachlorocyclopentadiene	5.0	U	5.0	0.59	ug/L		04/21/15 10:40	04/23/15 20:14	1
Hexachloroethane	5.0	U	5.0	0.59	ug/L		04/21/15 10:40	04/23/15 20:14	1
Indeno[1,2,3-cd]pyrene	5.0	U	5.0	0.47	ug/L		04/21/15 10:40	04/23/15 20:14	1
Isophorone	5.0	U	5.0	0.43	ug/L		04/21/15 10:40	04/23/15 20:14	1
N-Nitrosodi-n-propylamine	5.0	U	5.0	0.54	ug/L		04/21/15 10:40	04/23/15 20:14	1
N-Nitrosodiphenylamine	5.0	U	5.0	0.51	ug/L		04/21/15 10:40	04/23/15 20:14	1
Naphthalene	5.0	U	5.0	0.76	ug/L		04/21/15 10:40	04/23/15 20:14	1
Nitrobenzene	5.0	U	5.0	0.29	ug/L		04/21/15 10:40	04/23/15 20:14	1
Pentachlorophenol	10	U	10	2.2	ug/L		04/21/15 10:40	04/23/15 20:14	1
Phenanthrene	5.0	U	5.0	0.44	ug/L		04/21/15 10:40	04/23/15 20:14	1
Phenol	5.0	U	5.0	0.39	ug/L		04/21/15 10:40	04/23/15 20:14	1
Pyrene	5.0	U	5.0	0.34	ug/L		04/21/15 10:40	04/23/15 20:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*84*		*46 - 120*	*04/21/15 10:40*	*04/23/15 20:14*	*1*
Phenol-d5 (Surr)	*43*		*16 - 120*	*04/21/15 10:40*	*04/23/15 20:14*	*1*
p-Terphenyl-d14 (Surr)	*109*		*67 - 150*	*04/21/15 10:40*	*04/23/15 20:14*	*1*
2,4,6-Tribromophenol (Surr)	*76*		*52 - 132*	*04/21/15 10:40*	*04/23/15 20:14*	*1*
2-Fluorobiphenyl	*85*		*48 - 120*	*04/21/15 10:40*	*04/23/15 20:14*	*1*
2-Fluorophenol (Surr)	*62*		*20 - 120*	*04/21/15 10:40*	*04/23/15 20:14*	*1*

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

Lab Sample ID: LCS 480-237551/2-A
Matrix: Water
Analysis Batch: 238204

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237551

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-Dinitrotoluene	16.0	14.1		ug/L		88	65 - 154
2-Chlorophenol	16.0	13.4		ug/L		84	48 - 120
4-Chloro-3-methylphenol	16.0	14.3		ug/L		89	64 - 120
4-Nitrophenol	32.0	20.5		ug/L		64	16 - 120
Acenaphthene	16.0	14.6		ug/L		91	60 - 120
Atrazine	32.0	31.8		ug/L		99	56 - 179
Bis(2-ethylhexyl) phthalate	16.0	16.4		ug/L		102	53 - 158
Fluorene	16.0	15.2		ug/L		95	55 - 143
Hexachloroethane	16.0	13.1		ug/L		82	14 - 101
N-Nitrosodi-n-propylamine	16.0	14.3		ug/L		89	56 - 120
Pentachlorophenol	32.0	19.9		ug/L		62	39 - 136
Phenol	16.0	8.55		ug/L		53	17 - 120
Pyrene	16.0	14.0		ug/L		87	58 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5 (Surr)	*89*		*46 - 120*
Phenol-d5 (Surr)	*53*		*16 - 120*
p-Terphenyl-d14 (Surr)	*96*		*67 - 150*
2,4,6-Tribromophenol (Surr)	*93*		*52 - 132*
2-Fluorobiphenyl	*86*		*48 - 120*
2-Fluorophenol (Surr)	*70*		*20 - 120*

Lab Sample ID: LCSD 480-237551/3-A
Matrix: Water
Analysis Batch: 238204

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 237551

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-Dinitrotoluene	16.0	14.6		ug/L		91	65 - 154	4	20
2-Chlorophenol	16.0	13.8		ug/L		86	48 - 120	3	25
4-Chloro-3-methylphenol	16.0	15.1		ug/L		94	64 - 120	6	27
4-Nitrophenol	32.0	23.5		ug/L		73	16 - 120	14	48
Acenaphthene	16.0	14.8		ug/L		92	60 - 120	1	24
Atrazine	32.0	34.4		ug/L		108	56 - 179	8	20
Bis(2-ethylhexyl) phthalate	16.0	16.0		ug/L		100	53 - 158	3	15
Fluorene	16.0	15.6		ug/L		97	55 - 143	2	15
Hexachloroethane	16.0	13.3		ug/L		83	14 - 101	1	46
N-Nitrosodi-n-propylamine	16.0	15.4		ug/L		96	56 - 120	8	31
Pentachlorophenol	32.0	22.9		ug/L		71	39 - 136	14	37
Phenol	16.0	9.27		ug/L		58	17 - 120	8	34
Pyrene	16.0	14.3		ug/L		89	58 - 136	2	19

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Nitrobenzene-d5 (Surr)	*93*		*46 - 120*
Phenol-d5 (Surr)	*58*		*16 - 120*
p-Terphenyl-d14 (Surr)	*98*		*67 - 150*
2,4,6-Tribromophenol (Surr)	*96*		*52 - 132*
2-Fluorobiphenyl	*86*		*48 - 120*

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

Lab Sample ID: LCSD 480-237551/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 238204 **Prep Batch: 237551**

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorophenol (Surr)	*72*		*20 - 120*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 480-237365/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 238003 **Prep Batch: 237365**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	0.050	U	0.050	0.0092	ug/L		04/20/15 14:19	04/23/15 08:52	1
4,4'-DDE	0.050	U	0.050	0.012	ug/L		04/20/15 14:19	04/23/15 08:52	1
4,4'-DDT	0.050	U	0.050	0.011	ug/L		04/20/15 14:19	04/23/15 08:52	1
Aldrin	0.050	U	0.050	0.0081	ug/L		04/20/15 14:19	04/23/15 08:52	1
alpha-BHC	0.050	U	0.050	0.0077	ug/L		04/20/15 14:19	04/23/15 08:52	1
alpha-Chlordane	0.050	U	0.050	0.015	ug/L		04/20/15 14:19	04/23/15 08:52	1
beta-BHC	0.050	U	0.050	0.025	ug/L		04/20/15 14:19	04/23/15 08:52	1
delta-BHC	0.050	U	0.050	0.010	ug/L		04/20/15 14:19	04/23/15 08:52	1
Dieldrin	0.050	U	0.050	0.0098	ug/L		04/20/15 14:19	04/23/15 08:52	1
Endosulfan I	0.050	U	0.050	0.011	ug/L		04/20/15 14:19	04/23/15 08:52	1
Endosulfan II	0.050	U	0.050	0.012	ug/L		04/20/15 14:19	04/23/15 08:52	1
Endosulfan sulfate	0.050	U	0.050	0.016	ug/L		04/20/15 14:19	04/23/15 08:52	1
Endrin	0.050	U	0.050	0.014	ug/L		04/20/15 14:19	04/23/15 08:52	1
Endrin aldehyde	0.0185	J	0.050	0.016	ug/L		04/20/15 14:19	04/23/15 08:52	1
Endrin ketone	0.050	U	0.050	0.012	ug/L		04/20/15 14:19	04/23/15 08:52	1
gamma-BHC (Lindane)	0.050	U	0.050	0.0080	ug/L		04/20/15 14:19	04/23/15 08:52	1
gamma-Chlordane	0.050	U	0.050	0.011	ug/L		04/20/15 14:19	04/23/15 08:52	1
Heptachlor	0.050	U	0.050	0.0085	ug/L		04/20/15 14:19	04/23/15 08:52	1
Heptachlor epoxide	0.050	U	0.050	0.0074	ug/L		04/20/15 14:19	04/23/15 08:52	1
Methoxychlor	0.050	U	0.050	0.014	ug/L		04/20/15 14:19	04/23/15 08:52	1
Toxaphene	0.50	U	0.50	0.12	ug/L		04/20/15 14:19	04/23/15 08:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*68*		*20 - 120*	*04/20/15 14:19*	*04/23/15 08:52*	*1*
Tetrachloro-m-xylene	*104*		*36 - 120*	*04/20/15 14:19*	*04/23/15 08:52*	*1*

Lab Sample ID: LCS 480-237365/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 238003 **Prep Batch: 237365**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	0.400	0.498		ug/L		125	51 - 138
4,4'-DDE	0.400	0.386		ug/L		96	45 - 133
4,4'-DDT	0.400	0.468		ug/L		117	50 - 136
Aldrin	0.400	0.249		ug/L		62	40 - 125
alpha-BHC	0.400	0.403		ug/L		101	52 - 125
alpha-Chlordane	0.400	0.427		ug/L		107	52 - 133
beta-BHC	0.400	0.437		ug/L		109	51 - 135

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

Lab Sample ID: LCS 480-237365/2-A
Matrix: Water
Analysis Batch: 238003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237365

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
delta-BHC	0.400	0.448		ug/L		112	51 - 132
Dieldrin	0.400	0.510		ug/L		128	49 - 136
Endosulfan I	0.400	0.473		ug/L		118	51 - 134
Endosulfan II	0.400	0.540		ug/L		135	52 - 138
Endosulfan sulfate	0.400	0.511		ug/L		128	47 - 136
Endrin	0.400	0.520		ug/L		130	52 - 143
Endrin aldehyde	0.400	0.559	*	ug/L		140	46 - 134
Endrin ketone	0.400	0.566	*	ug/L		141	51 - 138
gamma-BHC (Lindane)	0.400	0.457		ug/L		114	56 - 127
gamma-Chlordane	0.400	0.455		ug/L		114	52 - 128
Heptachlor	0.400	0.405		ug/L		101	51 - 125
Heptachlor epoxide	0.400	0.499		ug/L		125	50 - 140
Methoxychlor	0.400	0.455		ug/L		114	50 - 151

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*45*		*20 - 120*
Tetrachloro-m-xylene	*103*		*36 - 120*

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

Lab Sample ID: MB 480-237367/1-A
Matrix: Water
Analysis Batch: 237508

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237367

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.50	U	0.50	0.18	ug/L		04/20/15 14:33	04/21/15 13:53	1
PCB-1221	0.50	U	0.50	0.18	ug/L		04/20/15 14:33	04/21/15 13:53	1
PCB-1232	0.50	U	0.50	0.18	ug/L		04/20/15 14:33	04/21/15 13:53	1
PCB-1242	0.50	U	0.50	0.18	ug/L		04/20/15 14:33	04/21/15 13:53	1
PCB-1248	0.50	U	0.50	0.18	ug/L		04/20/15 14:33	04/21/15 13:53	1
PCB-1254	0.50	U	0.50	0.25	ug/L		04/20/15 14:33	04/21/15 13:53	1
PCB-1260	0.50	U	0.50	0.25	ug/L		04/20/15 14:33	04/21/15 13:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*53*		*24 - 137*	*04/20/15 14:33*	*04/21/15 13:53*	*1*
DCB Decachlorobiphenyl	*52*		*19 - 125*	*04/20/15 14:33*	*04/21/15 13:53*	*1*

Lab Sample ID: LCS 480-237367/2-A
Matrix: Water
Analysis Batch: 237508

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237367

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	4.00	4.36		ug/L		109	62 - 130
PCB-1260	4.00	3.32		ug/L		83	56 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*82*		*24 - 137*

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

Lab Sample ID: LCS 480-237367/2-A
Matrix: Water
Analysis Batch: 237508

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237367

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*43*		*19 - 125*

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 480-237507/1-A
Matrix: Water
Analysis Batch: 237861

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237507

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silvex (2,4,5-TP)	0.50	U	0.50	0.36	ug/L		04/21/15 08:40	04/22/15 17:39	1
2,4-D	0.50	U	0.50	0.40	ug/L		04/21/15 08:40	04/22/15 17:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*90*		*35 - 143*	*04/21/15 08:40*	*04/22/15 17:39*	*1*

Lab Sample ID: LCS 480-237507/2-A
Matrix: Water
Analysis Batch: 237861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237507

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silvex (2,4,5-TP)	2.00	1.82		ug/L		91	49 - 167
2,4-D	2.00	1.75		ug/L		87	36 - 179

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*83*		*35 - 143*

Lab Sample ID: LCSD 480-237507/3-A
Matrix: Water
Analysis Batch: 237861

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 237507

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silvex (2,4,5-TP)	2.00	1.52		ug/L		76	49 - 167	18	50
2,4-D	2.00	1.48		ug/L		74	36 - 179	17	50

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*74*		*35 - 143*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-237616/1-A
Matrix: Water
Analysis Batch: 237994

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237616

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.015	U	0.015	0.0056	mg/L		04/21/15 14:26	04/22/15 17:04	1
Barium	0.0020	U	0.0020	0.00070	mg/L		04/21/15 14:26	04/22/15 17:04	1
Cadmium	0.0020	U	0.0020	0.00050	mg/L		04/21/15 14:26	04/22/15 17:04	1

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

Lab Sample ID: MB 480-237616/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 237994
Prep Batch: 237616

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.0040	U	0.0040	0.0010	mg/L		04/21/15 14:26	04/22/15 17:04	1
Lead	0.010	U	0.010	0.0030	mg/L		04/21/15 14:26	04/22/15 17:04	1
Selenium	0.025	U	0.025	0.0087	mg/L		04/21/15 14:26	04/22/15 17:04	1
Silver	0.0060	U	0.0060	0.0017	mg/L		04/21/15 14:26	04/22/15 17:04	1

Lab Sample ID: LCS 480-237616/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 237994
Prep Batch: 237616

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.200	0.198		mg/L		99	80 - 120
Barium	0.200	0.205		mg/L		102	80 - 120
Cadmium	0.200	0.206		mg/L		103	80 - 120
Chromium	0.200	0.207		mg/L		104	80 - 120
Lead	0.200	0.199		mg/L		100	80 - 120
Selenium	0.200	0.197		mg/L		98	80 - 120
Silver	0.0500	0.0517		mg/L		103	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-237376/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 237629
Prep Batch: 237376

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	0.00012	mg/L		04/21/15 08:35	04/21/15 13:16	1

Lab Sample ID: LCS 480-237376/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 237629
Prep Batch: 237376

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00667	0.00678		mg/L		102	80 - 120

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

Lab Sample ID: LCS 480-238232/1
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 238232

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Flashpoint	81.0	82.00		Degrees F		101	97.5 - 102.5

Method: 9012 - Cyanide, Reactive

Lab Sample ID: MB 480-238456/1-A
Matrix: Water
Analysis Batch: 238510

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 238456

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Reactive	10.0	U	10.0	10.0	mg/L		04/24/15 09:29	04/24/15 19:03	1

Lab Sample ID: LCS 480-238456/2-A
Matrix: Water
Analysis Batch: 238510

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 238456

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Reactive	1000	288.0		mg/L		29	10 - 100

Method: 9034 - Sulfide, Reactive

Lab Sample ID: MB 480-238457/1-A
Matrix: Water
Analysis Batch: 238505

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 238457

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	10.0	U	10.0	10.0	mg/L		04/24/15 09:29	04/24/15 16:34	1

Lab Sample ID: LCS 480-238457/2-A
Matrix: Water
Analysis Batch: 238505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 238457

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Reactive	1000	701.3		mg/L		70	10 - 100

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 480-238181/1
Matrix: Water
Analysis Batch: 238181

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	U	4.0	4.0	mg/L			04/23/15 15:19	1

Lab Sample ID: LCS 480-238181/2
Matrix: Water
Analysis Batch: 238181

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	229	222.8		mg/L		97	88 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 480-238667/1
Matrix: Water
Analysis Batch: 238667

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.030		SU		100	99 - 101

Lab Sample ID: 480-78727-1 DU
Matrix: Water
Analysis Batch: 238667

Client Sample ID: EPT_Liquid Waste_2015.04.17
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.44	HF	7.430		SU		0.1	5

GC/MS VOA

Analysis Batch: 237319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	8260C	
LCS 480-237319/4	Lab Control Sample	Total/NA	Water	8260C	
MB 480-237319/6	Method Blank	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 237551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	3510C	
LCS 480-237551/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 480-237551/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 480-237551/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 238204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	8270D	237551
LCS 480-237551/2-A	Lab Control Sample	Total/NA	Water	8270D	237551
LCSD 480-237551/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	237551
MB 480-237551/1-A	Method Blank	Total/NA	Water	8270D	237551

GC Semi VOA

Prep Batch: 237365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	3510C	
LCS 480-237365/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 480-237365/1-A	Method Blank	Total/NA	Water	3510C	

Prep Batch: 237367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	3510C	
LCS 480-237367/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 480-237367/1-A	Method Blank	Total/NA	Water	3510C	

Prep Batch: 237507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	8151A	
LCS 480-237507/2-A	Lab Control Sample	Total/NA	Water	8151A	
LCSD 480-237507/3-A	Lab Control Sample Dup	Total/NA	Water	8151A	
MB 480-237507/1-A	Method Blank	Total/NA	Water	8151A	

Analysis Batch: 237508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	8082A	237367
LCS 480-237367/2-A	Lab Control Sample	Total/NA	Water	8082A	237367
MB 480-237367/1-A	Method Blank	Total/NA	Water	8082A	237367

Analysis Batch: 237861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	8151A	237507

GC Semi VOA (Continued)

Analysis Batch: 237861 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-237507/2-A	Lab Control Sample	Total/NA	Water	8151A	237507
LCSD 480-237507/3-A	Lab Control Sample Dup	Total/NA	Water	8151A	237507
MB 480-237507/1-A	Method Blank	Total/NA	Water	8151A	237507

Analysis Batch: 238003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-237365/2-A	Lab Control Sample	Total/NA	Water	8081B	237365
MB 480-237365/1-A	Method Blank	Total/NA	Water	8081B	237365

Analysis Batch: 238373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	8081B	237365

Metals

Prep Batch: 237376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	7470A	
LCS 480-237376/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 480-237376/1-A	Method Blank	Total/NA	Water	7470A	

Prep Batch: 237616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	3005A	
LCS 480-237616/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-237616/1-A	Method Blank	Total/NA	Water	3005A	

Analysis Batch: 237629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	7470A	237376
LCS 480-237376/2-A	Lab Control Sample	Total/NA	Water	7470A	237376
MB 480-237376/1-A	Method Blank	Total/NA	Water	7470A	237376

Analysis Batch: 237994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	6010C	237616
LCS 480-237616/2-A	Lab Control Sample	Total/NA	Water	6010C	237616
MB 480-237616/1-A	Method Blank	Total/NA	Water	6010C	237616

General Chemistry

Analysis Batch: 238181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	SM 2540D	
LCS 480-238181/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 480-238181/1	Method Blank	Total/NA	Water	SM 2540D	

Analysis Batch: 238232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	1010	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

General Chemistry (Continued)

Analysis Batch: 238232 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-238232/1	Lab Control Sample	Total/NA	Water	1010	

Prep Batch: 238456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	7.3.3	
LCS 480-238456/2-A	Lab Control Sample	Total/NA	Water	7.3.3	
MB 480-238456/1-A	Method Blank	Total/NA	Water	7.3.3	

Prep Batch: 238457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	7.3.4	
LCS 480-238457/2-A	Lab Control Sample	Total/NA	Water	7.3.4	
MB 480-238457/1-A	Method Blank	Total/NA	Water	7.3.4	

Analysis Batch: 238505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	9034	238457
LCS 480-238457/2-A	Lab Control Sample	Total/NA	Water	9034	238457
MB 480-238457/1-A	Method Blank	Total/NA	Water	9034	238457

Analysis Batch: 238510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	9012	238456
LCS 480-238456/2-A	Lab Control Sample	Total/NA	Water	9012	238456
MB 480-238456/1-A	Method Blank	Total/NA	Water	9012	238456

Analysis Batch: 238667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-78727-1	EPT_Liquid Waste_2015.04.17	Total/NA	Water	SM 4500 H+ B	
480-78727-1 DU	EPT_Liquid Waste_2015.04.17	Total/NA	Water	SM 4500 H+ B	
LCS 480-238667/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Client Sample ID: EPT_Liquid Waste_2015.04.17
Date Collected: 04/17/15 00:00
Date Received: 04/17/15 18:10

Lab Sample ID: 480-78727-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		5	237319	04/20/15 20:39	EDB	TAL BUF
Total/NA	Prep	3510C			237551	04/21/15 10:40	TRG	TAL BUF
Total/NA	Analysis	8270D		50	238204	04/23/15 21:39	PJQ	TAL BUF
Total/NA	Prep	3510C			237365	04/20/15 14:19	CPH	TAL BUF
Total/NA	Analysis	8081B		100	238373	04/24/15 19:58	MAN	TAL BUF
Total/NA	Prep	3510C			237367	04/20/15 14:33	CPH	TAL BUF
Total/NA	Analysis	8082A		1	237508	04/21/15 17:06	KS	TAL BUF
Total/NA	Prep	8151A			237507	04/21/15 08:40	TRG	TAL BUF
Total/NA	Analysis	8151A		1	237861	04/23/15 10:04	JRL	TAL BUF
Total/NA	Prep	3005A			237616	04/21/15 14:26	TAS	TAL BUF
Total/NA	Analysis	6010C		1	237994	04/22/15 18:46	AMH	TAL BUF
Total/NA	Prep	7470A			237376	04/21/15 08:35	LRK	TAL BUF
Total/NA	Analysis	7470A		1	237629	04/21/15 13:46	LRK	TAL BUF
Total/NA	Analysis	1010		1	238232	04/23/15 20:15	STD	TAL BUF
Total/NA	Prep	7.3.3			238456	04/24/15 09:29	KMF	TAL BUF
Total/NA	Analysis	9012		1	238510	04/24/15 19:02	KMF	TAL BUF
Total/NA	Prep	7.3.4			238457	04/24/15 09:29	KMF	TAL BUF
Total/NA	Analysis	9034		1	238505	04/24/15 16:34	KMF	TAL BUF
Total/NA	Analysis	SM 2540D		1	238181	04/23/15 15:19	KC	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	238667	04/25/15 13:00	LED	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
1010		Water	Flashpoint
9012	7.3.3	Water	Cyanide, Reactive
9034	7.3.4	Water	Sulfide, Reactive
SM 4500 H+ B		Water	pH

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
8081B	Organochlorine Pesticides (GC)	SW846	TAL BUF
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL BUF
8151A	Herbicides (GC)	SW846	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
1010	Ignitability, Pensky-Martens Closed-Cup Method	SW846	TAL BUF
9012	Cyanide, Reactive	SW846	TAL BUF
9034	Sulfide, Reactive	SW846	TAL BUF
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL BUF
SM 4500 H+ B	pH	SM	TAL BUF

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

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

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Ontario Specialty Contracting, Inc.
Project/Site: Ontario Specialty Contracting - OSC

TestAmerica Job ID: 480-78727-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-78727-1	EPT_Liquid Waste_2015.04.17	Water	04/17/15 00:00	04/17/15 18:10

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228
phone 716.504.9852 fax 716.691.7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Schove, John	Site Contact: Andrew Madden	Date: 4/17/2015	COC No: 296983111
Ontario Specialty Contracting Inc.	Tel/Fax: (716) 912-9926	Lab Contact: Schove, John	Carrier:	1 of 1 COCs
333 Ganson Street Buffalo, NY, 14203	Analysis Turnaround Time			Job No.
Phone: 716-856-3333	Calendar (C) or Work Days (W) W			
Fax: 716-842-1630	TAT			
PO# 55888 Client Job# 15007	[X] ASAP			SDG No.
Project Name: EPT Ithaca NY				
Sampling Event: Liquid Waste	Fastest turn around possible please.			
Site: Emerson Power Transmission Plant	Bill based on performed TAT.			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Total Volatiles	Total SVOC	Total RCRA 8 Metals	PCBs	Pesticides / Herbicides	Reactivity	Ignitibility	pH	~~Moisture - Percent Solids~~ TSS	Sample Specific Notes:
EPT_Liquid.Waste_2015.04.17	4/17/15		C	W	4	N										

480-78727 Chain of Custody

Container Volume (ml) 4 QRTS

Preservation: 1= Ice 2= HCl (Hydrochloric) 3= H2SO4 (Sulfuric) 4=HNO3 (Nitric) 5=NaOH (Sodium Hydroxide) 6=Other

Possible Hazard Identification
[ ] *Non-Hazard* [ ] *Flammable* [ ] *Skin Irritant* [ ] *Poison B* [X] *Unknown*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] *Return To Client* [X] *Disposal By Lab* [ ] *Archive For ________ Months*

Special Instructions/QC Requirements & Comments:

Container Code: A=Amber G=Glass P=Poly/Plastic S=Summa T=Tedlar V=Vial

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Andrew Madden	OSC	4/17/15 1800	[signature]	[signature]	4/17/15 1800
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: Ontario Specialty Contracting, Inc. Job Number: 480-78727-1

Login Number: 78727 **List Source: TestAmerica Buffalo**
List Number: 1
Creator: Kinecki, Kenneth P

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	No: Improper containers received
Sample bottles are completely filled.	False	
Sample Preservation Verified	True	Yes: Preservation labels on samples match COC
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	False	No: Headspace larger than ¼''
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	False	No: Sample splitting required
Sampling Company provided.	True	OSC
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Appendix F – EPA Region 1 SOP for Sampling Porous Surfaces for PCBs

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

STANDARD OPERATING PROCEDURE FOR SAMPLING POROUS SURFACES FOR POLYCHLORINATED BIPHENYLS (PCBs)

May 2011

STANDARD OPERATING PROCEDURE FOR SAMPLING POROUS SURFACES FOR POLYCHLORINATED BIPHENYLS (PCBs)

The Office of Environmental Measurement and Evaluation
EPA New England – Region 1
11 Technology Dr.
North Chelmsford, MA 01863

Prepared by:	Dan Granz, Environmental Engineer	5/5/11 Date
Reviewed by:	Kim Tisa, TSCA PCB Coordinator	5/5/11 Date
Reviewed by:	Jerry Keefe – EIA Team Leader	05/23/11 Date
Approved by:	Dan Boudreau, EIA Chemistry Team Leader	5/23/11 Date

Revision Page

Date	Rev#	Summary of Changes	Sections
12/97	1	Initial Approval, draft	
3/20/08	2	Major update, only for PCBs, added TSCA sampling	All sections
7/17/08	3	Disposal of dust filter and decon of vac hose	11.0 and 14.0
5/04/11	4	Vacuum Trap Design and Clean-out	9.4

Table of Contents

1.0 Scope and Application

1.1 This Standard Operating Procedure (SOP) is suitable for collection of a porous matrix sample for analysis of Polychlorinated Biphenyls (PCBs).

1.2 This SOP describes sampling techniques for both hard and soft porous surfaces.

1.2.1 Hard surfaces, and most soft surfaces, can be sampled using an impact hammer drill to generate a uniform, finely ground, powder to be extracted and analyzed for PCBs. This procedure is primarily geared at providing enough sample quantity for two analyses. Hard porous surfaces include concrete, brick, asphalt, cement, sandstone, limestone, unglazed ceramics, and other possible PCB suspected material. This procedure may also be used on other softer porous surfaces, such as wood.

1.2.2 Soft surfaces can be sampled using a chisel or sharp knife to generate a representative sample to be extracted and analyzed for PCBs. Soft porous surfaces include wood, wall plasterboard, low density plastics, rubber, caulking, and other PCB suspected material.

1.3 This SOP provides for collection of surface samples (0 – 0.5 inches) and delineation of PCB contamination throughout the core of the porous surface. The procedure can be used to sample the porous surface at distinctly different depth zones.

2.0 Method Summary

A one-inch or other sized diameter carbide drill bit is used in a rotary impact hammer drill to generate a fine powder, or other representative sample, suitable for extraction and analysis of PCBs from porous surfaces. This method also allows the use of chisels or knives for the collection of samples from soft porous surfaces for PCB analysis.

3.0 Definitions

3.1 Field/Bottle Blank: A sample container of the same lot as the containers used for the environmental samples. This evaluates PCB contamination introduced from the sample container(s) from a common lot.

3.2 Equipment/Rinse/Rinsate Blanks: A sample that is collected by pouring hexane over the sample collection equipment after decontamination and before sample collection. The sample is collected in the appropriate sample container identical to the sample containers. This represents background contamination resulting from the field equipment, sampling procedure, sample container, and shipment.

3.3 Field Replicates/Duplicates: Two or more samples collected at the same sampling location. Field replicates should be samples collected side by side. Field replicates represent the precision of the whole method, site heterogeneity, field sampling, and the laboratory analysis.

3.4 Field Split Samples: Two or more representative subsamples taken from one environmental sample in the field. Prior to splitting, the environmental sample is homogenized to correct for sample heterogeneity that would adversely impact data comparability. Field split samples are usually analyzed by different laboratories (interlaboratory comparison) or by the same laboratory (intralaboratory comparison). Field splits are used to assess sample handling procedures from field to laboratory and laboratory comparability.

3.5 Laboratory Quality Samples: Additional samples that will be collected for the laboratory's quality control program: matrix spike, matrix spike duplicate, laboratory duplicates, etc.

3.6 Proficiency Testing (PT)/Performance Evaluation (PE) Sample: A sample, the composition of which is unknown to the laboratory or analyst, provided to the analyst or laboratory to assess the capability to produce results within acceptable criteria. This is optional depending on the data quality objectives. If possible, it is recommended that the PE sample be of similar matrix as the porous surface(s) being sampled.

3.7 Porous Surface: Any surface that allows PCBs to penetrate or pass into itself including, but not limited to, paint or coating on metal; corroded metal; fibrous glass or glass wool; unglazed ceramics; ceramics with porous glaze; porous building stone such as sandstone, travertine, limestone, or coral rock; low density plastics such as Styrofoam and low density polyethylene; coated (varnished or painted) or uncoated wood; painted or unpainted concrete or cement; plaster; plasterboard; wallboard; rubber; caulking; fiberboard; chipboard; asphalt; or tar paper.

3.8 Shipping Container Temperature Blank: A water sample that is transported to the laboratory to measure the temperature of the samples in the cooler.

4.0 Health and Safety

4.1 Eye, respiratory, and hearing protection are required at all times during sample drilling. A properly fitted respirator is required for hard porous surface sampling. A respirator is recommended whenever there is a risk of inhalation of either particulate or volatilized PCBs during sampling.

4.2 All proper personal protection clothing and equipment must be worn.

4.3 When working with potentially hazardous materials or situations, follow EPA, OSHA, and specific health or safety procedures.

4.4 Care must be exercised when using an electrical drill and sharp cutting objects.

5.0 Interferences and Potential Problems

5.1 This sampling technique produces a finely ground uniform powder, which minimizes the physical matrix effects from variations in the sample consistency (i.e., particle size, uniformity, homogeneity, and surface condition). Matrix spike analysis of a sample is highly recommended to monitor for any matrix related interferences.

5.2 Nitrile gloves are recommended. Latex gloves must not be used due to possible phthalate contamination.

5.3 Interferences may result from using contaminated equipment, solvents, reagents, sample containers, or sampling in a disturbed area. The drill bit must be decontaminated between samples. (see Section 11.0.)

5.4 Cross contamination problems can be eliminated or minimized through the use of dedicated sampling equipment.

6.0 Personnel Qualifications

6.1 All field samplers working at hazardous materials/waste sites are required to take a 40 hour health and safety training course prior to engaging in any field activities. Subsequently, an 8 hour refresher health and safety course is required annually.

6.2 The field sampler should be trained by an experienced sampler before initiating this procedure.

6.3 All personnel shall be responsible for complying with all quality assurance/quality control requirements that pertain to their organizational/technical function.

7.0 Equipment and Supplies

7.1 This list varies with the matrix and if depth profiling is required

Rotary impact hammer variable speed drill
1-inch or other suitable (1/2, 3/4, etc.) diameter carbide tip drill bits
Steel chisel or sharp cutting knife, and hammer
Brush and cloths to clean area
Stainless steel scoopulas

Aluminum foil to collect the powder sample
1 quart Cubitainer with the top cut out to collect the powder sample
Aluminum weighing pans to collect the powder sample
Cleaned glass container (2 oz or 40 mL) with Teflon lined cap
Decontamination supplies: hexane, two small buckets, a scrub brush, detergent, deionized water, hexane squirt bottle, and paper towels
Dedicated vacuum cleaner with a disposable filter or a vacuum pump with a dust filter
Polyethylene tubing and Pasteur pipettes
Sample tags/labels, custody seals, and Chain-of-Custody form

8.0 Sampling Design

8.1 A sufficient number of samples must be collected to meet the data quality objectives of the project. If the source of the PCB contamination is regulated under the federal TSCA PCB Regulations at 40 CFR Part 761, the sampler should insure that the sampling design is sufficient to meet any investigation or verification sampling requirements. At a minimum, the following is recommended:

8.1.1 Suspected stained area (s) should be sampled.

8.1.2 At each separate location, collect at least 3 samples of each type of porous surface, regardless of the amount of each type of porous surface present.

8.1.3 In areas where PCB equipment was used or where PCBs were stored, samples should be collected at a frequency of 1 sample/100 square feet (ft^2).

9.0 Sample Collection

9.1 Hard Porous Surfaces

9.1.1 Lock a 1-inch or another size diameter carbide drill bit into the impact hammer drill and plug the drill into an appropriate power source. For easy identification, sample locations may be pre-marked using a marker or paint. (Note: the actual drilling point must not be marked.) Remove any debris with a clean brush or cloth prior to drilling. All sampling decisions of this nature should be noted in the sampling logbook.

9.1.2 Use a Cubitainer with the top cut off or aluminum foil to contain the powdered sample. Begin drilling in the designated location. Apply steady even pressure and let the drill do the work. Applying too much pressure will generate excessive heat and dull the drill bit prematurely. The drill will provide a finely ground powder that can be easily collected.

9.1.3 Samples should be collected at ½-inch depth intervals. Thus, the initial surface sample should be collected from 0 – 0.5 inches. A ½-inch deep hole generates about 10 grams (20 mL) of powder. Multiple holes located closely adjacent to each other, may be needed to generate sufficient sample volumes for a PCB determination. It is strongly recommended that the analytical laboratory be consulted on the minimum sample size needed for PCB extraction and analysis.

9.1.4 Wall and Ceiling Sampling: A team of two samplers will be required for wall and ceiling sampling. The second person will hold a clean catch surface (e.g. an aluminum pan) below the drill to collect the falling powder. Alternatively, use the chuck-end of the drill bit and punch a hole through the center of the collection pan. The drill bit is then mounted through the pan and into the drill. For ceilings, the drill may be held at an angle to collect the powder. Thus the driller can be drilling at an angle while the assistant steadies the pan to catch the falling powder. As a precaution, it may be advantageous to tape a piece of plastic around the drill, just below the chuck, to avoid dust contaminating the body of the drill and entering the drill's cooling vents. Caution must be taken to prevent obstruction of the drill's cooling vents.

9.2 Soft Porous Surfaces

9.2.1 The procedure for the hard porous surface may be used for certain soft porous surfaces, such as wood.

9.2.2 Samples should be collected at no more than ½-inch depth intervals using a metal chisel or sharp cutting knife. Thus, the initial surface sample should be collected from 0 – 0.5 inches. It is important to collect at least 10 grams for analysis.

9.2.3 For soft porous surfaces, such as caulking and rubber, a representative sample can be collected using a metal chisel or sharp cutting knife.

9.3 Multiple Depth Sampling

9.3.1 Multiple Depth Sampling may not be applicable to certain porous surfaces, such as caulking.

9.3.2 Collect the surface sample as outlined in Section 9.1 or 9.2.

9.3.3 Use the vacuum pump or cleaner to clean out the hole.

9.3.4 To collect multiple depths there are two options.

9.3.4.1 Option one: drill sequentially ½-inch increments with the 1 inch drill.

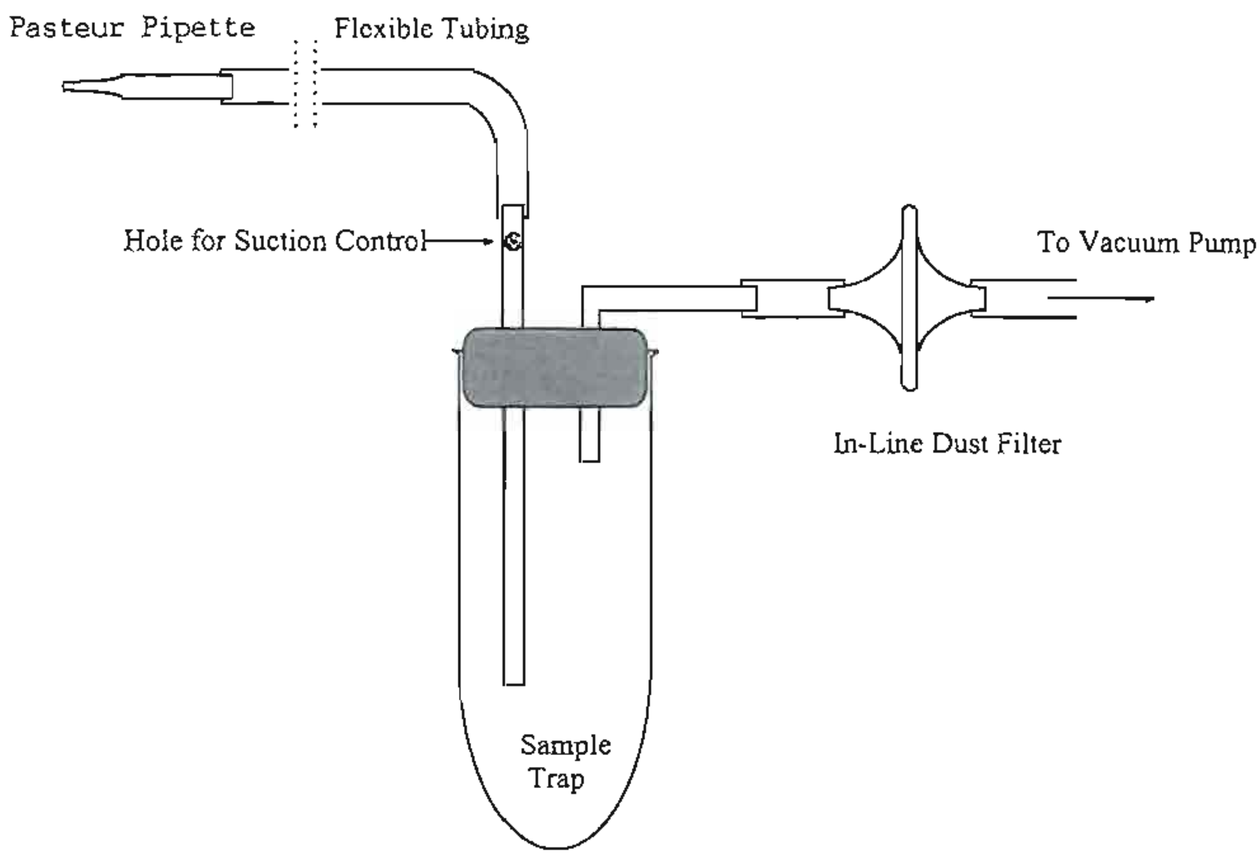
9.3.4.2 Option two: drill with the 1 inch bit and either make the hole larger or use a smaller bit to take the next ½- inch sample.

9.3.5 A stainless steel scoopula will make it easier to collect the sample from the bottom of the hole.

9.4 Vacuum Trap Design and Clean-out

The trap presented in Figure 1 is a convenient and thorough way for collecting and removing concrete powder from drilled holes. The trap system is designed to allow for control of the suction from the vacuum pump and easy trap clean-out between samples. Note, by placing a hole in the inlet tube (see Figure 1), a finger on the hand holding the trap can be used to control the suction at the sampling tip. Thus, when this hole is left completely open, there will be no suction, and the sampler can have complete control over where and what to sample. To change-out between samples the following steps should be taken: 1) the Pasteur pipette and piece of polyethylene tubing at the sample inlet should be replaced with new materials, 2) the portion of the rubber stopper and glass tubing that was in the trap should be wiped down with a clean damp paper towel (wetted with deionized water) and then dried with a fresh paper towel, 3) a clean pipe cleaner should be drawn through the glass inlet tube to remove any concrete dust present, and 4) the glass tube or flask used to collect the sample should swapped out with a clean decontaminated sample trap. Having several clean tubes or flasks on hand will facilitate change-out between samples.

Figure 1



Note: the holes should be vacuumed thoroughly to minimize any cross-contamination between sample depths and the bits should be decontaminated between samples. (See Section 11.0)

10.0 Sample Handling, Preservation, and Storage

10.1 Samples must be collected in glass containers for PCB analyses. In general, a 2-ounce sample container with a Teflon-lined cap (wide-mouth jars are preferred) will hold sufficient mass for most analyses. A 2-ounce jar can hold roughly 90 grams of sample.

10.2 Samples are to be shipped refrigerated and maintained at ≤ 6°C until the time of extraction and analysis.

10.3 The suggested holding time for PCB samples is 14 days to extraction.

11.0 Decontamination

11.1 Assemble two decontamination buckets. The first bucket contains a detergent and potable water solution, and the second bucket is for rinsate. Place all used drill bits, hose for the vacuum cleaner, and utensils in the detergent and water bucket. Scrub each piece thoroughly using the scrub brush. Note, the powder does cling to the metal surfaces, so care should be taken during this step, especially with the twists and curves of the drill bits. Next, rinse each piece with water and hexane. Place the rinsed pieces on clean paper towels and individually dry and inspect each piece. Note: all pieces should be dry prior to reuse.

11.2 Lightly contaminated drill bits and utensils may be wiped with a hexane soaked cloth and hexane rinsed for decontamination.

12.0 Data and Record Management

12.1 All data and information collection should follow a Field Data Management SOP or Quality Assurance Project Plan (QAPP).

12.2 Follow the chain of custody procedures to release the samples to the laboratory. A copy is kept with the sampling records.

12.3 The field data is stored for at least 3 years.

13.0 Quality Control and Quality Assurance

13.1 Representative samples are required. The sampler will evaluate the site specific conditions to assure the sample will be representative.

13.2 All sampling equipment must be decontaminated prior to use and between each discrete sample.

13.3 All field Quality Control (QC) sample requirements in a Sample and Analysis Plan (SAP) or QAPP must be followed. The SAP or QAPP may involve field blanks, equipment blanks, field duplicates and/or the collection of extra samples for the laboratory's quality control program.

13.4 Field duplicates should be collected at a minimum frequency of 1 per 20 samples or 1 per non-related porous matrix, whichever is greater.

14.0 Waste Management and Pollution Prevention

14.1 During field sampling events there may be PCB and/or hazardous waste produced from the sample collection. The waste must be handled and disposed of in accordance with federal, state, and local regulations. The dust filter, and tubing if a vacuum pump is used, is disposed after each site investigation. This waste will be treated as PCB waste if the samples are positive for PCBs. It may be possible to manage or dispose of the waste produced at the site where the work was performed. If the site does not meet regulatory requirements for these types of activities, the waste must be transported to a facility permitted to manage and/or dispose of the waste.

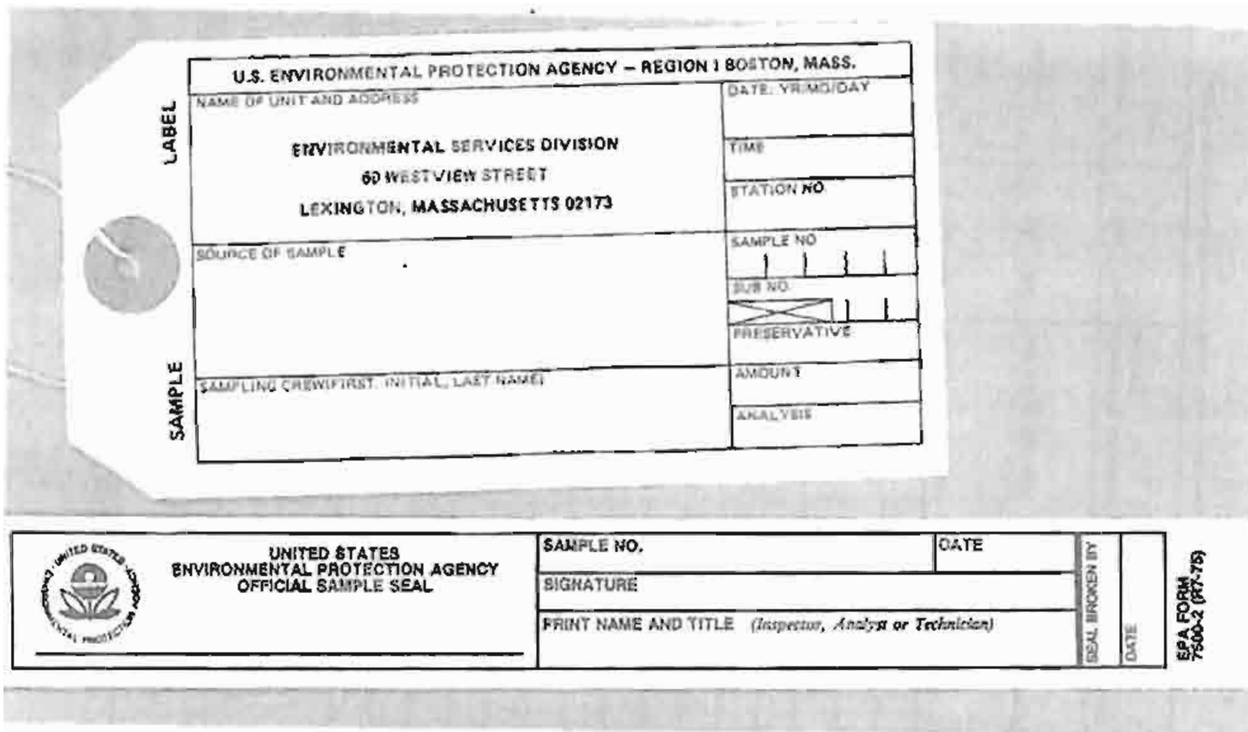
15.0 References

1. Guidance for the Preparation of Standard Operating Procedures for Quality-Related Operations, QA/G-6, EPA/600/R-96/027, November 1995.

2. 40 CFR Part 761 – Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution In Commerce, and Use Prohibitions

3. Sample Container and Holding Time: RCRA SW 846, Chapter 4, Table 4.1, Revision 4, February, 2007.

Example of Sample Label and Custody Seal



LABEL SAMPLE

U.S. ENVIRONMENTAL PROTECTION AGENCY – REGION I BOSTON, MASS.

NAME OF UNIT AND ADDRESS ENVIRONMENTAL SERVICES DIVISION 60 WESTVIEW STREET LEXINGTON, MASSACHUSETTS 02173	DATE: YR/MO/DAY TIME STATION NO
SOURCE OF SAMPLE	SAMPLE NO SUB NO PRESERVATIVE
SAMPLING CREW(FIRST, INITIAL, LAST NAME)	AMOUNT ANALYSIS

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SAMPLE SEAL

SAMPLE NO.	DATE	SEAL BROKEN BY	DATE
SIGNATURE			
PRINT NAME AND TITLE *(Inspector, Analyst or Technician)*			

EPA FORM 7500-2 (R7-75)

ENVIRONMENTAL PROTECTION AGENCY
REGION 1

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME					NO. OF CON-TAINERS								REMARKS
SAMPLERS: (Signature)														
STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION									

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

1-16940

Example of Chain of Custody Form

Appendix G - Confirmation Sampling Analytical Data Reports

Appendix H - Hazardous Waste Transportation and Disposal Documentation

Waste Management Profile

Requested Facility: CMW Model City ☐ Unsure Profile Number: ______

☐ Check if there are multiple generator locations. Attach locations. ☐ Renewal? Original Profile Number: ______

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: Emerson Power Transmission
2. Site Address: 620 South Aurora Street
   (City, State, ZIP) Ithaca, NY, 14850
3. County: Tompkins
4. Contact Name: ______
5. Email: ______
6. Phone: ______ 7. Fax: ______
8. Generator EPA ID: NY002228625 ☐ N/A
9. State ID: 7-55-010 ☐ N/A

B. BILLING INFORMATION ☐ SAME AS GENERATOR

1. Billing Name: Ontario Specialty Contracting, Inc.
2. Billing Address: 333 Ganson Street
   (City, State, ZIP) Buffalo, NY, 14203
3. Contact Name: Nancy Mazur
4. Email: info@oscinc.com
5. Phone: 716-856-3333 6. Fax: ______
7. WM Hauled? ☑ Yes ☐ No
8. P.O. Number: 55890 *Note mail in invoice attention Payable Department

C. MATERIAL INFORMATION

1. Common Name: PCB Contaminated Concrete
   Describe Process Generating Material: ☐ See Attached

   The concrete correspond to a PCB contaminated transformer pad and targeted for removal and disposal.

2. Material Composition and Contaminants: ☐ See Attached

1. Concrete	100%
2.	
3.	
4.	
	≥100%

3. State Waste Codes: B007 ☐ N/A
4. Color: Grey
5. Physical State at 70°F: ☑ Solid ☐ Liquid ☐ Other: ______
6. Free Liquid Range Percentage: ______ to ______ ☑ N/A (Solid)
7. pH: ______ to ______ ☑ N/A (Solid)
8. Strong Odor: ☐ Yes ☑ No Describe: ______
9. Flash Point: ☐ <140°F ☐ 140°-199°F ☐ ≥200° ☑ N/A (Solid)

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☑ No
   Code: ______
2. State Hazardous Waste? ☑ Yes ☐ No
   Code: B007
3. Excluded waste under 40 CFR 261.4 (a) or (b)? ☐ Yes* ☑ No
4. Contains Underlying Hazardous Constituents? ☐ Yes* ☑ No
5. Contains benzene **and** subject to Benzene NESHAP? ☐ Yes* ☑ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☑ No
7. CERCLA or State-mandated clean-up? ☐ Yes* ☑ No
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☑ No

***If Yes, see Addendum (page 2) for additional questions and space.**

9. Contains PCBs? → If Yes, answer a, b and c. ☑ Yes ☐ No
   a. Regulated by 40 CFR 761? ☑ Yes ☐ No
   b. Remediation under 40 CFR 761.61 (a)? ☑ Yes ☐ No
   c. Were PCB imported into the US? ☐ Yes ☑ No
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☑ No
11. Contains Asbestos? ☐ Yes: Friable ☐ Yes: Non-Friable ☑ No

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☑ Yes
   Please identify applicable samples and/or lab reports:

   TSCA Concrete Total Metals & PCB: Lab Report ID J77097-1
   TSCA Concrete TCLP Metals: Lab Report ID J77100-1

2. Other information attached (such as MSDS)? ☐ Yes

F. SHIPPING AND DOT INFORMATION

1. ☑ One-Time Event ☐ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 23
   ☑ Tons ☐ Yards ☐ Drums ☐ Gallons ☐ Other: ______
3. Container Type and Size: Dump Truck or Roll Off
4. USDOT Proper Shipping Name: ☐ N/A
   Polychlorinated biphenyls, solid UN Code: 3432

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this Waste Management Profile, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 - Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

If I am an agent signing on behalf of the Generator, I have confirmed with the Generator that information contained in this Profile is accurate and complete.

Name (Print): On Behalf of Emerson Daniel Liwicki Date: April 2, 2015

Title: Associate Consultant

Company: WSP

Certification Signature

ON BEHALF OF EMERSON

Daniel Liwicki

Waste Management Profile Addendum

Only complete this Addendum if prompted by responses on Waste Management Profile (page 1) or to provide additional information. Sections and question numbers correspond to Waste Management Profile.

Profile Number: ______________

SECTION C

Describe Process Generating Material (Continued from page 1): If more space is needed, please attach additional pages.

Material Composition and Contaminants (Continued from page 1): If more space is needed, please attach additional pages.

5.	
6.	
7.	
8.	
9.	
10.	
	≥100%

SECTION D

Only questions with a "Yes" response on Waste Management Profile (page 1) need to be answered here.

1. EPA Hazardous Waste
   a. Please list all USEPA listed and characteristic waste code numbers:
   N/A
   b. Is the material subject to the Alternative Debris standards (40 CFR 268.45)? ☐ Yes ☑ No
   c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)? → If Yes, complete question 4. ☐ Yes ☑ No
   d. Is the material exempt from Subpart CC Controls (40 CFR 264.1083 and 265.1084)? ☐ Yes ☑ No
   → If Yes, please select one of the following:
   ☐ Waste has been determined to be LDR exempt [265.1083(c)(4) and 265.1084(c)(4)] based on the fact that it meets all applicable organic treatment standards (including UHCs for D-coded characteristic wastes) or a Specified Technology has been utilized.
   ☑ Waste does not qualify for a LDR exemption, but the average VOC at the point of origination is <500 ppmw and this determination was based on analytical testing (upload copy of analysis) or generator knowledge.
2. State Hazardous Waste → Please list all state waste codes: B007
3. Excluded Waste → Please select which of the following categories apply to your material:
   ☐ Delisted Hazardous Waste ☐ Excluded Waste under 40 CFR 261.4 → Specify Exclusion: ______________
   ☐ Treated Hazardous Waste Debris ☐ Treated Characteristic Hazardous Waste → If checked, complete question 4.
4. Underlying Hazardous Constituents → Please list all Underlying Hazardous Constituents:
5. Benzene NESHAP → Please include benzene concentration and percent water/moisture in chemical composition.
   a. Are you a TSDF? → If yes, please complete Benzene NESHAP questionnaire. If not, continue.
   b. What is your facility's current total annual benzene quantity in Megagrams? ☐ <1 Mg ☐ 1–9.99 Mg ☐ ≥10 Mg
   c. Is this waste soil from remediation at a closed facility? ☐ Yes ☐ No
   d. Has material been treated to remove 99% of the benzene or to achieve <10 ppmw? ☐ Yes ☐ No
   e. Is material exempt from controls in accordance with 40 CFR 61.342? ☐ Yes ☐ No
   → If yes, specify exemption: ______________
   f. Based on your knowledge of your waste and the BWON regulations, do you believe that this waste stream is subject to treatment and control requirements at an off-site TSDF? ☐ Yes ☐ No
6. 40 CFR 63 GGGGG → Does the material contain <500 ppw VOHAPs at the point of determination? ☑ Yes ☐ No
7. CERCLA or State-Mandated clean up → Please submit the Record of Decision or other documentation to assist others in the evaluation for proper disposal.
8. NRC or state regulated radioactive or NORM Waste → Please identify Isotopes and pCi/g: ______________

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYD002228625
2. Page 1 of: 1
3. Emergency Response Phone: (800)424-9300
4. Manifest Tracking Number: 002732771 GBF

5. Generator's Name and Mailing Address:
EMERSON POWER TRANSMISSION attn: Andrew Madden
50 LAKEFRONT BLVD, STE 111
BUFFALO NY 14202
Generator's Phone: (607) 274-6170

Generator's Site Address (if different than mailing address):
EMERSON POWER TRANSMISSION
620 S AURORA ST
ITHACA NY 14850-5797

6. Transporter 1 Company Name: Tonawanda Tank Trans
U.S. EPA ID Number: NYD097644[illegible]

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
CWM CHEMICAL SERVICES, L.L.C.
1550 BALMER RD.
MODEL CITY NY 14107
Facility's Phone: (716) 286-1550
U.S. EPA ID Number: NYD049836679

9a HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, UN3432, POLYCHLORINATED BIPHENYLS, SOLID MIXTURE. 9, III NY305554	1	CM	EST 11,339	K	B007	L	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1. NY305554 - PCB CONTAMINATED CONCRETE PCB OUT OF SERVICE DATE: 4-15-15
CHEMTREC Emergency Response Number (800)424-9300 WMI Contract CCN24117 SERVICE REQUEST # 81468197
recd 16085K

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: ON BEHALF OF EMERSON DANIEL [illegible] Signature: ON BEHALF OF EMERSON Month 4 Day 15 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jeffry J Wantz Signature: Month 04 Day 15 Year 15
Transporter 2 Printed/Typed Name: Signature: Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
qty est actual recd 16085K
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jody Parfinski Signature: Jody Parfinski Month 4 Day 21 Year 15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: N Y D 0 0 2 2 2 8 6 2 5
2. Page 1 of: 1
3. Emergency Response Phone: (800)424-9300
4. Manifest Tracking Number: 002732771 GBF

5. Generator's Name and Mailing Address
EMERSON POWER TRANSMISSION attn: Andrew Madden
50 LAKEFRONT BLVD STE 111
BUFFALO NY 14202
Generator's Phone: (607)274-6170

Generator's Site Address (if different than mailing address)
EMERSON POWER TRANSMISSION
620 S AURORA ST
ITHACA NY 14850-5797

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address
CWM CHEMICAL SERVICES, L L C
1550 BALMER RD
MODEL CITY NY 14107
Facility's Phone: (716)286-1550
U.S. EPA ID Number: N Y D 0 4 9 8 3 6 6 7 9

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ, UN3432, POLYCHLORINATED BIPHENYLS, SOLID MIXTURE, 9, II NY305554				K	B007
	2.					
	3.					
	4					

14. Special Handling Instructions and Additional Information
1. NY305554 PCB CONTAMINATED CONCRETE PCB OUT OF SERVICE DATE: ____-____-____
CHEMTREC Emergency Response Number (800)424-9300 WMI Contract CCN24117 SERVICE REQUEST #

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name — Signature — Month Day Year

GENERATOR

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

INT'L

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name — Signature — Month Day Year
Transporter 2 Printed/Typed Name — Signature — Month Day Year

TRANSPORTER

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4
H13			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

TONAWANDA TANK TRANSPORT SERVICE, INC.

1140 MILITARY ROAD
P.O. BOX H
BUFFALO, NY 14217
(716) 873-9703

3990 U.S. ROUTE 42
MASON, OH 45040
(513) 398-6997

DATE [illegible]

PICK UP			DELIVERY		
SHIPPER NAME [illegible]			**CONSIGNEE** NAME [illegible]		
STREET			STREET		
CITY [illegible]	STATE	ZIP CODE	CITY [illegible]	STATE	ZIP CODE
CONTACT NAME			CONTACT NAME		
SCHEDULED TIME [illegible]			SCHEDULED TIME [illegible]		
ADDITIONAL INFORMATION			ADDITIONAL INFORMATION		

PURCHASE ORDER NO	WORK ORDER NUMBER	MANIFEST NUMBER	PRODUCT CODE
LOAD NUMBER [illegible]	TRACTOR NUMBER	TRAILER NUMBER [illegible]	DRIVER'S NAME [illegible]

TYPE (CIRCLE ONE)	MATERIAL DESCRIPTION	QUANTITY
TANK (S/S) (R/L) VAC DUMP VAN ROLL-OFF FLATBED		

PICK UP	DELIVERY
ARRIVAL TIME ______ AM PM RELEASE TIME ______ AM PM	DRIVER ______ DATE ______
TRAILER EMPTY UPON ARRIVAL ☐ YES ☐ NO (If not, explain below)	ARRIVAL TIME ______ AM PM RELEASE TIME ______ AM PM
DIP MEASUREMENT (Tankers Only) ______ INCHES	TRAILER EMPTY UPON DEPARTURE ☐ YES ☐ NO (If not, explain below)
COMMENTS: (EXPLAIN ALL DELAYS) ______	COMMENTS: (EXPLAIN ALL DELAYS) ______
I, THE UNDERSIGNED, CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND COMPLETE.	I, THE UNDERSIGNED, CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND COMPLETE.
X ______ SHIPPER'S SIGNATURE	X ______ CONSIGNEE'S SIGNATURE

OFFICE USE ONLY

DRIVER		ACCOUNTING			
TRIP	______	DRIVER'S #	______		
TOLLS	______		______	FREIGHT	______
DEMURRAGE	______		______	TOLLS	______
LAYOVER	______		______	DEMURRAGE	______
VAC	______		______	MISC	______
MISC	______ TOTAL: ______		______	TOTAL	______

ARRIVED DATE	PROFILE NUMBER	NET WEIGHT (LBS)	MANIFEST #	RECEIPT #
04/21/15	NY305554	35460.00	002732771GBF	081668197
	TOTAL	35460.00		
	TOTAL	35460.00		

* * * E N D O F R E P O R T * * *

Transporter Log
CWM Chemical Services, Inc.
Model City, NY

1063 SCALE 1

20 Cubic Yards

GROSS 79180 LB

81668197 Receipt #

AC25363 ny Trailer License Plate # and State

06:02 AM 04/21/15
SCALE 2

Service Req. #

NY305554 Profile #

9A-080 Permit #

Iona-Tank Transporter Name

301/212/222 Tractor/Trailer/Roll-off #

GROSS 40700 LB

Jeff Driver's Name

Emerson Power Generator

354 60 P
16085 K

Scheduled Arrival: ____ Date ____ Time

07:42 AM 04/21/15

Actual Arrival: ____ Date 515 Time In 743 Time Out

Arrived during Blackout? Y / N Notified DEC? Y / N

Receiving: ____ Initials ____ Comments

☐ Leaker ☐ Permit Violation ☐ Placarding/Veh. I.D. Violation

☐ Other (specify ____

☐ Bulk to Landfill ☐ No wet line ☐ Flatbed ☐ Stabilization ☐ Drums ☐ Tanker ☐ Transformers

Laboratory ____ Time In ____ Time Out tc Initials ____ Comments

Stabilization ____ Time In ____ Time Out ____ Initials ____ Gross Wt. ____ Comments

Landfill ____ Time In ____ Time Out ____ Initials ____ Comments

Other ____ Time In ____ Time Out ____ Initials ____ Comments

Aqueous Treatment ____ Time In ____ Time Out ____ Signature (NO Initials) ____ Comments

Facility Personnel (*please initial*)

____ **Smoking or eating in prohibited areas**

____ **Failure to obey instructions of facility personnel**

____ **Failure to wear appropriate PPE**

____ **Unsafe driving practices**

____ **Leaving truck unattended**

____ **Failure to display overweight flag**

____ **Improper tarping or detarpin**

____ **Overweight upon arrival**

____ **Other (specify)** ____

Security Guard Initials: ____
(Indicating receipt of Wash Bay pass, if necessary)

Driver's Comments

WASTE MANAGEMENT

CWM CHEMICAL SERVICES, LLC
1550 Balmer Road
Model City, NY 14107
716 286 1550
716 286 0211 Fax

EMERSON POWER TRANSMISSION
ATTN: ANDREW MADDEN
NYD002228625
50 LAKEFRONT BLVD., STE 111
BUFFALO NY 14202

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from EMERSON POWER TRANSMISSION on 04/21/15 as described on Shipping Document number 002732771GBF Sequence number 01. CWM CHEMICAL SERVICES, L.L.C. hereby certifies that the above described material was landfilled in accordance with the 40 CFR part 761 as it pertains to the land disposal of polychlorinated biphenyl contaminated materials.

Profile Number: NY305554
CWM Tracking ID: 8166819701
CWM Unit #: 1*0
Disposal Date: 04/21/15

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

Michael D. Mahar

MICHAEL D MAHAR
DISTRICT MANAGER
Certificate # 375296
04/22/15

For questions please call our Customer Service Dept. at (800) 843-3604

Appendix I – Non-Hazardous Waste Transportation and Disposal Documentation

FOR STATE USE ONLY		
SITE NO.	APPLICATION NO.	DATE RECEIVED
DEPARTMENT ACTION: ☐ Approved ☐ Disapproved		DATE

SPECIAL WASTE CHARACTERIZATION PROFILE

Disposal Facility Location (Choose All That Apply) – Casella reserves the right to make changes to this section based upon review

Hyland Landfill	Chemung Cty LF	Ontario Cty LF	Clinton Cty LF	Waste USA LF	NCES Landfill
6653 Herdman Road Angelica, NY 14709 Ph. 585.466.7271 Fax 585.466.3206	1488 Cty Rte. 60 Lowman, NY 14861 Ph. 607.737.2980 Fax 607.737.2967	1879 Rt. 5&20 Stanley, NY 14561 Ph: 585.526.4420 Fax 585.526.5459	286 Sand Road Morrisonville, NY 12962 Tel: 518.563.5514 Fax 518.563.5598	21 Landfill Lane Coventry, VT 05825 Tel: 802.334.5796 Fax 802.334.2476	581 Trudeau Road Bethlehem, NH 03574 Tel: 603.869.3366 Fax 603.869.2152
☐	☐	☑	☐	☐	☐

Disposal Option – Casella reserves the right to make changes to this section based upon review

Waste Profile is destined for: ☑ Disposal as waste ☐ BUD ________ ☐ Other (describe) ________

Drill Cuttings Only: ☐ Raw Cuttings for Solidification ☐ Bulked Cuttings For Disposal MUST CHECK ONE: ☐ Air/Water ☐ Oil-based

Waste Characterization Data :

1) Generator of Waste	Address of Facility Generating Waste (Street, City, State, Zip)		County of Origin
Emerson Power Transmission	620 South Aurora Street, Ithaca, NY, 14850		Tompkins
2) Generator's Representative (must match signature on pg 2)	**Mailing Address of Representative** (if different from above)	**Telephone No.**	**Fax No. and Email Address**
ON BEHALF OF EMERSON Daniel Liwicki	WSP 50 Lakefront Blvd, Suite 111, Buffalo, NY 14202	716-866-1823	Daniel.Liwicki@wspgroup.com
3) Bill To Customer	**Bill To Address**	**Telephone No.**	**Fax No. and Email Address**
Ontario Specialty Contracting, Inc.	333 Ganson Street, Buffalo NY 14203	716-856-3333	info@oscinc.com

4) Description of Facility (i.e Residential, Commercial, Manufacturing, WWTP) and Description of Process generating waste:

Disposal materials corresponding to a PCB contaminated transformer pad and surrounding ancillary materials targeted for disposal. The materials subject to this profile are the soil and pavement materials which surrounded the transformer concrete pad. These materials are being disposed of as non hazardous waste through an EPA approved Self-Implementing Work Plan. EPA approval letter appended for reference.

5) Description of waste (debris-containing, composition, uniform or mixture, etc.)

Mixture of soil, asphalt, concrete, and gravel.

6) Is Waste Considered Hazardous by Federal or State Hazardous Waste Regulations? ☐ Yes ■ No

7) Expected *Annual* Amount of Waste To Be Delivered: 67 tons/year 58 cubic yards/year

Approximate Density of Waste: 3,000 pounds/cubic yard — Estimated 1.5 TN/CY for pavement, gravel, and soils

8) Expected Frequency of Delivery

X one-time

____ daily ____ weekly ____ monthly ____ other (specify, if known)

9) Hauler Name	Address	Transporter Permit No.	Telephone No.
Riccelli Enterprises, Inc.	6800 W Henrietta Rd, Rush, NY 14543	7A402 Exp. Date:	(585) 538-6550

Waste Characterization Data (Cont'd)			
10) Method of Delivery. If other, specify. __X__ roll-off ____ packer truck ____ tractor trailer ____ other Dump Truck			
11) Previous Disposal Location	Address	Phone	Contact Person
12) Is the waste classified as a "listed" or "characteristic" hazardous waste as defined by USEPA, or State of origin, or State where disposed? (If yes, explain.) No			
13) Describe all hazardous or nuisance properties associated with the waste (i.e. odors, dust, size). None			
14) Does the waste require any special handling or disposal procedures? If so, explain. No			
15) Analytical Data Submitted (TCLP/Other). Non TSCA Waste Full TCLP: Lab Report ID J77104-1		Type of Samples (indicate # of each type in space provided) ____ grab __1__ composite borings Site plan must be provided if test pit/boring data is provided	

Casella requires, at a minimum, the submittal of full TCLP (Metals-RCRA 8, VOC, SVOC, PCBs, Pesticides / Herbicides), pH, Reactivity, Ignitibility, and % solids testing results for any special waste submitted for landfill acceptance unless the applicant can provide an acceptable justification for submittal of less comprehensive data. The generator is responsible for proper waste characterization.

16) Justification for not submitting full TCLP data.

GENERATOR CERTIFICATION

I hereby certify that (1) I am the authorized representative of the generator; (2) all information submitted on this form and on supplemental materials is complete and accurate to the best of my knowledge and ability to determine; (3) the information provided herein, including any supplemental information, such as laboratory analytical, MSDS, etc., accurately describes the waste stream to be delivered to the facility and that all known or suspected hazards have been disclosed; (4) Casella can contact the laboratory directly to discuss our attached waste stream. I understand that, once the waste stream is approved by Casella based on this information, any deviation in the source, composition, constituents or characteristics of the waste stream from the information described herein, may render the waste stream unacceptable for disposal, at the sole discretion of Casella. I further understand that any deviation from the information contained herein will require immediate notification to the disposal facility and cessation of disposal.

Generator or Authorized Representative - Signature:	Print name:	Print Title/Company:	Date:
ON BEHALF OF EMERSON Daniel Liwicki	On behalf of Emerson Daniel Liwicki	Associate Consultant WSP	April 2, 2015

INSTRUCTIONS
Special Waste Characterization Profile (SWCP) Form

A separate application is required for each special wastestream and must be approved by Casella Special Waste Technical Approval Team prior to transport and disposal to any of our facilities.

Disposal Facility Location - If known, please select the preferred disposal facility. ***Subject to change at Casella's discretion.***

Disposal Option - If known, please select the preferred disposal option. ***Subject to change at Casella's discretion.***

Waste Characterization Data - Please complete ALL sections on the SWCP form.

1. **Company Generating the Waste**: Enter the GENERATOR information in section (1). The generator is the individual or entity that has ultimate responsibility for the waste. The generator is the person or company that created the waste or physically changed the waste last, typically the property owner, a municipality, a Company, a State Agency, etc. (not the engineer or contractor hired to do the work) Include the physical address where the **waste was generated**, including the county (not country) of origin.

2. **Representative of the Generator**: The name and mailing address of the generator; the individual certifying the information provided on the profile is accurate, true and representative of the waste being disposed. The 'Representative of the Generator' should be the same individual signing the Form and must be an authorized representative of the generator (i.e. an officer of the company, or their authorized designee). Only the generator is authorized to sign the SWCP Form. In the rare event that the generator assigns responsibility to sign on their behalf, an Authorized Agent Form must accompany the SWCP Form.

3. **Bill To Customer**: Name and mailing address of the landfill's customer

4. **Description of Facility**: Indicate the type of facility or event generating the waste
Process Generating the Waste: Provide a detailed description of the process and/or manner in which the material was generated, including the source of contamination. Include as much information as possible; attach a process flow diagram, if applicable.
Example: Site is former ABC Manufacturing Facility. The Plant manufactured plastic widgets and closed in 1970. Waste is remediation of contaminated soils from historic facility use – not the result of a spill of release.

5. **Description of waste (debris-containing, composition, uniform or mixture, etc.)**: Provide a detailed description of the waste, including all known or potential contaminates, composition, whether it is uniform or a mixture, or contains debris.
Example: The waste is contaminated soil excavated from various areas of the former ABC Manufacturing Facility site; paints and varnishes were widely used in the process. The soil contamination is due to historic use, contaminates of concern include VOCs, SVOCs and heavy metals. Waste is uniform in nature with no detectable discoloration or odors.
Note: "soil" is NOT an acceptable description of waste.

6. **Is Waste Hazardous by Federal OR State Waste Regulations**: It is the Generators responsibility to identify any hazardous waste; please check appropriate box.

7. **Expected Annual Amount of Waste To Be Delivered/Approximate Density of Waste**: Indicate the anticipated amount of waste to be delivered in tons or cubic yards. If waste is estimate in cubic yards, please include the estimated waste density in pounds/cubic yard. If waste generated is a one-time event (not an on-going process), indicate the total project volume (or tons). If a waste density is not provided on the Form an estimate will be made based on the information provided.

Waste Approvals will have an annual or one time tonnage limit and require renewal certification form to be completed and signed by the generator annually (anniversary date of the Approval) or if the approved tonnage limit is reached.

8. **Expected Frequency of Delivery:** On-going wastes are typically manufacturing or industrial process waste. Please indicate if delivery will be daily, weekly, monthly or other. If it is not an on-going process that is generating the waste, it is considered a one-time event (even if it will be delivered over a period of time)

9. **Hauler:** Provide name, address, hauling permit number, permit expiration date and phone number of hauler. (Most States require waste haulers to be permitted and/or registered.)

10. **Method of Delivery:** Indicate the vessel or vehicle-type used for waste delivery. If "other" please provide a description

11. **Previous Disposal Location:** Enter information about any other facilities where the material has been disposed. If it has not been disposed at another location, enter "None" (do not leave blank).

12. **Is the waste classified as a "listed" or "characteristic" hazardous waste:** Refer to 40 CFR 261.31-33 for Listed Waste and 40 CFR 261.21-24 for Characteristic Waste to make this determination.

13. **Describe all Hazardous or Nuisance Properties associated with the waste:** Indicate if there are any hazards or nuisance issues associated with the waste; such as dust, odors or size of material that may require special handling at the disposal facility.

14. **Does the Waste Require Special Handling or Disposal Procedures:** Indicate any special handling requirements at the disposal facility to address the above listed nuisance properties.
    Example: Waste is friable asbestos will be managed and packaged according to State and Federal regulations.

15. **Analytical Data Submitted:** Describe the analysis provided for evaluation; include the laboratory, report number and sample ID #s. Waste to be disposed of in NY State must be analyzed by NYS Certified lab. Indicate the type (i.e. grab samples /boring samples, composite samples), AND number of samples collected. Contaminated soil or remediation sites require representative composite samples collected from stockpiled material; include a brief description of how the composite sample was taken and the volume of material it represents. Test pit samples or boring samples will be evaluated case-by-case at Casella's discretion. TP or Borings MUST include a description of how the samples were collected, MUST be representative of the entire wastestream and include a site plan depicting sampling locations.

16. **Justification for not submitting a Full TCLP Analysis:** All special wastes require Full TCLP Analysis, minimum testing requirements are listed on the Profile Form. If the minimum testing is not submitted, the generator MUST provide justification for reduced analytical.
    Example: Waste is Non-friable PCB contaminated building debris with lead-based paint. Attached engineering report includes TCLP analysis for lead, totals analysis for PCBs and an asbestos survey. Applicable Report sections and analysis is highlighted for the waste included in this application. Full TCLP is not needed because the waste is not contaminated with heavy metals or volatile organic compounds. Waste is not combustible, does not contain reactive sulfides or reactive cyanides.

Minimum testing requirements for any special waste submitted for landfill acceptance. The generator is responsible for proper waste characterization.

- **Full TCLP analysis for (RCRA 8 Metals, VOCs, SVOCs, and Pesticides/Herbicides),**
- **PCBs totals analysis,**
- **pH, Reactivity, Ignitibility, and % solids**
- **TPH is required for disposal in Vermont.**
- **Paint Filter will be required for any 'wet wastes' to confirm no free liquids.**

Additional testing may be required for applications seeking Beneficial Use, or at Casella's sole discretion.

Generator's Certification: Once all information is completed on the form, the authorized GENERATOR REPRESENTATIVE must certify the accuracy of the information. The individual signing the form must be listed in Section 2.

Casella will not accept a Special Waste Characterization Profile signed by anyone other than the generator (i.e. contractor, broker, or consultant) without express written delegation by Authorized Agent Form signed by the generator.

RICCELLI ENTERPRISES

Syracuse
P.O. Box 6418
Syracuse, NY 13217
(315) 433-5115

Rochester
6800 W. Henrietta Road
Rush, NY 14543
(585) 344-8410

Geneva
1210 Gifford Road
Phelps, NY 14532
(315) 548-4049

64846

NON-HAZARDOUS SOLID WASTE MANIFEST

TRANSPORTER	DATE	TIME IN	/ OUT
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217			
TRUCK # 327	TRAILER #		

CONSIGNEE	SHIPPER
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217 PHONE # (315) 433-5115	

NO. PIECES	ARTICLES OR DESCRIPTION		WEIGHT
1		WEIGHT IN	
		WEIGHT OUT	
		BILLED WEIGHT	
	#628246		21.06 TN

SHIPPER SIGNATURE ____________ PRINT NAME ____________

DRIVER SIGNATURE ____________ PRINT NAME ____________

SPECIAL INSTRUCTIONS

DESTINATION:

FOR APPROVAL: ____________ CONSIGNEE PRINT NAME ____________ CONSIGNEE SIGN HERE ____________ (NO INITIALS) RECEIVED ABOVE MATERIAL IN GOOD CONDITION — FIRM ______ DATE ______ ☐ AM BY ______ TIME ______ ☐ PM	Solid waste being interpreted to mean only solid waste or waste containing animal and vegetable matter, rubbish, trash, debris, ashes and metal non-toxic sludge and other waste materials which is not a radioactive volatile, highly flammable explosive toxic or hazardous nature as listed.

White Copy - *Riccelli* Yellow Copy - *Driver* Pink Copy - *Land Fill* Gold Copy - *Shipper*

NEWS NE / ONTARIO COUNTY LANDFILL
A Division of Casella Waste Systems
1879 NYS Route 5&20
Stanley, NY 14561

TICKET: 628246
DATE: 04/10/2015
TIME: 14:14 - 14:46

CUSTOMER: LE00163 / RICCELLI
P.O.:
HAULCUST: WO: 0 APPROVAL #:
GROSS: 71220 LBS
ORIGIN: TS / TOMPKINS
TARE: 29100 LBS
TRUCK: RIC127 TRAILER:
NET: 42120 LBS
GENERATOR: EP / EMERSON POWER PROFILE #: 5607
HAULER: RIC / RICCELLI ROUTE: NA / NON APPLICABLE
COMMENT: 5607/64846
CELL/TANK: P8

MATERIAL	QUANTITY	UNIT
IN / INDUSTRIAL WASTE	21.0600	ST

I Certify under penalty of perjury that I am familiar with wastes authorized at this facility and that to the best of my knowledge all [illegible]

RICCELLI ENTERPRISES

Syracuse
P.O. Box 6418
Syracuse, NY 13217
(315) 433-5115

Rochester
6800 W. Henrietta Road
Rush, NY 14543
(588) 344-8410

Geneva
1210 Gifford Road
Phelps, NY 14532
(315) 548-4049

6465

NON-HAZARDOUS SOLID WASTE MANIFEST

TRANSPORTER	DATE	TIME IN	OUT
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217	4/13/15		
TRUCK # 327	TRAILER #		

CONSIGNEE	SHIPPER
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217 PHONE # (315) 433-5115	OSC - Emerson Power Transmission South Aurora St - Ithaca, N.Y

NO. PIECES	ARTICLES OR DESCRIPTION		WEIGHT
1	Soil <50 ppm PCB contaminated soil/asphalt/concrete Gravel - # 5607 # 628531	WEIGHT IN	
		WEIGHT OUT	
		BILLED WEIGHT	20.85 TON

SHIPPER SIGNATURE On Behalf of Emerson [signature] PRINT NAME On Behalf of Emerson Daniel Lowery

DRIVER SIGNATURE Mark F. PRINT NAME Mark F.

SPECIAL INSTRUCTIONS

DESTINATION

Ontario Co Landfill

FOR APPROVAL CONSIGNEE PRINT NAME CONSIGNEE SIGN HERE (NO INITIALS)	Solid waste being interpreted to mean only solid waste or waste containing animal and vegetable matter, rubbish, trash, debris, ashes and metal non-toxic sludge and other waste materials which is not a radioactive volatile, highly flammable explosive toxic or hazardous nature as listed.
RECEIVED ABOVE MATERIAL IN GOOD CONDITION — FIRM ____ DATE ____ AM / BY ____ TIME ____ PM	

White Copy - Riccelli Yellow Copy - Driver Pink Copy - Land Fill Gold Copy - Shipper

NEWS.NE / ONTARIO COUNTY LANDFILL
A Division of Casella Waste Systems
1879 NYS Route 5&20
Stanley, NY 14561

TICKET: 628531
DATE: 04/13/2015
TIME: 16:03 - 16:27

This is a Reprint Ticket

P.O.:

CUSTOMER: LE00163 / RICCELLI
HAULCUST: NO: 0 APPROVAL #:
ORIGIN: TE / TONAWING
TRUCK: RIC303
GENERATOR: EP / EMERSON POWER
HAULER: RIC / RICCELLI
COMMENT: 5007-64858

GROSS: 70080 LBS
TARE: 28300 LBS
NET: 41780 LBS

TRAILER:
PROFILE #: 5007
ROUTE: NA / NON APPLICABLE

CELL/TANK: PB

MATERIAL	QUANTITY	UNIT
IW - INDUSTRIAL WASTE	20.8900	ST

I Certify under penalty of perjury that I am familiar with wastes authorized at this facility and that to the best of my knowledge all waste contained in this load is authorized for disposal at this facility.

Weighmaster: Driver:

IN: Lisa R: PCBCALE-OC OUT: Lisa R: PCBCALE-OC

RICCELLI ENTERPRISES

Syracuse
P.O. Box 6418
Syracuse, NY 13217
(315) 433-5115

Rochester
5500 W. Henrietta Road
Rush, NY 14543
(585) 334-8410

Geneva
1210 Gifford Road
Phelps, NY 14532
(315) 548-4049

TICKET No. 246420

DATE [illegible]

CHARGE TO: OSC

HAULED FROM: [illegible]

JOB SITE: [illegible]

MATERIAL: [illegible]

#	TICKET NUMBER	TICKET WEIGHT	LOAD TIME		UNLOAD TIME		WAITING TIME
			IN	OUT	IN	OUT	
1	628531	20.85 TON	[illegible]	9:00			
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							

START TIME: 9:00 END TIME: 9:00 TRAVEL TIME: TOTAL TIME: 7.00

DRIVER'S SIGNATURE: [illegible] HAULER: TRUCK No. 327

CUSTOMER SIGNATURE: [illegible]

OFFICE COPY 2

RICCELLI ENTERPRISES

Syracuse	Rochester	Geneva
P.O. Box 6418	6800 W. Henrietta Road	1210 Gifford Road
Syracuse, NY 13217	Rush, NY 14543	Phelps, NY 14532
(315) 433-5115	(585) 344-8410	(315) 548-4049

64659

NON-HAZARDOUS SOLID WASTE MANIFEST

TRANSPORTER	DATE	TIME IN	/ OUT
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217	4/14/15		
TRUCK # 327	TRAILER #		

CONSIGNEE	SHIPPER
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217 PHONE # (315) 433-5115	Emerson Power Transmission Ithaca N.Y

NO. PIECES	ARTICLES OR DESCRIPTION		WEIGHT
1	Soil - < 50ppm PCB/concrete/soil/asphalt	WEIGHT IN	
		WEIGHT OUT	
		BILLED WEIGHT	
	# 5607	#628739	23.03 TON

On Behalf of Emerson

SHIPPER SIGNATURE [signature] PRINT NAME On Behalf of Emerson Daniel [illegible]

DRIVER SIGNATURE Mark F. PRINT NAME Mark F.

SPECIAL INSTRUCTIONS:

DESTINATION:

ONTARIO LANDFILL

FOR APPROVAL

CONSIGNEE PRINT NAME

CONSIGNEE SIGN HERE (NO INITIALS)

RECEIVED ABOVE MATERIAL IN GOOD CONDITION FIRM DATE BY TIME ☐ AM ☐ PM

Solid waste being interpreted to mean only solid waste or waste containing animal and vegetable matter, rubbish, trash, debris, ashes and metal non-toxic sludge and other waste materials which is not a radioactive volatile, highly flammable explosive toxic or hazardous nature as listed.

White Copy - *Riccelli* Yellow Copy - *Driver* Pink Copy - *Land Fill* Gold Copy - *Shipper*

NEWS NE / ONTARIO COUNTY LANDFILL
A Division of Casella Waste Systems
1879 NYS Route 5&20
Stanley, NY 14561

TICKET: 620739
DATE: 04/14/2015
TIME: 16:04 - 16:29

CUSTOMER: LE00163 / RICCELLI
HAULCUST: WO: 0 APPROVAL #:
ORIGIN: TS / TOMPKINS
TRUCK: RIC327 TRAILER:
GENERATOR: EP / EMERSON POWER PROFILE #: 5607
HAULER: RIC / RICCELLI ROUTE: NA / NON APPLICABLE
COMMENT: 5607-64659

P.O.:
GROSS: 74940 LBS
TARE: 28880 LBS
NET: 46060 LBS
CELL/TANK: P8

MATERIAL	QUANTITY	UNIT
IN / INDUSTRIAL WASTE	23.0300	ST

I Certify under penalty of perjury that I am familiar with wastes authorized at this facility and that to the best of my knowledge all waste contained in this load is authorized for disposal at this facility.

Weighmaster: Driver:

IN: Lisa B: PCSCALE-OC OUT: Lisa B: PCSCALE-OC

RICCELLI ENTERPRISES

Syracuse P.O. Box 6428 Syracuse, NY 13217 (315) 455-6115

Rochester 6500 W. Henrietta Road Rush, NY 14543 (585) 334-8410

Geneva 1210 Gifford Road Phelps, NY 14532 (315) 548-4049

TICKET No. 246421

DATE 3/14/18

CHARGE TO: [illegible]

HAULED FROM: Ithaca

JOB SITE: [illegible]

MATERIAL: Soil - Contaminated

#	TICKET NUMBER	TICKET WEIGHT	LOAD TIME IN	LOAD TIME OUT	UNLOAD TIME IN	UNLOAD TIME OUT	WAITING TIME
1	628739	23.03 TON	11:00	4:45			
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							

START TIME:	END TIME:	TRAVEL TIME:	TOTAL TIME:
11:00	4:45		5.75

DRIVER'S SIGNATURE: [signature]

HAULER:

TRUCK No. 347

CUSTOMER SIGNATURE: [signature]

OFFICE COPY 2

RICCELLI ENTERPRISES

Syracuse
P.O. Box 6418
Syracuse, NY 13217
(315) 433-5115

Rochester
6800 W. Henrietta Road
Rush, NY 14543
(585) 344-8410

Geneva
1210 Gifford Road
Phelps, NY 14532
(315) 548-4049

64660

NON-HAZARDOUS SOLID WASTE MANIFEST

TRANSPORTER	DATE	TIME IN	/ OUT
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217	4/15/15		
TRUCK # 327	TRAILER #		

CONSIGNEE	SHIPPER
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217 PHONE # (315) 433-5115	Emerson Power Transmission Ithaca N.Y.

NO. PIECES	ARTICLES OR DESCRIPTION		WEIGHT
1	Soil ~~[illegible]~~/soil/concrete/asphalt	WEIGHT IN	
		WEIGHT OUT	
	# 5607 # 628970	BILLED WEIGHT	17.29 Ton

SHIPPER SIGNATURE On behalf of Emerson [signature] PRINT NAME On behalf of Emerson Daniel [illegible]

DRIVER SIGNATURE Mark Foster PRINT NAME Mark Foster

SPECIAL INSTRUCTIONS

DESTINATION:

Ontario Landfill

FOR APPROVAL:

CONSIGNEE PRINT NAME

CONSIGNEE SIGN HERE
(NO INITIALS)

RECEIVED ABOVE MATERIAL IN GOOD CONDITION FIRM ______ DATE ______ ☑ AM
BY ______ TIME ______ ☐ PM

Solid waste being interpreted to mean only solid waste or waste containing animal and vegetable matter, rubbish, trash, debris, ashes and metal non-toxic sludge and other waste materials which is not a radioactive volatile, highly flammable explosive toxic or hazardous nature as listed.

White Copy - *Riccelli* Yellow Copy - *Driver* Pink Copy - *Land Fill* Gold Copy - *Shipper*

NEWS NC / ONTARIO COUNTY LANDFILL
A Division of Casella Waste Systems
1879 NYS Route 5&20
Stanley, NY 14561

TICKET: 628970
DATE: 04/15/2015
TIME: 15:03 - 15:37

This is a Reprint Ticket

CUSTOMER: LE00163 / RICCELLI
P.O.:
HAULCUST: WO: 0 APPROVAL #: GROSS: 63320 LBS
ORIGIN: TS / TOMPKINS TARE: 28740 LBS
TRUCK: RIC323 TRAILER: NET: 34580 LBS
GENERATOR: EP / EMERSON POWER PROFILE #: 5607
HAULER: RIC / RICCELLI ROUTE: NA / NON APPLICABLE
COMMENT: 5607-64660 CELL/TANK: P8

MATERIAL	QUANTITY	UNIT
IN / INDUSTRIAL WASTE	17.2900	ST

I Certify under penalty of perjury that I am familiar with wastes authorized at this facility and that to the best of my knowledge all waste contained in this load is authorized for disposal at this facility.

Weighmaster: ____________ Driver: ____________

IN: NANCY B: PCSCALE-OC OUT: Lisa B: PCSCALE-OC

RICCELLI ENTERPRISES

Syracuse
P.O. Box 6418
Syracuse, NY 13217
(315) 433-5115

Rochester
6800 W. Henrietta Road
Rush, NY 14543
(585) 334-8410

Geneva
1210 Gifford Road
Phelps, NY 14532
(315) 548-4049

TICKET No. 246422

DATE [illegible]

CHARGE TO: OSC / [illegible]

JOB SITE: [illegible]

HAULED FROM: [illegible]

MATERIAL: [illegible]

#	TICKET NUMBER	TICKET WEIGHT	LOAD TIME IN	LOAD TIME OUT	UNLOAD TIME IN	UNLOAD TIME OUT	WAITING TIME
1	628970	17.29 Ton	11:34	3:45			
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							

START TIME: 11:20 **END TIME:** 3:45 **TRAVEL TIME:** **TOTAL TIME:** 4.25

DRIVER'S SIGNATURE: ______ HAULER: ______ TRUCK No. 227

CUSTOMER SIGNATURE: ______

TRUCK DRIVERS COPY

RICCELLI ENTERPRISES

Syracuse	Rochester	Geneva
P.O. Box 6418	6800 W. Henrietta Road	1210 Gifford Road
Syracuse, NY 13217	Rush, NY 14543	Phelps, NY 14532
(315) 433-5115	(585) 344-8410	(315) 548-4049

64649

NON-HAZARDOUS SOLID WASTE MANIFEST

TRANSPORTER	DATE	TIME IN / OUT
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217	4/16/15	
TRUCK # 327	TRAILER #	

CONSIGNEE	SHIPPER
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217 PHONE # (315) 433-5115	OSC/Emerson Power Transmission Ithaca N.Y

NO. PIECES	ARTICLES OR DESCRIPTION		WEIGHT
1	Soil Emerson /Soil/Asphalt/Concrete	WEIGHT IN	
		WEIGHT OUT	
	# 5607 # 629085	BILLED WEIGHT	20.28 TON

SHIPPER SIGNATURE On Behalf of Emerson [signature] PRINT NAME On Behalf of Emerson [illegible]

DRIVER SIGNATURE [signature] PRINT NAME [illegible]

SPECIAL INSTRUCTIONS

DESTINATION: Ontario Landfill

FOR APPROVAL:

CONSIGNEE PRINT NAME

CONSIGNEE SIGN HERE (NO INITIALS) [signature]

RECEIVED ABOVE MATERIAL IN GOOD CONDITION FIRM DATE ☒ AM BY TIME ☐ PM

Solid waste being interpreted to mean only solid waste or waste containing animal and vegetable matter, rubbish, trash, debris, ashes and metal non-toxic sludge and other waste materials which is not a radioactive volatile, highly flammable explosive toxic or hazardous nature as listed.

White Copy - *Riccelli* Yellow Copy - *Driver* Pink Copy - *Land Fill* Gold Copy - *Shipper*

[illegible] ONTARIO COUNTY LANDFILL
A Division of Casella Waste Systems
1879 NYS Route 5&20
Stanley, NY 14561

TICKET: [illegible]
DATE: [illegible]
TIME: [illegible]

CUSTOMER: [illegible] / RICCELLI
HAUL COST: [illegible] APPROVAL #: [illegible]
ORIGIN: [illegible] / TOMPKINS
TRUCK: [illegible]
TRAILER: [illegible]
GENERATOR: [illegible] / EMERSON POWER
PROFILE #: [illegible]
HAULER: [illegible]
ROUTE: NA / NON APPLICABLE
COMMENTS: [illegible]

GROSS: [illegible] LBS
TARE: [illegible] LBS
NET: [illegible] LBS
CELL/TANK: [illegible]

MATERIAL	QUANTITY	UNIT
[illegible] INDUSTRIAL WASTE	[illegible]	[illegible]

I certify under penalty of [illegible] waste contained in this load is authorized for disposal at this facility.
Weighmaster: Driver:

IN: NANCY [illegible] OUT: NANCY [illegible]

RICCELLI ENTERPRISES

Syracuse
P.O. Box 6418
Syracuse, NY 13217
(315) 433-5115

Rochester
6900 W. Henrietta Road
Rush, NY 14543
(585) 344-8410

Geneva
1210 Gifford Road
Phelps, NY 14532
(315) 548-4049

64650

NON-HAZARDOUS SOLID WASTE MANIFEST

TRANSPORTER	DATE	TIME IN	/ OUT
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217	4/16/15		
TRUCK # 327	TRAILER #		

CONSIGNEE	SHIPPER
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217 PHONE # (315) 433-5115	Emerson Power Transmission Ithaca N.Y.

NO. PIECES	ARTICLES OR DESCRIPTION		WEIGHT
1	Soil	WEIGHT IN	
	<50ppm / PCB / Soil / concrete / asphalt	WEIGHT OUT	
	# 5607 #629199	BILLED WEIGHT	19.51 ton

SHIPPER SIGNATURE On Behalf of Emerson [illegible] PRINT NAME On Behalf of Emerson [illegible]

DRIVER SIGNATURE Mark Fe PRINT NAME [illegible]

SPECIAL INSTRUCTIONS

DESTINATION: Ontario Landfill

FOR APPROVAL:

CONSIGNEE PRINT NAME

CONSIGNEE SIGN HERE
(NO INITIALS)

RECEIVED ABOVE MATERIAL IN GOOD CONDITION — FIRM ____ DATE ____ ☐ AM
BY ____ TIME ____ ☐ PM

Solid waste being interpreted to mean only solid waste or waste containing animal and vegetable matter, rubbish, trash, debris, ashes and metal non-toxic sludge and other waste materials which is not a radioactive volatile, highly flammable explosive toxic or hazardous nature as listed.

HGWR MC / ONTARIO COUNTY LANDFILL
A Division of Casella Waste Systems
1879 NYS Route 5&20
Stanley, NY 14561

TICKET: [illegible]
DATE: 07/[illegible]/2015
TIME: 15:[illegible] - [illegible]

CUSTOMER: [illegible] - RICCELLI
[illegible] CUST: WO: # APPROVAL #:
ORIGIN: TS / TOMPKINS
TRUCK: RIC[illegible]
GENERATOR: [illegible] / EMERSON POWER
HAULER: RIC / RICCELLI
COMMENT: [illegible]

P.O.:
GROSS: 67[illegible] LBS
TARE: 28[illegible] LBS
NET: [illegible] LBS

TRAILER:
PROFILE #: [illegible]
ROUTE: NA / NON APPLICABLE
CELL/TANK: [illegible]

MATERIAL	QUANTITY	UNIT
IW / INDUSTRIAL WASTE	19.[illegible]	ST

I certify under penalty of perjury that I am familiar with wastes authorized at this facility and that to the best of my knowledge all waste contained in this load is authorized for disposal at this facility.

Weighmaster: Driver:

IN: NANCY #: PCSCALE-OC OUT: Lisa #: PCSCALE-OC

RICCELLI ENTERPRISES

Syracuse	Rochester	Geneva
P.O. Box 6418	6800 W. Henrietta Road	1210 Gifford Road
Syracuse, NY 13217	Rush, NY 14543	Phelps, NY 14532
(315) 433-5115	(585) 334-8410	(315) 548-4049

TICKET No. 246423

DATE 9/16/15

CHARGE TO: OSC

HAULED FROM: [illegible]

JOB SITE: [illegible]

MATERIAL: [illegible]

#	TICKET NUMBER	TICKET WEIGHT	LOAD TIME IN	LOAD TIME OUT	UNLOAD TIME IN	UNLOAD TIME OUT	WAITING TIME
1	629085	20.28 Ton	600	—			
2	629199	19.51 Ton	—	—			
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							

START TIME: 630 **END TIME:** 400 **TRAVEL TIME:** **TOTAL TIME:** 9.50

DRIVER'S SIGNATURE: [illegible] HAULER: TRUCK No. 327

CUSTOMER SIGNATURE: [illegible]

OFFICE COPY 2

RICCELLI ENTERPRISES

Syracuse
P.O. Box 6418
Syracuse, NY 13217
(315) 433-5115

Rochester
6000 W. Henrietta Road
Rush, NY 14543
(585) 344-8410

Geneva
1210 Gifford Road
Phelps, NY 14532
(315) 548-4049

64993

NON-HAZARDOUS SOLID WASTE MANIFEST

TRANSPORTER	DATE	TIME IN	/ OUT
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217	4/17/15		
TRUCK # 327	TRAILER #		

CONSIGNEE	SHIPPER
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217 PHONE # (315) 433-5115	Emerson - Power Transmissions Ithaca N.Y.

NO. PIECES	ARTICLES OR DESCRIPTION		WEIGHT
1	Soil	WEIGHT IN	
	[illegible]	WEIGHT OUT	
	#5607 #629294	BILLED WEIGHT	7.87 TON

SHIPPER SIGNATURE On Behalf of Emerson [illegible] PRINT NAME On Behalf of Emerson [illegible]

DRIVER SIGNATURE [illegible] PRINT NAME Mark F.

SPECIAL INSTRUCTIONS

DESTINATION
Ontario - Landfill

FOR APPROVAL

CONSIGNEE PRINT NAME

CONSIGNEE SIGN HERE (NO INITIALS)

RECEIVED ABOVE MATERIAL IN GOOD CONDITION FIRM DATE BY TIME AM PM

Solid waste being interpreted to mean only solid waste or waste containing animal and vegetable matter, rubbish, trash, debris, ashes and metal non-toxic sludge and other waste materials which is not a radioactive volatile, highly flammable explosive toxic or hazardous nature as listed.

White Copy - *Riccelli* Yellow Copy - *Driver* Pink Copy - *Land Fill* Gold Copy - *Shipper*

NEWS NE / ONTARIO COUNTY LANDFILL — TICKET: [illegible]
A Division of Casella Waste Systems — DATE: [illegible]/2016
[illegible] Route 5&20 — TIME: [illegible]
Stanley, NY 14561

CUSTOMER: [illegible] / RICCELLI — P.O.:
HAULER#: [illegible] — GROSS: [illegible] LBS
ORIGIN: [illegible] — TARE: [illegible] LBS
TRUCK: [illegible] TRAILER: — NET: [illegible] LBS
GENERATOR: [illegible] / EMERSON POWER PROFILE #: [illegible]
HAULER: [illegible] / RICCELLI ROUTE: NA - NON APPLICABLE
COMMENT: [illegible] — CELL/TRANS PG

MATERIAL	QUANTITY	UNIT
IW / INDUSTRIAL WASTE	[illegible]	[illegible]

I Certify under penalty of perjury that I am familiar with wastes authorized at this facility and that to the best of my knowledge all waste contained in this load is authorized for disposal at this facility.

Weighmaster: [illegible] — Driver: [illegible]

RICCELLI ENTERPRISES

Syracuse
P.O. Box 6418
Syracuse, NY 13217
(315) 433-5115

Rochester
6800 W. Henrietta Road
Rush, NY 14543
(585) 334-8410

Geneva
1210 Gifford Road
Phelps, NY 14532
(315) 548-4049

TICKET No. 246424

DATE 4/17/15

CHARGE TO: OSC -
HAULED FROM: [illegible]
JOB SITE: Ithaca NY
MATERIAL: Soil

#	TICKET NUMBER	TICKET WEIGHT	LOAD TIME IN	LOAD TIME OUT	UNLOAD TIME IN	UNLOAD TIME OUT	WAITING TIME
1	629294	7.87 TON	6:30	10:00			
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							

START TIME:	END TIME:	TRAVEL TIME:	TOTAL TIME:
6:30	10:00 p.m.		3.50

DRIVER'S SIGNATURE: [illegible]
HAULER:
TRUCK No. 327

CUSTOMER SIGNATURE: [illegible]

OFFICE COPY 2

RICCELLI ENTERPRISES INC.

Syracuse
P.O. Box 6418
Syracuse, NY 13217
(315) 433-5115

Rochester
6800 W. Henrietta Road
Rush, NY 14543
(585) 344-8410

Geneva
1210 Gifford Road
Phelps, NY 14532
(315) 548-4049

- 64994

NON-HAZARDOUS SOLID WASTE MANIFEST

TRANSPORTER	DATE	TIME IN	/ OUT
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217	4/24/15		
TRUCK # 327	TRAILER #		

CONSIGNEE	SHIPPER
RICCELLI ENTERPRISES INC. P.O. BOX 6418 SYRACUSE, NY 13217 PHONE # (315) 433-5115	Emerson Power Transmission Ithaca NY

NO. PIECES	ARTICLES OR DESCRIPTION		WEIGHT
1	Soil	WEIGHT IN	
	< 50 ppm/soil/concrete/asphalt	WEIGHT OUT	
	#5607 #630457	BILLED WEIGHT	16.41 Ton

on behalf of Emerson Electric

SHIPPER SIGNATURE [signature]

on behalf of Emerson Electric

PRINT NAME Nate Winston

DRIVER SIGNATURE Mark A

PRINT NAME Mark A.

SPECIAL INSTRUCTIONS:

DESTINATION:
Ontario Landfill

FOR APPROVAL: ________

CONSIGNEE PRINT NAME ________

CONSIGNEE SIGN HERE ________
(NO INITIALS)

RECEIVED ABOVE MATERIAL IN GOOD CONDITION

FIRM O.C.L. DATE 4/24/15 ☒ AM

BY A.K. TIME 10:45 ☐ PM

Solid waste being interpreted to mean only solid waste or waste containing animal and vegetable matter, rubbish, trash, debris, ashes and metal non-toxic sludge and other waste materials which is not a radioactive volatile, highly flammable explosive toxic or hazardous nature as listed.

White Copy - *Riccelli* Yellow Copy - *Driver* Pink Copy - *Land Fill* Gold Copy - *Shipper*

NEWS NE / ONTARIO COUNTY LANDFILL
A Division of Casella Waste Systems
1879 NYS Route 5&20
Stanley, NY 14561

TICKET: 630457
DATE: 04/24/2015
TIME: 10:44 - 11:13

CUSTOMER: LE00163 / RICCELLI
P.O.:
HAULCUST: WO: 0 APPROVAL #:
GROSS: 61340 LBS
ORIGIN: TS / TOMPKINS
TARE: 28520 LBS
TRUCK: RIC327 TRAILER:
NET: 32820 LBS
GENERATOR: EP / EMERSON POWER PROFILE #: 5607
HAULER: RIC / RICCELLI ROUTE: NA / NON APPLICABLE
COMMENT: 5607/64394
CELL/TANK: P0

MATERIAL	QUANTITY	UNIT
IN / INDUSTRIAL WASTE	16.41000	ST

I Certify under penalty of perjury that I am familiar with wastes authorized at this facility and that to the best of my knowledge all waste contained in this load is authorized for disposal at this facility.

Weighmaster: Driver:

IN: NANCY B: PCSCALE-OC OUT: NANCY B: PCSCALE-OC

Appendix J – Decontamination Fluids Transportation and Disposal Documentation

[illegible] [illegible]
[illegible]

DOCUMENT NO. 1035328

WORK ORDER NO. [illegible]

STRAIGHT BILL OF LADING

TRANSPORTER 1 [illegible] VEHICLE ID #

EPA ID # [illegible] TRANS. 1 PHONE [illegible]

TRANSPORTER 2 VEHICLE ID #

EPA ID # TRANS. 2 PHONE

DESIGNATED FACILITY [illegible]			SHIPPER [illegible]		
FACILITY EPA ID # [illegible]			SHIPPER EPA ID # [illegible]		
ADDRESS [illegible]			ADDRESS [illegible]		
CITY [illegible]	STATE [illegible]	ZIP [illegible]	CITY [illegible]	STATE	ZIP [illegible]

CONTAINERS NO. & SIZE	TYPE	HM	DESCRIPTION OF MATERIALS	TOTAL QUANTITY	UNIT WT/VOL
4x55	DM		A. [illegible]	1,500	P
			B.		
			C.		
			D.		
			E.		
			F.		
			G.		
			H.		

SPECIAL HANDLING INSTRUCTIONS [illegible]

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

SHIPPER	PRINT [illegible] Nate Huston	SIGN [illegible]	DATE 6-1-15
TRANSPORTER 1	PRINT [illegible]	SIGN [illegible]	DATE 6-1-15
TRANSPORTER 2	PRINT	SIGN	DATE
RECEIVED BY	PRINT	SIGN	DATE

4

[illegible]

Appendix K - Photographs

PHOTOGRAPHIC LOG		
Emerson	**Former Emerson Power Transmission Site**	**4255**

Photo No.	**Date**
1	August 29, 2014
Initial Site Conditions	

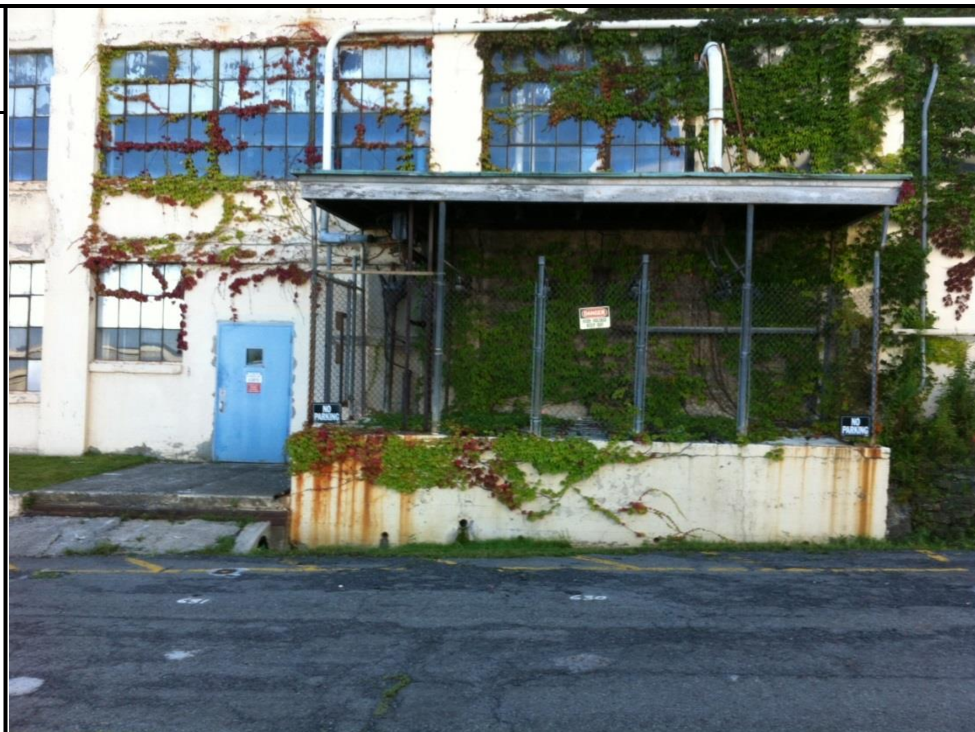


Photo No.	**Date**
2	April 4, 2015
Demolition of fencing and conduit at the former transformer pad	

PHOTOGRAPHIC LOG		
Emerson	**Former Emerson Power Transmission Site**	**4255**

Photo No.	Date
3	April 8, 2015

Removal of roof at former transformer pad for disposal as Non-friable Organically Bound (NOB) material

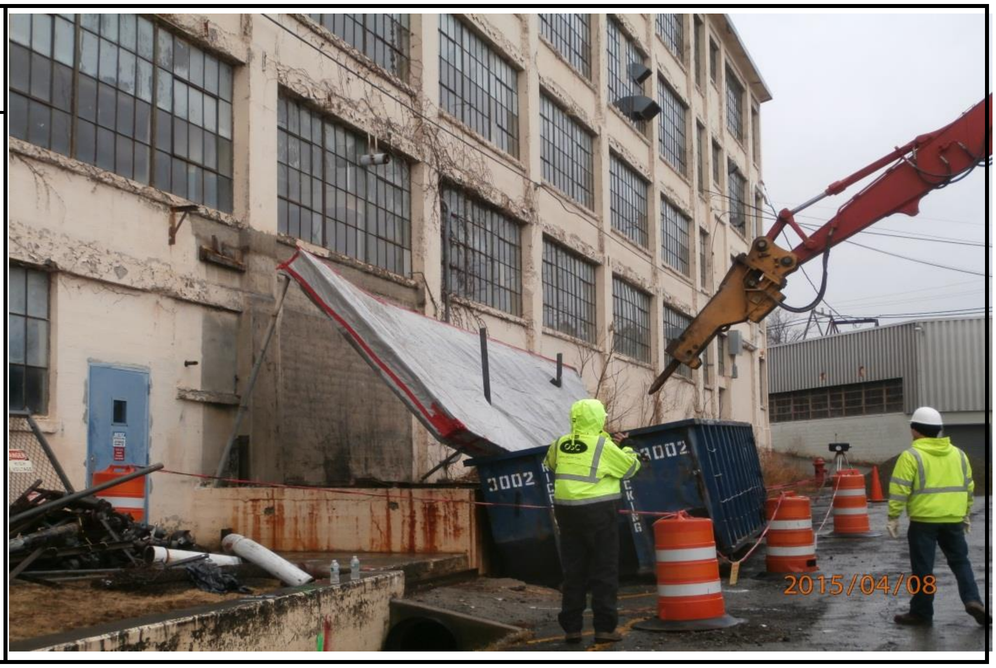


Photo No.	Date
4	April 9, 2015

Demolition of the concrete containing greater than 50 mg/kg of PCBs

PHOTOGRAPHIC LOG		
Emerson	Former Emerson Power Transmission Site	4255

Photo No.	Date	
5	April 10, 2015	
Completed excavation at Excavation Area E4		

Photo No.	Date	
6	April 15, 2015	
Excavation at former transformer pad, ramp, and Excavation Area E1		

PHOTOGRAPHIC LOG		
Emerson	**Former Emerson Power Transmission Site**	**4255**

Photo No.	Date	
7	April 16, 2015	
Excavation Area E2		

Photo No.	Date	
8	April 23, 2015	
Excavation Area E3		

PHOTOGRAPHIC LOG		
Emerson	Former Emerson Power Transmission Site	4255

Photo No.	Date
9	April 24, 2015
Backfilling with compaction	

Photo No.	Date
10	May 8, 2015
Completed backfill with compaction and culvert restoration	

PHOTOGRAPHIC LOG		
Emerson	Former Emerson Power Transmission Site	4255

Photo No.	Date
11	May 8, 2015

Final restoration of culvert, ramp, and drainage ditch

Photo No.	Date
12	May 8, 2015

Aerial view of Final site conditions

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